FEDERAL AID
FINAL PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

MOOSE
ANNUAL SURVEY AND INVENTORY

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

PROJECT NR.: 1.0

PERIOD: 1 July 2006 – 30 June 2007

PROJECT LOCATION: Statewide

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

REPORT DESCRIPTION: This performance report describes moose survey and inventory activities. Region-wide activities are listed before specific activities by game management unit.

The Status of Moose and Factors Influencing Their Populations in Region I

Region-wide Activities

ACTIVITY 1: Provide information to state and federal regulatory processes on moose management.

Information on moose harvest and management was supplied to state and federal regulatory bodies in response to proposals to change regulations within the region. This included five proposals to the State Board of Game and one proposal to the Federal Subsistence Board.

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.

Unit 1A: 4 bull moose, all were taken along the Unuk River drainage. Three of the four bulls were harvested under Federal Subsistence regulations. Federal regulations do not require incisors to be submitted for aging and consequently, no teeth were collected during this past season.

Unit 1B: 48 incisors and 48 antler photos were obtained from 48 bulls harvested. Information on days of effort, and location of successful and unsuccessful hunts was collected from all hunters via permit hunt reports.

Unit 1C: 154 moose were harvested. Hunter effort was collected from all hunters via their permit hunt reports. Incisors were collected from all moose and sent in for age analysis. Reproductive tracts and body fat indices were collected from all harvested cow moose in the DM043, DM044, and DM045 hunts.

Unit 1D: 27 moose were harvested. Hunter effort and harvest data was collected from all hunters via their permit hunt reports. Incisors, antler measurements, antler point counts, and antler photos were collected from each of the harvested bull moose.

Unit 3: 38 incisors and 43 antler photos were obtained from 43 bulls harvested. Information on days of effort, and location of successful and unsuccessful hunts was collected from all hunters via permit hunt reports.

Unit 5: 37 moose were harvested. Hunter effort and harvest data was collected from all hunters via their joint state/federal permit hunt reports. Incisors were collected from all harvested bull moose.

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 Fish and Game Advisory Committee members in Petersburg and Wrangell, and hunters from Petersburg, Wrangell, Kake and other communities. During fall 2006, staff 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 all populations except those in Units 5A and 5B where antler drop preceded the survey thereby making it impossible to differentiate bull and cow moose.

Unit 1C: Population surveys were conducted in Gustavus (329 moose: 56 bulls, 34 calves, 236 cows, 3 unidentified sex and age) and Berners Bay (75 moose: 10 bulls, 9 calves, 56 cows).

Unit 1D: 188 moose: 49 bulls, 31 calves, 106 cows, and 2 of unidentified sex and age.

Unit 5A: Nunatak Bench, 10 moose: 1 calf and 10 of unknown sex and age.

Unit 5B: 167 moose: 21 calves and 146 of unknown sex and age.

The Petersburg Area Biologist conducted one aerial survey of the moose population on the Stikine River during late March. A total of 146 moose were counted, including 124 adults and 22 calves. This survey was conducted well after bulls had shed their antlers; therefore, it was not possible to assess the sex composition of the herd.

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 for the sample of 36 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

Units 1B & 3

ACTIVITY 1: Obtain age estimates of harvested moose by tooth section.

In the Petersburg Area, we aged 86 incisors collected from 91 bulls harvested during fall of 2006.

ACTIVITY 2: Collect information on age and antler architecture of all harvested moose to evaluate current antler restrictions.

In the Petersburg Area, we aged 86 incisors from 91 bulls harvested during fall of 2006. Of the total 91 bulls, 73 were harvested during the antler restricted registration hunt, and 18 were harvest via any-bull moose drawing permits. Photographs were taken of the antlers from all harvested bulls and data collected on antler configuration, the number of antler points, and antler spread.

Unit 2

ACTIVITY 1: Document reported moose sightings in Unit 2.

Along with staff observations, we continue to collect anecdotal information from hunters and local residents and document the occasional sightings of moose. No moose were reported during this past year.

