Species Management Report and Plan ADF&G/DWC/SMR&P–2021–14

Black Bear Management Report and Plan, Game Management Units 19, 21A, and 21E:

Report Period 1 July 2013–30 June 2018, and

Plan Period 1 July 2018–30 June 2023

Jonathan S. Barton

2021

Alaska Department of Fish and Game Division of Wildlife Conservation

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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 Doreen Parker McNeill, Management Coordinator for the Division of Wildlife Conservation.

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Purpose of this Report

This report provides a record of survey and inventory management activities for black bears (*Ursus americanus*) in Units 19, 21A, and 21E for the 5 regulatory years 2013–2017 and plans for survey and inventory management activities in the following 5 regulatory years 2018–2023. 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 black bear management report of survey and inventory activities that was previously produced every 2 years and supersedes the 1976 draft management plans.

I. RY13–RY17 Management Report

Management Area

Units 19, 21A, and 21E are about 55,278 mi^2 in combined size. Unit 19 consists of 4 administrative units (19A, 19B, 19C, and 19D) totaling approximately 36,486 mi^2. Unit 19 includes all drainages that flow into the Kuskokwim River and upstream from a straight line drawn between Lower Kalskag and Paimiut. Unit 21A includes the Innoko River drainage upstream from and including the Iditarod River drainage. Unit 21E includes the Yukon River drainage from Paimiut upstream to, but not including, the Blackburn Creek drainage, and the Innoko River drainage downstream from the Iditarod River drainage. Units 21A and 21E encompass 18,792 mi^2. Lower elevation areas associated with boreal forest, riparian habitat, and river floodplains are prominent in Units 19A, 19D, 21A, and 21E . Higher elevation habitat, rolling hills, and mountainous terrain which dominate Units 19C and 19B are often used by black bears for seasonal foraging opportunities.

Summary of Status, Trend, Management Activities, and History of Black Bears in Units 19, 21A, and 21E

Black bears are distributed throughout Units 19A, 19B, 19C, 19D, 21A, and 21E, with bear densities and hunter interest varying among units. Hunting pressure and harvest is generally low in all Units for several reasons. The overall reported harvest is low because there are no sealing requirements for bears in any unit unless the untanned hide or skull is removed from Alaska, and within the management area, general season harvest tickets have only been required in Unit 19D, a requirement just recently established in regulatory year 2009.

Liberal bag limits and hunting regulations have evolved primarily through the development and implementation of intensive management (IM) plans and associated research in Units 19A and 19D. These actions were taken to increase harvest of black bears with the intent of improving moose calf survival.

In 2001 the department established the experimental micromanagement area (EMMA) surrounding McGrath (528 mi^2, Fig. 1). The purpose of this area was to focus predator management around McGrath to provide more moose for subsistence harvest opportunity. This area, renamed the bear control focus area (BCFA), encompasses the highest density of moose in Unit 19D East (the Kuskokwim River drainage upstream from the Selatna and Black River drainages, Fig. 1) and was established as a treatment area where predator population manipulations could be tested. This included capture and removal of black bears in 2003 and 2004 by department personnel and public bear control during regulatory years 2006–2013.

