

Black Bear Management Report and Plan, Game Management Unit 17:

Report Period 1 July 2013–30 June 2018, and
Plan Period 1 July 2018–30 June 2023

Chris Peterson



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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 Todd A. Rinaldi, Management Coordinator for the Division of Wildlife Conservation.

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Cover Photo: ©2012 ADF&G. Photo by Nick Demma. Black bear on caribou calf kill in Southwest Alaska.

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Purpose of this Report

This report provides a record of survey and inventory management activities for black bear (*Ursus americanus*) in Game Management Unit 17 for the 5 regulatory years 2013–2017 and plans for survey and inventory management activities in the next 5 regulatory years, 2018–2022. 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 report more efficiently 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 3 years.

I. RY13–RY17 Management Report

Management Area

Unit 17 (18,800 mi²) is geographically north of Bristol Bay, Hagemeister, and the Walrus Islands. It consists of the area north of Bristol Bay from Cape Newenham east to Etolin Point on the east bank, at the mouth of the Nushagak River, encompassing the lands of the Nushagak and Mulchatna Rivers on the east, and Wood-Tikchik Lakes, Togiak Lakes, and Togiak River, and Wood River Mountains to the west, including Hagemeister and the Walrus Islands just offshore south of Togiak Bay. Maps of current Unit 17 boundaries are located on the ADF&G website at the following location: <http://www.adfg.alaska.gov/index.cfm?adfg=maps.main>.

Unit 17 is further divided into 3 administrative subunits: Unit 17A which includes the Togiak River watershed, Unit 17B which is associated with the upper Nushagak and upper Mulchatna River watersheds, and Unit 17C which includes the lower Nushagak River watershed. Ecoregions include the Bristol Bay lowlands, Kuskokwim Mountains, Wood River Mountains, Neacola Mountains, Nushagak Hills, and Stuyahok Hills (Nowacki et al. 2001).