Unit 5

ACTIVITY 1: Conduct moose sightability surveys in cooperation with the USFS during fall and winter.

Sightability surveys were not conducted during this report period due to staffing, budget and time constraints.

Submitted by: Dale L. Rabe, Region I Management Coordinator

The Status of Moose and Factors Influencing Their Populations in Region II

Region-wide Activities

ACTIVITY 1: Prepare biennial regional moose management reports.

Biennial management reports are complete for all units where moose occur. A biennial regional moose management report was not due in Unit 6 during the reporting period. These reports provide updated harvest and management information through the 2006 hunt.

ACTIVITY 2: Conduct aerial sex and age composition surveys in all units to determine status, trend, productivity, and mortality of moose.

Unit 6: Aerial twinning surveys in Unit 6C indicated a twinning rate of 60% for neonatal calves, and very little winter mortality for adult moose. We did not conduct other composition counts because snow conditions were inadequate until after most bulls had shed antlers.

Units 7 & 15: No surveys were conducted in Unit 7 during the reporting period. Two areas were surveyed in Unit 15A; 252 moose were counted.

Unit 9: Fall 2006 survey results: 113 moose classified as 23 bulls, 77 cows and 13 calves for a calf:cow ratio of 18.9:100 and a bull:cow ratio of 31.3:100.

Unit 11: Composition surveys were flown during November: CA11: 57 bulls, 62 cows, 30 calves, total 149.

Unit 13: Composition surveys flown during November in eight distinct count areas resulted in 4,028 moose (795 bulls, 2,621 cows, 612 calves).

Unit 14C: Aerial composition surveys were not flown due to an extended period of poor weather conditions in December.

Unit 16: Aerial surveys were not completed in any sub-portion of *16B* due to poor weather.

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

Unit 6: Preliminary 2006/07 harvest: 152 moose harvest (111 bulls and 41 cows).

Units 7 & 15: harvest

Unit	Males	Females	Unspecified	Total
7	30	0	0	30
15A	127	1	1	129
15B	39	1	0	40
15C	210	1	2	213
15Z	2	0	0	2
Total	408	3	3	414

Permit Hunt Harvest in Units 7&15

	Permits	Harvest			
Hunt area	issued	Male	Female	Unknown	Total
DM522	25	2	0	0	2
DM530	14	0	0	0	0
DM531	14	0	0	0	0
DM532	6	2	0	0	2
DM533	6	1	0	0	1
DM534	12	2	0	0	2
DM535	12	1	0	0	1
DM536	8	2	0	0	2
DM537	8	1	0	0	1
DM538	10	0	0	0	0
DM539	10	0	0	0	0
DM549	50	1	17	0	18
Totals	175	12	17	0	29

Unit 9: Preliminary harvest: 123 moose (123 bulls).

Unit 11: Preliminary harvest: 94 hunters harvested 22 bulls.

Unit 13: Preliminary general season harvest: 3,484 hunters harvested 586 bulls and 7 moose of unknown gender. Preliminary Tier II harvest (TM300) for: 129 hunters (150 permits issued) harvested 51 bulls.

Unit 14: Preliminary harvest:

Subunit 14A: 135 moose (6 males, 129 females). Harvest by drawing permits: 393moose (389 males, 1 female, 3 unknown).
Subunit 14B general hunt harvest: 57 moose (57 males, 0 females).
Subunit 14C: 153 general-season hunters, 204 drawing permitees, and 98 registration permitees killed 84 moose (69 bulls and 15 cows).

Unit 16

Subunit 16A: General harvest: 114 moose (114 males, 0 females)
Subunit 16B: General harvest: 5 moose (5 males), Tier II permit: 65 moose (65 males), and registration permits: 21 moose (8 male, 13 female)

Activities by Unit

Unit 6

ACTIVITY 1: Conduct a moose population survey (modified Gasaway) in select areas.

Unit 6C (220 sq. mi.) population estimate: 560 moose. Poor survey conditions precluded surveys in other areas of *Unit 6*.

Units 14A&14B

ACTIVITY 1: Conduct a fall moose population survey (VerHoef) in select areas.

