

ANNUAL SURVEY AND INVENTORY

STATE: Alaska

GRANT AND SEGMENT NO. W-33-9

PROJECT NO.

PERIOD: July 1, 2010 – June 30, 2011

PROJECT LOCATION: Statewide

PROJECT TITLE: The Status of Alaska Moose and Factors Influencing Their Populations in Region II

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

Region 1

Regionwide Activities

ACTIVITY 1: Moose management reports were not due during this report period, therefore the biennial management reports were not completed.

ACTIVITY 2: Monitor the harvest through analysis of registration, Tier II, and drawing permit data including collection of incisors for aging and photos of antlers.

Information on days of effort, and location of successful and unsuccessful hunts was collected from all hunters via permit hunt reports.

Unit 1A: 1 bull moose was harvested along the Unuk River drainage, and a tooth was collected for aging.

Unit 1B: 28 bull moose were harvested, while 27 incisors and 28 antler photos were obtained from these moose.

Unit 1C: 24 bull moose were harvested. Incisors were collected for aging from all but a few of the moose, and antler photos were taken of most of the bulls. All 13 bulls taken at Gustavus were checked for antler configuration due to the spike fork 50" or 3 brow tine antler restriction hunt.

Unit 1D: 21 bulls were harvested. Incisors, antler measurements, antler point counts, and antler photos were collected from each of the harvested bull moose.

Unit 3: 53 bulls were harvested, while 52 incisors and 49 antler photos were obtained from these moose.

Unit 5: 41 bull moose were harvested throughout the unit. Incisors were collected from all harvested bull moose, and photos of antlers were obtained for nearly all specimens.

ACTIVITY 3: Collect anecdotal information about Region I moose populations through contacts with hunters.

Staffs in Douglas and those in the outer offices of Haines and Yakutat discussed moose management with hunters during the permitting process as well as when hunters dropped off their moose jaws and/or hunt reports. In addition, Douglas staff spent time in the field at Gustavus and Haines during the moose hunts to collect samples and to interact with hunters and to discuss moose populations and moose management. Douglas staff attended Advisory Committee meetings in Juneau, Haines, Yakutat, and Gustavus to discuss moose management issues. Staff also conducted public meetings in Haines, and Gustavus to specifically address moose management issues.

Staff in the Petersburg area office discussed moose management and the status of the Unit 1B and 3 moose herd with the Board of Game and interested hunters from Petersburg, Wrangell, Kake and other communities. During fall 2010, staff again collected anecdotal information on the number of bulls, cows, and calves observed by hunters during the moose hunting season by way of a question on the RM038 moose registration permit hunt report.

ACTIVITY 4: Conduct aerial surveys to assess sex and age composition of moose in key management areas of the region.

Sex and age composition was attained in Unit 1B (Stikine River), 1C (Gustavus, Taku River and Berners Bay), 1D, and 5A.

Unit 1B: 125 moose were counted (10 bulls, 86 cows, 26 calves, and 3 unidentified sex and age).

Unit 1C: 238 moose were counted throughout the 3 areas: (32 bulls, 32 calves, 67 cows, and 110 unidentified sex and age).

Unit 1D: 197 moose were counted (47 bulls, 120 cows, 27 calves, and 3 unidentified sex and age).

Unit 5A-Yakutat forelands: 301 moose were counted (25 calves, and 276 moose of unknown sex and age).

ACTIVITY 5: Conduct calf production surveys as time and budget allows.

No calf production surveys were conducted in the Petersburg Area due to sightability problems associated with leaf-out of vegetation.

Unit 1C: Productivity surveys were conducted in Gustavus and Berners Bay for the sample of 68 collared cow moose. Both ground tracking and helicopter tracking were used to locate the animals and determine if they had a calf.

Activities by Unit

Unit 1B:

Activity 1: Monitor the impacts of liberalized antler restrictions in the unit.

The 2010 season was the second year of the liberalized season where moose with 2 brow tines on each side were legal for harvest. Age data collected from nine bulls that had two brow tines on both antlers had a median age of 6 years, which remained in keeping with the current selective harvest strategy.

