

**BROWN BEAR
ANNUAL SURVEY AND INVENTORY**

STATE: Alaska

GRANT AND SEGMENT NO. W-33-7

PROJECT NO. 4.0

PERIOD: 1 July 2007 – 30 June 2008

PROJECT LOCATION: Statewide

PROJECT TITLE: The Status of Brown Bears and Factors Influencing Their Populations

REPORT DESCRIPTION: This performance report describes brown bear survey and inventory activities. Regionwide activities are listed before specific activities by game management unit.

**The Status of Brown Bear
and Factors Influencing Their Populations in Region I**

Regionwide Activities:

ACTIVITY 1: Prepare a biennial brown bear management report.

Brown bear management reports were written and submitted for each unit and sub-unit within the region where brown bears occur. These reports provide updated harvest and management information through the RY 2008 hunt.

ACTIVITY 2: Monitor the harvest by using and analyzing data from sealing records, registration permits, and interviews with hunters.

Brown bear skulls were measured and the sex determined as bears were sealed. Regionwide, all hunters are required to register for brown bear hunting and submit reports by the end of the season detailing their hunting efforts. Preliminary figures indicate that about 231 bears were harvested by hunters during the report period.

ACTIVITY 3: Collect data on sex, age, body condition, and harvest from bears presented for sealing by hunters.

As part of the sealing process information on harvest location, along with biological information on the bear was collected. A tooth was extracted from each bear for later aging of the animal. As part of ongoing mainland brown bear research efforts, staff across the region collected tissue samples from brown bears harvested anywhere on the mainland to be used for DNA analysis.

ACTIVITY 4: Collect data on bears killed in defense of life and property.

Area biologists worked with FWP troopers, municipal police officers, and private citizens to collect information on defense of life or property (DLP) kills.

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Unit 1C: 1 DLP killed brown bears.

Unit 1D: 1 DLP killed brown bears.

Unit 4: 5 DLP killed brown bears

Unit 5: 3 DLP killed brown bears.

ACTIVITY 5: Coordinate with community decision makers to reduce bear/garbage problems that may be detrimental to bears.

Unit 1D: Biologists continue to work with local governments in Haines and Skagway to decrease the number of complaints associated with bears and refuse. Since the closure of the Haines Landfill, problem bear reports continue to decline and are currently at very low levels. Skagway is fortunate to have an incinerator and very few bear complaints; department biologist assisted local police in researching additional refuse control measures such as bear-proof garbage cans.

Unit 4: Biologists continue to work with communities to provide bear education programs to reduce habituating bears to garbage. Efforts continue in Sitka to provide educational material and regular public service reminders via various media formats to supplement to efforts of Sitka's Bear Awareness work group of federal, state and community organizations.

Unit 5: Biologists met with members of the Yakutat city assembly, the Fish and Game Advisory Committee, the Solid Waste committee, the Police Department, and the city manager to address concerns with refuse management in Yakutat. Efforts focused on reconfiguring the landfill to deter bears from accessing garbage.

ACTIVITY 6: Coordinate with land managers and guides regarding guided hunter effort.

Biologists continue to work with guides and land managers to identify high use guiding areas and to monitor guided-hunter brown bear harvest.

Activities by Unit:

Unit 1C

ACTIVITY: Assess the brown bear population in Berners Bay through the use of GPS radio collars as well as DNA analysis of hair samples.

Area staff assisted in collecting hair samples to provide for a population estimate necessary for proper bear management. Preliminary estimates for brown bears in Berners Bay are around 75 bears.

Unit 4

ACTIVITY 1: Capture one or two urban brown bears opportunistically and monitor their movements using GPS radio collars to identify problem areas and to assist educational efforts towards better refuse management.

No bears were captured and fitted with radio collars during this report period due to lack of available bears within the Sitka city limits.

ACTIVITY 2: Capture one or two brown bears at Pack Creek and monitor their movements using GPS radio collars.

No bears were captured and fitted with radio collars during this report period. Discussions with the US Forest Service led to a re-evaluation of the project, and it was considered best to not collar additional bears during this report period.

Submitted by: Neil L. Barten, Region I Management Coordinator

The Status of Brown Bear and Factors Influencing Their Populations in Region II

Regionwide Activities:

ACTIVITY 1 &2: Monitor the brown bear harvest through field observations, brown bear sealing reports, and interviews with successful hunters. Collect harvest data, determine the sex, and extract a tooth for aging from brown bears presented for sealing by hunters.

