

**ANNUAL SURVEY AND INVENTORY**

**STATE:** Alaska

**GRANT AND SEGMENT NO.** W-33-11

**PROJECT NO.:** 4.0 Brown Bear

**PERIOD:** 1 July 2012 – 30 June 2013

**PROJECT LOCATION:** Statewide: Activities in Regions I, II, III, IV, and V

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

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

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**Region I—Southeast Alaska**

**Regionwide Activities**

**ACTIVITY 1:** Prepare a biennial brown bear management report.

Reports are being completed at present.

**ACTIVITY 2:** Provide information to state and federal regulatory processes on brown bear management.

Data from brown bear harvest was provided to the Board of Game at the January 2013 meeting.

**ACTIVITY 3:** 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 167 bears were harvested in the region by hunters during the report period.

**ACTIVITY 4:** 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 and biological information on each bear was collected. A tooth was extracted from each bear for aging. 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 5: Obtain estimates of ages of all harvested bears by tooth sectioning.

This was accomplished.

ACTIVITY 6: 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.

*Unit 1D:* 6 DLP killed brown bears

*Unit 4:* 12 DLP killed brown bears (includes Poison Cove incident)

*Unit 5:* 4 DLP killed brown bears.

ACTIVITY 7: Coordinate with community decision makers to reduce bear/garbage problems that may be detrimental to bears.

*Unit 1C and 1D:* Biologists continue to work with local governments in Juneau, Haines and Skagway to decrease the number of complaints associated with bears and refuse. Similar to regulations implemented in Juneau and Skagway, the Haines Borough adopted an ordinance to address bear attraction nuisances. Department biologists assisted state and local entities in researching additional refuse control measures such as bear-proof garbage and recycling cans. Biologists participated in Juneau Bear Committee meetings to provide information concerning department management strategies, and to assist in focusing the committees efforts. Since the closure of the Haines Landfill, problem bear reports continue, however implementation of an electric fence around the building is in the construction phase. Skagway is fortunate to have an incinerator and very few bear complaints.

*Unit 4:* Biologists continue to work with communities to provide bear education programs to reduce habituating bears to garbage. Efforts continue in Sitka and other communities 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, and landfill operators to address concerns with refuse management in Yakutat. Efforts focused on reconfiguring the landfill, and installing an electric fence to deter bears from accessing garbage.

ACTIVITY 8: 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.

ACTIVITY 9: Participate in planning efforts related to brown bear monitoring in mainland and other areas of the region.

This was accomplished for Unit 4 in concert with the 2013 Board of Game meeting. The Unit 4 Brown Bear Management Strategy was discussed at length and many of the original stakeholders participated in this effort.

## **Activities by Unit**

### **Unit 1D**

ACTIVITY: Monitor brown bears deployed with GPS radio collars to assess habitat use and movements in the Chilkoot River corridor in Haines.

Area staff radio tracked the two brown bears along the Chilkoot River every few months.

### **Unit 4**

ACTIVITY 1: Radiocollar and aerial track a subpopulation of bears.

This was not accomplished during the FY.

ACTIVITY 2: 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.

Two bears were captured and fitted with radio collars during this report period.

ACTIVITY 3: Monitor public use of the Pack Creek viewing area in the Stan Price State Wildlife Sanctuary.

This was accomplished during the report period. Pack Creek was again a successful bear viewing area, and department staff along with USFS staff monitored the viewers throughout the summer season. There were no injuries or problems associated with bears during this FY.

ACTIVITY 4: Capture one or two brown bears at Pack Creek and monitor their movements using GPS radio collars.

This activity did not occur this year.

### **Unit 5:**

Activity 1: Affix 2-3 brown bears at the Yakutat landfill with GPS radio collars to understand their movement patterns in and around the community, and the public safety concerns this presents.

In conjunction with ongoing brown bear research efforts in Unit 5, two bears was captured and fitted with a radio collars at the Yakutat landfill during this report period.

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

## **Region II—Southcentral Alaska**

### **Regionwide:**

ACTIVITY : Draft a biennial brown bear management report.