Unit 1C:

Activity : Monitor radio collared moose in Gustavus and Berners Bay to provide insight into moose body condition, pregnancy status, survival, and movement patterns.

Gustavus: 38 collared moose were monitored.

Berners Bay: 30 collared moose were monitored.

Ten radio-collars were retrieved from moose mortality sites between these two areas.

Activity 2: Conduct browse surveys to determine availability, utilization and temporal changes in Berners Bay and the Gustavus Forelands.

Browse surveys were conducted only at Gustavus during this report period.

Activity 3: Design and provide public education/information concerning selective harvest strategies for moose in preparation for fall 2010 Gustavus bull moose hunting season.

A public meeting was held at Gustavus where staff presented a video, presented slides, and presented antlers. All of these props were used to reinforce the need for hunters to look for certain criteria when identifying a legal bull moose.

Unit 1D:

ACTIVITY: Establish browse transects in the Chilkat River Valley and conduct browse surveys to determine browse availability, utilization, and temporal changes.

Browse surveys were conducted at one site known to be used by moose during the winter in the Chilkat River drainage.

Unit 3:

ACTIVITY: Monitor the impacts of liberalized moose antler restrictions in the unit.

The 2010 season was the second year of the liberalized season where moose with 2 brow tines on a side were legal for harvest. Age data collected from 20 bulls that had two brow tines on both antlers had a median age of 7 years, which remained in keeping with the current selective harvest strategy.

Submitted by: Neil Barten, Region I Management Coordinator

Region II

Regionwide:

Prepare biennial regional moose management reports.

Moose management report was drafted and submitted for publication.

Conduct aerial sex and age composition surveys in all units to determine status, trend, productivity, and mortality of moose.

Surveys were completed in selected hunt areas within individual GMUs. See Area specific activities.

Monitor the moose 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 6

ACTIVITY 1: Completed composition count and a modified Gasaway surveys in one of four management areas (200 sq. mi.). The population estimate in Unit 6C was 400 moose with 17% calves.

ACTIVITY 2: Issued 303 permits to 243 hunters for a total harvest of 69 moose.

Units 7&15

ACTIVITY 1: Conduct aerial sex and age composition surveys in all units to determine status, trend, productivity, and mortality of moose.

Six composition surveys in Unit 15A tallied 345 moose, a bull:cow ratio of 20:100, and 16% calves. Two composition surveys in Unit 15B tallied 65 moose, a bull:cow ratio of 33:100, and 6% calves. Four composition surveys in Unit 15C tallied 735 moose, a bull:cow ratio of 9:100, and 15% calves. Two composition surveys in Unit 7 tallied 76 moose, a bull:cow ratio of 17:100, and 8% calves.

ACTIVITY 2: Monitor the moose harvest through field observations, hunter harvest reports, and contact with hunters.

The preliminary harvest for the general season was 414 bulls taken with an additional 23 moose taken on drawing permits. 2646 hunters participated during the general season.

ACTIVITY 3: Skilak Loop Wildlife Management Area: provide opportunities to view moose in cooperation with Kenai National Wildlife Refuge.

No explicit activities were conducted to aid in moose viewing.

ACTIVITY 4: Unit 15: conduct moose population survey (GSPE) in select areas.

No GSPE surveys were conducted during the reporting period due to lack of need.

Unit 14C

ACTIVITY 1: Prepared biannual management report.

ACTIVITY 2: Conducted a fall moose population estimate (modified Gasaway survey) on Joint Base Elmendorf-Richardson in cooperation with the military.

Results

Total Bulls	46
Total Cows	151
Total Calves	38
Total Moose	235
Calf:Cow	0.25
Bull:Cow	0.30

Submitted by: Gino Del Frate

Date: 2 September 2011

Region III

Regionwide Activities

ACTIVITY 1: Monitor harvest and analyze harvest data.

Monitored preliminary harvest of 3,426 moose during general season and registration and drawing permit hunts and analyzed harvest data.

