

**FEDERAL AID  
ANNUAL PERFORMANCE REPORT**

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

**BROWN BEAR  
ANNUAL SURVEY AND INVENTORY  
PERFORMANCE REPORT**

**STATE:** Alaska

**GRANT AND SEGMENT NR:** W-33-3

**PROJECT NR:** 4.0

**WORK LOCATION:** Statewide

**PERIOD:** 1 July 2003–30 June 2004

**PROJECT LOCATION:** Game Management Regions 1, 2, 3, and 5

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

**REPORT DESCRIPTION:** This statewide performance report includes the four regions involved in brown bear survey and inventory activities. Regional 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: Prepare biennial brown bear management reports.

Brown bear management reports were written and submitted for each unit and subunit within the region where brown bears occur. These reports provided updated harvest and management information through the spring 2004 hunt.

Activity: Provide information to the Board of Game on brown bear management

The Board of Game met in Juneau during November 2004. Staff prepared background material on brown bear management within each unit where this species occurs and provided recommendations to the board for three proposals from the public to change harvest regulations.

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

Preliminary figures indicate that about 211 bears were killed during the report period, of which 11 were DLP.

Activity: Collect data, determine sex, and extract a tooth for aging from bears presented for sealing by hunters.

Brown bear skulls were measured and the sex determined as bears were sealed. Teeth were extracted from all bears presented for sealing.

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

Area biologists worked with Alaska Bureau of Wildlife Enforcement troopers, municipal police officers, and private citizens to collect information on DLP kills. In Unit 1A no DLP kills were reported. In Units 1B and 3, one bear was killed following a nonfatal mauling incident. In Unit 4, 8 bears were killed DLP, 2 were found dead, and 9 were killed illegally. In both Units 1C and 1D, one bear was killed DLP, while in Unit 5, 3 bears were killed DLP, and a 4<sup>th</sup> was illegally harvested

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

Area biologists worked with a community committee and the U.S. Forest Service personnel in Sitka to address the garbage issue. At the end of the regulatory year, the committee has compiled bear incident and DLP records to identify target areas within the community that require action and move toward recommendations to the borough assembly. Area biologists also worked with the community of Hyder to address the garbage issue. Staff also worked with other state personnel and the city of Haines to continue to improve garbage containment practices. In Yakutat efforts were continued towards eliminating food access by bears at the city landfill. ADF&G biologists also worked with the city officials to begin efforts in educating the community about bears and refuse management in light of food-conditioned landfill bears searching for meals in residential areas.

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

We shared data with guides and land managers on the annual guided hunted effort.

## **Activities by Unit**

### **Unit 4**

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

Although bears were not captured and collared during this reporting period, coordination and training for this effort continued with liaison staff from the Sitka High School.

Activity: Monitor public use of the Pack Creek viewing area on the Stan Price State Wildlife Sanctuary.

Along with U.S. Forest Service personnel, ADF&G staff worked at the Pack Creek area throughout the summer months to manage public use of the facility and prevent dangerous encounters between bears and visitors.

**Other activities funded by Federal Aid on this project:** None

**Stewardship Investment items purchased:** None

**Total Regional Segment Period Project Costs (in thousands):** \$48.8

**Submitted by:** Dale L. Rabe – Region I Management Coordinator

## **The Status of Alaska Brown Bears and Factors Influencing Their Populations in Region II**

### **Regionwide Activities**

Activity: Draft a brown bear management report.

Completed a draft brown bear management report for all Region II units where brown bears are found.

Activity: Monitor the brown bear harvest through field observations, brown bear sealing reports, and interviews with successful hunters.

See individual unit reports below.

Activity: Collect harvest data, determine the sex, and extract a tooth for aging from brown bears presented for sealing by hunters.

Data was collected from all brown bears presented for sealing by hunters.

Activity: Obtain estimates of ages of harvested bears by tooth sectioning.

Teeth from all brown bears presented for sealing were sent to a laboratory in the Lower 48 for tooth sectioning and aging.

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

See Unit 8 report below.

### **Activities by Unit**

#### **Unit 6**

Activity: Monitor the brown bear harvest through field observations, brown bear sealing reports, registration permit reports from Montague Island, and interviews with hunters.

The preliminary 2004–05 harvest was:

Males 54	Females 15	Total 70 (including 1 known sex)
----------	------------	----------------------------------

#### **Units 7 and 15**

Activity: Monitor the brown bear mortality through field observations, brown bear sealing reports, and interviews with successful hunters.