Brown Bear management report was completed during this period and is currently in the review process. Staff continued to collect information in preparation for drafting next report.

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

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

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

All bears taken in Region II were presented to staff for specimen collection and sealing. See area specific activities for additional information.

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

For most bears taken in Region II a premolar was extracted and placed in a marked envelope. Teeth were bulk shipped to a contractor for aging and when available ages were provided to the Department to be entered into the bear harvest database.

ACTIVITY : Provide information to state and federal regulatory processes on black bear management.

Staff routinely interact with federal staff and discuss management of brown bear relative to the respective regulatory systems. Staff attended the state Board of Game meeting during this reporting period.

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

Surveys were completed in GMU 8 during this reporting period and reported below. Staff worked on refining the line census technique and reanalyzed previous collected information.

### **Activities by Unit:**

#### **Unit 6**

ACTIVITY: Sealed 12 female and 29 male bears for a total harvest of 41 bears.

ACTIVITY: Collected teeth from 41 bears for aging.

ACTIVITY: No spring track and den surveys in Unit 6D on Hinchinbrook Island were conducted this year due to temporary vacancy in the area biologist position.

#### **Units 7 & 15**

ACTIVITY: We continue to implement the conservation strategy with sustainable hunting opportunities and continued public education on bear conservation measures.

ACTIVITY : Bears were captured and we deployed radio collars as part of a research project reported under a different job.

ACTIVITY. Forty-one bears were taken during the reporting period including 19 males, and 22 females. This mortality includes 31 bears taken by legal hunting. Causes of non-hunting mortality include defense-of-life-or-property kills and illegal take.

## Unit 8

ACTIVITY : Implement the Kodiak Archipelago Bear Conservation and Management Plan with the Kodiak Unified Bear Subcommittee. The group successfully conducted a 3-day seminar (1 credit) on responsible bear viewing at Kodiak College. The course was filled to capacity 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 dumps at Larsen Bay and Port Lions continue to be successful and are well maintained by local villagers. Old Harbor completed fencing of their landfill, including electric fence that was retrofitted to an 8' chain-link fence, however, more improvements and maintenance will be necessary to make it secure from bears.

ACTIVITY: We issued 793 hunting permits during this reporting period, 370 for the fall season and 423 in the spring. During the fall season, 252 hunters went afield and killed 61 bears. In the spring season 281 hunters went afield and killed 125 bears. The annual sport harvest was 186 bears, 141 males (76%), 44 females (24%) and 1 unknown. One additional bear (1 male) was killed in the federal subsistence hunt. There were 28 non-sport mortalities documented as follows: 8 defense of life or property (3 male, 5 females); 15 natural/unknown (15 unknown sex); 1 illegal (female); and 4 agency kills (2 male, 2 female).

The 2012/13 harvest of 186 bears was above the minimum annual harvest objective of 150 bears. Males composed 76% 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.

ACTIVITY: We successfully completed an intensive aerial survey of the brown bear population on Sitkalidak Island from 05 - 10 June 2012. This was the first objective population survey ever conducted in this area, and it was accomplished using data from 10 bears radio-collared from 26-28 May 2012. We estimated there were a total of 84 ( $\pm 25$ ) bears (including dependent cubs), of which 68 ( $\pm 20$ ) were independent bears (not including dependent cubs), on the 299 km<sup>2</sup> (116 mi<sup>2</sup>) island. The estimated density of independent bears (not including cubs) on Sitkalidak Island was 228/1,000 km<sup>2</sup> (SE = 23.50; 0.60 independent bears/mi<sup>2</sup>, 0.74 total bears /mi<sup>2</sup>).

ACTIVITY: From 26 May through 02 June 2012, we used a Hughes 500D helicopter and rifle-fired darts to capture 18 brown bears (14 females and 4 males) on Sitkalidak and Afognak Islands. We deployed VHF transmitters on 9 adult female and 1 adult male bear on Sitkalidak and GPS/VHF collars on 5 adult females and 2 adult males on Afognak. The Sitkalidak project was funded in part by a grant from Safari Club International and was designed to provide

sightability information of an intensive aerial survey of the island, and a means of gathering long-term productivity and survival data. The Afognak study was the first phase of a baseline investigation of bear movements on the west side of that island.