ACTIVITY 2: Monitor natural mortality and analyze mortality data.

Monitored natural mortality and analyzed mortality data.

ACTIVITY 3: Provide information to State and Federal regulatory processes on moose management.

Provided information to 15 State fish and game advisory committees, the Alaska Board of Game, and 2 Federal regional advisory councils and the Federal Subsistence Board.

Activities by Unit

Unit 19

ACTIVITY 1: Conduct composition–trend area and moose population estimation surveys.

Conducted composition–trend surveys in eastern Unit 19A in Nov 2010 and sampled 212 moose (55 moose/hr), including 19 calves:100 cows, and 48 bulls:100 cows.

Conducted composition–trend surveys in Unit 19C near Farewell in Nov 2010 and sampled 312 moose (110 moose/hr), including 27 calves:100 cows, and 29 bulls:100 cows.

Conducted a GSPE moose population estimation survey in eastern Unit 19A in Mar 2011 and obtained a preliminary estimate of 1,666 moose \pm 36% at 90% CI in a 3,874 mi² area.

ACTIVITY 2: Conduct spring calf twinning surveys.

Conducted a spring calf twinning survey in Unit 19D in early June 2011, found only 38 cows with litters, including 14 sets of twins.

ACTIVITY 3: Conduct snow depth aerial surveys.

Conducted aerial snow depth surveys between November 2010 and April 2011.

Unit 20A

ACTIVITY 1: Conduct geostatistical population estimation surveys.

Conducted geostatistical population estimation surveys, estimating 14,497 moose.

ACTIVITY 2: Conduct spring calf twinning surveys.

Conducted May twinning surveys (19%, $n = 123$).

Unit 20B

ACTIVITY 1: Conduct a geospatial population estimation or trend area surveys.

Conducted geostatistical population estimation survey in Minto Flats, with a point estimate of 4,181 moose.

ACTIVITY 2: Conduct spring calf twinning surveys.

Conducted May twinning surveys (Minto Flats = 34%, Central Unit 20D = 8.3%).

Unit 20D

ACTIVITY 1: Conduct a Geo-Statistical population estimate.

Conducted a Geo-Statistical population estimate in southern Unit 20D, resulting in a population estimate of 4,574 observable moose.

ACTIVITY 2: Conduct spring calf twinning surveys.

Conducted a spring moose calf twinning surveys, resulting in an 25.8% twinning rate.

Unit 20E

ACTIVITY 1: Conduct moose population estimation surveys.

Completed population estimation surveys in a 4,630 mi² area in southern Unit 20E resulting in a population estimate of 3,321-4,467 moose and a bull:cow ratio of 70 bulls:100 cows.

ACTIVITY 2: Conduct spring twinning surveys.

Conducted a moose twinning survey in southwest Unit 20E to evaluate nutritional condition of habitat for moose, resulting in a twinning rate estimate of 21%.

Unit 21A and 21E

ACTIVITY 1: Conduct trend area and moose population estimation surveys.

Conducted composition–trend surveys in Unit 21A in Nov 2009 and sampled 118 moose (23 moose/hr), including 40 calves:100 cows, and 64 bulls:100 cows.

Conducted composition–trend surveys in Unit 21E in Nov 2009 and sampled 153 moose (27 moose/hr), including 18 calves:100 cows, and 32 bulls:100 cows.

ACTIVITY 2: Conduct spring calf twinning surveys.

Conducted a spring calf twinning survey in 21A and found only one cow with a set of twins.

Conducted a spring calf twinning survey in Unit 21E during late May 2010 and found 33 cows with calves and of these, 18 cows had twins (55% twinning rate)

ACTIVITY 4: Conduct snow depth aerial surveys.

Completed no snow depth surveys.

Unit 21B

ACTIVITY 1: Conduct population estimation or trend area surveys.

In cooperation with USFWS counted 167 moose in the Nowitna Mouth Trend Count Area (TCA) and 185 moose in the Nowitna/Sulatna confluence TCA.

