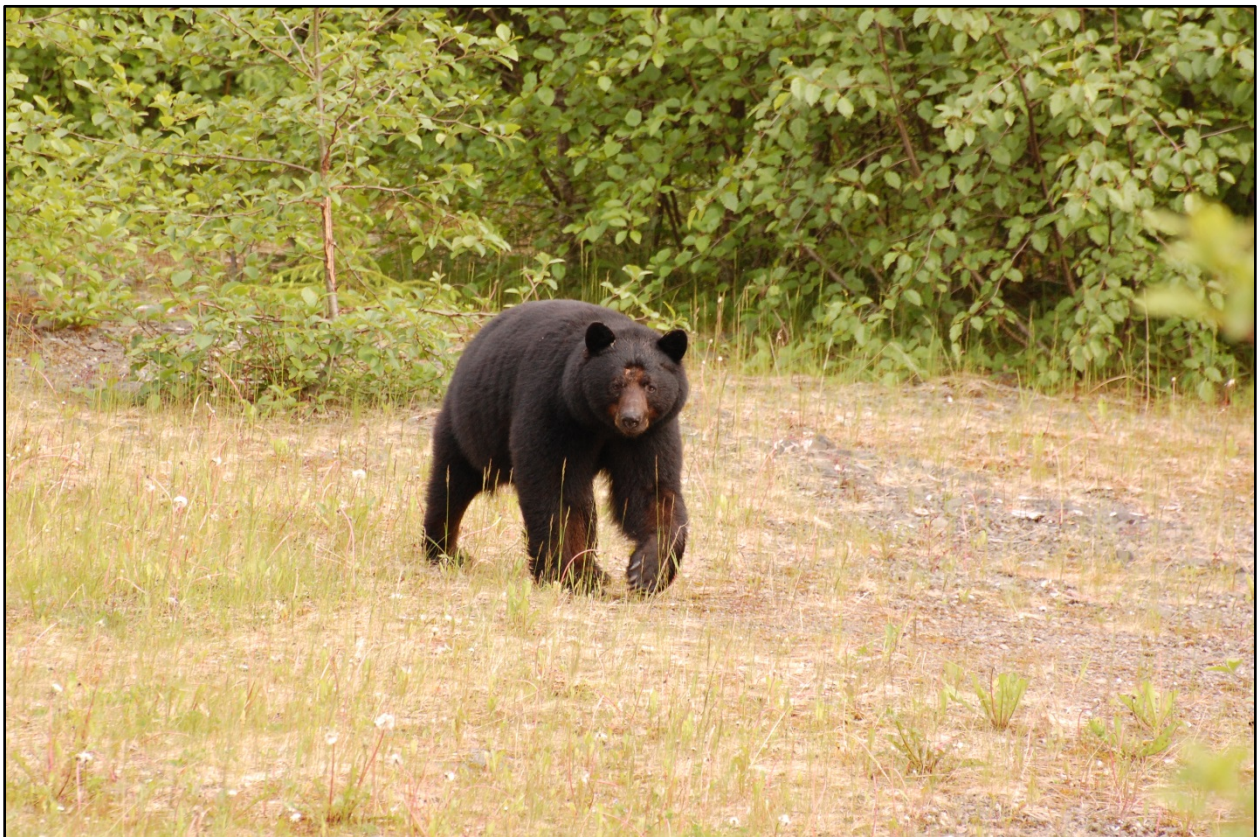# Black bear Management Report and Plan, Game Management Unit 1D:

Report Period 1 July 2013–30 June 2018, and

Plan Period 1 July 2018–30 June 2023

Carl H. Koch

2021

Alaska Department of Fish and Game   Division of Wildlife Conservation

Black bear Management Report and Plan, Game Management Unit 1D:

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Cover Photo: ©2012 ADF&G. A black bear boar on Kuiu Island in Southeast Alaska. Photo by Carl H Koch.

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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 Unit 1D for the 5 regulatory years 2013–2017 and plans for survey and inventory management activities in the following 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 its own 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 describe potential changes in data collection activities over the next 5 years. It replaces the black bear management report of survey and inventory activities that was previously produced every 3 years.

I. RY13–RY17 Management Report

Management Area

Game Management Unit 1D is located on the northern Southeast Alaska mainland and is 2,854 mi^2 in area. It lies north of the latitude of Eldred Rock, excluding Sullivan Island and the Berners Bay drainages (Fig. 1). The area is bordered on the north, east, and west by Canada. Communities include Haines, Skagway, and the Chilkat Indian Village of Klukwan. Most of the land in Unit 1D is publicly owned. Lands accessible to hunting include 447 mi^2 owned by the State of Alaska (Alaska Department of Natural Resources 2002), with most of the remainder owned by the federal government and managed by the Bureau of Land Management, the Tongass National Forest, and the National Park Service (Sell 2014). Approximately 1,014 mi^2 of forested habitat (excellent black bear habitat) is found within the unit (Homer et al. 2004). Numerous anadromous salmon streams in the unit include the Chilkat River and its major tributaries as well as the Chilkoot and Ferebee rivers, the Katzehin River on the east side of Lynn Canal, and the Skagway and Taiya rivers near Skagway.

