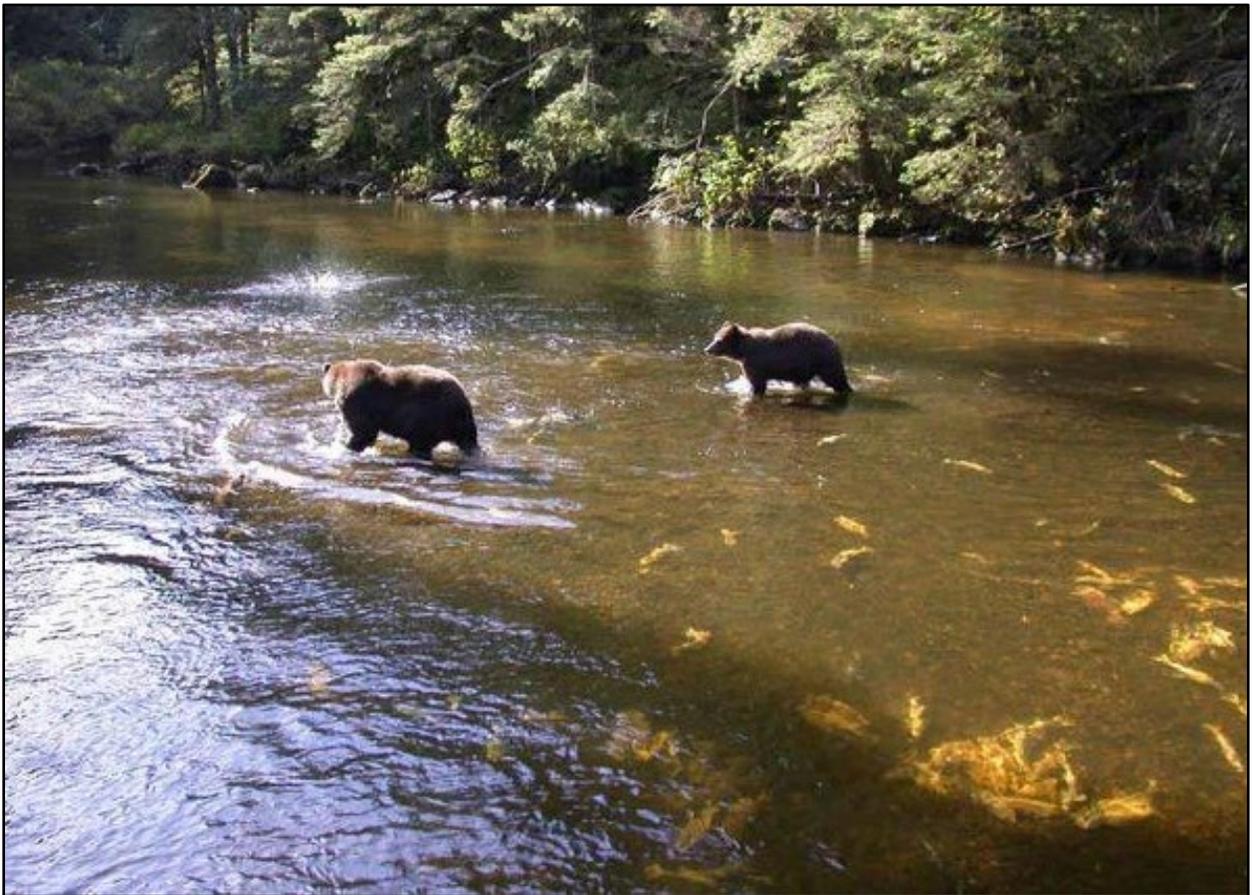


## **Brown Bear Management Report and Plan, Game Management Unit 3:**

Report Period 1 July 2014–30 June 2019, and

Plan Period 1 July 2019–30 June 2024

**Frank Robbins**



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## **Brown Bear Management Report and Plan, Game Management Unit 3:**

Report Period 1 July 2014–30 June 2019, and  
Plan Period 1 July 2019–30 June 2024

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Species management reports and plans provide information about species that are hunted or trapped and management actions, goals, recommendations for those species, and plans for data collection. Detailed information is prepared for each species every 5 years by the area management biologist for game management units in their areas, who also develops a plan for data collection and species management for the next 5 years. This type of report is not produced for species that are not managed for hunting or trapping or for areas where there is no current or anticipated activity. Unit reports are reviewed and approved for publication by regional management coordinators and are available to the public via the Alaska Department of Fish and Game's public website.