Unit 21C

ACTIVITY 1: Conduct a hunter check station on the Koyukuk River.

In combination with Units 21D and 24, registered 570 hunters at a check station on the Koyukuk River and checked 233 moose.

Unit 21D

ACTIVITY 1: Conduct fall trend area surveys.

In cooperation with USFWS, counted 1148 moose in the Three Day Slough TCA, 414 in the Dulbi River TCA, 493 moose in the Koyukuk River Mouth TCA, 289 moose in the Squirrel Creek TCA, 190 moose in the Kaiyuh Slough TCA, 466 moose in the Pilot Mountain Slough TCA, and estimated 1,727 moose in the Yuki R./Bear Cr. GSPE.

ACTIVITY 2: Conduct spring twinning surveys.

In cooperation with USFWS, counted 266 cow:calf pairs in the 21D and 24 twinning surveys.

ACTIVITY 3: Conduct a hunter check station on the Koyukuk River.

In combination with Units 21C and 24, registered 570 hunters at a check station on the Koyukuk River and checked 233 moose.

Unit 24

ACTIVITY 1: Conduct fall trend area surveys.

In cooperation with USFWS, counted 632 moose in the Huslia Flats TCA, 688 moose in the Treat Island TCA, and estimated 1331 moose in the Kanuti GSPE.

ACTIVITY 2: Conduct spring twinning surveys.

In cooperation with USFWS, counted 266 cow:calf pairs in the 21D and 24 twinning surveys.

ACTIVITY 3: Operate a hunter check station on the Koyukuk River.

In combination with Units 21C and 24, registered 570 hunters at checkstation on the Koyukuk River and checked 233 moose.

ACTIVITY 4: Conduct moose captures and deployment of radio-collar transmitters.

In cooperation with USFWS, BLM and NPS, deployed 37 radio-collars with no capture related mortalities in Unit 24

Units 25A, 25B and 25D

ACTIVITY 1: Conduct a geostatistical population estimation surveys or composition surveys.

No surveys conducted because of poor survey conditions.

Units 26B and 26C

ACTIVITY 1: Conduct riparian zone minimum direct count surveys.

Conducted a riparian zone minimum direct count survey in April 2011, with preliminary data indicating 449 moose including 35 calves observed.

Submitted by: Roy A. Nowlin, Region III Management Coordinator

Region V

Regionwide Activities:

ACTIVITY 1: Provide information to State and Federal regulatory processes on moose management.

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

UNIT 18:

ACTIVITY 1: Conduct fall aerial sex and age composition surveys and calf production surveys in selected portions of Unit 18.

We flew aerial surveys in early November 2010 to estimate the composition in three survey areas: Lowest Yukon Count Area; Andrafsky Count Area; and Lower Kuskokwim Count Area. The Lowest Yukon area had a bull:cow ratio of 30:100 and a calf:cow of 69:100. In the Lower Kuskokwim area the ratios were 50 bulls:100 cows and 49 calves:100 cows. In the Andrafsky area the ratios were 42 bulls:100 cows and 61 calves:100 cows.

ACTIVITY 2: Conduct spring aerial surveys (trend area surveys, distribution surveys, or calf production surveys) in selected portions of Unit 18 to assess population trend and recruitment.

We flew spring twinning surveys on the Yukon River and Kuskowkim Rivers in late May 2011. In six days flying we observed a total of 90 cows accompanied by calves. Twinning rates were 50% in the Lowest Yukon area, 50% in the Andrafsky area, and 53% in the Kuskokwim area.

ACTIVITY 3: Conduct geostatistical population estimation surveys (GSPE), (regular) population estimation surveys, riparian zone minimum direct count surveys, or other appropriate census techniques, to estimate the size of moose populations in selected portions of Unit 18.

We conducted a GSPE survey in February 2011 in the Lower Kuskokwim Count Area. The midpoint of the estimate was 672 moose with a 95% confidence interval of 21%. The calf:adult ratio was 36 calves:100 adult moose.