On 26-27 June 2013 we captured 7 bears (6 females, 1 males) and deployed 6 GPS radio-collars (6 females) on the west side of Afognak Island and Ban Island. Captured bears ranged in age from 8 to 16 years and all were in good physical condition. Due to marginal weather and limited helicopter availability we focused our capture efforts on western Afognak Island.

We concluded a research project with Washington State University to investigate the nutritional ecology of bears across the archipelago by analyzing hair samples. A graduate student completed his thesis and the results were published in an article entitled, “Salmon consumption by Kodiak brown bears with ecosystem management implications” (Van Daele et al 2013).

### **Unit 14C**

ACTIVITY : Five brown bear were reported taken in Unit 14C including 2 females and 3 males. Six brown bears were killed in defense of life or property including an additional 3 females, 2 males and 1 cub of the year of unidentified sex. One female bear was killed by a vehicle.

**Submitted by: Gino Del Frate**

**Date: 6 September 2013**

### **Region III—Interior Alaska**

#### **Regionwide Activities**

ACTIVITY 1: Monitor brown bear harvest through field observations, sealing reports, interviews with successful hunters and analyze data.

Monitored preliminary harvest of 266 brown bears through field observations, sealing reports and interviews with successful hunters, and analyzed harvest data.

ACTIVITY 2: 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 266 brown bears presented for sealing.

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

Submitted teeth collected from 261 bears during the sealing process to a laboratory for aging.

ACTIVITY 4: Monitor and analyze brown bear bait station permit distribution.

Monitored and analyzed distribution of 8 bait stations in the McGrath area .

ACTIVITY 5: 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.

ACTIVITY 5: Prepare brown bear management reports.

Prepared brown bear management reports.

### Activities by Unit

#### Unit 12

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

Did not monitor blueberry abundance because of insufficient personnel to complete the task.

#### Unit 20E

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

Did not monitor blueberry abundance because of insufficient personnel to complete the task.

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

### Region IV—Southcentral and Southwest Alaska

**PROJECT LOCATION:** Game Management Units 9-11, 13, 14A, 14B, 16 and 17

#### Regionwide:

ACTIVITY 1: Prepare biennial brown bear management reports.

The biennial brown bear management reports were drafted and submitted to the region for editing.

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

All brown bears harvested in Region IV were sealed, and successful hunters were interviewed by Department staff.

ACTIVITY 3: Collect harvest data, determine the sex, and extract a tooth for aging from brown bears presented for sealing by hunters.

|                 | Males | Females | Unknown | Total |
|-----------------|-------|---------|---------|-------|
| <i>Unit 9:</i>  | 10    | 12      | 0       | 22    |
| <i>Unit 10:</i> | 7     | 2       | 0       | 9     |

Project 4.0 – Brown Bear S&I  
FY13 Annual Performance Report

|                  |    |    |   |     |
|------------------|----|----|---|-----|
| <i>Unit 11:</i>  | 12 | 8  | 0 | 20  |
| <i>Unit 13:</i>  | 77 | 51 | 0 | 128 |
| <i>Unit 14A:</i> | 7  | 2  | 0 | 9   |
| <i>Unit 14B:</i> | 12 | 4  | 0 | 16  |
| <i>Unit 16:</i>  | 63 | 33 | 0 | 96  |
| <i>Unit 17:</i>  | 81 | 67 | 0 | 148 |

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

*Unit 9:* Preliminary fall average age = 12.0.

*Unit 10:* Preliminary fall average age = 7.4.

*Unit 11:* Preliminary fall average age = 7.7.

*Unit 13:* Preliminary fall average age = 6.5.

*Unit 14A:* Preliminary fall average age = 5.3.

*Unit 14B:* Preliminary fall average age = 8.1.

*Unit 16:* Preliminary fall average age = 8.7.

*Unit 17:* Preliminary fall average age = 7.4.

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

No brown bear census data was collected in FY12. Data previously collected is currently being analyzed.

