Species Management Report and Plan ADF&G/DWC/SMR&P–2023–21

Black Bear Management Report and Plan, Game Management Units 14A and 14B:

Report Period 1 July 2013–30 June 2018, and

Plan Period 1 July 2018–30 June 2023

Tim C. Peltier

2023

Alaska Department of Fish and Game Division of Wildlife Conservation

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Hunters are important founders of the modern wildlife conservation movement. They, along with trappers and sport shooters, provided funding for this publication through payment of federal taxes on firearms, ammunition, and archery equipment, and through state hunting license and tag fees.

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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This document, published in PDF format only, should be cited as:

Peltier, T. C. 2023. Black bear management report and plan, Game Management Units 14A and 14B: Report period 1 July 2013–30 June 2018 and plan period 1 July 2018–30 June 2023. Alaska Department of Fish and Game, Species Management Report and Plan ADF&G/DWC/SMR&P-2023-21, Juneau.

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Cover Photo: Black bear sow with cubs. ©2020 ADF&G. Photo by Tim Peltier.

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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 Units 14A and 14B 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 black bear management report of survey and inventory activities that was previously produced every 3 years.

I. RY13–RY17 Management Report

Management Area

Unit 14A is located in Southcentral Alaska, north of Anchorage. The total area of Unit 14A is 2,685 mi^2 and consists of all land from the east bank of the Susitna River beginning at the mouth at Cook Inlet heading north to the mouth of Willow Creek. The Unit 14A boundary then follows a line south of the north bank of Willow and Peters creeks to the headwaters, and south of the hydrologic divide separating the Susitna River and the Knik Arm drainages to the outlet creek at Lake 4408. From there the boundary continues southeast in a straight line to the northern most fork of the Chickaloon River then south along the east bank of the Chickaloon River to the bridge on the Glenn Highway at milepost 77.7. From there the boundary follows the hydrologic divide separating Carbon and Coal creeks to the hydrologic divide between the waters of the Matanuska River and the Knik Glacier across the face of the glacier south to the south bank of the Knik River to Cook Inlet, following Cook Inlet to the mouth of the Susitna River (Fig. 1).

Unit 14B covers approximately 2,512 mi^2 of the Talkeetna Mountains. It consists of all land east of the Susitna River to its confluence with the Talkeetna River south and west to its headwaters, and north of the north bank of Willow Creek and Peters Creek to the headwaters, and the hydrologic divide separating the Susitna River and the Knik Arm Drainages to the outlet creek at Lake 4408 (Fig. 1).

Approximately 36% of Unit 14A is above timberline, and over 63% of Unit 14B is above timberline. Below timberline, both units are heavily forested with birch (*Betula* spp.), aspen (*Populus* spp.), and spruce (*Picea* spp.). Unit 14A contains the human population center for the Matanuska-Susitna Borough and contains a high degree of development. In addition, parts of Unit 14A were developed into agricultural lands in the 1930s and remain so today. Small-scale logging and mining operations have occurred in both units. The human population of the area has increased from 17,800 in 1980 to 106,500 in 2017.