Other habitats that are important for black bears in Unit 1D include wetlands, subalpine meadows, and disturbed areas such as avalanche chutes, which provide important foraging areas for black bear. Black bear diets vary, but include emerging vegetation in the spring, salmon throughout the summer and fall, and then shift to subalpine plants in late fall prior to hibernation. Black bear may also prey on moose calves or mountain goat kids (Sell 2014). Important plants include grasses, sedges, and horsetail (*Equisetum spp.*) in estuarine areas. In other areas cow parsnip (*Heracleum lanatum*), skunk cabbage (*Lysichiton americanum*), blueberry (*Vaccinium spp.*), salmonberry (*Rubus spectabilis*), highbush cranberry (*Viburnum edule*), and devil's club (*Oplopanax horridus*) are important for black bear. Competition with brown bears probably limits the number of salmon consumed by black bears in areas where brown bears are abundant (e.g., black bears are not typically observed along the Chilkoot River during salmon runs). Black bears that do have access to salmon consume large quantities to accumulate fat reserves for winter. When fish runs are poor, or berry crops fail, cub production and survival are reduced (Pelton 2003). Large areas of the Klehini, Kelsall, and Chilkat river valleys fall within the Haines State Forest, which have been subject to past timber harvest. The current Haines State Forest Management plan projects an
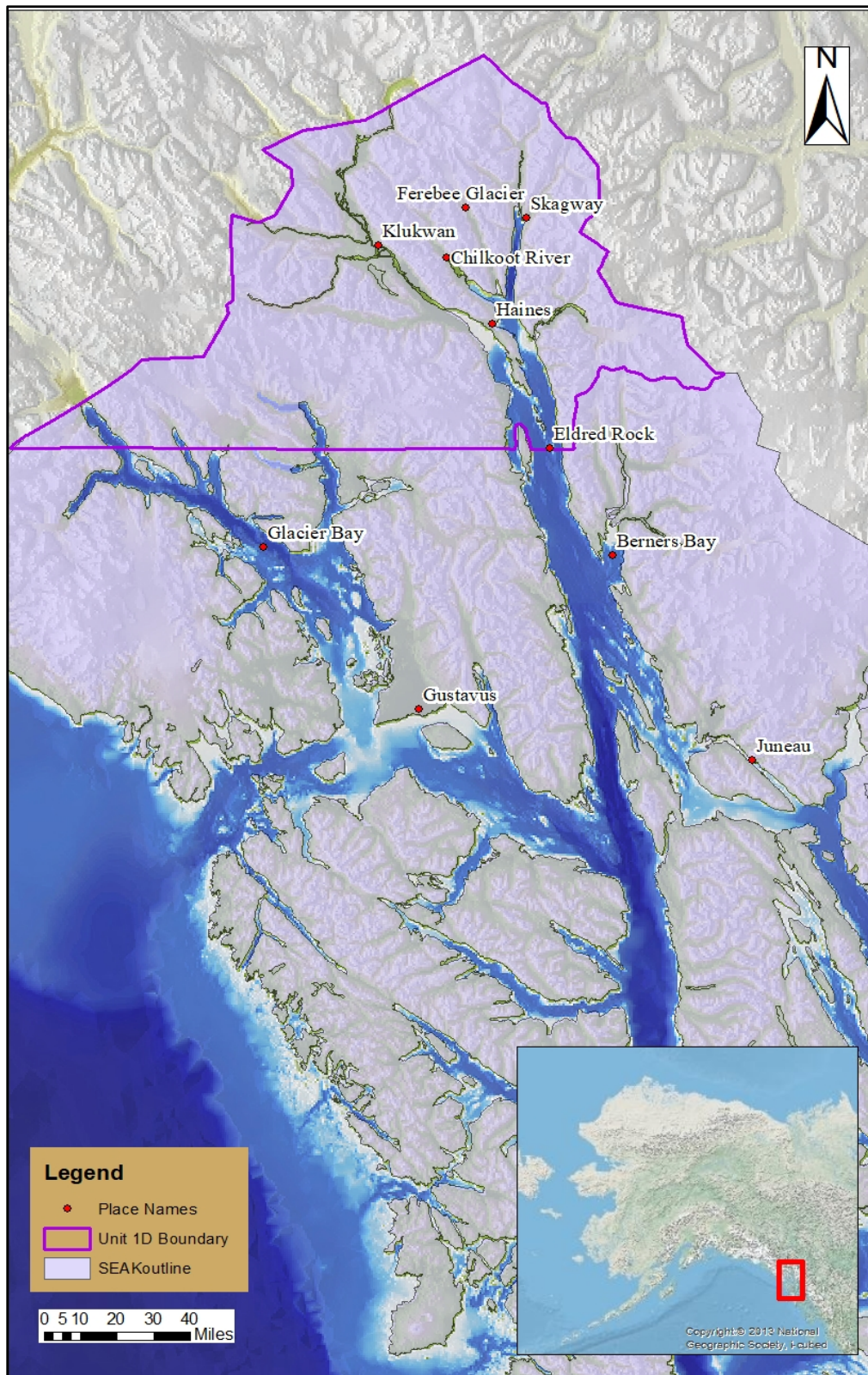
Figure 1. Map of Game Management Unit 1D, Southeast Alaska.