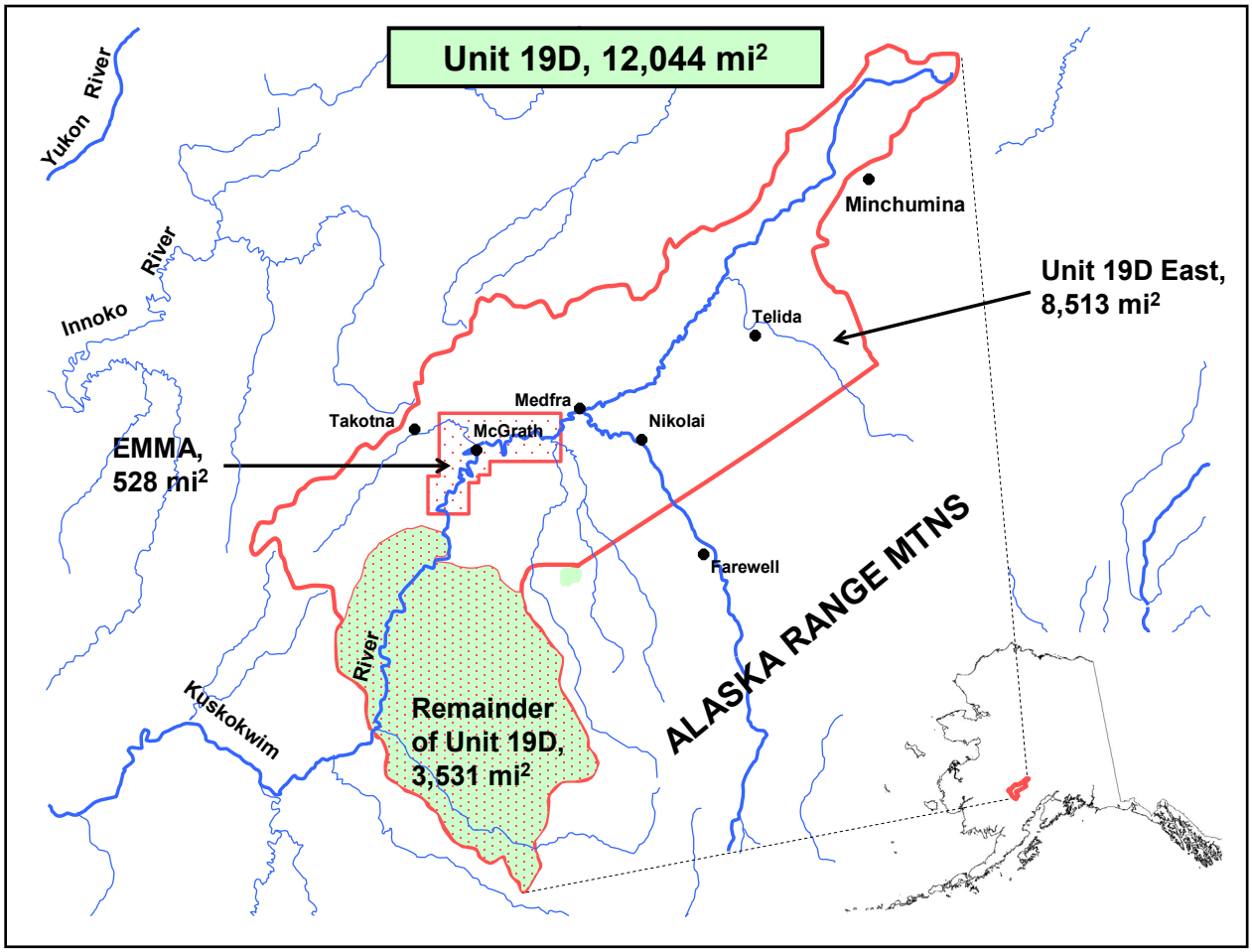

Figure 1. Detailed area map showing the experimental micromanagement area (EMMA), Unit 19D East, and the remainder of Unit 19D, Unit 19D, Alaska.

Studies completed in the McGrath BCFA indicated that black bears are a significant source of moose calf mortality in Unit 19D East (Keech et al. 2011), and there was an improvement in moose calf survival following bear removals (Keech 2012). As a result of the research done in 19D, in RY12 a 534 mi^2 BCFA was also added to the Unit 19A intensive management plan (Fig. 2). Following the establishment of the BCFA in Unit 19A, department-sponsored bear removals were conducted in May 2013 and May 2014.