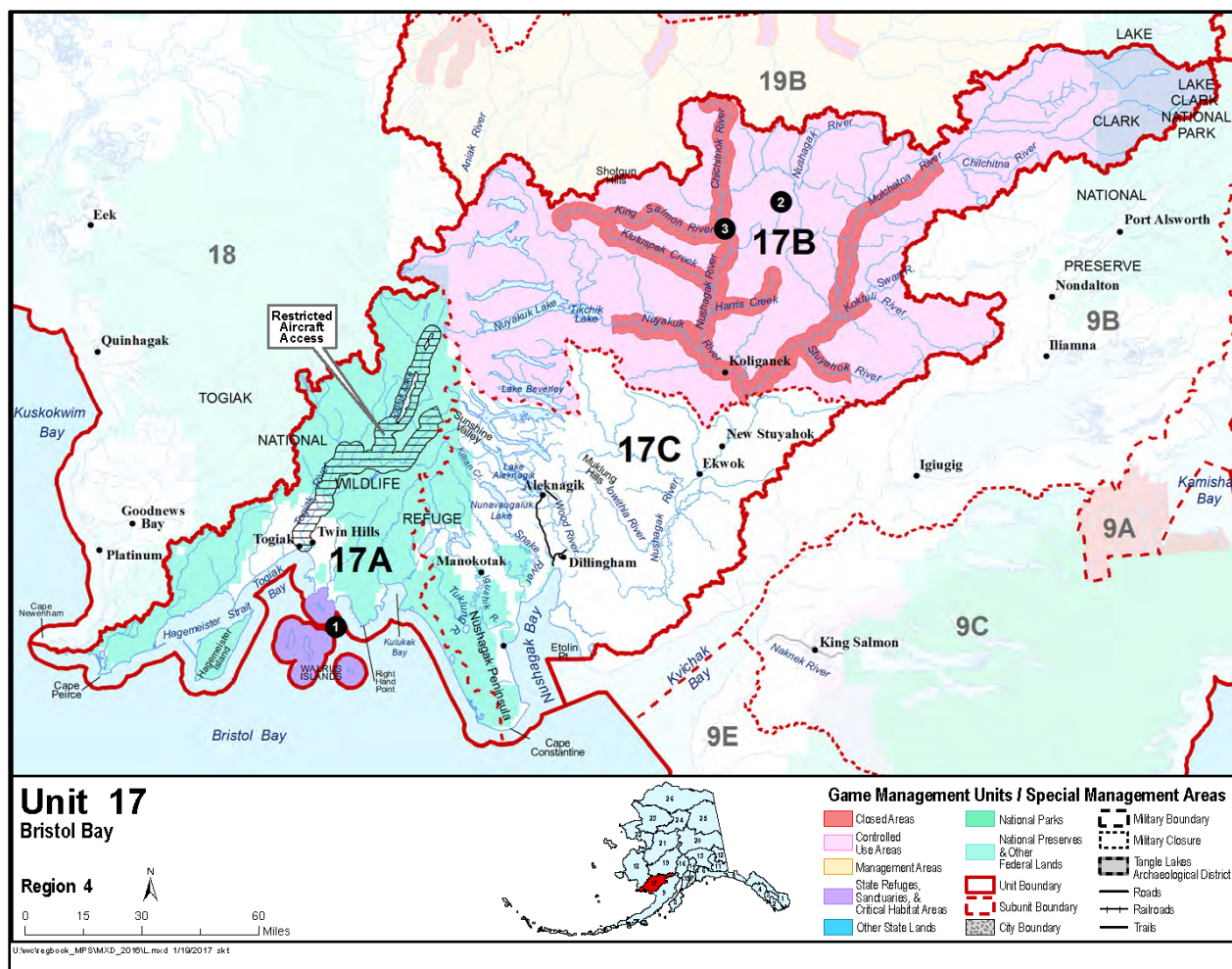


Figure 1. Map showing the Unit 17, central-southwest Alaska boundaries with indicators of controlled use areas (numbered circles), administrative subunits, and federal lands as found in the Alaska Hunting Regulations.

Black bears inhabit a portion of the forested areas of Unit 17 and are most visible during the fall while they forage on berries along open hillsides in Units 17B and 17C.

Summary of Status, Trend, Management Activities, and History of Black Bear in Unit 17

Very little information is available about black bears (*Ursus americanus*) in Unit 17. However, in recent years observations by the public and department staff suggest that black bears may be more common than previously thought. Observations have been recorded by both the public and department biologists of black bears foraging along the east face of the Wood-Tikchik Mountains and far north and east into the Upper Mulchatna watershed, and in both spring and fall in the Muklung Hills. During a Mulchatna caribou (MCH) calf mortality study conducted during 2011–2014 and 2017–2019, black bears were identified as the predator in 13 of 183 (7%) caribou neonate mortalities; typically, >1 calf mortality by black bears was documented every May. Black bear predation on caribou calves was documented in the timbered areas of the

Mulchatna, Nushagak, and Tikchik River areas (D. J. Demma, Research Biologist, ADF&G, Palmer, personal communication).

Unit 17 black bears are less common along salmon streams and near human settlements due to displacement by brown bears, which could include predatory events on black bears. However, no research activities have been conducted on black bears in Unit 17, so little information exists on the density, habitat use, denning, and other aspects of this bear population.

Prior to 1994, there were no hunt reports or sealing requirements for black bear hunters in Unit 17, although there were a few sealing certificates recorded in 1990–1994. The department did not allocate funding for black bear management at that time. Consequently, there were no methods to monitor the number of bears killed, estimate sex and age composition, or assess distribution of harvest.

Management Direction

EXISTING WILDLIFE MANAGEMENT PLANS

Direction, goals, and guidelines from *Alaska Wildlife Management Plans: Southwestern Alaska* (ADF&G 1976) provide guidance in the Alaska Board of Game (BOG) process.

GOALS

1. Protect and maintain the black bear population and its habitat in concert with other components of the ecosystem.
2. Provide the greatest sustained opportunity to participate in hunting black bears.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game has made a negative finding for the customary and traditional use of black bears in in Unit 17.

Intensive Management

Black bears are not identified as important for providing high levels of harvest for human consumption.

MANAGEMENT OBJECTIVES

Maintain existing populations of black bears and attempt to monitor the sex and age structure of the population through harvest and sealing data.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Monitor black bear abundance through anecdotal reports and field observations.

Data Needs

Population estimates and trends are unavailable for black bears in Unit 17. Anecdotal reports from hunters and wildlife viewers, and field observations by ADF&G staff are utilized to monitor black bear trend and abundance in Unit 17.