annual harvest of up to approximately 5.88 million board feet (Alaska Department of Natural resources 2002). Habitat changes from timber harvest often provide some additional food resources for black bear in the early successional stages (3–20 years); however, as these even-aged stands regenerate, the canopy closes, and light cannot penetrate to the forest floor. When second-growth timber reaches this stem exclusion phase, lack of light causes understory plants to die off and those foods are no longer available. Forest management practices such as commercial thinning increase the amount of sunlight and understory plant biomass. Another habitat limitation is that black bears in Southeast Alaska have been found to select for large (0.75–2.00 meters) stumps for den sites. Because it can take > 300 years for trees to reach a suitable size for denning black bears, it is unlikely that logged stands will be allowed to grow large enough to provide suitable sites for denning black bears if forests are harvested on a 100–150-year rotation (Porter et al. 2020).

Coastal areas of Unit 1D have a maritime climate with cool, wet summers. Winter weather varies by location. The Haines area in the lower Chilkat Valley often experiences a mix of rain and snow with temperatures near freezing. Further up the valley temperatures are colder with more persistent snowfall. The Haines Airport received an average of 46 inches of precipitation annually from 2000 through 2014 (data not available for 2015–2017) which was similar to the mean annual precipitation (45.9 inches) at the Canadian border (NWS 2018). Mean seasonal winter snowfall at the Canadian border was 256 inches (range 156 to 368 inches) from during the same time period (NWS 2018).

Summary of Status, Trend, Management Activities, and History of Black Bear in Unit 1D

There are 3 color phases of black bear that have been documented during sealing in Unit 1D including black, cinnamon, and the glacier or blue color phase. From RY73 to RY17 the harvest included 70.0% black-color phase, 29.6% cinnamon-color phase, and only 0.4% (6 of 1,235 total harvested bears) were "glacier" or blue-color bears. Although the cinnamon-color phase appears to be more common in the Unit 1D harvest, that designation is somewhat subjective and may depend on the experience of the sealing agent (Sell 2014). Glacier bears are rarely sealed in Unit 1D and the last harvest was in June of 2008 near Skagway. However, in the past several years sightings of at least 2 different "white" colored black bears have been reported to the department (ADF&G) in the Haines area.

Black bear hunting has a long history in Unit 1D. Sealing requirements for black bears began in 1973. Information about unsuccessful hunter effort is sparse because hunters were not required to obtain harvest tickets to hunt black bears until 2009. Since then, reporting by unsuccessful hunters has been unreliable with approximately 40% of hunters failing to report on their harvest ticket. Therefore, ADF&G manages the hunt primarily using harvest data obtained from ADF&G sealing records.

From RY73 to RY83 hunters harvested an average of 22 black bears per year in Unit 1D. In RY83, 39 black bears were harvested, which was a 95% increase. This unusually high harvest was attributed in part to an increased interest in targeting black bears for meat after a low moose harvest during the fall of 1982, and a poor fishing season during the summer of 1983 (ADF&G 1984). Harvest increased again in RY85, when the moose harvest was also low, and again RY86,

after the moose season was cancelled (ADF&G 1987). In contrast, only 8 black bears were harvested during RY87 (ADF&G 1990). This dramatic decrease in harvest was attributed in part to deep snow and a late spring in 1988 which hindered hunter access. At that time, managers were concerned about a potential population decline because the average skull size had declined, and anecdotal information indicated that the brown bear population was increasing (ADF&G 1990). However, during the 1990s, harvest increased to an average of 33 bears per year (Sell 2014).

The resident bag limit for black bears has been 2 bears per regulatory year since statehood, of which only 1 can be a blue or glacier bear. Nonresident bag limits were the same as residents until 1990, when the nonresident bag limit was reduced to 1 bear per regulatory year. In August of 2007, the Board of Game (BOG, board) passed a temporary emergency order prohibiting the taking of white-colored black bears in Unit 1D, and later that year the board adopted a permanent regulation (5 AAC 85.015) which mirrored regulations near Juneau that that prohibit the harvest of white-colored black bears. Although hunting with dogs has been allowed in Unit 1D since 1966, interest has remained low, and no permits have been issued. Since 1996, hunters have been required to salvage the edible meat, hide, and skull of all black bears killed in Southeast Alaska from 1 January–31 May.

The biggest issue the BOG has addressed in Unit 1D is bear baiting. Bear baiting became legal in 1982. Initially bear baiting was legal year-round, but in 1988 the BOG reduced the baiting season in Southeast Alaska to the spring period 15 April–15 June. In 2002, a proposal to prohibit bear baiting was submitted to the BOG. The rationale for the prohibition of bear baiting was a concern that brown bears were attracted to bait stations, and the proximity of bait stations to human development contributed to conditioning bears to human garbage. As a compromise, the BOG closed baiting in the Haines area within 1 mile of all major roads. In 2015, a proposal was submitted to delay the black bear baiting season until after the brown bear season closed was submitted to the BOG. The public were concerned about the illegal take of brown bear over black bear bait stations, and that black bear hunters could set up their bait stations near brown bear hunting camps; that proposal failed. From RY03 through RY12 the overall percentage of all harvested black bears that were taken over bait was 36%. However, this percentage varied annually from a low of 12% in RY11 to as high as 53% in RY12.