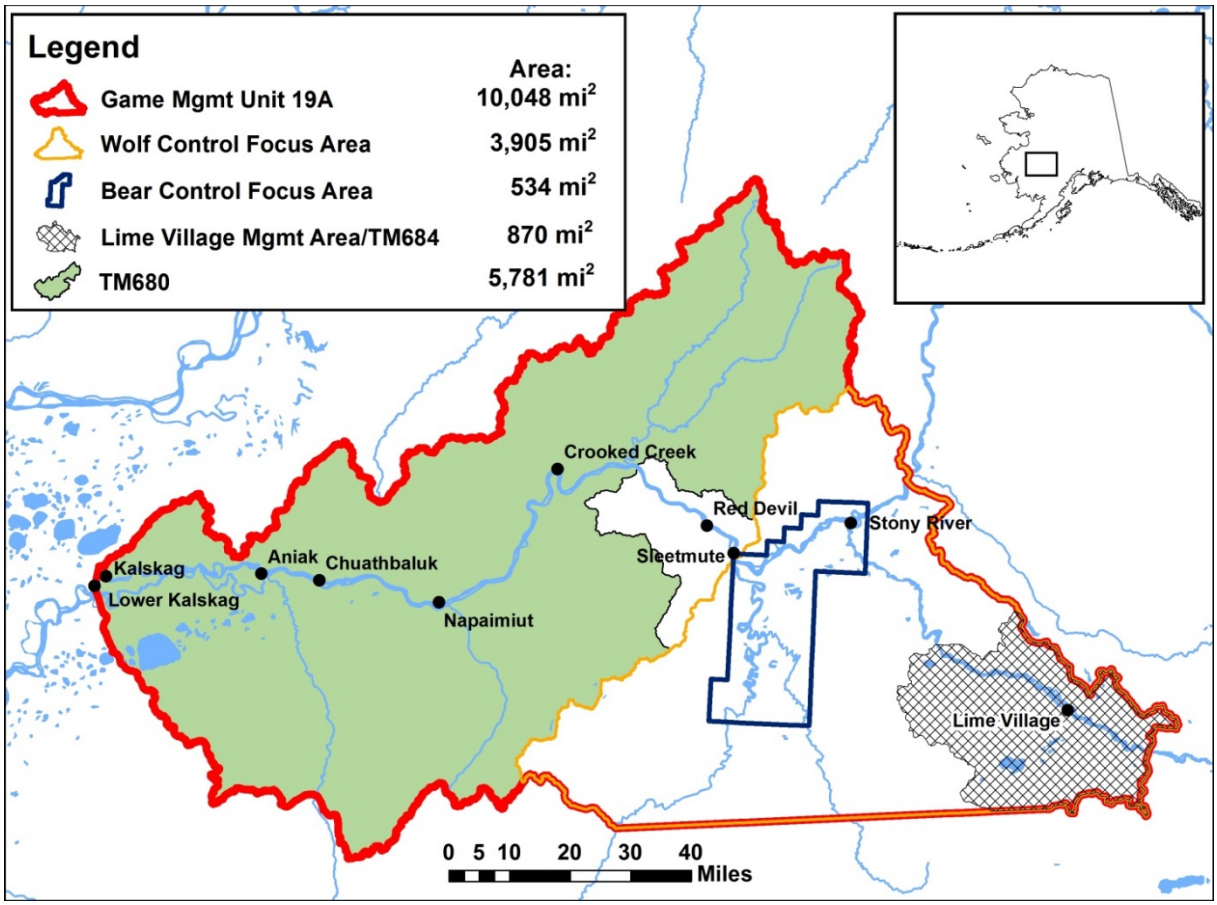

Figure 2. Unit 19A, the wolf control focus area (WCFA), the bear control focus area (BCFA), the Lime Village management area (LVMA), and Tier II moose hunts (TM680 and TM684).

Black bear populations have been difficult to estimate with the limited data received from harvest reporting and surveys. Methods for black bear population estimates are described by Boudreau (2005) and are based on known bear densities (Miller et al. 1997) in similar habitats in other game management units in Interior Alaska. Based on Boudreau's (2005) estimates and subtracting the portion of Unit 21A transferred to Unit 21B in RY06, the black bear population for the entire 55,278 mi^2 management area is estimated to be 8,300–16,600 black bears, based on overall densities of 15–30 bears/100 mi^2. The population has probably been stable or slowly increasing since 1995, based on local observations.

Peirce (2008) estimated Unit 21A to have 2,325–2,775 black bears and Boudreau (2005) estimated 1,900–2,275 black bears in Unit 21E.

Population surveys have been conducted only in the BCFA portions of Units 19A and Unit 19D. However, Boudreau (2005) estimated the entire Unit 19 black bear population to be 7,700–9,235 bears and further separated this estimate as 2,475–2,970 black bears in Unit 19A, 1,250–1,500 in Unit 19B, 975–1,165 in Unit 19C, and 3,000–6,000 in Unit 19D.