No surveys were completed during this period due to poor survey (weather) conditions and inadequate time to complete surveys in adjacent units.

ACTIVITY 2: Monitor moose population for diseases including Chronic Wasting Disease

Samples were collected when available from moose killed by motor vehicle accidents for CWD testing. All tests completed to date have been negative.

Unit 14C

ACTIVITY 1: Conduct a fall moose population survey (modified Gasaway) on Fort Richardson and Elmendorf Air Force Base in cooperation with the military.

An aerial census using the modified Gasaway method was conducted on Fort Richardson, Elmendorf Air Force Base and the remainder of the Ship Creek drainage in December. The population estimate was 452 moose (115 bulls, 258 cows and 78 calves).

Unit 15

ACTIVITY 1: Conduct fall moose population survey (VerHoef) in select areas.

A population survey was not conducted due to poor survey conditions.

Unit 15A (Skilak Loop Wildlife Management Area):

ACTIVITY 1: Provide opportunities to view moose in cooperation with Kenai National Wildlife Refuge.

The Department worked with the Kenai National Wildlife Refuge staff to update the Service's Skilak Loop plan and amend pertinent regulations.

Unit 16

ACTIVITY 1: Conduct a fall moose population survey (VerHoef) in select areas.

On-going *Subunit 16B* natality and recruitment studies, started in 2005, indicate that calf production remains high. Preliminary results indicate that of 107 radio-collared adult cows, 50 gave birth to one calf, and 46 gave birth to twins. The twinning rate was 46/96 or 48%. The total was 142 calves minimum born to 96 cows which is a calf to cow ratio of 148 calves:100 cows.

Unit 17

Conduct a spring moose population survey (modified Gasaway or VerHoef) in select areas.

Did not accomplish this task because of weather. Survey has been rescheduled to 2007.

Submitted by: Gino DelFrate, Region II Management Coordinator

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

Region-wide Activities

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

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

ACTIVITY 2: Monitor harvest and analyze harvest data.

Monitored harvest of 3274 moose during general season and registration and drawing permit hunts and analyzed harvest data.

ACTIVITY 3: Monitor natural mortality and analyze mortality data.

Monitored natural mortality and analyzed mortality data.

Activities by Unit

Unit 12

ACTIVITY 1: Conduct a moose population estimation survey in the western and northern portions of Unit 12.

Completed moose survey in the northwest portion of Unit 12 to analyze bull:cow ratios as they relate to management objectives. Approximately 2,700 mi^2 in northwest Unit 12 was surveyed resulting in an overall bull:cow ratio of 35 bulls:100 cows, with a ratio of 24 bulls:100 cows.

ACTIVITY 2: Cooperate with Alaska Division of Forestry in implementing the Upper Tanana Valley Logging/Wildlife Habitat Plan

Provided information to Alaska Division of Forestry relating to the Upper Tanana Valley Logging/Wildlife Habitat Plan as requested.

Unit 19, 21A, and 21E

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

Conducted trend area/composition surveys in Unit 19C in November 2006 and sampled 279 moose (84.6 moose/hr), including 26 yearlings, 8 sets of twins 40.9 calves:100 cows, and 46.3 bulls:100 cows. Weather and pilot availability prevented additional surveys.

ACTIVITY 2: Conduct spring calf twinning surveys.

Conducted spring calf twinning surveys in May-June 2007 and measured 64% twins in 19A and 28% twins in 21E.

ACTIVITY 3: Determine movements and distribution of radiocollared moose in Units 19A and 19B.

Conducted radiotelemetry surveys in Units 19A and 19B and confirmed that bulls collared in 19B remained in 19B or moved south and did not spend the hunting season in 19A. Cows radiocollared in 19A typically remained in 19A.

Unit 20A

ACTIVITY 1: Conduct geostatistical population estimation surveys.

Conducted a population estimation survey (population estimate=15,328 ± 16% @ 95% CI, fall calf:cow ratios were 34:100 and yearling:cow ratios were 22:100).