Unit 6: Hunters presented 66 bears for sealing, at which time a tooth was extracted from each bear skull for aging. There were 42 males and 22 females.

Unit 7 & 15: Thirty-six bears were taken during the reporting period. This mortality includes three females and one male taken by legal hunting. Other causes of mortality include defense-of-life-or-property kills, vehicle collisions, and illegal take.

Unit 8: We issued 728 hunting permits, 334 for the fall season and 394 in the spring. During the fall season, 245 hunters went afield and killed 76 bears. In the spring season 258 hunters went afield and killed 108 bears. The annual sport harvest was 184 bears, 132 males (72%) and 52 females (28%). One bear (male) was killed in the federal brown bear subsistence hunt. An additional 21 non-sport mortalities were documented as follows: defense of life or property - 11 (three male, seven female, and one unknown); and, natural/unknown - 10 (one male, one female, and eight unknown sex). The 2007/08 sport harvest of 184 bears was higher than the minimum annual harvest objective of 150 bears. Males composed 72% of the harvest, well above the minimum objective of 60% males. Intensive aerial survey data suggest that the unit-wide bear population continues to be stable to slightly increasing.

Unit 9: Hunters presented 23 bears for sealing, at which time a tooth was extracted from each bear skull for aging. There were 17 males, four females and two of unknown gender.

Unit 10: Hunters presented 10 bears for sealing, at which time a tooth was extracted from each bear skull for aging. All were males.

Unit 11: Hunters presented 15 bears for sealing, at which time a tooth was extracted from each bear skull for aging. There were 12 males and three females.

Unit 13: Hunters presented 146 bears for sealing, at which time a tooth was extracted from each bear skull for aging. There were 70 males and 76 females.

Unit 14: Hunters presented 37 brown bears for sealing, at which time a tooth was extracted from each bear skull for aging. There were 21 males and 16 females. In 14A,

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the harvest was 13, six of them males and seven females; in 14B it was 20, 12 of them males and eight females; in 14C it was four, three of them males and one female.

Unit 16: Hunters presented 169 brown bears for sealing, at which time a tooth was extracted from each bear skull for aging. There were 118 males and 51 females. In 16A, the harvest was 19, 13 of them males and six females; in 16B it was 150, 105 of them males and 45 females.

Unit 17: Hunters presented 109 brown bears for sealing, at which time a tooth was extracted from each bear skull for aging. There were 68 males, 40 females and one of unknown gender.

ACTIVITY 3: Obtain estimates of ages of harvested bears by tooth sectioning.

Unit 6, 7, 8, 14, 15, & 16: Teeth collected were submitted to an outside contractor for processing. Results will be entered into the Department's database when available.

Unit 9: The preliminary fall average age was estimated at 6.4 years.

Unit 10: The preliminary fall average age was estimated at 7.8 years.

Unit 11: The preliminary fall average age was estimated at 8.3 years.

Unit 13: The preliminary fall average age was estimated at 6.3 years.

Unit 17: The preliminary fall average age was estimated at 5.5 years.

ACTIVITY 4: Conduct line-transect/double count censuses of brown bear populations and refine technique.

Unit 6, 7, 8, 10, 13, 14, 15 & 17: Funding only allows for limited surveys. No brown bear census data was scheduled to be collected during 2008/09.

Unit 9: We completed a survey in a portion of GMU 9B in conjunction with background data gathering related to the Pebble Mine. Data is still being analyzed and will be reported in a different report series.

Unit 11: No census data were collected; past data is being analyzed.

Activities by Unit:

Unit 6

ACTIVITY 1: Conduct spring track and den surveys in Unit 6D.

We conducted spring track and den surveys in Unit 6D on Hinchinbrook (148 linear mi.) and Montague (210 linear mi.) islands. Total flight time was 5.6 hours. The population index was stable on both islands.

Unit 7 and 15

ACTIVITY 1: Continue implementation of the Kenai brown bear conservation strategy.

We continued to implement the strategy by educating the public on safe garbage storage, and through management of hunting opportunities.

ACTIVITY 2: Capture up to 10 brown bear to collar or to replace existing collars.

Fourteen bears were captured and radio collared during the report period.

Unit 8

ACTIVITY 1: Continue implementation of Unit 8 brown bear management plan.