This species management report and plan was reviewed and approved for publication by Richard Nelson, Management Coordinator for Region I for the Division of Wildlife Conservation.

Species management reports and plans are available via the Alaska Department of Fish and Game's public website ([www.adfg.alaska.gov](http://www.adfg.alaska.gov)) or by contacting Alaska Department of Fish and Game's Division of Wildlife Conservation, PO Box 115526, Juneau, AK 99811-5526; phone: (907) 465-4190; email: [dfg.dwc.publications@alaska.gov](mailto:dfg.dwc.publications@alaska.gov). The report may also be accessed through most libraries, via interlibrary loan from the Alaska State Library or the Alaska Resources Library and Information Services ([www.arlis.org](http://www.arlis.org)).

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Please contact the authors or the Division of Wildlife Conservation at (907) 465-4190 if you have questions about the content of this report.

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**Cover Photo:** ©2015 ADF&G. Photo by Ken Kollmo. Brown bears fishing in a stream littered with salmon carcasses.

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# Contents

Purpose of this Report.....	1
I. RY14–RY18 Management Report .....	1
Management Area.....	1
Summary of Status, Trend, Management Activities, and History of Brown Bear in Unit 3 .....	3
Management Direction.....	4
Existing Wildlife Management Plans .....	4
Goals .....	4
Codified Objectives .....	4
Amounts Reasonably Necessary for Subsistence Uses .....	4
Intensive Management.....	4
Management Objectives.....	4
Management Activities .....	4
1. Population Status and Trend .....	4
2. Mortality-Harvest Monitoring and Regulations.....	5
3. Habitat Assessment-Enhancement.....	8
Nonregulatory Management Problems or Needs.....	8
Data Recording and Archiving .....	8
Agreements .....	8
Permitting.....	8
Conclusions and Management Recommendations .....	8
II. Project Review and RY19–RY23 Plan .....	9
Review of Management Direction .....	9
Management Direction.....	9
Goals .....	9
Codified Objectives .....	9
Amounts Reasonably Necessary for Subsistence Uses .....	9
Intensive Management.....	9
Management Objectives.....	10
Review of Management Activities.....	10
1. Population Status and Trend .....	10
2. Mortality-Harvest Monitoring .....	10
3. Habitat Assessment-Enhancement.....	10
Nonregulatory Management Problems or Needs.....	11
Data Recording and Archiving .....	11
Agreements .....	11
Permitting.....	11
References Cited.....	11

## List of Figures

Figure 1. Map showing Game Management Unit 3 boundaries, Southeast Alaska. .... 2

## List of Tables

Table 1. Unit 3 total known brown bear mortality for regulatory years 2014–2018, Southeast Alaska. .... 6

Table 2. Unit 3 brown bear registration permit hunt RB075 data for regulatory years 2014–2018, Southeast Alaska. .... 6

Table 3. Unit 3 number of brown bear hunters, by residency for regulatory years 2014–2018, Southeast Alaska. .... 7

## Purpose of this Report

This report provides a record of survey and inventory management activities for brown bear (*Ursus arctos*) in Unit 3 for the 5 regulatory years 2014–2018 and plans for survey and inventory management activities in the following 5 regulatory years 2019–2023. A regulatory year (RY) begins 1 July and ends 30 June (e.g., RY14 = 1 July 2014–30 June 2015). This report is produced primarily to provide agency staff with data and analysis to help guide and record agency efforts but is also provided to the public to inform it of wildlife management activities. In 2016 the Alaska Department of Fish and Game’s (ADF&G, the department) Division of Wildlife Conservation (DWC) launched this 5-year report to more efficiently report on trends and to describe potential changes in data collection activities over the next 5 years. It replaces the brown bear management report of survey and inventory activities that was previously produced every 2 years.