In RY16 a population estimate was completed in the Unit 19D BCFA as part of an investigation into the effects of predator reductions on moose abundance. Based on the preliminary model from this survey the estimate was about 97 bears in the 19D BCFA (Caudill 2016).

Management Direction

Existing Wildlife Management Plans

The current wildlife management plan and direction for black bears in Units 19, 21A, and 21E carries over from previous department management practices outlined in the department's management report series, public comments, and Board of Game (BOG) actions. Additionally, The Operational Plan for Intensive Management of Moose in Game Management Unit 19A (ADF&G 2014) and The Operational Plan for Intensive Management of Moose in Game Management Unit 19D (ADF&G 2014) helped guide black bear harvest objectives in Unit 19 intensive management areas.

Goals

G1. Provide for the opportunity to harvest black bears sustainably.

Codified Objectives

Amounts Reasonably Necessary for Subsistence Uses

C1. Unit 19 has a positive finding for customary and traditional uses for black bear, and the amounts reasonably necessary for subsistence uses is set at 30–50 bears for the unitwide population on an annual basis.

C2. Unit 21 has a positive finding for customary and traditional uses for black bear. There is no amount reasonably necessary for subsistence use in this Unit.

Intensive Management

C3. If bear control becomes activated within the BCFAs of either Unit 19A or Unit 19D, the population objective is to reduce black bear numbers to the lowest level possible.

Management Objectives

M1. Maintain reported harvest of at least 30 back bears in Unit 19D East as part of the intensive management program.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Conduct department-sponsored bear control.

Data Needs

Department-conducted bear control has proven to be the most effective way to reduce bear populations within the BCFA to encourage moose population growth (Peirce 2014).

Methods

To remain proactive and ensure moose densities do not fall too low, a 1- to 2-year department-conducted bear control effort may be conducted if a geospatial population estimator (GSPE) point in either the Unit 19A or Unit 19D BCFA indicates that the moose density is <1.2 moose/mi^2 and the 2-year average twinning rates are >20%. All GSPE surveys will be designed to achieve precision of at least ±20% at a 90% confidence interval, but actual precision will vary with survey conditions and funding. Bear control will be conducted with the aid of aircraft and helicopters.

Results and Discussion

The last department-controlled bear removal effort in the 19A BCFA ended 30 June 2014 (RY13). The department removed bears in May 2013 and May 2014.

In May 2013, the department removed 84 independent black bears from the Unit 19A BCFA. Eight females with cubs of the year were also located, but not removed. Four of these females had 3 cubs each, 2 of them had 4 cubs, and 2 of them had 2 cubs. Results from the removal estimate suggest there were 94 (standard error (SE) = 1.9; 95% confidence interval (CI) = 92, 102) independent bears within BCFA. This removal represents an approximately 89% removal (84 bears of 94 bears total) during year one of the effort.

In May 2014 (RY13) the department removed 54 black bears from the Unit 19A BCFA. Of these 37 were independent bears (21 males, 16 females), 14 yearlings (10 litters), and 3 cubs of the year (single litter). We anticipated obtaining a black bear estimate in 2014; but decreased sightability due to leaf emergence prevented an estimate from being obtained in 2014.

Cub survival appears to have been high between 2013 and 2014. In 2013, we found 8 sows with a combined 15 cubs of the year. In 2014, 10 sows and 14 yearlings were dispatched, and 2 other yearlings were seen, but not dispatched.

Demography and diet of black bears was investigated during the bear control efforts in Unit 19A. The research described the age, sex, skull size, and female lactation of black bears lethally removed during May 2013 and May 2014. Using stable isotope analysis, an attempt was made to infer bear diet composition of moose calves, but inability to discern signatures of adult moose tissue from calf moose tissue removed the possibility to analyze bear diet in relation to calf predation (T. Paragi Wildlife Biologist, ADF&G unpublished memorandum, 2016, Fairbanks).

Overall, department-controlled bear removal proved to be extremely effective and well supported by locals.