ACTIVITY 4: Conduct fall and/or midwinter trend area surveys or distribution surveys of the Kuskokwim River and its major drainages to assess the status and estimated size of the Kuskokwim River population.

We completed a GSPE estimate in this area in 2011 (Activity 3) and did not conduct any trend or distribution surveys in this area during the reporting period.

ACTIVITY 5: Monitor moose numbers, distribution, and utilization of the smaller drainages in Unit 18 through trend area surveys, distribution surveys, public contacts, and field observations.

Numerous contacts with the public indicate that moose population in the Kuskokwim drainage has increased during this report period. Public contacts and incidental field observations on the Yukon River drainage indicate a relatively stable moose population in the Paimiut

Count Area and a rapidly increasing moose population in the Lowest Yukon Count Area.

ACTIVITY 6: Monitor overall hunting activity through hunter checkstations, harvest reporting, hunter contacts, and field observations.

We analyzed harvest reports and found that 433 moose were reported taken in Unit 18 in the Yukon drainage. Hunters also reported harvesting 2 moose in the Kanektok River drainage and 12 in the Goodnews River drainage. We contacted moose hunters opportunistically throughout the year. We also spent approximately 6 days contacting hunters by boat in the Bethel area on the Kuskokwim River during the hunting season for registration permit hunt RM615.

ACTIVITY 7: Monitor other mortality factors through public contacts and field observations.

We observed wolf-killed moose carcasses and observed wolves during moose calving surveys. We received reports from hunters/trappers and the public regarding wolf kills, particularly along the Yukon River drainage near Ohogamiut and Russian Mission, and in the Kilbuck Mountains. Local residents from Russian Mission downriver to Emmonak were concerned that unusually deep snow and higher wolf numbers would affect the moose population.

ACTIVITY 8: Assess habitat quality through browse surveys and field observations.

No work was completed toward this activity during the reporting period because department biologists were assigned to other S&I activities.

ACTIVITY 9: Capture, measure, collect samples and weigh up to 30 short yearlings to provide information on body condition and disease profiles.

No work completed during this report period due to logistical difficulties.

ACTIVITY 10: Work with the Association of Village Council Presidents (AVCP), Kuskokwim Native Association (KNA), The Kuskokwim Corporation (TKC), U.S. Fish and Wildlife Service (FWS), Unit 19 and 21A/E area biologist, affected Advisory Committees, local moose hunters, and other users to resolve conflicts between upriver and downriver uses.

Much of the upriver-downriver conflicts along the Yukon River have been resolved as moose populations have become established and increased in the downriver areas. Along the Lower Kuskokwim River, we have implemented a quota-based registration permit moose hunt and the availability of hunting opportunity has helped alleviate the conflicts between user groups. We also fielded numerous questions regarding hunting moose upriver on the Kuskokwim River.

ACTIVITY 11: Continue educational efforts toward increasing moose populations in the smaller drainages in Unit 18.

Along with the USFWS, we continue to provide summary information at meetings arranged by villages, Advisory Committees, and Regional Advisory Councils.

ACTIVITY 12: Use public education to improve understanding of hunting regulations and the value of conserving moose populations, and to obtain better harvest data through increased harvest reporting.

We helped teach the sections of Hunter Education that deal with Wildlife Management and tailored those sections to reflect local issues and moose management. We also prepared PSA's and newspaper articles to inform and educate the public about harvest reporting requirements and reasons for harvest reporting.

ACTIVITY 13: Implement the cooperative moose management strategy for the Kuskokwim River moose population with participation from the Lower Kuskokwim Advisory Committee, the Yukon Delta National Wildlife Refuge (YDNWR), and interested local groups and communities.

We attended and presented information at several public meetings including: Lower Kuskokwim Advisory Committee meeting; Y-K Delta Regional Advisory Council meeting.

ACTIVITY 14: Develop an ongoing cooperative moose management strategy for the moose population within the Togiak Refuge portion of Unit 18 with local village leaders, members of the Central Bering Sea Advisory Committee, the Regional Advisory Council, the Togiak National Wildlife Refuge (TNWR), and interested local groups and communities.