Management Direction

EXISTING WILDLIFE MANAGEMENT PLANS

Southeast Alaska Black Bear Management Plan in 1976 Species Management Plans (ADF&G 1976).

GOALS

To provide the greatest opportunity to participate in hunting black bears (ADF&G 1976).

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game (BOG) has made a positive customary and traditional finding for black bears in Unit 1D in 2000 and determined an amount necessary for subsistence (ANS) of 10–20 black bears per year in 2008 (5 AAC 99.025(a)(2)).

Intensive Management

Not applicable.

MANAGEMENT OBJECTIVES

The following management objectives were established for Unit 1D black bear (Sell 2014).

- Maintain a mean annual male skull size of at least 17.0 inches.

- Maintain a 3:1 male-to-female ratio in the harvest.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

The Alaska Department of Fish and Game is not assessing black bear populations status or trends currently. Black bear population research has not been conducted in Unit 1D. Information obtained from harvested bears cannot be used to directly measure population trends. Metrics such as skull size (length and width), age, and sex ratios, obtained from sealing records, may provide some indication of changes in the population. However, these factors are also influenced by hunter behavior and in the absence of robust population estimates cannot be used as a direct index of population changes. Finally, because sows accompanied by cubs and cubs less than 1 year old are not legal for harvest, sealing records provide no information about those demographics.

Sell reports that black bear densities in Unit 1D are likely lower than other parts of mainland Southeast Alaska, possibly due to interspecific competition with brown bears (Sell 2014).

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor black bear harvest through sealing records.

Data Needs

Sealing of black bears has been required in Unit 1D since 1973. Data collected during mandatory sealing is used to assess trends in the harvest.

Methods

ADF&G collects data from bears that are harvested, killed in defense of life and property, and from other human caused mortalities (e.g., motor vehicle collisions). During sealing authorized ADF&G staff or state appointed sealers collect information including the date of kill, location of kill, method of take, transportation mode, sex, age, and skull size (width and length). Hunters are required to have black bears sealed within 30 days of the kill, which includes the placement of a locking tag on the hide and skull of each black bear. Data are entered into ADF&G's Wildlife Information Network database (WinfoNet) database. Harvest data are summarized by regulatory year which begins 1 July and ends June 30.

Season and Bag Limit

The hunting season for black bear in Unit 1D was from 1 September through 30 June for both residents and nonresidents.

Hunter residency	Bag limit
Resident	2 bears, not more than 1 of which may be a blue or glacier bear
Nonresident	1 bear

Results and Discussion

Harvest by Hunters

During this report period, harvest averaged 25 bears per regulatory year (range 19–35 bears). This average was 24% lower than the previous 5-year period (33 bears per regulatory year). The second highest total harvest since sealing began occurred in RY11 when 51 bears (18 females, 33 males) were harvested. RY11 was also the highest number of harvested females ever recorded for Unit 1D. In contrast, only 17 bears were taken the following year which was a 67% decline (Table 1).

Although the average annual harvest during this reporting period (RY13–RY17) was 24% lower than the previous 5-year period, this may have been influenced by the high harvest during RY11 (especially the record high number of females harvested). If harvest reflects the status of the population, there may have been a population decline after the high harvest in RY11 which has taken some time to recover. During RY17, harvest reached its maximum for this reporting period and only 66% of the total harvest was male which is below our management objective (75% male, 25% female).

Table 1. Unit 1D black bear mortality, Southeast Alaska regulatory years 2008–2017.