Recommendations for Activity 1.1

Intensive management has been reauthorized for Unit 19 but is currently not active. This activity should continue if moose population density and twinning data dictates necessity as highlighted under the intensive management plan guidelines previously mentioned.

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor and analyze harvest data.

Data Needs

Bear sealing is not required in any Unit unless the untanned hide and skull are removed from Alaska. The only area currently in regulation that requires a harvest ticket for general season black bear hunts is Unit 19D. Harvest reports and sealing helps us monitor black bear populations and harvest in relation to intensive management objectives within Units 19D and 19A.

Methods

Season and Bag Limit

Unit	Bag limit	Season[1]	Baiting season[1]
Units 19B, 19C, 21A, and 21E	3 bears	No closed season	15 Apr–30 Jun
Unit 19D East	5 bears	No closed season	15 Apr–30 Jun 1 Aug–30 Sep
Units 19A and 19D, remainder	5 bears	No closed season	15 Apr–30 Jun

[1] Seasons are for both residents and nonresidents.

Results and Discussion

Harvest by Hunters

During RY13–RY17, 293 black bears were taken by hunters in Units 19, 21A, and 21E (Table 1). On average 68% of these bears were males. Ninety-one of these bears were harvested in Unit 19D (where sealing or a harvest ticket was required). This has increased considerably from the previous reporting period, most likely due to a poor berry year in 2014 where bears were easier to harvest close to the rivers. Most hunter reported black bear harvest was from Units 19B and 19C, where sealing is not a requirement unless the hide and skull are removed from Alaska (Table 2). The exception was in RY13 where 19A recorded the most harvest due to department-sponsored bear control in BCFA. Units 19B and 19C have a high percentage of nonresident hunters who seal bears to transport them home. During RY13–RY17, only 2 defense of life or property bear kills were reported. It is highly likely that additional nuisance bears were killed at fish camps or by local residents that were not reported.

Table 1. Reported black bear harvest by type of kill in Units 19, 21A, and 21E, Alaska, regulatory years 2013–2017.

Regulatory	Hunter kill				Nonhunting kill				Total reported kill					
year	Male	Female	Unk	Total	M	F	Unk	Total	M	(%)	F	(%)	Unk (%)	Total
2013	20	14	1	35	35	25	0	60	55	(57)	39	(41)	1 (1)	95
2014	51	24	6	81	2	0	0	2	53	(64)	24	(29)	6 (7)	83
2015	29	10	4	43	0	0	0	0	29	(67)	10	(23)	4 (9)	43
2016	26	7	2	35	0	0	0	0	26	(74)	7	(20)	2 (6)	35
2017	29	7	1	37	0	0	0	0	29	(78)	7	(19)	1 (3)	37
Total	155	62	14	231	37	25	0	62	192	(66)	87	(30)	14 (4)	293

Table 2. Reported black bear harvest by unit, Units 19, 21A, and 21E, Alaska, regulatory years 2013–2017.

Regulatory	Unit							
year	19A	19B	19C	19D	19 Unknown	21A	21E	Total
2013	56[a]	9	10	15[b]	0	1	4	95
2014	10	6	19	43	0	4	1	83
2015	5	14	16	6	0	1	1	43
2016	4	6	13	11	0	0	1	35
2017	1	9	10	16	0	0	1	37
Total	76	44	68	91	0	6	8	293
Average/year	15	9	14	18	0	1	2	59

Note: This table includes both bears taken under defense of life or property regulations and those taken during predation control.

[a] ADFG sponsored predator control accounted for 54 bears taken in 19A during the spring of 2013.

[b] Predator Control ended in Unit 19D East in RY13. Only 6 bears were taken under the predator control permit. Sealing was required for all bears if the hide or skull was going to be sold and for any untanned hides and skulls removed from the state of Alaska.

Harvest by Bear Control.

The Unit 19D public bear control program ended at the end on 30 June 2014. During that year, only 4 black bears were taken under the predator control permits (ML301). Interest was high but participation remained low and overall, this program has been ineffective at reducing predation on moose calves (Peirce 2014). In May 2013, 54 individual bears were removed from the Unit 19A BCFA as part of a department-conducted bear control program. All bear control activities are authorized but inactive to date.