The Unit 18 communities of Goodnews Bay and Platinum and other agency participants agreed to continue the strategy to encourage moose to colonize the Goodnews River drainage and the portion of Unit 18 south of the Goodnews River drainage during this reporting period.

Unit 22:

ACTIVITY 1: Conduct a geostatistical population estimation survey or a riparian zone minimum direct count survey in a portion of the unit to monitor trends in population size, sex/age composition, and recruitment.

A geospatial moose census was completed in Unit 22D and Unit 22E. The Unit 22D census estimate is 1601 moose (+/-22% at 90% C.I.), and the calf:adult ratio is 12 calves:100 adults. The Unit 22E census estimate is 669 moose (+/-16% at 90% C.I.), and the calf:adult ratio is 11 calves:100 adults.

ACTIVITY 2: Complete trend area surveys, sex and age composition surveys, or other aerial surveys (where appropriate) during late fall and early spring to provide an index of moose population status and trends, sex and age composition, and yearling recruitment.

Staff completed fall composition surveys in Units 22C during the reporting period. We classified 217 moose and found 11 bulls:100 cows and 16 calves:100 adults.

Spring recruitment surveys were not completed during the reporting period, because a geostatistical population estimate survey was completed in Unit 22D and 22E.

ACTIVITY 3: Monitor human and natural mortality factors affecting the population.

Human harvest was monitored through the harvest/registration permit reporting system and community-based harvest assessment surveys. No surveys were attempted to determine natural mortality rates of Seward Peninsula moose. Anecdotal evidence indicates bear predation on moose calves is depressing moose populations in much of the unit, specifically in areas of Units 22A and 22B.

ACTIVITY 4: Evaluate hunting mortality by analyzing all moose harvest data.

Hunt reports were received for a bull fall registration hunts (RM840 including hunt areas: Unit 22C, Unit 22B west of the Darby Mountains, Unit 22D Kuzitrin River drainage, and Unit 22D Southwest, and RM841 in the central portion of Unit 22A), an antlered bull winter registration hunt (RM849 including Unit 22B west of the Darby Mountains), a nonresident bull registration hunt (RM842 in a portion of Unit 22D), and 2 antlerless fall registration hunts (RM850 and RM852 in Unit 22C). Harvest from other areas of the unit was monitored by harvest ticket report cards (GM000). Total reported harvest for Unit 22 during the reporting period was 168 moose (Unit 22A-16, 22B-35, 22C-47, 22D- 57, 22E-13). The Department documented 192 moose in 2009-2010 and 179 moose in 2008-2009 through similar reporting methods.

ACTIVITY 5: Improve harvest reporting through public education and improved communication and by conducting Community-based Harvest Assessments in selected villages.

The importance of harvest reporting was emphasized to registration permit recipients, village license vendors, and hunters at village meetings in Nome, Shishmaref, Wales, Brevig Mission, Teller, White Mountain, Golovin, Elim, Koyuk, and Unalakleet. Public service announcements were posted in Nome and residents of Unit 22 villages were notified by radio announcements. Compliance with reporting requirements has improved in the registration hunts in the Nome area; however village surveys remain a more effective method of obtaining village harvest data.

ACTIVITY 6: Evaluate hunting regulations and recommend changes, if necessary, for conservation purposes.

Hunting regulations were evaluated at an annual Advisory Committee meeting and an annual Regional Advisory Council meeting. There were no changes to moose regulations during the reporting period.

ACTIVITY 7: Use public education to improve understanding of hunting regulations and the value of conserving moose populations, and to obtain better harvest data through increased harvest reporting.

Staff attended Advisory Committee meetings, federal Regional Advisory Council meetings, and the annual Reindeer Herders Association meeting to improve public understanding of game management.

ACTIVITY 8: Evaluate moose browse in portions of Unit 22 for indications of over utilization of winter habitat.