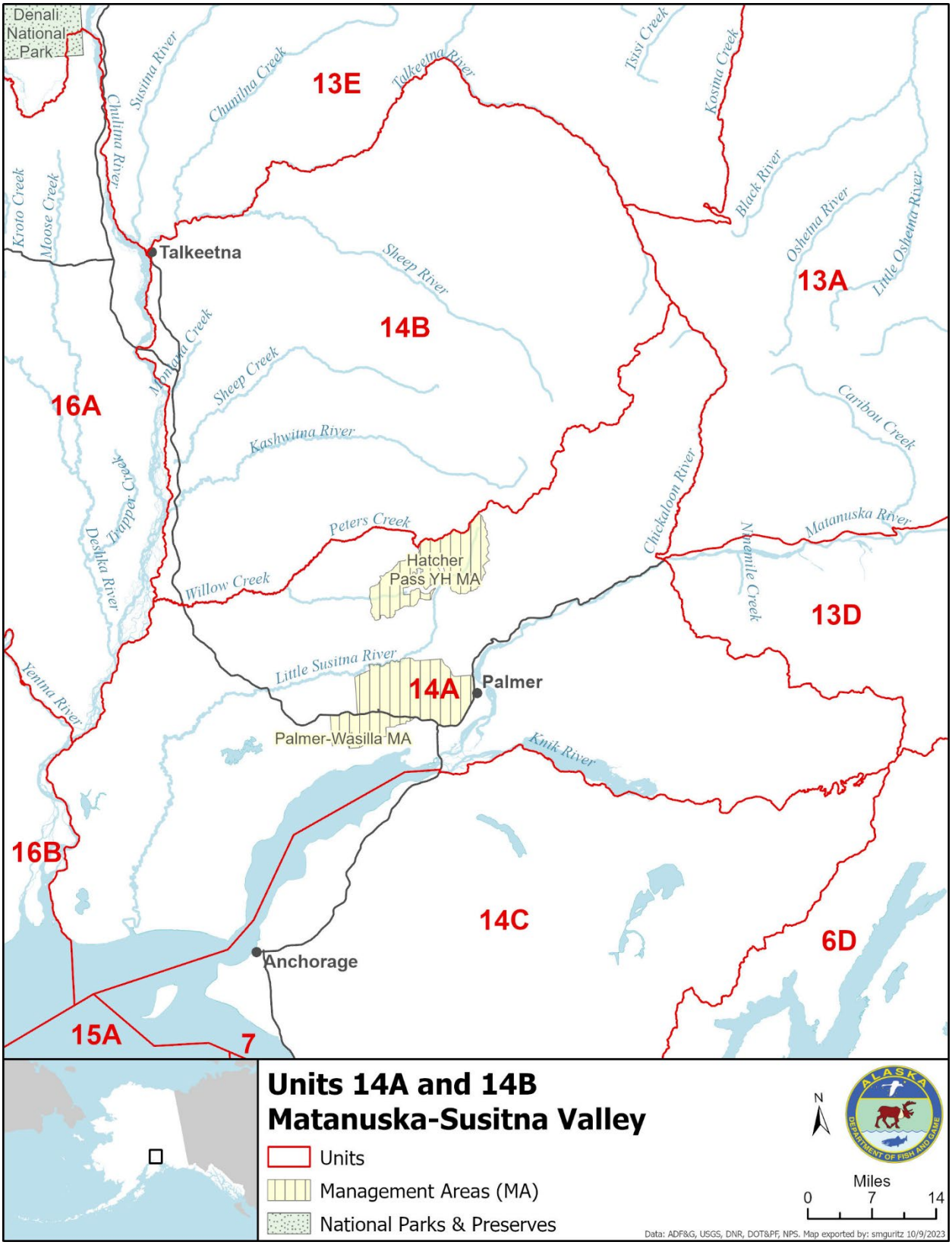

Figure 1. Map showing Units 14A and 14B boundaries, Alaska.

Summary of Status, Trend, Management Activities, and History of Black Bear in Units 14A and 14B

Very little is known about black bears specific to Units 14A and14B. Sealing of harvested black bears became a statewide requirement in 1973, which provided an additional metric for managers to monitor black bear populations. In addition to sealing, harvest reports became a requirement in RY09. Harvest reporting aids managers in quantifying effort spent on bear hunting activities. While sealing continues to be a requirement in Unit 14A, it was discontinued in Unit 14B in RY12 to decrease the burden for remote hunters.

Griese (1999) evaluated total available habitat and harvest trends among all 3 subunits of Unit 14 (14A, 14B, and 14C) and estimated that the black bear population was near 700 bears, with a maximum sustainable harvest of 24–30 females. McDonough (2002) reported that the population likely remained between 500 and 1,000 bears for all of Unit 14. The most recent estimate of black bear abundance in Unit 14C, which is 1,961 square miles, is estimated to be at least 350 bears (Battle and Coltrane 2014). No assessments of the black bear population in Units 14A or 14B have been conducted.