Harvest Chronology

Harvest reporting was greatest in the fall primarily due to nonresident hunters who had their bears sealed in order to take the hides and skulls out of Alaska (Table 3). There was likely unreported harvest of bears by residents during spring and summer.

Table 3. Units 19, 21A, and 21E black bear harvest chronology, regulatory years 2013–2017, Alaska.

Regulatory	Month									Unk/	
year	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	other	Total
2013	0	0	56	7	0	8	21	1	0	2	95
2014	0	0	15	2	0	35	28	0	0	3	83
2015	0	1	1	2	1	10	28	0	0	0	43
2016	0	0	7	1	1	6	19	0	0	1	35
2017	0	0	3	3	4	13	13	1	0	0	37

Note: Includes bears taken under defense of life or property (DLP) regulations and those taken during predation control.

Other Mortality

There were only 2 reports of defense of life or property (DLP) mortalities (Table 1). Both were males taken in 2014 (1 in Unit 19C and 1 in Unit 19D).

Alaska Board of Game Actions and Emergency Orders

No emergency orders were issued for any units in this area during the report period (RY13–RY17). Since RY03, the Alaska Board of Game (board) has made several major changes to black bear regulations, which are listed below.

Regulatory year 2003

The board increased the hunting bag limit from 3 to 5 bears in Unit 19D upstream from the Selatna and Black rivers, but the additional 2 bears required a registration permit (RL338).

Regulatory years 2004 and 2005

No changes.

Regulatory year 2006

HUNTING CHANGES

The board eliminated registration permit hunt RL338 in Unit 19D, expanded the 5-bear bag limit to all of Unit 19D under general season hunting regulations, and increased the Unit 19A general season bag limit to 5 bears. The board legalized same-day-airborne black bear hunting at bait stations in the Unit 19A and Unit 19D East wolf control areas provided that hunters were at least 300 feet from the airplane; and also allowed snowmachines to be used to position hunters to select individual bears for harvest. Sale of untanned black bear hides (with claws attached) and skulls of bears taken by hunting or by predation control in active predation control areas (including wolf control areas) was allowed after sealing.

PREDATION CONTROL CHANGES

The predation control implementation plan for Unit 19D was updated to establish a black (and brown) bear predation control plan within BCFA, allowing predation control permittees to take an unlimited number of black bears and register up to 10 bait stations. However, neither females with cubs nor cubs were allowed to be taken under predation control. Same-day-airborne access was allowed at bait stations, provided permittees were at least 300 feet from the airplane.

Regulatory years 2007 and 2008

No changes.

Regulatory year 2009

HUNTING CHANGES

The board also passed regulations that required a harvest ticket prior to hunting black bear in Unit 19D. The board also allowed resident hunters to use artificial light at den sites during 15 October–30 April in order to take black bears from dens; this change took place in many units, including Units 19A and 19D East, and required that meat be salvaged. The prohibition of taking cubs and females with cubs was also lifted for this traditional-use activity in case a female with cubs was encountered. The Alaska Department of Law clarified that taking bears from dens had not been previously prohibited, just the taking of cubs and females with cubs and the use of artificial light was previously prohibited.

PREDATION CONTROL CHANGES

The board clarified that black bears (or brown bears) taken under a predation control permit in Unit 19D did not count towards the statewide bag limit in other units of the Alaska. The predation control implementation plan for Unit 19D was updated to allow permittees to take any bear including cubs and females with cubs; same-day-airborne provided that permittees were at least 300 feet from the airplane; the use of bucket-style foot snares; and the expanded legal sale of hides (tanned or untanned).

Regulatory year 2010

HUNTING CHANGES

In January 2010, the board classified black bears both as furbearers as well as big game. Although the board did not open a black bear trapping season, this furbearer classification and other regulatory changes allows hunters to legally sell black bear hides and parts of bears, except gall bladders. The board subsequently amended this regulation so that sale of black bear meat remained illegal. Effective April 2011, regulations allowed registered guides in many units, including Units 19, 21A, and 21E, to register up to 10 bait stations at a time and to personally, or through a licensed class-A assistant or assistant guides, establish and maintain up to 10 bait stations simultaneously, provided that a signed guide-client agreement is used for each hunter that uses any of the sites. The board also eliminated the sealing requirements in Unit 19D and changed salvage requirements to require hunters to salvage either the hide or meat with no requirement to salvage the skull. Sealing requirements remained in place for any black bear hides or skulls sold or removed from Alaska.