## I. RY14–RY18 Management Report

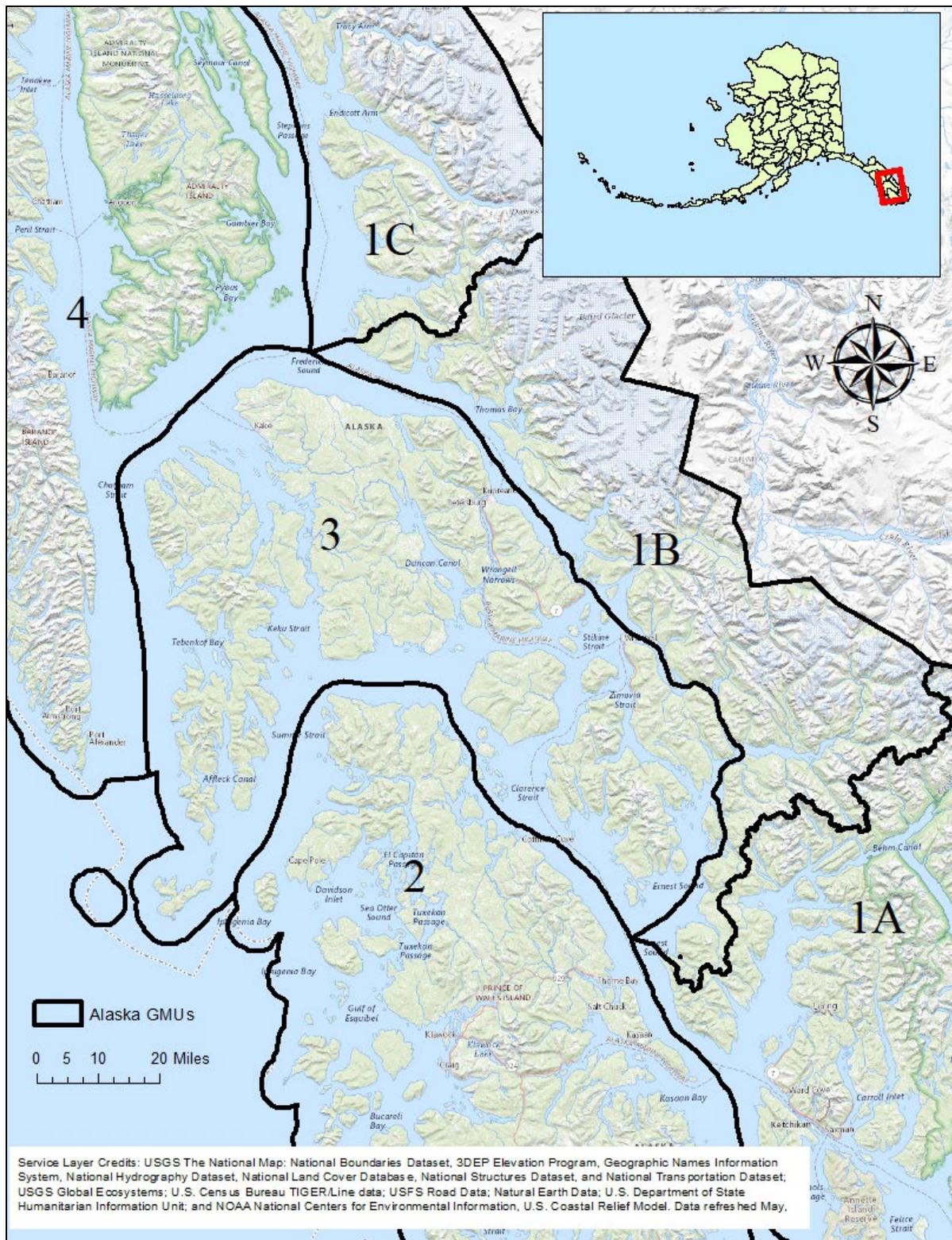
### Management Area

Game Management Unit 3 is in Southeast Alaska, also known as Alaska’s Panhandle, and is part of the Region I management area. It covers an area of approximately 7,800 square kilometers (3,012 sq. mi.) on islands in the central portion of the panhandle (Fig. 1). In descending order, Kupreanof, Kuiu, Etolin, Wrangell, Mitkof, and Zarembo are the largest islands in the unit. Smaller islands include several near the mouth of the Stikine such as Rynda, Kadin, and Sokolof islands.