Prior to RY10, management goals and objectives were based on all 3 subunits of Unit 14. Annual harvest was 80 bears, with ≤14 sows from Unit 14A, and ≤8 sows in Units 14B and 14C. For 37 years, between RY73 and RY10, the annual harvest exceeded 80 bears in 29 of the 37 (78%) years. The management objective was changed from 30% in the Unit 14 harvest to 40% females in only the Units 14A and 14B combined harvest over a 3-year period (Peltier 2011).

The bag limit for black bears in Units 14A and 14B was 3 bears between statehood in 1959 and RY90. The bag limit for both units was reduced to 1 bear per year from RY90 to RY04. It then increased again to a 3-bear limit: first in RY05 in Unit 14B, then in RY11 in Unit 14A. Baiting for black bears is legal in both units from 15 April to 30 June. Hunters interested in taking bears over bait are required to be certified by the department.

Management Direction

Existing Wildlife Management Plans

- *Alaska Wildlife Management Plans: Susitna-Nelchina Black Bear Management Plan (*ADF&G 1976).

- *ADF&G Division of Wildlife Conservation Strategic Plan* (ADF&G 2002).

Goals

Since 1976 the management goal in Units 14A and 14B has been to provide the greatest opportunity possible to participate in hunting black bears. Given that the moose population has been historically below that management objective in Unit 14B, there is an incentive to reduce the number of black bears to increase moose calf survival.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game (board) has not made a determination for customary and traditional uses for black bear in Unit 14.

Intensive Management

Black bears have not been identified by the board as important for providing high levels of harvest for human consumptive use.

MANAGEMENT OBJECTIVES

1) Maintain a population of black bears in Units 14A and 14B largely unaffected by human harvest.

2) Provide liberal opportunities to hunt black bears by ensuring that the percentage of females in the harvest does not exceed 40% in any 3-year period.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Analyze harvest records for trends that would indicate a change in population status or composition.

Data Needs

Analysis of current harvest trends can indicate any possible changes in the population density in Units 14A and 14B. Large shifts in harvest or sex ratios of animals harvested can indicate the need for further examination of the black bear population and the need for season or bag limit changes in regulation.

Black bear population size or sex and age ratios have not been estimated through standardized sampling and analytical methods for Units 14A and 14B. Simple, repeatable, precise, and accurate surveys have not been developed to assess a cryptic population of animals in dense forest. Previous black bear population abundance estimates were based on modelling habitat and harvest trends by Griese (1999) and McDonough (2002).

Methods

Examine harvest data for changes in total harvest and percentage of females.

Results and Discussion

The RY13–RY17 average harvest (81 black bears) was similar to the previous 40-year average (RY73–RY12) of 79 black bears (Fig. 2). Percentage of females in the harvest decreased slightly, although not significantly over the same period of time (34% in RY13–RY17 versus 36%

averaged over the past 40 years). There is no biological concern for the black bear population in Units 14A and 14B.