Implementation of plan recommendations continued in 2007/08 with the Kodiak Unified Bear Subcommittee as the group also successfully conducted a 3-day seminar (one credit) on responsible bear viewing at Kodiak College. The course was filled to capacity (24 students) and was well received. We continued to make progress in our work with area villages to reduce the availability of human food and garbage to bears. The dump at Larsen Bay continues to be a success and is well maintained by local villagers. Port Lions completed fencing of its landfill, including electric fence that was retrofitted to an 8' chain-link fence. Port Lions also installed bear resistant dumpsters outside of the fence and lighted the area. The village of Old Harbor is slated for similar landfill improvements next year.

Unit 9

ACTIVITY 1: Encourage residents to reduce bear attractants that lead to defense of life or property kills (DLP).

Brown bears and humans continue to come into conflict in virtually every village in Unit 9. Efforts are being made to increase public awareness of new deterrent options.

ACTIVITY 2: Conduct population trend counts adjacent to heavily used salmon streams.

No surveys were conducted due to a lack of aircraft availability and poor weather conditions.

Unit 13

ACTIVITY 1: Capture up to 10 brown bears to collar or replace existing collars.

Brown bears were collared this regulatory year as a part of the Nelchina brown bear research project.

Unit 17

ACTIVITY 1: Work with local home and recreational cabin owners to reduce bear attractants and defense of life or property kills.

Provided information to install electric fences at fish drying racks, animal pens, and food storage areas to deter damage by bears and reduce DLP kills.

Submitted by: Gino DeFrate, Region II Management Coordinator

The Status of Brown Bears and Factors Influencing Their Populations in Region III

Regionwide Activities:

ACTIVITY 1: Prepare brown bear management reports.

Prepared brown bear management reports.

ACTIVITY 2: Monitor the brown bear harvest through field observations, brown bear sealing reports, interviews with successful hunters and analyze data.

Monitored preliminary harvest of 276 brown bears through field observations, sealing reports and interviews with successful hunters, and analyzed harvest data.

ACTIVITY 3: Collect harvest information and extract a tooth for aging from brown bears presented for sealing by hunters.

Collected data, determined sex, and extracted a tooth for aging from 276 brown bears presented for sealing.

ACTIVITY 4: Obtain estimates of ages of harvested bears by tooth sectioning.

Submitted teeth collected from 276 bears during the sealing process to a laboratory for aging.

ACTIVITY 5: Monitor and analyze brown bear bait station permit distribution.

Did not monitored and analyzed distribution of permitted brown bear bait stations because few permits issued.

ACTIVITY 6: Provide brown bear management information to State and Federal regulatory processes.

Provided information to 15 State fish and game advisory committees and 2 Federal regional advisory councils.

Activities by Unit:

Unit 12

ACTIVITY 1: Monitor blueberry abundance on permanent study plots to evaluate relationships between berry abundance and brown bear harvest

Monitored blueberry abundance within the Tanana River valley using 4 permanent transects (5 1-meter² plots/transect).

Unit 20E

ACTIVITY 1: Monitor blueberry abundance on permanent study plots to evaluate relationships between berry abundance and brown bear harvest

Monitored blueberry abundance along the southern 40 miles of the Taylor Highway using 4 permanent transects (5 1-meter² plots/transect).

Submitted by: Roy A. Nowlin, Management Coordinator

The Status of Grizzly Bear and Factors Influencing Their Populations in Region V

Regionwide Activities:

ACTIVITY 1: Prepare biennial regional grizzly bear management reports.

A grizzly bear management report was prepared during this reporting period.

ACTIVITY 2: Provide information to State and Federal regulatory processes on brown bear management.

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

ACTIVITY 3: Review and revise population objectives.

Brown bear population objectives were reviewed with no revisions in Units 18, 22, 23, and 26A.

ACTIVITY 4: Monitor the brown bear harvest through field observations, analyses of brown bear sealing data, and interviews with hunters.

Unit 18: We made numerous field observations of brown bears while conducting surveys for other species in Unit 18; interviewed brown bear and other hunters regarding bears; and analyzed brown bear sealing data. To date, 18 brown bears have been reported harvested in the general hunt in Unit 18 for the fall of 2008 and 5 for the spring of 2009.