Elevation within Unit 3 ranges from sea level to nearly 1,200 meters (3,937 ft.). Predominant vegetative communities occurring at low-moderate elevations (<450 meters/492 yards) include Sitka spruce (*Picea sitchensis*), western hemlock (*Tsuga heterophylla*) coniferous forest, mixed-conifer muskeg, and deciduous riparian forests. Mountain hemlock (*Tsuga mertensiana*) dominated forest comprises a subalpine, timberline band occupying elevations between 450 and 760 meters (1,476–2,493 ft.).

Most land area in Unit 3 is within the Tongass National Forest and under federal ownership, with smaller parcels under tribal, state, and private ownership. This area has experienced a significant amount of logging activity since the 1950s. Initial access to most hunting areas is by water; however, in many areas, once hunters arrive extensive networks of logging roads are used for additional access to hunting areas. The communities of Petersburg, Wrangell, and Kake are in the unit and some hunters use local road systems to access hunting areas.

Sitka black-tailed deer (*Odocoileus hemionus sitkensis*), moose (*Alces alces andersoni*), wolves (*Canis lupus ligoni*), and black bears (*Ursus americanus*) are present and widely distributed throughout Unit 3. A small number of brown bears (*Ursus arctos*) also occur on those islands separated from the mainland by short water crossings.



**Figure 1. Map showing Game Management Unit 3 boundaries, Southeast Alaska.**

## Summary of Status, Trend, Management Activities, and History of Brown Bear in Unit 3

Southeast Alaska brown bears are thought to inhabit Unit 3 islands separated from the mainland by relatively short water crossings. Anecdotal information and staff observations indicate that small numbers of bears regularly occur on Deer, Wrangell, Etolin, Mitkof, and Woronkofski islands. The Alaska Department of Fish and Game (ADF&G) has no population estimates for Unit 3 brown bears.

Research conducted on Unit 1B mainland supports previous speculation that population interchange regularly occurs between those Unit 3 islands inhabited by brown bears and the nearby Unit 1B mainland. Although there is uncertainty surrounding whether habitat in Unit 3 is sufficient to support a sustainable brown bear harvest, the Board of Game (BOG) authorized a limited Unit 3 brown bear season in fall 2004 based on the high likelihood of population interchange between the Unit 3 islands and the adjacent 1B mainland. Under this management plan the Unit 3 brown bear population is managed as a segment of the mainland population. This change in regulation aligns brown bear management with Unit 1A, where relatively small numbers of brown bears on Revillagigedo Island are managed as part of the adjacent mainland population.

Prior to 1985, the brown bear hunting season in Unit 3 was 15 September–31 May. In June 1985 the BOG eliminated the season and subsequently brown bear hunting was closed from July 1985–June 2005. During this period the BOG considered and rejected numerous proposals to reestablish a brown bear season in Unit 3. In fall 2004 the BOG authorized a resident-only spring season for brown bear in Unit 3. While the original intent was to establish both spring and fall seasons, a clerical error in the proposal resulted in the inadvertent omission of fall season dates. Because of uncertainties about the size of bear population, and in order to limit hunting pressure, the Unit 3 brown bear season is open only to Alaskan residents.

During recent years ADF&G received relatively few anecdotal reports of brown bears inhabiting Unit 3. Although extensive brown bear research has been conducted on Admiralty and Chichagof islands in Unit 4 (Schoen and Beier 1989, Titus and Beier 1993), no brown bear research has been conducted in Unit 3. Recent research on Bradfield Canal area brown bears (Unit 1B) confirmed speculation that population interchange occurs between Units 1A, 1B, 3, and British Columbia, Canada (Flynn et al. 2010).

Brown bear sealing became a requirement in Alaska in 1961. Hunters have been required to have a registration permit before hunting brown bears in Region I since 1989 (McCarthy 1991, Larsen 1993). Prior to the implementation of a registration permitting requirement in 1989, hunters were only required to obtain a license and metal-locking tag to hunt brown bear.

## **Management Direction**

### **EXISTING WILDLIFE MANAGEMENT PLANS**

The most recent formally adopted plan was the Southeast Alaska Island brown bear management plan included in wildlife management plans for the region that were developed in 1976 (ADF&G 1976). Management objectives and Board of Game actions are documented in previous brown bear management reports for Unit 3.