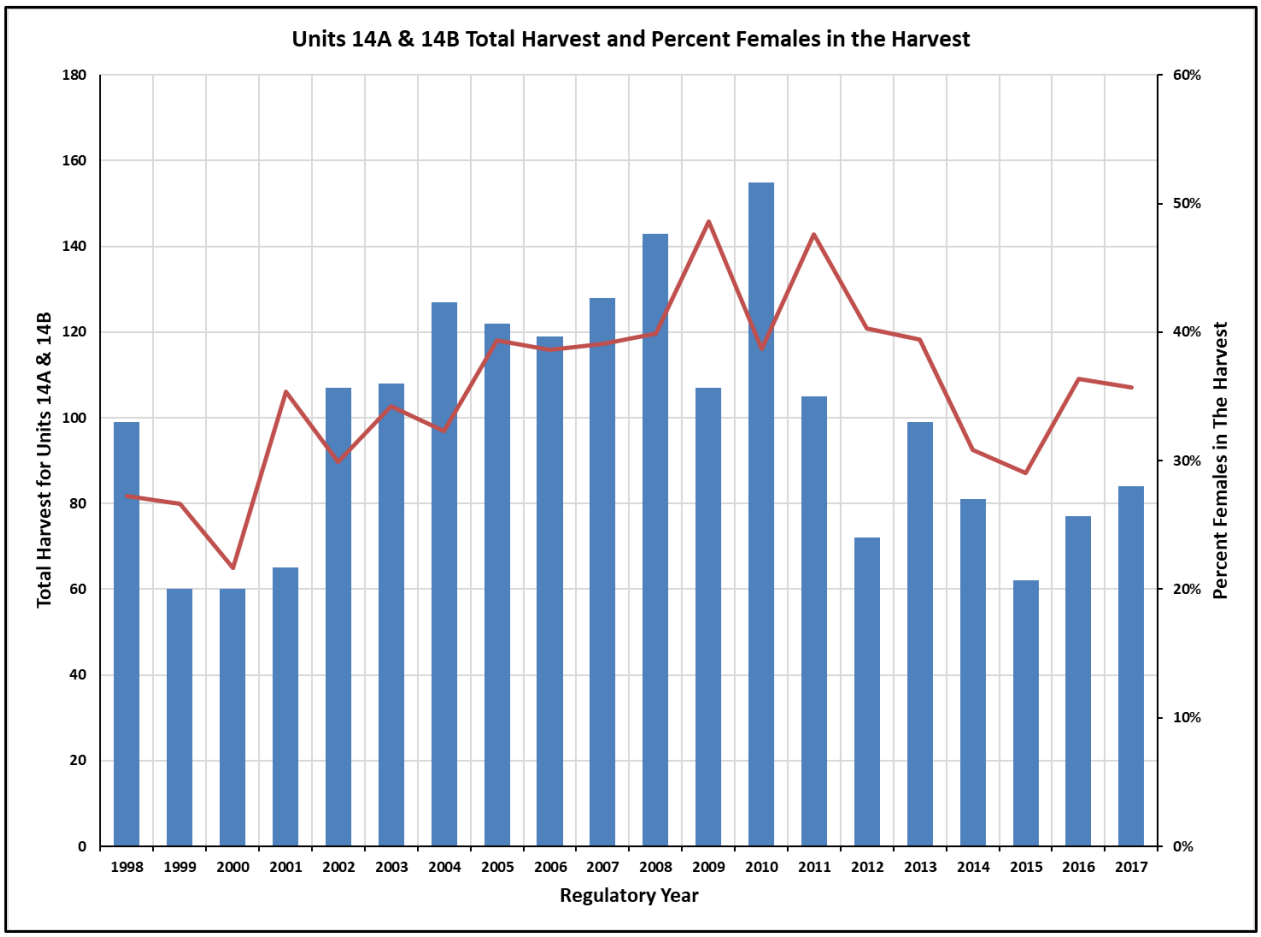

Figure 2. Black bear harvest (blue bars) and percentage of females (red line) harvested, Units 14A and 14B, Southcentral Alaska.

Recommendations for Activity 1.1

Continue.

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor harvest through sealing and harvest records.

Data Needs

Black bear harvest must be assessed to understand the potential effects of hunting and other mortality. These data inform black bear management.

Methods

Department staff monitored black bear mortality by collecting harvest information through the sealing of skulls and hides of bears taken by hunters or killed for other reasons (i.e., roadkill,

defense of life or property mortalities, etc.). During the sealing process skull measurements, sex identification, number of days hunted, method of take, location, and date of kill are recorded. Bears taken over bait, incidental harvest, and meat salvage were also noted on the sealing reports. To hunt bears over bait, hunters are required to have a bait station permit from the Alaska Department of Fish and Game with no more than 2 bait stations allowed per permit.