Methods

DWC biologists record observations of black bears from ADF&G staff working in the area, hunters, and others including location, date, whether cubs were present and how many, habitat use, and behavior.

Results and Discussion

Field observations and anecdotal reports during the RY13–RY17 reporting period are consistent with sealing data and indicate that black bears are probably at a low and stable density in Unit 17.

Recommendations for Activity 1.1

Continue collecting anecdotal observations from staff, hunters, and other members of the public.

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor black bear harvest through sealing records.

Data Needs

Black bears harvested in Unit 17 have had a sealing requirement since 1994. The sealing process includes the biological data collection of sex, age, tooth, hair, and measurements of hides and skulls. These data are used to monitor the relative health and trend of the black bear population and evaluate potential population impacts of black bear harvest. In some cases, harvest can be an index of abundance and trend, such as an abrupt increase, peak, or decline of harvest over several years of similar hunting pressure.

Methods

Sealing black bears must be performed by department staff or a state-appointed sealer within 30 days of the close of the season. Harvest data were collected by measuring the hides and skulls of black bears; and recording the location of harvest, sex, and age. Hunter-specific information was also collected including whether commercial services or guides were used, method of

transportation, and method of take. Data are entered into ADF&G's Wildlife Information Network (WinfoNet), an internal database, and are summarized by each regulatory year.

Season and Bag Limits

Unit 17 season and bag limits for black bear during the RY13–RY17 period are listed in Table 1.

Table 1. Black bear seasons and bag limits in Unit 17, regulatory years 2013–2017, Alaska.

Regulatory year	Hunter residency	Season	Bag limit
2012	Resident	1 Aug–31 May	2 bears
	Nonresident	1 Aug–31 May	1 bear
2013	Both	No closed season	3 bears
2014	Both	No closed season	3 bears
2015	Both	No closed season	3 bears
2016	Both	No closed season	3 bears
2017	Both	No closed season	3 bears

Results and Discussion

During RY13–RY17, 13 black bears were harvested in Unit 17; 28% were female and 72% male (Table 2). Much of the harvest was in Unit 17B (83%), followed by Unit 17C (17%). No black bears were harvested in Unit 17A during RY13–RY17. There is very little data from hunt records and sealing certificates to evaluate. Historical records from RY97–RY12 indicate annual harvest increased since the 1990s and early 2000s ranging from 8–29 black bears during 1997–2012 and averaging 17 black bears per year during that time. However, there was a decrease in black bear harvest during this reporting period (RY13–RY17), ranging from 0–6 bears in one year, with an average of 4 bears harvested. Sealing records from RY13–RY17 indicate that most black bear hunters in Unit 17 are nonresidents, accessing their hunt sites via airplane. The cost of aviation fuel increased during RY13–RY17 and may have contributed to the decrease in harvest. Most black bear hunters were targeting Mulchatna caribou and hunting black bear opportunistically. This is a more likely contributor to the decrease in harvest given that nonresident harvest opportunity closed for Mulchatna caribou in 2008.

Table 2. Black bears sealed from Units 17B and 17C, regulatory years 1997–2017, Alaska.

Regulatory year	Unit 17B				Unit 17C				Unit 17 total			
	Male	Female	Unknown	Total	Male	Female	Unknown	Total	Male	Female	Unknown	Total
1997	10	5	0	15	2	1	0	3	12	6	0	18
1998	16	12	0	18	1	0	0	1	17	12	0	29
1999	14	4	0	18	2	0	0	2	16	4	0	20
2000	8	2	0	10	0	0	0	0	8	2	0	10
2001	7	1	1	9	1	0	0	1	8	1	1	10
2002	4	4	0	8	0	0	0	0	4	4	0	8
2003	7	6	0	13	0	0	0	0	7	6	0	13
2004	11	8	0	19	0	0	0	0	13	8	0	21
2005	5	1	0	6	1	0	0	1	6	1	0	7
2006	7	4	0	11	2	1	0	3	9	5	0	14
2007	2	1	0	3	2	0	0	2	4	1	0	5
2008	1	4	1	6	0	0	0	0	1	4	1	6
2009	2	3	0	5	0	0	0	0	2	3	0	5
2010	5	2	0	7	0	0	0	0	5	2	0	7
2011	9	2	0	11	1	0	0	1	10	2	0	12
2012	1	0	0	1	2	0	0	2	3	0	0	3
2013	2 ^a	2	0	4	0	0	0	0	2	2	0	4
2014	1	1	0	2	1	0	0	1	2	1	0	3
2015	3	1	0	4	1	0	0	1	4	1	0	5
2016 ^b	0	0	0	0	0	0	0	0	0	0	0	0
2017	4	1 ^a	0	5	1	0	0	1	5	1	0	6