ACTIVITY 2: Conduct spring calf twinning surveys.

Conducted May twinning surveys (13%, n = 137).

Unit 20B

ACTIVITY 1: Conduct trend area surveys.

Conducted GSPE moose surveys in Central 20B (population estimate=15,986 ± 21% @ 90% CI; fall calf:cow ratios=43:100 and yearling:cow ratios=22:100).

ACTIVITY 2: Conduct spring calf twinning surveys.

Conducted May twinning surveys (16%, n = 121).

Unit 20D

ACTIVITY 1: Conduct a Geo-Statistical population estimate in northern Unit 20D.

Conducted a geo-statistical population estimate in southern Unit 20D rather than northern Unit 20D because of management priorities. The population estimate was 7,406 moose.

ACTIVITY 2: Conduct moose browse surveys to assess habitat quality and condition.

Conducted moose browse surveys at 77 sample locations in southern Unit 20D.

ACTIVITY 3: Conduct spring calf twinning surveys.

Conducted spring moose twinning surveys, resulting in an estimated twinning rate of 17%.

Unit 20E

ACTIVITY 1: Conduct moose population estimation surveys in the eastern, central and western portions of the unit.

Completed population estimation surveys in a 4,630 mi^2 area in southern Unit 20E resulting in a unit-wide population estimate of 3,600-5,200 moose and a bull:cow ratio of 39-46 bulls:100 cows.

ACTIVITY 2: Conduct spring twinning surveys.

Conducted a moose twinning survey in southwest Unit 20E, resulting in a twinning rate estimate of 47%.

ACTIVITY 3: Continue to alert hunters about the need to increase harvest of grizzly bears in Unit 20E to test the effects on moose calf survival.

Maintained effort to inform the public about the effects of predators on the Unit 20E moose population.

Unit 21B

Activity 1: Conduct trend area surveys.

In cooperation with USFWS, counted 208 moose in the Nowitna Mouth Trend Count Area (TCA) and 207 moose in the Nowitna/Sulatna confluence TCA.

ACTIVITY 2: Assist US Fish and Wildlife Service in the operation of a hunter checkstation on the Nowitna River.

Provided support to the USFWS hunter checkstation and checked 133 hunters with 33 moose harvested.

Unit 21C

ACTIVITY 1: Conduct trend area surveys.

Did not conduct trend area surveys due to lack of funding.

ACTIVITY 2: Conduct a hunter checkstation on the Koyukuk River.

In combination with Units 21D and 24, registered 433 hunters at a checkstation on the Koyukuk River and checked 167 moose.

Unit 21D

ACTIVITY 1: Conduct fall trend area surveys.

In cooperation with USFWS, counted 1177 moose in the Three Day Slough TCA, 403 in the Dulbi River TCA, 457 moose in the Koyukuk River Mouth TCA, 164 moose in the Squirrel Creek TCA, 171 moose in the Kaiyuh Slough TCA, and 326 moose in the Pilot Mountain Slough TCA.

ACTIVITY 2: Conduct spring twinning surveys.

In cooperation with USFWS, counted 110 cow/calf pairs during twinning surveys.

ACTIVITY 3: Conduct a hunter checkstation on the Koyukuk River.

In combination with Units 21C and 24, registered 433 hunters at checkstation on the Koyukuk River and checked 167 moose.

Unit 24

ACTIVITY 1: Conduct fall trend area surveys.

In cooperation with USFWS counted 436 moose in the Dulbi Slough TCA, counted 811 moose in the Huslia Flats TCA, and 740 moose in the Treat Island TCA.

ACTIVITY 2: Conduct spring twinning surveys.

In cooperation with USFWS, counted 55 cow/calf pairs in the Unit 24 twinning surveys.

ACTIVITY 3: Operate a hunter checkstation on the Koyukuk River.

In combination with Units 21C and 21D, registered 433 hunters at checkstation on the Koyukuk River and checked 167 moose.

Units 25A, 25B and 25D

ACTIVITY 1: Conduct a geostatistical population estimate in eastern Unit 25D.