The preliminary mortality for 2004–05: 4 bears

Males 3	Females 1	Total 4
---------	-----------	---------

#### **Unit 8**

Activity: Monitor the brown bear harvest through field observations, brown bear sealing reports, and interviews with successful hunters.

Results: During the fall season 205 hunters went afield and killed 57 bears. In the spring season 266 hunters went afield and killed 112 bears. The annual sport harvest was 169 bears,

138 males (82%) and 31 females (18%). Three male bears were killed in the federal subsistence hunt. An additional 27 non-sport mortalities were documented as follows: defense of life or property (DLP) – 11 (3 male, 7 female, 1 unknown sex); natural/unknown – 15 (1 male, 1 female, and 13 unknown sex); and illegal – 1 of unknown sex.

Activity: In cooperation with Kodiak National Wildlife Refuge, annually survey a portion of the island to establish baseline bear density estimates and to detect changes in the population.

Results: We successfully completed an intensive aerial survey of the brown bear populations on the Kiliuda and Shearwater Peninsulas May 16–19, 2005. Survey data indicate the bear density in both areas has increased since the last survey that was conducted in 1996. Further analysis suggests the increase was statistically significant in both areas ( $p < 0.01$ ). The estimated number of independent bears (not including cubs) in Kiliuda went from 42.6 (standard deviation = 7.8) in 1996 to 57.4.1 (sd = 7.4) in 2005. In the Shearwater area the estimated number of independent bears went from 67.6 (sd=8.1) to 106.8 (sd=15.5).

Activity: Begin implementing recommendations of Unit 8 brown bear management plan.

Results: Implementation of plan recommendations continued in 2004–05 with the Kodiak Unified Bear Subcommittee distributing and refining a brochure on bear viewing etiquette (“So you want to see a Kodiak bear...”). The group also developed and deployed “Be Bear Aware” signs along popular sport fishing streams on the Kodiak road system and continued work toward developing a training and certification program for bear-viewing guides on Kodiak.

We made progress in our work with area villages to reduce the availability of human food and garbage to bears, including a cooperative project with the Kodiak Island Borough, the Village of Larsen Bay, and the Exxon Valdez Oil Spill Trustees to eliminate the use of the Larsen Bay dump by a plethora of bears. An electric fence was erected around the dump and energized, a burn box was installed, and bear-resistant dumpsters were deployed. We also continued a cooperative effort with the Kodiak Brown Bear Trust, the University of Idaho, and the Kodiak National Wildlife Refuge to consolidate and analyze brown bear research and harvest data collected over the past 2 decades.

## Units 9 and 10

Activity: Monitor the brown bear harvest through field observations, brown bear sealing reports, and interviews with successful hunters.

The preliminary 2004–05 harvest was:

Unit 9	Males 8	Females 2	Total	10
Unit 10	Males 6	Females 4	Total	10

Activity: Encourage unit residents to reduce attractive nuisances that lead to DLP kills.

Brown bears and humans continue to come into conflict in virtually every village in Unit 9. The availability of a new bear safety video and a portable electric fence may improve educational efforts with local residents and recreational visitors. There is some increased used of electrified fencing in a few locations.

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

Three repetitive surveys were completed near Black Lake in Unit 9E Aug. 7–9, 2004. A total of 371 bears were classified.

### **Units 11 and 13**

Activity: Monitor the brown bear harvest through field observations, brown bear sealing reports, and interviews with successful hunters.

The preliminary 2004–05 harvest was:

GMU 13	Males 80 (58%)	Females 58 (42%)	Total	138
GMU 11	Males 13 (57%)	Females 10 (43%)	Total	23

### **Unit 14**

Activity: Monitor the brown bear harvest through field observations, brown bear sealing reports, and interviews with successful hunters.

The preliminary 2004–05 harvest was:

14A	Males 7	Females 0	Unknown 0	Total	7
14B	Males 3	Females 1	Unknown 0	Total	4
14C	Males 0	Females 1	Unknown 0	Total	1
Unit 14 Total:	Males 10	Females 2	Unknown 0	Total	12

### **Unit 16**

Activity: Monitor the brown bear harvest through field observations, brown bear sealing reports, and interviews with successful hunters.

The preliminary 2004–05 harvest was:

16A	Males 9	Females 2	Unknown 0	Total	11
16B	Males 87	Females 27	Unknown 1	Total	115
Unit 16 Total:	Males 96	Females 29	Unknown 1	Total	126

### **Unit 17**

Activity: Monitor the brown bear harvest through field observations, brown bear sealing reports, and interviews with successful hunters.