Regulatory year 2011

No changes.

Regulatory year 2012

PREDATION CONTROL CHANGES

The intensive management plan for Unit 19A was updated to include a 534 mi^2 BCFA. Within this small area the department was authorized by the board to lethally remove bears with the use of fixed-wing aircraft and helicopters.

Regulatory year 2013

No changes.

Regulatory year 2014

PREDATION CONTROL CHANGES

The intensive management plan for Unit 19A was updated and reauthorized for 6 years, including bear removals from within BCFA if moose densities fall below 1.2 moose/mi^2 within BCFA. The intensive management plan for Unit 19D was also updated and reauthorized for 6 years. Amendments to the plan included elimination of public bear control beginning in RY14 and the addition of department-conducted bear control if moose densities fall below 1.2 moose/mi^2 within BCFA.

Monitoring harvest in the McGrath management area is difficult because hunters are not required to report their harvest. Except for the sealing of raw bear hides and skulls that will be removed from Alaska, and general season harvest tickets for Unit19D, a large portion of harvested black bears is likely unrecorded. The changes in sealing requirements by regulation over years and the liberalization of regulations have made evaluation of actual harvest challenging.

It is difficult for many residents of villages to get bears sealed from an authorized state sealer once a bear is harvested, which has also contributed to relaxed reporting regulations.

Additionally, in some circumstances obtaining harvest tickets can be difficult in the more remote locations.

The majority of sealing occurs from nonresidents or guided hunters who wish to transport their bears outside Alaska.

Recommendations for Activity 2.1

We will continue to collect and record harvest data and sealing records to help evaluate black bear populations where data are available.

3. Habitat Assessment-Enhancement

There are no activities being conducted to assess or advance habitat, and there are no changes in the upcoming report to this activity. Habitat monitoring and assessment for black bears is an extremely low priority as there are no indications that habitat is a limiting factor to population health.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest, capture, and survey data will be stored on an internal database housed on ADF&G's Wildlife Information Network (WinfoNet) server (http://winfonet.alaska.gov/index.cfm) and archived in WinfoNet under Harvest Information and Survey and Inventory Tools.

- Capture records, survey memoranda, reports, and other pertinent electronic survey and inventory information will be archived in the WinfoNet data archive. Project Title: McGrath Area Office.

- All hard copy data sheets, paper files, etc. are found in a file cabinet in the McGrath regional office.

Agreements

There are currently no agreements.

Permitting

None.

Conclusions and Management Recommendations

During RY13–RY17 we did not meet our management objective to maintain an annual reported harvest of at least 30 black bears in Unit 19D East as part of the intensive management program (Table 2). The Unit 19D public bear predation control program ended on 30 June 2014 and had limited success. There were ample opportunities to harvest black bears, including same-day-

airborne, liberal hunting bag limits, as well as foot-snaring with a control permit; however, participation among local residents was low. Although there may be a steep learning curve for the first few years, several hurdles exist that may prevent this program from becoming successful enough to reduce predation on moose calves in the future. Gasoline prices are high and daily trap checks required for foot-snaring were time-consuming. Predation control trappers quickly become saturated with bear meat after only 1 or 2 bears, and hides taken in midsummer are of poor quality. These factors combined are likely reasons harvest remained low (Peirce 2014).

Department-conducted bear control has proven to be much more successful. In both Units 19A and Unit 19D the department removed a large percentage of bears using aircraft and helicopters in a relatively short time (about 2 weeks). Using department aircraft, we also distributed all the black bear meat to Unit 19A villages in May of 2013 and 2014. The meat was well cared for and well received in local villages. This was a highly successful aspect of this project and generated a tremendous amount of local support. These efforts are extremely expensive and future bear control programs will be highly dependent upon supplemental funding. Additionally, these programs required a high level of support from regional staff. The Unit 19A program drew staff from multiple offices and had a large impact on other survey activities. If predator control is required for future management efforts, then these considerations may be important.