Moose browse surveys were not completed in Unit 22 because department biologists were assigned to other S&I activities.

Unit 23:

ACTIVITY 1: Conduct geostatistical population estimation surveys, sex and age composition surveys, and calf survival counts where appropriate in the unit to monitor trends in population density, sex and age composition, and recruitment.

A geospatial population census was conducted during this reporting period in the portion of Unit 23 containing the Selawik Drainage in early April 2011. Density of adult moose was 0.28 moose/mi² and the calf:adult ratio was 11:100.

Sex and age composition data was also collected using a geospatial approach in the Selawik Drainage in November 2010. The population sex ratio were 47 bulls:100 cows. The population age ratio was 19 calves:100 cows.

Both the population estimate and the composition surveys in the Selawik were joint efforts between NPS, USFWS, BLM, and ADF&G.

ACTIVITY 2: Monitor hunting activity and harvests through the statewide harvest ticket system, Community-based Harvest Assessments, public contacts and field observations.

We monitored hunting activity and harvests through the statewide harvest ticket, registration permit and drawing permit systems and community-based harvest assessments: 428 hunters reported taking 170 moose through the statewide harvest ticket system and the registration permit system. Community-based harvest assessments suggested residents of Unit 23 have taken 400-425 moose annually during recent years, substantially more than indicated by harvest ticket hunt reports.

ACTIVITY 3: Use public education to improve understanding of hunting regulations and the value of conserving moose populations, and to obtain better harvest data through increased harvest reporting.

We spoke with many local and nonlocal hunters to improve the accuracy of moose harvest data. Public Service Announcements were recorded for radio broadcast to help educate the hunters about regulations and acquiring the necessary permits. This year, reports were aggressively pursued and near 100% compliance was achieved.

ACTIVITY 4: Evaluate moose browse in portions of Unit 23 to assess quantity, quality, and over-browse conditions in seasonal habitats available to moose.

Scheduling conflicts prevented the completion of twinning surveys this year.

UNIT 26A:

ACTIVITY 1: Survey unit-wide riparian zones and other suitable areas of willow habitat, using trend area surveys, riparian zone minimum direct count surveys, or other appropriate census techniques to estimate the moose population trend in Unit 26A.

We conducted a riparian zone direct minimum count census of moose in Unit 26A on 21-23 April 2011. We counted a total of 545 moose. There were 489 adults and 56 short yearlings that had survived the winter (10%), including 1 set of twins. Within the trend Count Area we counted 282 moose including 250 adults and 11% short yearlings.

ACTIVITY 2: Conduct a fall aerial sex and age composition survey of the Colville River population.

We conducted a fall sex and age composition survey from 26 – 29 October 2010. We observed 183 moose, including 75 bulls (87 bulls:100 cows), 86 cows, and 22 calves (26 calves:100 cows, 12%). There were 2 sets of twins. Antler spreads were estimated and 10 % were less than 30 inches, 4 % were 30-39 inches, 12 % were 40-49 inches, 53 % were 50-59 inches, and 21 % were over 60 inches.

ACTIVITY 3: Monitor predator populations by logging bear and wolf observations during moose surveys and other mortality factors through field observations and public contacts.

We observed 14 wolves, 15 bears, 4 wolverines, and 2 lynx during the spring census of 2011.

ACTIVITY 5: Vegetation surveys will be conducted to determine the quantity and quality of browse species in the survey area.

We collected samples to assess the quality of browse that moose in Unit 26A are eating in late winter, at green-up, at peak growth, and at senescence of the plants. These samples are currently being analyzed for leaf nitrogen, digestible proteins, and tannin-protein precipitation capacity.

Activity 6: Examine dead moose to look for causes of death, disease, mineral deficiencies, and contaminants.

We examined and collected samples from dead moose that were found during the census in April and calving surveys in June. These samples are currently being analyzed.

ACTIVITY 7: Develop updated population objectives in cooperation with the public and other agencies.

We worked with the North Slope Borough Fish and Game Management Committee to discuss population and management objectives.

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