Harvest reports have been required for bears harvested in both Units 14A and 14B since RY09. Black bears were not required to be sealed in Unit 14B as of RY12. The transition from "sealing and harvest reporting" to "harvest reporting only" in Unit 14B has led to confusion among some hunters. As a result, in several instances bears were reported as harvested with no corresponding sealing records in Unit 14A. Also, several bears have been sealed with no corresponding harvest record. During RY13–RY17, area staff compiled data from both sealing and harvest records to ensure an accurate account of harvest in Units 14A and 14B.

Season and Bag Limit

During RY13–RY17 the annual limit on black bears was 3 bears per regulatory year in both Units 14A and 14B. There was no closed season in Units 14A or 14B. Baiting was allowed with a registration permit for the bait station in addition to a harvest ticket. Bear hunters wanting to use bait in Units 14A and 14B are also required to successfully complete a bear-bait hunting class. In recent years, this course has been offered online only.

Results and Discussion

Harvest by Hunters

Black bear harvest decreased in both Units 14A and 14B from RY08–RY12. Combined harvest from both units decreased to an average of 117 bears annually during RY13–RY17 from an average of 131 bears annually during RY08–RY12. The average annual percent of females in the harvest decreased in Unit 14A from 42% (RY08–RY12) to 35% (RY13–RY17) and in Unit 14B from 38% (RY08–RY12) to 32% (RY13–RY17; Tables 1 and 2).

Participation in bear baiting also decreased during the RY13–RY17 reporting period (Table 3). Total participants in both Units 14A and 14B decreased from an average of 248 hunters (RY08–RY12) to an average of 225 hunters in RY13–RY17. The total number of bait stations decreased from an average of 325 stations (RY08–RY12) to an average of 305 stations during RY13–RY17.

Table 1. Black bear harvest and reported nonhunting mortality, regulatory years 2013–2017 Unit 14A, Southcentral Alaska.

Regulatory	Reported hunter harvest					Reported nonhunting mortality[a]			Estimated unreported	Total harvest				
year	Male	Female	(%F)	Unk	Total	Male	Female	Unk	mortality[b]	Male	Female	(%F)	Unk	Total
2013														
Fall	9	9	(50)	0	18	0	0	0	2	9	9	(50)	2	20
Spring	48	25	(34)	1	74	1	0	0	7	49	25	(34)	8	82
Total	57	34	(37)	1	92	1	0	0	9	58	34	(37)	10	102
2014														
Fall	11	4	(27)	0	15	1	1	0	2	12	5	(29)	2	19
Spring	36	17	(32)	0	53	1	0	0	5	37	17	(31)	5	59
Total	47	21	(31)	0	68	2	1	0	7	49	22	(31)	7	78
2015														
Fall	7	6	(46)	0	13	0	0	0	1	7	6	(46)	1	14
Spring	26	12	(32)	0	38	0	0	0	4	26	12	(32)	4	42
Total	33	18	(35)	0	51	0	0	0	5	33	18	(35)	5	56
2016														
Fall	5	2	(29)	0	7	0	0	0	1	5	2	(29)	1	8
Spring	38	20	(34)	0	58	0	0	0	6	38	20	(34)	6	64
Total	43	22	(34)	0	65	0	0	0	7	43	22	(34)	7	72
2017														
Fall	13	8	(38)	0	21	3	0	0	2	16	8	(33)	2	26
Spring	31	20	(39)	0	51	0	0	0	5	31	20	(39)	5	56
Total	44	28	(39)	0	72	3	0	0	7	47	28	(37)	7	82

[a] Includes defense of life or property kills, illegal kills, and other known human-caused accidental mortality.
[b] Assumes approximately 10% of reported harvest.

Table 2. Black bear harvest and nonhunting mortality, regulatory years 2013–2017, Unit 14B, Southcentral Alaska.