Regulatory year	Hunter kill					Nonhunting kill[a]				Illegal kill	Total reported kill						
	M	F	Unk	Total	Baited	M	F	Unk	Total	kill	M	(%)	F	(%)	Unk	(%)	Total
2008																	
Fall 2008	8	3	0	11	0	0	0	0	0	0	8	(73)	3	(27)	0	(0)	11
Spring 2009	22	5	0	27	13	0	0	0	0	0	22	(82)	5	(19)	0	(0)	27
Total	30	8	0	38	13	0	0	0	0	0	30	(79)	8	(21)	0	(0)	38
2009																	
Fall 2009	1	1	0	2	0	0	1	0	1	0	1	(33)	2	(67)	0	(0)	3
Spring 2010	16	2	0	18	5	0	0	0	0	0	16	(89)	2	(11)	0	(0)	18
Total	17	3	0	20	5	0	1	0	1	0	17	(81)	4	(19)	0	(0)	21
2010																	
Fall 2010	0	1	0	1	0	1	0	0	1	0	1	(50)	1	(50)	0	(0)	2
Spring 2011	30	6	0	36	20	0	0	0	0	0	30	(83)	6	(17)	0	(0)	36
Total	30	7	0	37	20	1	0	0	1	0	31	(82)	7	(18)	0	(0)	38
2011																	
Fall 2011	2	6	0	8	0	0	1	1	2	0	2	(22)	7	(78)	1	(10)	10
Spring 2012	31	12	0	43	6	0	0	0	0	0	31	(72)	12	(28)	0	(0)	43
Total	33	18	0	51	6	0	1	1	2	0	33	(62)	19	(36)	1	(2)	53
2012																	
Fall 2012	2	0	0	2	0	0	0	0	0	0	2	(100)	0	(0)	0	(0)	2
Spring 2013	10	5	0	15	9	0	0	0	0	0	10	(67)	5	(33)	0	(0)	15
Total	12	5	0	17	9	0	0	0	0	0	12	(71)	5	(29)	0	(0)	17
2013																	
Fall 2013	1	4	0	5	0	0	0	0	0	0	1	(20)	4	(80)	0	(0)	5
Spring 2014	16	3	0	19	9	0	0	0	0	0	16	(84)	3	(16)	0	(0)	19
Total	17	7	0	24	9	0	0	0	0	0	17	(71)	7	(29)	0	(0)	24

-continued-

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Regulatory	Hunter kill					Nonhunting kill[a]				Illegal	Total reported kill						
Year	M	F	Unk	Total	Baited	M	F	Unk	Total	kill	M	(%)	F	(%)	Unk	(%)	Total
2014																	
Fall 2014	1	2	0	3	0	0	0	0	0	0	1	(33)	2	(67)	0	(0)	3
Spring 2015	11	5	0	16	3	0	0	0	0	0	11	(69)	5	(31)	0	(0)	16
Total	12	7	0	19	3	0	0	0	0	0	12	(63)	7	(37)	0	(0)	19
2015																	
Fall 2015	1	1	0	2	0	0	0	0	0	0	1	(50)	1	(50)	0	(0)	2
Spring 2016	16	2	0	18	3	0	0	0	0	0	16	(89)	2	(11)	0	(0)	18
Total	17	3	0	20	3	0	0	0	0	0	17	(85)	3	(15)	0	(0)	20
2016																	
Fall 2016	2	0	0	2	0	1	0	0	1	0	3	(100)	0	(0)	0	(0)	3
Spring 2017	20	3	0	23	7	0	0	0	0	0	20	(87)	3	(13)	0	(0)	23
Total	22	3	0	25	7	1	0	0	1	0	23	(88)	3	(12)	0	(0)	26
2017																	
Fall 2017	5	5	0	10	0	0	0	0	0	1	5	(45)	6	(55)	0	(0)	11
Spring 2018	18	7	0	25	9	1	0	0	1	0	19	(73)	7	(27)	0	(0)	26
Total	23	12	0	35	9	1	0	0	1	1	24	(65)	13	(35)	0	(0)	37

[a] Includes defense of life and property kills, research mortalities, and other known human causes.

Table 2. Unit 1D black bear hunter effort, mean skull size, and mean age, regulatory years 2008–2017.

Regulatory year	Successful hunter effort			Mean skull size[a] (inches)				Average age (years)[b]			
	Total days	Hunters	Mean days/ hunter	Male	n[c]	Female	n[c]	Male	n[c]	Female	n[c]
2008											
Fall 2008	32	11	2.9	15.7	7	15.7	3	4.4	8	16.0	3
Spring 2009	123	27	4.6	16.9	21	15.9	4	7.7	22	10.8	5
Total	155	38	4.1	16.6	28	15.8	7	6.8	30	13.0	8
2009											
Fall 2009	2	2	1.0	16.2	1	15.5	2	4.0	1	6.5	2
Spring 2010	45	18	2.5	17.4	16	15.0	2	6.7	16	5.5	2
Total	47	20	2.4	17.4	17	15.3	4	6.5	17	6.0	4
2010											
Fall 2010	5	1	5.0	0.0	1	16.7	1	0.0	1	7.0	1
Spring 2011	122	36	3.4	17.4	30	15.4	6	8.0	30	6.8	6
Total	127	37	3.4	17.4	30	15.6	7	8.0	31	6.9	7
2011											
Fall 2011	10	8	1.3	17.7	2	16.3	6	14.5	2	11.4	5
Spring 2012	159	43	3.7	16.8	31	15.7	11	7.4	30	8.0	11
Total	169	51	3.3	16.8	33	15.9	17	7.8	32	9.0	16
2012											
Fall 2012	6	2	3.0	17.4	2	–	0	7.0	2	–	0
Spring 2013	73	15	4.9	16.8	10	16.1	5	7.0	10	8.8	5
Total	79	17	4.6	16.9	12	16.1	5	7.0	12	8.8	5