### **GOALS**

- To provide the greatest opportunity to participate in hunting brown bears in Unit 3.

### **CODIFIED OBJECTIVES**

#### Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game made a positive finding for customary and traditional use of brown bears in Unit 3 but has not set an amount necessary for subsistence (ANS; 5 AAC 99.025(a)(3)).

#### Intensive Management

Not applicable.

### **MANAGEMENT OBJECTIVES**

- Manage the Unit 3 brown bear population as a segment of the Unit 1B mainland population.
- Limit the annual harvest in Unit 3 to no more than 3 bears.
- Limit the number of females in the harvest.
- Minimize the number of bears killed because of garbage and human food conditioning.

### **MANAGEMENT ACTIVITIES**

#### 1. Population Status and Trend

Population estimates are not available for brown bears in this unit. Information obtained during sealing cannot be used to measure population trends. Although harvest information gained from sealing records, such as average skull sizes, average ages, and sex ratios may provide some indication of brown bear population trends in the absence of accompanying demographic data, correlations between these measures and harvest sustainability continue to be unknown.

Research is needed to identify population parameters so DWC area wildlife managers can assess population trends and harvest sustainability. ADF&G biologists consider the population to be stable at low levels based on hunters' anecdotal reports, department staff observations, pilot observations, and sealing records.

## 2. Mortality-Harvest Monitoring and Regulations

### ACTIVITY 2.1. Monitor Unit 3 brown bear harvest through sealing records.

#### *Data Needs*

Brown bear sealing became a requirement in 1960. Registration hunt reporting on nonharvest hunts has been required since 2003. During sealing data are collected for indices of trends. Also collected are information on hunt location, date of harvest, method of take, transportation mode, and services used (e.g., registered guide).

#### *Methods*

ADF&G collected harvest data by sealing hides and skulls of brown bears and through registration permit reporting. Harvest must be reported within 10 days of kill and sealing must be completed by either an authorized ADF&G staff member or a state-appointed sealer within 30 days of kill. Harvest location, date of harvest, method of take, transportation mode, sex, age, skull width, and skull length were recorded at the time of sealing. A premolar was collected from each harvested bear and sent to Matson's Laboratory (Milltown, Montana) for age determination. Bears killed under defense of life or property (DLP) provisions, by vehicles (i.e., road-killed bears), and illegally (e.g., confiscated) were also sealed. Harvest and age data are entered into ADF&G's Wildlife Information Network database (WinfoNet). Harvest data were summarized by regulatory year (RY), which begins 1 July and ends June 30 (e.g., RY15 = 1 July 2015–30 June 2016).

#### *Season and Bag Limit*

Season	Bag Limit
1 September–31 May	Resident: 1 bear every 4 regulatory years Nonresident: No open season

#### *Results and Discussion*

##### Harvest by Hunters

One brown bear was legally harvested in the unit during this reporting period. Additionally, in October 2016 a male brown bear was killed illegally on Etoilin Island, and in May 2018 a male brown bear was killed on Wrangell Island under the state's defense of life and property (DLP) provision (Table 1).

**Table 1. Unit 3 total known brown bear mortality for regulatory years 2014–2018, Southeast Alaska.**

Regulatory year	Legal harvest	Other mortality
2014	1	0
2015	0	0
2016	0	1 <sup>a</sup>
2017	0	1 <sup>b</sup>
2018	0	0

<sup>a</sup> Illegal kill.

<sup>b</sup> Defense of life and property.

### Permit Hunts

A registration permit (RB075) is required to hunt brown bear in Unit 3. Unlike other brown bear hunts in the region, the RB075 hunt in Unit 3 is limited to the spring season. An average of 18 RB075 permits were issued annually during this reporting period, ranging from 8–29 permits (Table 2). The number of permittees that reported hunting ranged from 3 in 2016 and 2017 to 13 in 2018. One RB075 hunter successfully harvested a brown bear during this report period. Many hunters registered for the Unit 3 brown bear hunt in the event they have an opportunity to harvest a bear incidental to other activities.