Unit 22: Harvest was 98 bears by hunting and 7 by Defense of Life and Property (DLP) for a total take of 105 bears. Sex composition of the harvest was 69 males, 33 females, and 3 bears of unknown sex. During the fall 2008 portion of the season 46 bears were taken and 52 bears were harvested during the spring 2009 portion. The reported annual hunter harvest (n= 98) increased 27.3% from the previous year (n= 77); and, is the largest harvest Unit 22 has reported. Average annual harvest for the preceding 10-year period is 93 bears per year. DLP bears (n=7) decreased by 22% and staff continue to work with rural residents and Village Public Safety Officers to minimize the take of nuisance bears.

Unit 23: This year, 39 bears were harvested through the general hunt for residents and 9 were harvested in the drawing hunt for non-residents. Therefore, 48 bears were harvested. The average annual harvest for the last 10-years is 50 bears per year (range 32-72 bears per year).

Unit 26A: We recorded opportunistic field observations of brown bears while conducting surveys for other species, interviewed hunters, and analyzed brown bear sealing data. Eighteen brown bears (12 males, 6 females) were reported taken in Unit 26A during the reporting period. Eight were reported taken by nonresidents, 6 by nonlocal Alaskan residents, and 4 by residents of Unit 26A. Nine bears were taken during August, 6 were taken in September, 2 in April, and 1 in May. The average annual harvest for the last 10 years is 21 bears per year.

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ACTIVITY 5: Analyze registration permit harvest data collected for subsistence hunts.

Unit 18: No brown bears were reported taken under the subsistence brown bear registration hunt (RB698) in Unit 18 during this period.

Unit 22: The Department administered 13 subsistence registration permits in Hunt RB699 during the reporting period. Four hunters reported: three did not hunt and one hunter spent time hunting but did not harvest a bear.

Unit 23: Three brown bears were reported taken under the subsistence brown bear registration hunt (RB700) in Unit 23 during this period. One was taken in the Spring and 2 were taken in the Fall. All three bears were males.

Unit 26A: Three brown bears were reported taken under the subsistence brown bear registration hunt (RB697) in Unit 26A during this period.

ACTIVITY 6: Use public education programs and/or increased communication with the public to improve understanding of hunting regulations and the value of conserving brown bear populations, and to obtain better harvest data through increased harvest reporting.

Unit 18: We addressed bear conservation education in Unit 18 through opportunistic interviews with hunters, village police officers, berry pickers, and other interested members of the public.

Unit 22: Brown bear hunting regulations, the importance of harvest reporting, DLP bears, and methods to minimize human-bear conflicts are discussed at Advisory Committee, Regional Advisory Council meetings, and during individual contacts with local residents. Also, staff participated in brown bear awareness and education with local youth groups.

Unit 23: We spoke to the public about the importance of reporting all bears killed while hunting or in defense of life and property.

Unit 26A: At public meetings and during individual contacts with local residents, we discussed bear hunting regulations, the importance of reporting harvest and DLP bears, and methods to minimize human-bear conflicts.

ACTIVITY 7: Collect data, determine sex, and extract a tooth for aging from brown bears presented for sealing.

Unit 18: Data were collected from 23 sealed bears (16 males and 7 females). Teeth were extracted for aging when these bears were presented for sealing.

Unit 22: Data were collected from 105 sealed bears (69 males, 33 females and 3 of unknown sex). Teeth were extracted for aging when these bears were presented for sealing.

Unit 23: Data were collected from 48 sealed bears. Teeth were extracted for aging when these bears were presented for sealing.

Unit 26A: Data were collected from 18 sealed bears (12 males and 6 females). Teeth were extracted for aging when these bears were presented for sealing.

ACTIVITY 8: Obtain estimates of ages of sealed bears by tooth sectioning.

Unit 18: Premolars were extracted and sent to Matson's Lab for sectioning and aging but results for these samples are not available.

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Unit 22: Age information for bears returned from Matson’s Lab during this reporting period are only available for the 2008 fall harvest at this time. A preliminary estimate of average age is 5.8 years. The mean age of all bears taken in Unit 22 was 6.1 years for each year during the 2-year period July 1, 2006 to June 30, 2008. The previous 10-year average age for bears harvested in Unit 22 is 6.2 years.

Unit 23: The average age of bears taken in the 2008-2009 regulatory year was 9. The average age of all bears taken in Unit 23 during 1999-2000 through 2007-2008 was 7 yrs (7 yrs for males and 6 yrs for females).

Unit 26A: Premolars were extracted and sent to Matson’s Lab for sectioning and aging but results for these samples are not available. The average age for 2007-2008 was 7.2 years.