The preliminary 2004–05 reported harvest was:

Males 51	Females 33	Unknown 0	Total	84
----------	------------	-----------	-------	----

Activity: Work with local home and recreational cabin owners to try and reduce bear damage and defense of life and property kills.

Installed electric fences at fish drying racks, animal pens, and food storage areas to deter damage by bears.

Reported DLP kill in GMU 17 was 2 brown bears.

Known illegal kill in GMU 17 was 1 brown bear.

**Stewardship Investment items purchased:** None.

**Total Regional Segment Period Project Costs (in thousands):** \$311.4

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

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

### **Regionwide Activities**

Activity: Prepare a biennial brown bear management report.

Prepared biennial brown bear management reports for all Region III game management units.

Activity: Provide information to the Board of Game and advisory committees on brown bear management.

Provided information to the Board of Game for all units with resident tag fee exemptions and to Fish and Game Advisory Committees throughout the region.

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

Monitored harvest of 239 brown bears through field observations, sealing reports, and interviews with successful hunters, and analyzed harvest data.

Activity: Collect data, determine sex, 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 239 brown bears presented for sealing.

Activity: Obtain estimates of ages of harvested bears by tooth sectioning.

Teeth collected from 239 bears during the sealing process were submitted to a laboratory for aging.

### **Activities by Unit**

#### **Unit 12**

Activity: 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-meter<sup>2</sup> plots/transect).

#### **Unit 20E**

Activity: 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-meter<sup>2</sup> plots/transect).

**Stewardship Investment items purchased:** None.

**Total Regional Segment Period Project Costs (in thousands):** \$123.4

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

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

### **Regionwide Activities**

Activity: Prepare a biennial brown bear management report.

Brown bear management reports for Units 18, 22, 23 and 26A were prepared and submitted.

Activity: Review and revise population objectives.

Unit 18: We reviewed brown bear population objectives for Unit 18 but made no revisions.

Unit 22: Staff reviewed population objectives and identified the need for population trend information and current population census estimates. Mark-recapture census estimates are expensive, and area management biologists are investigating other methods of collecting data, including “mock mark-recapture” and infrared technology. Since this work is not completed, population objectives have not been revised.

Unit 23: No revision of the population objective to maintain a minimum density of one adult bear per 25.7 mi<sup>2</sup> in the Noatak drainage.

Unit 26(A): We reviewed brown bear population objectives and identified the need for population trend information and current population census estimates.

Activity: 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, 35 brown bears have been reported harvested in the general hunt in Unit 18.

Unit 22: We reviewed harvest data to determine the following summary. The total reported harvest of 92 bears included 2 DLP bears. Sex composition of the harvest was 49 males, 42 females, and 1 of unknown sex. Fifty bears were harvested during the fall portion of the season, and 40 bears were harvested during the spring portion. The reported annual harvest of 92 bears was higher than the 10-year annual average of 77 bears.

Unit 23: Opportunistic observations of brown bears within Unit 23 were recorded during wildlife surveys and other activities. Seventy brown bears (52 males, 17 females and 1 of unknown sex) were reported taken in Unit 23 during the reporting period. Eighteen bears were taken by residents of Unit 23; 29 by nonlocal Alaskan residents; and 23 by nonresidents. Forty-seven bears were taken during fall (Aug–Dec) and 23 during spring (Jan–May).

Unit 26(A): We reviewed sealing data from 15 sealed bears to determine the following harvest summary. There were no DLP bears reported during the reporting period. Sex composition of the harvest was 4 females and 11 males. Nine bears were killed by nonresidents, 5 by nonlocal residents, and 1 by a local resident. Access to the hunt area was by airplane for 12 of the bears taken and by boat for 3. Nine hunters used a registered guide, 4 used commercial transporters, and 2 used no commercial services. All 15 bears were



harvested in the eastern portion of Unit 26A. Eight bears were harvested in August and 7 in September. The average annual harvest for the last 10 years is 21 bears per year.

Activity: Analyze registration permit harvest data collected for subsistence hunts.

Unit 18: To date, 21 of 29 subsistence brown bear hunters have reported their hunting activity but no bears have been reported harvested.

Unit 22: Three Unit 22 residents participated in the unit's subsistence hunt, but no harvest was reported.

Unit 23: No brown bears were reported taken under the subsistence brown bear registration hunt (RB700) in Unit 23 during this period.

Unit 26(A): No brown bears were reported taken under the subsistence brown bear registration hunt (RB700) in Unit 26A during this period.