**Activities by Unit:**

**Unit 9:**

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

Residents calling in with bear issues were advised on the importance of proper stowage of attractants and on the use of electric fences.

**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. Worked with local public safety officials to deter damage by bears and reduce DLP kills.



**Submitted by:** Lem Butler, Region IV Management Coordinator

**Date:** 15 August, 2013

**Region V—Western and Northern Alaska**

**Regionwide:**

ACTIVITY 1: Prepare a biennial brown bear management report.

A brown 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, 27 brown bears have been reported harvested in the general hunt in Unit 18 for the fall of 2012 and 5 for the spring of 2013. Of these bears, 15 were male bears, 17 were female and 1 was unreported. Twenty bears were harvested by nonresidents and 12 were by residents.

*Unit 22:* Reported harvest during the reporting period was 100 brown bears. Non-residents harvested 40% (n=40) of the bears during RY12. Sex composition of the harvest was 64 boars, 32 sows, and 4 unknown. The fall season reported a harvest of 60 bears; and the spring season reported a harvest of 40 bears. The reported annual harvest was a 5% increase compared to the RY11 period when 95 bears were sealed. The average annual harvest from RY03 to RY12 is 94 bears per year (range 84-105 bears per year).

*Unit 23:* This year, 53 bears were harvested through the general hunt for residents, 3 in the registration hunt for residents, and 12 were harvested in the drawing hunt for non-residents. Therefore, 65 bears were harvested. The average annual harvest for the last 10-years is 53 bears per year (range 33-76 bears per year).

*Unit 26A:* We recorded brown bear harvest through field observations, interviewed hunters, and analyzed brown bear sealing data and subsistence harvest. Twenty six brown bears (22 males, 4 females) were reported taken in Unit 26A during the reporting period. Fifteen were reported taken by nonresidents, 9 by nonlocal Alaskan residents,

and 2 by a resident of Unit 26A. Twenty bears were taken during August, 5 were taken in September, and 1 in July. The average annual harvest for the last 10 years is 15 bears per year.

ACTIVITY 5 Collect harvest data, determine sex, and extract a tooth for aging from brown bears presented for sealing.

*Unit 18:* Data were collected from 32 sealed bears (25 males and 12 females and 2 unrecorded). Teeth were extracted for aging when these bears were presented for sealing.

*Unit 22:* Data were collected from 93 sealed bears (64 males, 29 females). Premolar teeth were extracted for aging when these bears were presented for sealing.

*Unit 23:* Data were collected from 65 sealed bears. Teeth were extracted for aging when these bears were presented for sealing.

*Unit 26A:* Data were collected from 26 sealed bears (22 males and 4 females). Teeth were extracted for aging when these bears were presented for sealing.

ACTIVITY 6 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. The average age of bears from RY11 is 7.3 for females and 9.8 for males.

*Unit 22:* Premolars were extracted and sent to Matson's Lab for sectioning and aging; results for the RY12 period are not available. The average age of bears harvested in Unit 22 between RY02 and RY11 for males was 6.4 years and 6.5 years for females.

*Unit 23:* Forty-six percent of the sealed bears have not been aged yet. The average age for the 35 sealed bears that have been aged is 8 years. The average age of all bears taken in Unit 23 From RY02 through RY11 was 8 yrs for males and females combined as well as considered for each sex separately.

*Unit 26A:* Of the 20 bears that were aged in RY12 the average age was 8.7 years. The average age from RY00 through RY10 was 11 yrs for males and 8 yrs for females).

ACTIVITY 7: 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. Three hunters obtained registration permits and reported their hunts.

*Unit 22:* The department administered 1 reported subsistence brown bear registration permit (RB699) during the reporting period. No reported harvests have been submitted to our office.

*Unit 23:* Three brown bears were reported taken under the subsistence brown bear registration hunt (RB700) in Unit 23 during this period. Two were taken in the Spring and one was taken in the Fall. Two of the harvested bears were males and 1 was female.

*Unit 26A:* No brown bears were reported taken in RY12 under the subsistence brown bear registration hunt (RB697) in Unit 26A. Since general season bear regulations have been liberalized and no tag is required, most subsistence hunters are using general season requirements.