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Regulatory year	Successful hunter effort			Mean skull size[a] (inches)				Average age (years)[b]			
	Total days	Hunters	Mean days/ hunter	Male	n[c]	Female	n[c]	Male	n[c]	Female	n[c]
2013											
Fall 2013	17	5	3.4	18.9	1	15.5	4	18.0	1	9.0	4
Spring 2014	57	19	3.0	16.8	16	16.4	2	7.6	16	8.0	3
Total	74	24	3.0	16.9	17	15.8	6	10.7	17	8.6	7
2014											
Fall 2014	4	3	1.3	16.6	1	16.2	2	4.0	1	16.0	2
Spring 2015	48	16	3.0	17.1	11	15.4	5	7.0	11	8.2	5
Total	52	19	2.7	17.1	12	15.6	7	6.8	12	10.4	7
2015											
Fall 2015	7	2	3.5	17.2	1	13.3	1	5.0	1	1.0	1
Spring 2016	54	18	3.0	16.9	16	15.1	2	7.3	16	4.0	2
Total	61	20	3.0	17.0	17	14.5	3	7.1	17	3.0	3
2016											
Fall 2016	10	2	5.0	14.4	2	-	0	6.0	1	-	0
Spring 2017	53	23	2.3	17.1	19	15.3	3	8.0	20	6.7	3
Total	63	25	2.5	16.7	21	15.3	3	7.9	21	6.7	3
2017											
Fall 2017	32	10	3.2	15.3	5	14.6	5	5.8	5	7.3	6
Spring 2018	135	25	1.4	17.2	19	14.2	6	7.7	19	4.9	7
Total	167	35	4.8	16.8	24	14.4	11	7.3	24	6.0	13

[a] Skull size equals total length plus zygomatic width.
[b] Ages not available for all bears.
[c] n represents sample size.

The mean annual skull size for harvested males was 16.9 inches (range 16.7–17.1 inches) during this reporting period which was slightly below the management objective (17.0 inches) for males (Table 2). The average skull size for females was 15.1 inches (range 14.4–15.8 inches). But this is not surprising given that adult females with cubs are not legal for harvest, and the skull size of females are normally smaller than males of the same age.

Bears harvested over bait accounted for 25% (range 15–38%) of the entire harvest during this reporting period (Table 1). Only 6% (2 of 31) of bears harvested over bait were female. However, bear baiting is only legal during spring and typically even yearling cubs still accompany the sow. The low female harvest is likely because hunters using bait can be more selective since more bears are encountered over bait.

Most black bears harvested in Unit 1D were taken along the Haines Highway, the Chilkat River, and the Kelsall River areas. Only 16% were harvested in the Lutak Inlet, Taiya Inlet, and Skagway areas. Because of easy access by boat and highway vehicles, most of the bait stations are placed in the Chilkat and Kelsall River drainages with some recent interest in establishing bait stations in the Skagway area.

Permit Hunts

Since 2012, all nonresident hunters who do not use a registered guide in Unit 1D are required to obtain 1 of 20 available draw permits (DL021). This regulation (5 AAC 85.015(1)) was implemented in 2010 to address increasing harvest in other units in Southeast Alaska and concerns about a shift in hunting pressure (Sell 2014). However, nonresident unguided hunters only utilized an average of 2 of the available DL021 permits on an annual basis. Concerns about shifting hunting pressure were never realized in Unit 1D. Thus, the DL021 permit requirement appears to be an unnecessary burden on a small number of hunters. And in fact, the BOG eliminated this draw hunt during their January 2019 meeting.

Hunter Residency and Success

Black bears are an important subsistence resource in Unit 1D. On average, local residents accounted for 82% of the bear harvest, where nonresidents accounted for 10% of the bear harvest from RY13–RY17 (Table 3). There was a 5% decline in the nonresident portion of the harvest from the RY08–RY12 reporting period to the RY13–RY17 reporting period; this could be because some hunters were unaware of the availability of undersubscribed permits for Unit 1D due to a change in the draw permit requirement.

Harvest Chronology

Most of the black bears harvested in Unit 1D are by locals who use the meat for subsistence. Therefore, the highest harvest occurs in the spring when the meat is believed to be more palatable before bears have access to seasonally available salmon. During this reporting period, May and June accounted for 77% of the total harvest (Table 4). Fall hunters accounted for 18% of the harvest, and the remaining 5% were harvested in April.

Table 3. Unit 1D successful black bear hunter residency, regulatory years 2008–2017.

Regulatory year	Local[a] resident	(%)	Nonlocal resident	(%)	Nonresident	(%)	Nonresident guided[b]	(%)[c]	Total
2008	24	(63)	5	(13)	9	(24)	3	(8)	38
2009	14	(70)	3	(15)	3	(15)	2	(10)	20
2010	25	(68)	3	(8)	9	(24)	8	(22)	37
2011	39	(76)	5	(10)	7	(14)	4	(8)	51
2012	15	(88)	2	(12)	0	(0)	0	(0)	17
2013	22	(92)	2	(8)	0	(0)	0	(0)	24
2014	14	(74)	3	(16)	2	(11)	1	(5)	19
2015	16	(80)	1	(5)	3	(15)	2	(10)	20
2016	22	(88)	1	(4)	2	(8)	1	(4)	25
2017	27	(77)	3	(9)	5	(14)	2	(6)	35

[a] Local hunters are those hunters that reside in Unit 1D.
[b] Number of nonresident kills in previous column that were taken by nonresident hunters who were guided.
[c] Percentage of total bears harvested by guided nonresident hunters.