ACTIVITY 9: Communicate and coordinate with local residents to reduce bear/human problems, improve understanding of defense of life or property (DLP) situations, and reduce need for DLP kills.

Unit 18: We continued to promote the use of electric fences around fish camps, hunting camps, and other applications as a way to reduce bear problems. Few bear problems were reported and no DLP bears were reported taken in 2008–2009.

Unit 22: Reports of problem bears and DLPs continue to be high throughout the unit. We continued to promote the use of electric fences around camps. The department has loaned-out an electric fence to residents for use at fish camps and this has proven effective at preventing bear problems. Copies of the bear safety video, “Staying Safe in Bear Country” and the pamphlet “Bear Facts – The Essentials for Traveling in Bear Country” are available from the Nome Fish & Game office.

Unit 23: We spoke to numerous hunters, especially hunters who reside outside of Unit 23 who call for information, about bear safety. We also spoke with local residents about preventing DLP situations and the need to report bears taken under such circumstance.

Unit 26A: The number of brown bears breaking into cabins and entering villages has greatly increased in recent years. Efforts are being made to improve knowledge of DLP regulations and expand the use of registration permits for subsistence hunting of bears. We are promoting the use of electric fences for people with remote cabins.

Unit 22:

ACTIVITY 1: Assess population trends through field observations and analyses of sealing data.

The increased number of hunter-harvested brown bears (n=98) in 2008-2009 (compared to the previous reporting period) is likely the result of improved hunter success during better weather and travel conditions rather than the result of increased bear population size. Other regulatory years with high brown bear harvest by hunters were 2000-2001 and 2006-2007 where 94 bears, respectively, were harvested. The high proportion of males harvested (65%), low harvest of females, and little change in mean age of harvested bears suggests little change in sex or age structure of the population. However, observations of bears in easily accessible areas along the Nome road system indicate they are becoming less numerous in contrast to anecdotal evidence from the public that indicates the

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population is highly productive. Reports of sows with twins are normal, sows with three cubs are common and sows with 4 cubs are occasionally reported.

ACTIVITY 2: Analyze harvest data collected from selected communities in Unit 22.

Community-based harvest assessment surveys were not conducted in Unit 22 during the reporting period. Instead, survey effort was directed to three communities in Unit 23.

Units 18, 23 and 26A:

ACTIVITY 1: Monitor population trends through field observations, censuses, registration permit hunt reports, and analysis of sealing data.

Unit 18: Brown bears are observed opportunistically while surveying moose and caribou in the unit. General season hunter harvests are higher compared to the previous decade, especially in the Kilbuck Mountains, but subsistence harvests are much lower. The Yukon River drainage in Unit 18 has seen very little harvest for many years and no bears were reported harvested from this area during the reporting period. From hunt reports and our observations we do not think that bears are being over-harvested.

Unit 23: Harvest data indicates there has been little change in the sex or age structure of bear populations in Unit 23 since the early 1960s despite increasing harvest levels. This is consistent with our opportunistic observations of bears. However, modeling exercises indicate harvest data is insensitive to biological changes in bear populations so these results should be viewed with caution.

Unit 26A: Opportunistic observation of brown bears during surveys for other species and the observations of hunters and pilots indicate that brown bears are relatively plentiful, and most users indicate the current population level of brown bears is satisfactory. The analysis of sealing data indicate that the proportion of males and the age structure of harvest in Unit 26A is healthy and suitable for maintaining the current population level of brown bears in Unit 26A.

ACTIVITY 2: Analyze harvest data collected from selected communities in Unit 23.

Community harvest assessments were conducted in Unit 23 during the reporting period; however, the results of these surveys are not available. Previous community harvest assessments suggest the harvest of brown bears by residents of Unit 23 is low.

ACTIVITY 3: Analyze harvest data collected from selected communities in Unit 26A.

We estimated local harvest by using data from ADF&G Subsistence Division, the North Slope Borough and other community-based harvest assessment studies. We determined that the mean number of bears harvested in Unit 26A villages per year ranges from 6–12 bears annually.

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ACTIVITY 4: Investigate techniques (census or survey program) to assess population status in Unit 23 and, if appropriate, complete a census/survey in a selected portion of the unit in late May/early June.

No new surveys or census efforts were attempted or completed during the reporting period. Final results of the May/June 2008 census in the Noatak River drainage near Red Dog Mine (surveys by National Park Service in conjunction with ADF&G) were not available; analysis is on-going.

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