Regulatory year	Reported hunter harvest					Nonhunting mortality[a]			Estimated unreported mortality[b]	Total harvest				Total mortality
	Male	Female	(%F)	Unk	Total	Male	Female	Unk		Male	Female	(%F)	Unk	
2013														
Fall	4	9	(69)	0	13	0	0	0	2	4	9	(69)	2	15
Spring	14	6	(30)	0	20	0	0	0	2	14	6	(30)	2	22
Total	18	15	(45)	0	33	0	0	0	3	18	15	(45)	3	35
2014														
Fall	13	6	(32)	0	19	0	0	0	2	13	6	(32)	2	21
Spring	14	3	(18)	0	17	0	0	0	2	14	3	(18)	2	19
Total	27	9	(25)	0	36	0	0	0	4	27	9	(25)	4	40
2015														
Fall	6	1	(14)	0	7	0	0	0	1	6	1	(14)	1	8
Spring	14	9	(39)	0	23	0	1	0	2	14	10	(42)	2	26
Total	20	10	(33)	0	30	0	1	0	3	20	11	(35)	3	34
2016														
Fall	5	0	(0)	0	5	0	0	0	1	5	0	(0)	1	6
Spring	21	11	(34)	0	32	0	0	0	3	21	11	(34)	3	35
Total	26	11	(30)	0	37	0	0	0	4	26	11	(30)	4	41
2017														
Fall	9	3	(25)	0	12	0	1	0	1	9	4	(31)	1	14
Spring	19	8	(30)	0	27	0	0	0	3	19	8	(30)	3	30
Total	28	11	(28)	0	39	0	1	0	4	28	12	(30)	4	44

[a] Includes defense of life or property kills, illegal kills, and other known human-caused accidental mortality.
[b] Assumes approximately 10% of reported harvest.

Table 3. Black bear hunter baiting participation, regulatory years 2013–2017, Units 14A and 14B, Southcentral Alaska.

		Number of stations registered	
Regulatory year	Number of permittees	Unit 14A	Unit 14B
2013	226	243	57
2014	242	277	59
2015	252	242	103
2016	200	161	100
2017	207	184	97

Hunter Residency and Success

Residents of Unit 14 took 86% of the harvest on average during RY13–RY17, an increase of 6% from the RY08–RY12 period. Nonresident hunter harvest represented 12% of the total reported black bear harvest in RY13–RY17, a decrease from 14% reported during RY08–RY12 (Table 4). Because both units have a multibear bag limit, success rates reflect the residency status of each bear sealed, and not each individual, successful hunter. This is because some hunters harvested more than 1 bear in a regulatory year. For example, if an individual hunter harvested 2 bears, this would be accounted for as 2, even if it is the same hunter who harvested both bears.

Table 4. Number of reported successful hunters by residency, regulatory years 2013–2017, Units 14A and 14B, Southcentral Alaska.

Regulatory year	Local[a] resident	Local (%)	Nonlocal[b] resident	Nonlocal (%)	Nonresident	Nonresident (%)	Total hunters
2013	106	(85)	2	(2)	17	(14)	125
2014	89	(86)	3	(3)	12	(12)	104
2015	74	(91)	1	(1)	6	(7)	81
2016	90	(88)	0	(0)	12	(12)	102
2017	93	(84)	2	(2)	16	(14)	111
Average	90	(86)	2	(2)	13	(12)	105

Note: Each bear sealed is counted as 1 successful hunter in this table. For example, an individual hunter that harvested 2 bears would be listed as 2 in this table, even if it is the same individual hunter who harvested both bears.

[a] Unit 14 residents (Units 14A, 14B, and 14C).

[b] Alaska resident that resides outside of Units 14A and 14B.

Harvest Chronology

Most black bears harvested in Units 14A and 14B are taken in the last 2 weeks of May and in June (Table 5). This coincides with the spring baiting period of April 15–June 30. The percentage of bears taken during the month of September (14%) during RY13–RY17 was less than during RY08–RY12 (17%). Black bear harvest in September is likely associated with both moose hunters taking bears opportunistically and hunters targeting black bears (Peltier 2014). Total participation in moose hunting in Units 14A and 14B also decreased from 4,044 in RY08–RY12 to 3,635 in RY13–RY17.