ACTIVITY 8: 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:* The Department discussed brown bear hunting regulations, the importance of reporting a bear taken during harvest or in a Defense of Life & Property situation, and methods to minimize human-bear conflicts during Advisory Committee meetings, Regional Advisory Council meetings, local newspaper, and with individual local residents. 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 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 two DLP bears were reported taken in RY12.

*Unit 22:* Reports of problem bears and DLPs continue throughout the unit. Unit 22 staff work with rural communities to have nuisance bears reported to the Department. The Department communicates with village public safety officers and communities on DLP reporting and salvaging requirements.

*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 circumstances.

*Unit 26A:* The number of brown bears breaking into cabins and entering villages has 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. Tag fees were eliminated for the general season hunt, which will make it easier for residents to protect their property. We are promoting the use of electric fences for people with remote cabins and bought and installed a fence to use as a demonstration.

## **Activities by Unit:**

### **Unit 22**

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

Annual reported harvest of boars has consistently exceeded the sow harvest, with boars being 64% of the harvest between RY90 to RY11. Historical reported harvest of Unit 22

data suggest no deviation in sex or age structure of the Unit 22 bear population. Anecdotal evidence from the public indicates the population is highly productive. Reports of sows with twin & triplet cubs are common.

ACTIVITY 2: Analyze harvest data collected from selected communities in Unit 22 through household subsistence surveys.

No community-based harvest surveys were conducted during this reporting period.

ACTIVITY 3: Analyze drawing permit harvest data collected for nonresident drawing hunts.

The department administers two nonresident drawing permit hunts (DB685 in Units 22B/22C and DB690 in Units 22D/22E) each year. Twenty-seven (27) DB685 permits and 12 DB690 permits are awarded to nonresident hunters. This reporting period resulted in 100% of DB690 permits being awarded and 74% DB685 permits awarded to hunters. The RY12 nonresident success rates for permit hunt DB685 and DB690 was 64%; and 30%, respectively.

ACTIVITY 4: Educate the public about bear behavior and safety to minimize conflicts between bears and the public, and the use of electric fences.

Unit 22 promotes the use of electric fences around camps, a clean camp with no garbage or food, and work with rural communities to have nuisance bears reported to the Department. Bear safety sessions are given to local youth groups, and discussed with locals and visitors who will be in bear country. 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.

ACTIVITY 5: Investigate techniques (census or survey program) to assess population status in Unit 22 and, if appropriate, complete a census/survey in a selected portion of the unit in late May/early June.

The Department and the National Park Service attempted a brown bear population survey in June in portions of Units 22(B), 22(C), and 22(D). Weather prevented the completion of the survey in the remainder of the unit. Data are in the process of analysis.

ACTIVITY 6: Observe and record den site locations.

Den site locations were not recorded. Instead, a spring brown bear population survey was attempted, bear locations were recorded, and further analysis is pending.

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

ACTIVITY 1: Monitor population trends through field observations, 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. A 3-year bear survey flown in 2000, 2001, and 2003 in a 20,000 km<sup>2</sup> area in Unit 26B and eastern Unit 26A resulted in a density estimate of 18.3 bears/1000 km<sup>2</sup>. We saw 15 bears during 6.8 hours in our moose trend count census in April 2013. 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 the communities of Ambler, Kobuk, Kotzebue, Noorvik, and Shungnak in Unit 23 during the reporting period. Results will be summarized in a report prepared by Division of Subsistence later this year. Previous community harvest assessments suggest the harvest of brown bears by residents of Unit 23 is low but accounts for more than sealing records indicate.

ACTIVITY 3: Educate the public and provide demonstrations of how to use electric bear fences to reduce bear/human problems.

In Unit 26A we set up an electric bear fence around the cabin of a local hunter to use as a demonstration. It was quite successful. The cabin had been broken into for 3 consecutive years, but has not been for the last 2 years since we put up the bear fence. A few other hunters have purchased bear fences.

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.

ACTIVITY 5: 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.

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

**Date:** 1 September 2013