Activity: 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 newspaper articles and through opportunistic interviews with hunters, berry pickers, and other interested members of the public.

Unit 22: Increased communication with village public safety officers and tribal councils has resulted in improved reporting of bears taken in DLP near villages enabling us to better monitor harvest. The department has loaned an electric fence to a fish camp on the Fish River that has effectively deterred bears from the area. Staff discussed the importance to conservation of hunting regulations and bear harvest reporting at public meetings in White Mountain and Unalakleet.

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

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

Unit 18: 20 females and 13 male bears were reported harvested in Unit 18. Teeth were extracted for aging as these bears were presented for sealing.

Unit 22: Data was collected from 55 bears sealed in Nome, 20 bears in Anchorage, 9 bears in Unalakleet, 2 bears in White Mountain, and 1 bear in Teller and Fairbanks; there were 46 males and 42 females in the reported harvest. Teeth were extracted for aging as these bears were presented for sealing.

Unit 23: Data was collected from 70 brown bears (52 males, 17 females and 1 of unknown sex) taken in Unit 23 during the reporting period. Teeth were extracted for aging as these bears were presented for sealing.

Unit 26(A): All bears were sealed outside the unit where other staff collected data and teeth; there were 11 males and 4 females in the harvest.

Activity: Obtain estimates of ages of sealed bears by tooth sectioning.

Unit 18: The ages of bears taken in Unit 18 are not available for the 2004–2005 regulatory year. The mean age for bears taken in the general hunt in 2003–2004 was 4.5 years.

Unit 22: Premolars were extracted from 86 bears harvested in 2004–2005 and sent to Matson’s lab for sectioning and aging, but results for these samples are not available. Results from teeth sent of 85 bears harvested in 2003–2004 average 6.4 years old and range from 1 to 28 years old. Since record-keeping began in 1967, the average age of bears harvested in Unit 22 is 6.3 years.

Unit 23: Age information for bears taken during this reporting period was not available at the time of this report.

Unit 26(A): Premolars from at least 14 bears harvested in 2004–2005 were extracted and sent to Matson’s Lab for sectioning and aging, but results for these samples are not available. During 2003–2004 the mean age was 10.4 years for males and 7.8 years for females.

Activity: 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 2004–2005.

Unit 22: We loaned an electric fence to a camp on the Fish River during the reporting period. Since the owners’ began using the fence 4 years ago, they have not harvested a DLP bear. 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 defense of life and property situations and the need to report bears taken under such circumstance.

Unit 26(A): Problematic human/bear interactions appear to be rare in this unit. Efforts to improve knowledge of DLP regulations and using registration permits for subsistence hunting of bears has reduced the wasteful taking of bears and has improved attitudes about dealing with problematic bears.

## **Activities by Unit**

### **Unit 22**

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

The population trend in Unit 22 is based on sex and age data from reported harvest. The 10-year average proportion of males (62%) indicates the population is stable, but the 5-year

average proportion of males (60%) and male harvest during the reporting period (53%) may indicate the initial signs of a population decline. Anecdotal evidence support the population is productive. Staff and resident observations report sows with twins are normal, and sows with 3 cubs are common. Age structure of harvested bears has changed little since 1967, averaging 6.3 years.

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

Community-based harvest assessment surveys were conducted in Unalakleet and Koyuk. One Koyuk household hunted for brown bear, but was not successful. Five Unalakleet households hunted for brown bears, and 4 bears were harvested.

### **Units 18, 23 and 26A**

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

Unit 18: Brown bear populations in Unit 18 are healthy and stable. The results of the census conducted with the Togiak National Wildlife Refuge in the southern portion of Unit 18 and adjacent Unit 17 during 2003 and 2004 are still pending.

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. However, modeling exercises indicate harvest data is insensitive to biological changes in bear populations so these results should be viewed with caution. Reports from the public suggest bear numbers are higher than in past years and may still be slowly increasing. Our opportunistic observations do not indicate bears have been chronically overharvested.

Unit 26(A): 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 indicates 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: Analyze harvest data collected from selected communities in Unit 23.

Community harvest assessments suggest the harvest of brown bears by residents of Unit 23 is low.

Activity: 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 to 12 bears annually.

**Stewardship Investment items purchased:** None.

**Total Regional Segment Period Project Costs (in thousands):** 25.3

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

**Statewide Project Costs (in thousands):**

**State Share = \$115.03      Federal share = \$345.08      Total costs = \$460.1**