Table 5. Units 14A and 14B black bear reported hunter harvest chronology percent by month, regulatory years 2013 through 2017, Alaska.

Regulatory year	Jul–Aug	Sep 1–15	Sep 16–30	Oct	Nov–Mar	Apr	May 1–15	May 16–31	Jun	Unk	Total harvest
2013	8	5	9	2	1	3	4	25	41	2	125
2014	12	9	11	1	0	0	6	26	35	0	104
2015	6	9	6	2	0	4	14	30	28	1	81
2016	4	4	2	0	1	0	6	25	56	2	102
2017	8	5	14	1	0	0	1	16	51	4	111

Transport Methods

Most black bear hunters used all-terrain (ATV) or off-road (ORV) vehicles as their primary mode of transportation. Slightly more hunters used boats (13%) during RY13–RY17 compared to RY08–RY12 (11%).

Table 6. Units 14A and 14B black bear percentage of harvest by reported transport method, regulatory years 2013–2017, Alaska.

Regulatory year	Airplane	Horse	Boat	Snow-machine	ORV/ ATV[a]	Highway vehicle	Foot	Other / unknown	Total harvest
2013	9	0	12	0	52	20	7	0	125
2014	10	0	17	0	57	12	4	0	105
2015	13	0	6	0	69	7	5	0	81
2016	6	0	17	0	65	7	4	1	102
2017	11	0	14	0	51	15	6	3	111

[a] Off-road vehicle (ORV)/all-terrain vehicle (ATV).

Other Mortality

In Unit 14A a total of 7 black bears were sealed as nonhunting mortalities during RY13–RY17 compared to 9 in RY08–RY12. Nonhunting mortalities include defense of life or property (DLP) and bears killed in vehicle or train collisions. Sealing is no longer required in Unit 14B, so the only records of DLP mortalities in Unit 14B are reports received by the Palmer office. Road and rail kills may go unreported. There were 2 reported DLP kills in Unit 14B during RY13–RY17. Given that there is no closed season in either unit, other bears may have been taken through permitted hunting opportunities that could have otherwise been reported as DLPs.

Alaska Board of Game Actions and Emergency Orders

During the spring 2016 Board of Game meeting, the board allowed the use of furbearer carcasses as bear bait in all units open to bear baiting including Units 14A and 14B.

Recommendations for Activity 2.1

Continue.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

The expanding human population and its encroachment into bear habitat in the Units 14A and 14B are expected to result in more bear-human conflicts and more bears being killed. Because of the potential for increased bear-human conflicts in Unit 14, the department should continue providing the public information and how to coexist with bears (Peltier 2014).

Data Recording and Archiving

- Harvest data and copies of sealing forms are stored on an internal database housed on a server (http://winfonet.alaska.gov/index.cfm).

- Field data sheets are scanned and housed on the network server in the Palmer Area Biologist's office (O:\WC\Palmer Area Office Folder\Species\Furbearer\Scanned Archive Files) and stored in file folders located in the Palmer Assistant Area Biologist's office.

Conclusions and Management Recommendations

Bear harvest should continue to be monitored for indicators of undesirable effects of mortality on the black bear population, to project future trends, and to inform management decisions such as seasons and bag limits.

Harvest was higher in the 2000s, and during RY13–RY17 it returned to a similar level as what was recorded in the 1990s. Until recently black bear harvest in Unit 14B was encouraged, as it was believed that a reduction in the black bear density in Unit 14B would reduce predation on moose calves (Peltier 2014). The moose population in Unit 14B has been above its objective since 2019, and additional black bear harvest to address this issue may no longer be warranted.

It is difficult to derive an accurate estimate of the black bear population size and composition in Units 14A and 14B. Line transect work by DWC Biometrician Earl Becker in 2007 (unpublished) in Units 16 and 13 may provide valuable insight into how to calculate a more robust abundance estimate for Unit 14. Differences exist in habitat, development, and human population density; however, it is not possible to make a direct comparison based on estimated densities of those units. Nonetheless, a similar line-transect design over undeveloped lands in Units 14A and 14B could provide a baseline to determine future population trends.