**Table 2. Unit 3 brown bear registration permit hunt RB075 data for regulatory years 2014–2018, Southeast Alaska.**

Regulatory year	Number of permits	Percent did not hunt	Percent unsuccessful	Percent successful	Percent male	Percent female	Total
2014	24	70	86	14	100	–	1
2015	17	82	100	0	–	–	0
2016	8	63	100	0	–	–	0
2017	14	57	100	0	–	–	0
2018	29	54	100	0	–	–	0

### Hunter Residency and Success

The Unit 3 brown bear hunt is closed to nonresident hunters. During this reporting period 81% of hunters were Unit 3 locals (Table 3). In spring 2017, every permittee that reported hunting was a local resident. A local hunter harvested the only brown bear taken during this report period.

**Table 3. Unit 3 number of brown bear hunters, by residency for regulatory years 2014–2018, Southeast Alaska.**

Regulatory year	Local resident <sup>a</sup>	Nonlocal resident	Nonresident	Total hunters	Total successful hunters
2014	4	3	–	7	1
2015	2	1	–	3	0
2016	2	1	–	3	0
2017	6	0	–	6	0
2018	12	1	–	13	0

*Note:* End dash represents data not applicable.

<sup>a</sup> Local residents are those hunters who reside in Unit 3.

### Harvest Chronology

In the absence of a fall season, bears are only available to hunters late in the spring when most have left their dens and are seeking food. During this period most available food, primarily grasses and sedges, are found near saltwater where bears often concentrate. This potentially makes a large portion of the bear population vulnerable to harvest during a short period for hunters using boats or glassing along shorelines. The only bear legally harvested by a hunter during this reporting period was taken in April.

### Transport Methods

During this report period 61% of hunters reported using a boat to access hunting areas, and 35% reported using highway vehicles. One hunter reported that they accessed their hunting area by foot.

### *Other Mortality*

Since 1978 there were 7 reported instances of Unit 3 brown bears killed in defense of life or property, 1 of which was reported during this report period. Anecdotal reports suggest that there is some unreported brown bear harvest in Unit 3; however, ADF&G does not formally document these reports.

### *Alaska Board of Game Actions and Emergency Orders*

There were no BOG actions or emergency orders issued during this reporting period.

### *Recommendations for Activity 2.1.*

Continue monitoring brown bear harvest in Unit 3.

### 3. Habitat Assessment-Enhancement

#### ACTIVITY 3.1. Monitor timber harvest in Unit 3.

##### *Data Needs*

Habitat loss resulting from timber harvest continues to pose the most serious threat to brown bear populations in the unit. Roads associated with logging increase hunter access and can make bears increasingly vulnerable to harvest.

##### *Methods*

Department staff routinely review and comment on proposed timber sales in an attempt to minimize the effects of logging on brown bear habitat.

##### *Results and Discussion*

There are no projects to specifically enhance brown bear habitat in Unit 3.

##### *Recommendations for Activity 3.1*

Continue to monitor timber sales.

### **NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS**

#### Data Recording and Archiving

Sealing data are archived in WinfoNet.

#### Agreements

There were no agreements during this reporting period.

#### Permitting

There were no permits required for ADF&G to manage brown bears during this reporting period.

### **Conclusions and Management Recommendations**

Most brown bears are incidentally harvested while participating in other outdoor activities. Some registration permits are probably obtained by hunters not intending to hunt brown bear but planning to engage in other outdoor activities while being prepared to hunt opportunistically in the event of a brown bear encounter. The Unit 3 registration permit hunt will provide information about brown bear distribution, hunting effort, and success. As anticipated, the harvest of Unit 3 brown bears has thus far been low; however, ADF&G biologists are concerned by the high percentage of females in the harvest. Three of 5 bears taken legally by hunters since the Unit 3 hunt was reauthorized in 2005 were females. Although reports of brown bear sightings on Mitkof Island have increased in recent years, no brown bears have been taken legally on the island since the hunt was reauthorized. Reported DLP brown bear mortality has remained low over the last

decade; however, during this reporting period 1 male was killed in defense of life or property. The solution for reducing bear-human conflicts depends on the willingness of the public, municipalities, timber companies, and mining companies to adopt and adhere to responsible garbage management practices.