Conducted a GSPE in 25D East and estimated 799±17% moose.

ACTIVITY 2: Conduct fall trend area surveys.

No trend area surveys were conducted because of lack of funding.

Units 26B and 26C

ACTIVITY 1: Conduct riparian zone minimum direct count surveys.

Conducted riparian zone surveys and observed 554 moose.

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

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

Region-wide 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 did not conduct aerial sex and age composition surveys during the report period. These surveys are dependent on complete snow cover in late October to late November. Due to a warm fall, very little snow was present in the areas where we conduct moose composition surveys.

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 conducted spring twining surveys in the Paimiut and Lowest Yukon census areas. The twining rate in the Paimiut areas was 35% and in the Lowest Yukon was 60%.

ACTIVITY 3: Conduct geostatistical population estimation surveys, (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.

No work was completed toward this activity during this reporting period due to poor snow conditions throughout the unit.

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.

No work was completed toward this activity during this reporting period due to poor snow conditions throughout the unit.

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. In the Kwethluk River drainage we assisted USFWS staff in collaring 28 moose in April 2007. During this activity we observed many more moose than had previously been sighted in this area.

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 332 moose were reported taken in Unit 18. We contacted moose hunters opportunistically throughout the year.

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. Numerous reports by residents of the area indicate there were more wolf kills on the Gweek River drainage and the main stem of the Kuskokwim upriver of Kalskag but we did not directly observe this.

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

Bethel Staff received training to conduct moose browse surveys. We observed moose browse conditions during calving surveys and while assisting with moose captures in the Kwethluk and Eek River drainages. Potential browse in the Kuskokwim River drainage remains mostly unused. In the Yukon drainage near Paimiut many of the islands are heavily browsed, but much of the other areas are not nearly as heavily used.

ACTIVITY 9: 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 in the downriver areas have become established and grown. Along most of the Kuskokwim River, we have implemented a moose hunting moratorium that we anticipate will result in similar moose population growth and expansion which should alleviate the conflicts there in a similar fashion. We also fielded numerous questions regarding hunting moose upriver on the Kuskokwim.

ACTIVITY 10: Continue educational efforts toward increasing moose populations in the smaller drainages in Unit 18.

Along with the USFWS, we cooperatively held a meeting in Goodnews Bay to discuss the current populations and management of moose in the Goodnews River drainage.

ACTIVITY 11: Use incentive programs and/or 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 12: Develop an ongoing cooperative moose management strategy for the Kuskokwim River moose population with the Lower Kuskokwim Advisory Committee, the Yukon Delta National Wildlife Refuge (YDNWR), and interested local groups and communities.

The ongoing cooperative strategy closes the moose season in the Kuskokwim River drainage for a period of 5 years to allow growth and expansion of the moose population in this area. We attended meetings of the LKAC, the Yukon-Delta RAC and coordinated with YDNWR staff to update local residents on how this strategy is working and encouraged local residents to follow the current regulations.

ACTIVITY 13: 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 a 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. We participated in a meeting with the villages of Goodnews Bay and Platinum to talk about current status of moose populations and strategies for management in the future.

Unit 22

ACTIVITY 1: Conduct a geostatistical estimation survey (census) or a riparian zone minimum direct count survey (census) in a portion of Unit 22 to monitor trends in population size, sex/age composition, and recruitment.

ADF&G staff completed a moose census of Unit 22C between February 28 and March 5, 2007 and generated an estimate of 620 moose (±18% at 90% C.I.). The point estimate is 17% higher than our 2004 estimate of 530 moose. The calf:adult ratio is 16 calves:100 adults and the recruitment rate is 14%.

The Department historically censuses Units 22C and 22B together, but low snow conditions in Unit 22B did not allow a census to take place.

ACTIVITY 2: Complete trend area surveys, sex and age composition surveys, or other aerial surveys (where appropriate in Unit 22) during late fall and early spring to provide an index of moose population status and trends, sex and age composition, and yearling recruitment.

During the reporting period 1 fall composition survey (November 2006), 1 recruitment survey (November 2006) and a spring recruitment survey (February 2006) were completed with the following results.