^a One male (RY13) and one female (RY17) black bear sealed was in defense of life or property (DLP).

^b Based on RY16 harvest tickets ($n = 10$), there were no successful black bear hunters in Unit 17.

Hunter Residency and Success

During RY13–RY17 in Unit 17 there was an average of 4 successful hunters per year (range of 0–6 hunters, Table 3). Nearly all were nonresidents.

Table 1. Unit 17 black bear hunter success by residency, regulatory years 1997–2017, Alaska.

Regulatory year	Local resident (%)	Nonlocal resident (%)	Nonresident (%)	Total no. of successful hunters
1997	0 (–)	2 (11%)	16 (89%)	18
1998	0 (–)	3 (10%)	26 (90%)	29
1999	0 (–)	0 (–)	20 (100%)	20
2000	0 (–)	2 (20%)	8 (80%)	10
2001	0 (–)	3 (30%)	7 (70%)	10
2002	0 (–)	1 (12%)	7 (88%)	8
2003	0 (–)	2 (15%)	11 (85%)	13
2004	0 (–)	1(5%)	20 (95%)	21
2005	1 (14%)	0 (–)	6 (86%)	7
2006	1 (7%)	1 (7%)	12 (86%)	14
2007	2 (40%)	1 (20%)	2(40%)	5
2008	0 (–)	0 (–)	6 (100%)	6
2009	0 (–)	1 (20%)	4 (80%)	5
2010	0 (–)	0 (–)	7 (100%)	7
2011	1 (8%)	4 (33%)	7 (58%)	12
2012	0 (–)	0 (–)	3 (100%)	3
2013	0 (–)	1 (25%)	3 (75%)	4
2014	0 (–)	1 (33%)	2 (67%)	3
2015	0 (–)	0 (–)	5 (100%)	5
2016	0 (–)	0 (–)	0 (–)	0
2017	1 (17%)	0 (–)	5 (83%)	6

Note: En dash indicates data unavailable.

Harvest Chronology

Most harvest in Unit 17 occurs mostly in August and September, with only occasional October or spring bear harvest (Table 4).

Table 2. Unit 17 black bear harvest chronology percentage by month and year, Alaska.

Regulatory year	Percentage of harvest by month					<i>n</i>
	August	September	October	April	May	
1997	33	67	0	0	0	18
1998	10	90	0	0	0	29
1999	15	85	0	0	0	20
2000	20	70	10	0	0	10
2001	30	70	0	0	0	10
2002	38	62	0	0	0	8
2003	31	69	0	0	0	13
2004	19	81	0	0	0	21
2005	29	57	0	0	14	7
2006	14	86	0	0	0	14
2007	20	60	20	0	0	5
2008	0	100	0	0	0	6
2009	0	100	0	0	0	5
2010	0	100	0	0	0	7
2011	17	83	0	0	0	12
2012	0	67	0	33	0	3
2013	0	100	0	0	0	4
2014	33	67	0	0	0	3
2015	20	60	0	20	0	5
2016	0	0	0	0	0	0
2017	17	83	0	0	0	6

Transport Methods

In Unit 17, the most common mode of transportation is airplane. The following were used occasionally: boat, all-terrain vehicle (ATV), snow machine, highway vehicle, and walking (Table 5.)

Table 3. Unit 17 black bear harvest percentage by transport method, 1997–2017, Alaska.