Table 4. Unit 1D black bear harvest chronology by month, regulatory years 2008–2017.

Regulatory year	Month											Total
	Sep	(%)[a]	Oct	(%)[a]	Apr	(%)[a]	May	(%)[a]	Jun	(%)[a]		
2008	10	(26)	1	(3)	1	(3)	17	(45)	9	(24)		38
2009	0	(0)	2	(10)	1	(5)	13	(65)	4	(20)		20
2010	0	(0)	1	(3)	0	(0)	22	(59)	14	(38)		37
2011	4	(8)	4	(8)	0	(0)	26	(51)	17	(33)		51
2012	1	(14)	1	(6)	0	(0)	4	(23)	11	(65)		17
2013	5	(21)	0	(0)	0	(0)	11	(46)	8	(33)		24
2014	2	(11)	1	(5)	2	(11)	11	(58)	3	(16)		19
2015	1	(5)	1	(5)	2	(10)	13	(65)	3	(15)		20
2016	2	(8)	0	(0)	1	(4)	17	(68)	5	(20)		25
2017	8	(23)	2	(6)	1	(3)	15	(43)	9	(26)		35

[a] Percentages were rounded to the nearest whole number.

Transport Methods

Highway vehicles are the most popular method of transport used by black bear hunters in the Chilkat River Valley. This is likely due to the extensive system of logging roads in the area (Sell 2014). During the last decade on average, 49% of successful hunters used highway vehicles, 31% used boats, and only 6% walked (Table 5). Aircraft are rarely used by Unit 1D bear hunters and no hunters accessed hunt areas by plane during this report period.

Table 5. Unit 1D black bear harvest by transportation method, regulatory years 2008–2017.

Regulatory year	Transport method					
	Highway vehicle (%)	Boat (%)	Walk (%)	Plane (%)	Other[a] (%)	*n*
2008	22 (58)	9 (24)	3 (8)	0 (0)	4 (11)	38
2009	7 (35)	10 (50)	1 (5)	0 (0)	2 (10)	20
2010	15 (41)	18 (49)	1 (3)	0 (0)	3 (8)	37
2011	23 (45)	16 (31)	6 (12)	0 (0)	6 (12)	51
2012	8 (47)	5 (29)	2 (12)	0 (0)	2 (12)	17
2013	12 (50)	6 (25)	2 (8)	0 (0)	4 (17)	24
2014	12 (63)	3 (16)	0 (0)	0 (0)	4 (21)	19
2015	11 (55)	7 (35)	0 (0)	0 (0)	2 (10)	20
2016	14 (56)	3 (12)	3 (12)	0 (0)	5 (20)	25
2017	15 (43)	11 (31)	0 (0)	0 (0)	9 (26)	35

[a] Includes 3- or 4-wheelers and other off-road vehicles.

Other Mortality

Most human caused mortality of black bears in Unit 1D comes from intentional harvest (Table 1). During this reporting period 1 bear was harvested illegally and 2 were shot in defense of life and property. ADF&G management and education staff have been working with the public to avoid the need for defense of life and property shootings. Our efforts have included public education, and the use of an electric fence loaner system designed to provide homeowners with the tools to protect livestock, smokehouses, and other property that attracts bears.

Alaska Board of Game Actions and Emergency Orders

A proposal was put before the board of game in 2015 to delay the black bear baiting season until after the close of the spring brown bear season but it failed. No emergency orders were issued for black bear hunts during this reporting period.

Recommendations for Activity 2.1

ADF&G will continue to collect bear sealing and harvest data. We do not fully understand the relationship between population estimates, age, and skull size. However, this is the only information the department has collected over the long-term to monitor populations.

3. Habitat Assessment-Enhancement

No habitat assessment or enhancement activities for black bears were conducted during the report period.

Data Recording and Archiving

- Harvest data is recorded on hunt reports associated with harvest tickets and black bear drawing permits.

- Records from harvest data and bait station locations are stored in ADF&G's Wildlife Information Network database.

- Hard copies of bait station applications are stored in the Douglas Area office.

Agreements

There are currently no agreements concerning black bear in Unit 1D.

Permitting

During this reporting period, nonguided, nonresident black bear hunters were required to obtain a drawing permit (DL021). This requirement will be rescinded beginning with the RY20 season.

Conclusions and Management Recommendations

Fluctuations in the harvest are not uncommon. However, the high harvest and record number of harvested females in RY11 may have contributed to a decline in population, which may have lasted into the RY13–RY17 report period. Although total male harvest for the report period was only 1% below management goals, female harvest should be closely monitored to ensure objectives continue to be met. If resources become available, obtaining population estimates and demographic information would aid in managing black bears in Unit 1D.

Given the number of resource extraction, development, and tourism activities within Unit 1D, it would be helpful to define habitat requirements such as denning and foraging habitat for black bears in Unit 1D. State, federal, and local land managers often request information about potential impacts to wildlife from human activities and information about habitat use, population densities, and important subsistence hunting areas would aid land management decision making.