II. Project Review and RY18–RY22 Plan

Review of Management Direction

Management Direction

The existing management direction and goals appropriately direct management of black bears in Units 14A and 14B. There is no indication that long-term sustainability of black bear populations or statewide goals (ADF&G 1976) for human uses cannot be met. Management direction in Units 14A and 14B should continue in a manner that complements statewide black bear management goals.

Goals

Provide the greatest opportunity possible to participate in hunting black bears in Units 14A and 14B.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game has not made a determination for customary and traditional uses for black bear in Unit 14.

Intensive Management

Black bears have not been identified by the board as important for providing high levels of harvest for human consumptive use.

MANAGEMENT OBJECTIVES

1) Maintain a population of black bears largely unaffected by human harvest.

2) Provide liberal opportunities to hunt black bears by ensuring that the percentage of females in the harvest does not exceed 40% in any 3-year period.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Analyze harvest records for trends that would indicate a change in population status or composition.

Data Needs

Analysis of current harvest trends can indicate any possible changes in the population density in Units 14A and 14B.

Methods

Examine harvest data for changes in total harvest and percentage of females.

2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor harvest through sealing and harvest records.

Data Needs

Black bear harvest must be assessed to understand the potential effects of hunting and other mortality. These data inform black bear management.

Methods

We will collect harvest data through harvest records and/or sealing records of black bears taken by hunters. We will record location and date of harvest, method of take, transportation mode, sex, and skull measurements of sealed animals. Bears taken over bait, incidental harvest, and meat salvage

will also be noted on the sealing reports. These data will be entered into ADF&G's Wildlife Information Network (WinfoNet).

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest data and copies of sealing forms will be stored on an internal database housed on a server (http://winfonet.alaska.gov/index.cfm).

- Field data sheets, appropriate defense of life and property reports, and other potential black bear data will be scanned and housed on the network server from the Palmer Area Biologist office (O:\WC\Palmer Area Office Folder\Species\Black bear\Scanned Archive Files) and stored in file folders located in the Palmer Assistant Area Biologist's office.

Agreements

None.

Permitting

None.

References Cited

Alaska Department of Fish and Game (ADF&G). 1976. Alaska wildlife management plans: A public proposal for the management of Alaska's wildlife: Southcentral Alaska. Draft proposal subsequently approved by the Alaska Board of Game. Division of Game, Federal Aid in Wildlife Restoration Project W-17-R, Juneau.

Alaska Department of Fish and Game. 2002. Strategic plan. Division of Wildlife Conservation. Juneau. http://www.adfg.alaska.gov/static/research/plans/pdfs/strategic_plan_wc_2002.pdf (Accessed 24 April 2017).

Battle, D., and J. Coltrane. 2014. Unit 14C black bear management report. Chapter 14, pages 141 through 14-10 [*In*] P. Harper, editor. 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.

Griese, H. J. 1999. Unit 14 black bear management report. Pages 124–136 [*In*] M. V. Hicks, editor. Black bear management report of survey-inventory activities 1 July 1995–30 June 1998. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration Grants W-24-4, W-24-5, and W-27-1, Study 17.0, Juneau.

McDonough, T. 2002. Unit 14 black bear management report. Pages 180–190 [*In*] C. Healy, editor. Black bear management report of survey and inventory activities 1 July 1998–30 June 2001. Alaska Department of Fish and Game, Division of Wildlife Conservation, Project 17.0, Juneau.

Peltier, T. 2011. Unit 14 black bear management report. Pages 174–184 [*In*] P. Harper, editor. Black bear management report of survey and inventory activities 1 July 2007–30 June 2010. Alaska Department of Fish and Game, Division of Wildlife Conservation, Project 17.0, Juneau.

Peltier, T. 2014. Unit 14A and 14B black bear management report. Chapter 13, pages 13-1 through 13-11 [*In*] P. Harper and Laura 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.


ALASKA
DEPARTMENT OF FISH AND GAME