No research has been conducted on Unit 3 brown bears; however, inferences can be made based on research conducted in neighboring Unit 1B (Flynn et al. 2010). Because most of the brown bears in the Unit 1B research project used the estuary and beach fringe habitats favored by hunters during the late spring and fall, the bears, especially the males, are highly vulnerable to hunting. It is likely that Unit 3 bears exhibit similar habitat preferences as Unit 1B bears. Bears, both male and female, have larger home ranges and make greater movements in this area than in Unit 4, which is an important consideration for management. These larger movements make bears in Unit 3 more vulnerable to exploitation and disturbance.

The primary threat to brown bears in Unit 3 is habitat loss associated with clearcut logging. The construction of roads to facilitate forest management activities also improves access to brown bear habitat and increases the likelihood of human-caused mortality.

Although only 1 brown bear was legally harvested in Unit 3 during this report period, we recommend no changes to the current season or bag limit at this time.

## **II. Project Review and RY19–RY23 Plan**

### **Review of Management Direction**

The existing management and goals appropriately direct the management of brown bears in Unit 3. The management direction for Unit 3 ensures that brown bears will persist as part of the natural ecosystem and that there will be continued hunting and viewing opportunities.

#### **MANAGEMENT DIRECTION**

##### **GOALS**

To provide the greatest opportunity to participate in hunting brown bears in Unit 3.

##### **CODIFIED OBJECTIVES**

###### Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game has made a positive finding for customary and traditional use of brown bears in Unit 3 but has not set an amount necessary for subsistence (ANS; 5 AAC 99.025(a)(3)).

###### Intensive Management

Not applicable.

## MANAGEMENT OBJECTIVES

- Manage the Unit 3 brown bear population as a segment of the Unit 1B mainland population.
- Limit the annual harvest in Unit 3 to no more than 3 bears annually.
- Limit the number of females in the harvest.
- Minimize the number of bears killed as a result of human garbage and food conditioning.

## REVIEW OF MANAGEMENT ACTIVITIES

### 1. Population Status and Trend

The Alaska Department of Fish and Game is not monitoring brown bear population status or trend in Unit 3.

### 2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor Unit 3 brown bear harvest through sealing records.

#### *Data Needs*

Brown bear sealing has been required since 1960. Registration hunt reporting on nonharvest hunts has been required since 2003. During sealing, data are collected for indices of trends, but also information on hunt location, date of harvest, method of take, transportation mode, and the use of any services including a guide.

#### *Methods*

ADF&G will collect harvest data by sealing the hides and skulls of brown bears and through registration permit reporting. Harvest must be reported within 10 days of kill and sealing must be completed by either an authorized ADF&G staff member or a state-appointed sealer within 30 days of kill. At the time of sealing the location and date of harvest, method of take, transportation mode, sex, age, skull width, and skull length will be recorded. A premolar will be collected from harvested bears and sent to Matson's Laboratory (Milltown, Montana) for age determination. Bears killed under defense of life or property provisions (DLP), by vehicles (i.e., road-killed bears), and illegally (e.g., confiscated) were also sealed. Harvest and age data will be entered into the ADF&G data base (WinfoNet). Harvest data were summarized by regulatory year (RY), which begins 1 July and ends June 30 (e.g., RY15 = 1 July 2015–30 June 2016).

### 3. Habitat Assessment-Enhancement

ACTIVITY 3.1. Monitor timber harvest in Unit 3.

The loss of habitat resulting from timber harvest continues to pose the most serious threat to brown bear in the unit. Roads associated with logging increase hunter access and can make brown bears increasingly vulnerable to harvest.

## *Methods*

Department staff should continue to review and comment on proposed timber sales in an attempt to minimize the effects of logging within brown bear habitat.

There are no projects to specifically enhance brown bear habitat in Unit 3.

## **NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS**

### Data Recording and Archiving

Species wildlife management reports and plans and the management operational plan for brown bear in Unit 3 will be stored online at [www.wildlifepublications.adfg.alaska.gov](http://www.wildlifepublications.adfg.alaska.gov). Memoranda, data forms, and additional hard copies relevant to Unit 3 brown bear will be stored in the area biologist files in the ADF&G Petersburg office.

### Agreements

None.

### Permitting

None.

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