Regulatory year	Percentage of harvest (%)						Total
	Airplane	Boat	ATV ^a	Snowmachine	Highway vehicle	Walk	
1997	89	0	0	0	0	11	18
1998	72	28	0	0	0	0	29
1999	85	10	5	0	0	0	20
2000	70	30	0	0	0	0	10
2001	100	0	0	0	0	0	10
2002	100	0	0	0	0	0	8
2003	100	0	0	0	0	0	13
2004	95	5	0	0	0	0	21
2005	86	0	0	0	14	0	7
2006	93	0	0	0	7	0	14
2007	40	40	20	0	0	0	5
2008	100	0	0	0	0	0	6
2009	80	20	0	0	0	0	5
2010	100	0	0	0	0	0	7
2011	75	25	0	0	0	0	12
2012	33	33	0	33	0	0	3
2013	67	0	0	0	0	33	4 ^b
2014	100	0	0	0	0	0	3
2015	100	0	0	0	0	0	5
2016	0	0	0	0	0	0	0
2017	83	0	0	0	0	17	6 ^b

^a All-terrain vehicle (ATV).

^b Includes one bear removed in defense of life and property.

Other Mortality

There were 2 reported defense of life or property (DLP) mortalities during this reporting period, in RY13 and RY17.

Alaska Board of Game Actions and Emergency Orders

To align the season in Unit 17 with the season in adjacent areas, in spring of 2013 the Board of Game passed a department proposal to increase the bag limit for black bears from 1 to 3 per year with no closed season for both resident and nonresident hunters.

There were no emergency orders issued by the department associated with black bear management during RY13–RY17.

Recommendations for Activity 2.1

Continue collecting bear sealing and harvest information. Although the relationship between population estimates, age, and skull size is not completely understood, this is the only information collected to monitor populations in the long-term. We will continue to support the mandatory sealing of black bears. To best manage the population, future plans should be made to enumerate the black bear population in Unit 17.

3. Habitat Assessment-Enhancement

There were no habitat assessment or enhancement activities conducted for black bear during the RY13–RY17 period.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

Sealing data are archived in WinfoNet from 1994 to present.

Agreements

There are no management agreements for black bear in Unit 17.

Permitting

There were no permits required to conduct management activities for black bear in Unit 17 during RY13–RY17.

Conclusions and Management Recommendations

The status of the Unit 17 black bear population is unknown due to no directed abundance activities for black bears. Harvest data suggest that the population is low density and possibly declining, which is not surprising considering this population is at the extreme edge of its range.

Harvest during RY13–RY17 was 6 bears or less per year, and there are no management concerns at this time. Black bear sealing and anecdotal observations from hunters, ADF&G staff, and others will continue to be used to monitor the black bear population in Unit 17.

II. Project Review and RY18–RY22 Plan

Review of Management Direction

The existing management and goals seem to appropriately direct the management of black bears in Unit 17. There is no concern over the black bear population in Unit 17 at this time.

MANAGEMENT DIRECTION

GOALS

- Protect and maintain the black bear population and its habitat in concert with components of the ecosystem.
- Provide the greatest sustained opportunity to participate in hunting black bears.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game has made a negative finding for customary and traditional use of black bears in in Unit 17; therefore, there is no amounts reasonably necessary for subsistence.

Intensive Management

Black bears are not identified as important for providing high levels of harvest for human consumption.

MANAGEMENT OBJECTIVES

Maintain existing populations of black bears and attempt to monitor the sex and age structure of the population through harvest and sealing data.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Monitor black bear abundance through sealing data, anecdotal reports, and field observations.

Data Needs

Population estimates and trends are not available for black bears in Unit 17. Therefore, sealing data, anecdotal reports from hunters and wildlife viewers, and field observations by field staff act as proxies for these data.

Methods

Refer to methods in RY13–RY17 report above. No changes are recommended.

2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor black bear harvest through sealing records.

Data Needs

Since 1994, all black bears harvested in Unit 17 have been legally required to be sealed. These data are used to monitor the health of the bear population and to evaluate potential population impacts of black bear harvest. In some cases, harvest can be an index of abundance and trend, such as an abrupt increase, peak, or decline of harvest over several years of similar hunting pressure.

Methods

Refer to methods in RY13–RY17 report above, no changes recommended at this time.

3. Habitat Assessment-Enhancement

There are no habitat assessment or enhancement activities planned for black bear in Unit 17.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

Sealing data are archived in WinfoNet from 1994 to present.

Agreements

None.

Permitting

None.

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