Liberal hunting seasons have not resulted in higher harvest. Most black bear harvest in Units 19A and 19D was opportunistic and current bag limits appeared to be sufficient to allow hunters to take as many black bears as they want.

II. Project Review and RY18–RY23 Plan

Review of Management Direction

Management Direction

There are no changes in the management direction for black bears in Units 19, 21A, and 21E. We will continue to provide harvest opportunity for black bears and monitor their populations to aid in the evaluation of the ongoing predator control programs in Units 19A and 19D.

Goals

The current goals for Unit 19, 21A, and 21E are appropriate and will remain unchanged. Specifically, the goal will remain as:

G1. Provide for the opportunity to harvest black bears sustainably.

Codified Objectives

Amounts Reasonably Necessary for Subsistence Uses

C1. Unit 19 has a positive finding for customary and traditional uses for black bear and amounts reasonably necessary for subsistence uses is set at 30–50 bears for the unitwide population on an annual basis.

C2. Unit 21 has a positive finding for customary and traditional uses for black bear. There is no amount reasonably necessary for subsistence use in this Unit.

Intensive Management

C3. If bear control becomes activated within BCFAs of either Unit 19A or Unit 19D, the population objective is to reduce black bear numbers to the lowest level possible.

MANAGEMENT OBJECTIVES

Because intensive management is approved but not active, our objective of maintaining harvest of at least 30 bears in 19D East will no longer be applicable. Goals M2 and M3 are new for this plan period (RY18–RY23).

M1. Evaluate black bear populations within the 19A BCFA as time and funding allow to aid in ungulate population management.

M2. Monitor black bear harvest, including bears taken in defense of life and property (DLP).

M3. Engage in public outreach to understand human-bear conflicts and concerns.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Conduct a Unit 19A population estimate within the BCFA (M1).

Data Needs

Monitoring the recovery and speed at which bear populations return from post-control population levels provides information to assist in evaluating the ongoing predator control program in Unit 19A.

Methods

We plan on using mark-resight techniques (Keech 2012) to estimate black bear abundance within the 19A BCFA and monitor recovery after 2013 and 2014 department-sponsored bear removals. This is slated to occur during May 2019 and May 2020.

In May 2019, we will capture and collar black bears with VHF radio collars. We will collar up to 40 black bears, which represents roughly 30% of a potential population that may be as high as 120 independent bears. Once bears have been captured and released in 2019, a follow up aerial mark-resight survey based on Lincoln-Peterson methods will be conducted in spring 2020. During this survey, aircraft will be used to visually locate black bears in designated survey plots. Once bears have been located, radio telemetry will be used to verify if the individual was "marked" with a VHF collar from the previous 2019 captures. These ratios will provide us with an abundance estimate for the area.

2. Mortality, Harvest Monitoring, and Regulations

ACTIVITY 2.1. Monitor and analyze harvest data (M2).

Data Needs

Bear sealing is not required in any unit unless the untanned hide and skull are removed from Alaska. Unit 19D is the only area currently in regulation that requires a harvest ticket for general season black bear hunts. Harvest tickets and opportunistic sealing, mostly conducted for nonresidents, helps us monitor black bear populations and harvest in relation to intensive management objectives within Units 19D and 19A.

Methods

Bear sealing data and harvest ticket reports are collected from hunters and archived in the ADF&G's WinfoNet database.

3. Habitat Assessment-Enhancement

ACTIVITY 3.1. There are no scheduled habitat assessment or enhancement activities.

There are no activities that will be conducted to assess or advance habitat. Habitat monitoring and assessment for black bears is low priority as there are no indications that habitat is a limiting factor to black bear abundance.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest, capture, and survey data will be stored on an internal database housed on ADF&G's Wildlife Information Network (WinfoNet) server (http://winfonet.alaska.gov/index.cfm) and archived in WinfoNet under Harvest Information and Survey and Inventory Tools.

- All hard copy data sheets, paper files, et cetera are found in a file cabinet in the McGrath regional office.

- Capture records, survey memoranda, reports, and other pertinent electronic survey and inventory information will be archived in the WinfoNet data archive (project title: McGrath Area Office).

Agreements

None.

Permitting

None.

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