Unit 22D (portions of the Kuzitrin, Kougarok, and Noxapaga Rivers): Fall composition
Total classified = 192 moose
Bull:Cow ratio = 22 bulls: 100 cows
Calf:Cow ratio = 17 calves: 100 cows

Unit 22C (portions of the Snake and Stewart Rivers): Fall composition
Total classified = 122 moose
Bull:Cow ratio = 14 bulls: 100 cows
Calf:Cow ratio = 20 calves: 100 cows

Surveys conducted with BLM: Central portion of Unit 22A, including the main stem and north fork of the Unalakleet River, and the Old Woman, Ten mile, Chiroskey, South, Golsovia, Egavik, and North Rivers. Some of the small coastal drainages were also flown. Total classified = 97 moose, 82 adults and 15 yearlings (18 calves: 100 adults and 15% yearlings)

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 in Brevig Mission, Teller, and Elim. 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 Unit 22A, 22B, and 22D.

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

Hunt reports were received for a bull fall registration hunt (RM840 including Unit 22C, Unit 22B west of the Darby Mountains, the Kuzitrin River drainage in Unit 22D, and in Unit 22D SW), 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), a nonresident drawing hunt (DM845 in Unit 22B east of the Darby Mountains) and 2 anlterless fall registration hunts (RM850 and RM852 in Unit 22C). Harvest from other areas of the Unit was monitored by harvest report cards. Total reported harvest for Unit 22 during the reporting period was 175 moose (Unit 22A-16, 22B-36, 22C-51, 22D-66, 22E-6).

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.

There were no regulatory changes during the reporting period.

ACTIVITY 7: Use incentive programs and/or 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 state Advisory Committee meetings, federal Regional Advisory Council meetings, and two meetings in Unalakleet to discuss game population status in Unit 22. Several newspaper articles were written to improve public understanding of game management. No incentive programs were conducted during the reporting period.

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

Department staff evaluated riparian moose habitat in the American and Agiapuk River drainage in Unit 22D. Staff did not find recent browsing activity that appeared to be responsible for shrub mortality. The survey found no evidence to suggest winter browse availability is currently limiting moose numbers in the area.

ACTIVITY 9: Investigate causes of tooth cracking and breakage in Seward Peninsula moose.

Moose jaws were collected and photographed from moose harvested in Unit 22. Department and volunteer staff extracted incisors that were aged by Matson's Laboratory. Results for the tooth and tissue samples are pending.

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 Selawik drainage in March 2007. Density of adult moose was 0.32 moose/mi^2 and the calf:adult ratio was 10:100. For comparative purposes, we collected information on the distribution of moose in selected portions of the western half of Unit 23 during October through early December 2006. Based on direct observation of 2600 moose, we observed 38 bulls:100 cows and 17 calves:100 cows. We observed an average of 31% of the estimated total number of moose in the areas surveyed.

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. 424 hunters reported taking 155 moose through the statewide harvest ticket 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 incentive programs and/or 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.

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 minimum direct count census of moose habitat in the trend count area of Unit 26A on 8-9 April 2007. We counted a total of 668 moose. There were 519 adults and 149 short yearlings that had survived the winter (22%), including 14 sets of twins.

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 31 Oct.-3 November 2006. We observed 372 moose, including 105 bulls (55 bulls: 100 cows), 192 cows, and 75 calves (39 calves:100 cows). There were 7 sets of twins. Antler spreads were estimated and 18 % were less than 30 inches, 16 % were 30-39 inches, 18 % were 40-49 inches, 28 % were 50-59 inches, and 20 % 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 17 wolves, 1 bear, 3 wolverines, 1 lynx, and 3 golden eagles during the spring trend count of 2007.

ACTIVITY 4: Examine dead moose to look for causes of death, disease, mineral deficiencies, and contaminants.

All of the mortalities we were able to inspect had occurred long before we looked at them. We did not collect any samples for further analysis.

ACTIVITY 5: 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, Region V Management Coordinator