II. Project Review and RY18–RY22 Plan

Review of Management Direction

MANAGEMENT DIRECTION

GOALS

To provide the greatest opportunity to participate in hunting black bears (ADF&G 1976).

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game (BOG) has made a positive customary and traditional finding for black bears in Unit 1D and set the amounts necessary for subsistence (ANS) at 10–20 black bears per year (5 AAC 99.025(a)(2)).

Intensive Management

Not Applicable.

MANAGEMENT OBJECTIVES

The following management objectives were established for Unit 1D (Sell 2014).

- Maintain a mean annual male skull size of at least 17.0 inches.

- Maintain a 3:1 male-to-female ratio in the harvest.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

Although there is a need for a formal population estimate for black bears in this Unit, there are no plans to attempt to estimate the population during this planning period due to limited funding and staffing resources. Formal population estimates for Unit 1D would be helpful in guiding management decisions, but population estimates are expensive and labor intensive in part because aerial surveys for black bears are not feasible in Southeast Alaska. Feasible low-cost methods for estimating black bear populations should be investigated if dedicated staffing and funding become available for such a project.

2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitoring black bear harvest through sealing records.

Data Needs

Sealing of black bears has been required in Unit 1D since 1973. Data collected during mandatory sealing is used to assess trends in the harvest.

Methods

ADF&G will continue to monitor black bear harvest in Unit 1D through sealing records.

3. Habitat Assessment-Enhancement

No habitat assessment or enhancement activities are planned for this planning period. Anthropogenic activities which may affect habitat use and availability for black bears include, development, logging, mining, and tourism. Although the habitat requirements of black bears are generally well covered in the literature it would be useful to identify important denning and foraging habitats specific to Unit 1D. An understanding of factors that may affect habitat availability and resource selection by black bears would aid in management of this species.

Data Needs

Not applicable.

Methods

Not applicable.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest data is recorded on hunt reports associated with harvest tickets and black bear drawing permits.

- Records from harvest data and bait station locations are stored in ADF&G's Wildlife Information Network database

- Hard copies of bait station applications are stored in the Douglas Area office.

Agreements

There are currently no agreements concerning black bear in Unit 1D.

Permitting

There are currently no permits concerning black bear in Unit 1D.

References Cited

Alaska Department of Fish and Game. 1976. Southeast Alaska black bear management plan. Pages 31–34 [*In*] Alaska Wildlife Management Plans: A public proposal for the management of Alaska's wildlife: Southeastern Alaska. Draft proposal subsequently approved by the Alaska Board of Game. Division of Game, Federal Aid in Wildlife Restoration, Project W-17-R, Juneau.

Barnett, J. A., editor. 1984. Annual report of survey-inventory activities 1 January 1982-31 December 1982: Part I - black bears and brown bears. Alaska Department of Fish and Game, Division of Game, Federal Aid in Wildlife Restoration Jobs 17.0 and 4.0, Juneau.

Morgan, S. O., editor. 1987. Annual report of survey-inventory activities 1 January 1986-31 December 1986: Part IV - black bear. Alaska Department of Fish and Game, Division of Game, Federal Aid in Wildlife Restoration Job 4.0, Juneau.

Morgan, S. O., editor. 1990. Annual report of survey-inventory activities 1 January 1988-30 December 1988: Part IV - black bear. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration Study 17.0, Juneau.

Alaska Department of Natural Resources. 2002. Haines State Forest Management Plan. Alaska Department of Natural Resources, Alaska Department of Natural Resources, Division of Mining, Land & Water, Resource Assessment & Development Section, Division of Forestry, Anchorage.

Pelton, M. R. 2003. Black Bear *Ursus americanus*. Pages 547–548 [*In*] G.A. Feldhamer, B. C. Thompson, J. A. Chapman, editors. Wild Mammals of North America. Biology, Management, and Conservation. Second Edition. Baltimore, M.D.

Porter, B., D. P. Gregovich, and S. W. Bethune. 2020. Denning ecology of black bears on intensively logged Prince of Wales Island, Southeast Alaska. Alaska Department of Fish and Game, Wildlife Research Report ADF&G/DWC/WRR-2020-1, Juneau.

Homer, C. G., C. Huang, L. Yang, B. K. Wylie, and M. Coan. 2004. Development of a 2001 National Land Cover Database for the United States. Photogrammetric Engineering and Remote Sensing 70(7):829–840.

National Weather Service (NWS). 2018. NOWdata-NOAA Online Weather Data [webpage]. Monthly summarized data 2000–2014. https:weather.gov/climate/xmacis.php?wfo=pajk (Accessed 18 March 2020).

Sell, S., 2014. Unit 1D black bear management report. Chapter 4, pages 4-1 through 4-16 [*In*] P. Harper, and L.A. McCarthy, editors. Black bear management report of survey and inventory activities 1 July 2010 – 30 June 2013. Alaska Department of Fish and Game, Species Management Report ADF&G/DWC/SMR-2014-5, Juneau.