Species Management Report and Plan ADF&G/DWC/SMR&P–2025–35

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

Report Period 1 July 2014–30 June 2019, and

Plan Period 1 July 2019–30 June 2024

Jonathan S. Barton

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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 Jason Caikoski, Management Coordinator for Region III 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 brown bear (*Ursus arctos*) in Game Management Units 19, 21A, and 21E for the 5 regulatory years 2014–2018, and plans for survey and inventory management activities in the next 5 regulatory years, 2019–2023. A regulatory year (RY) begins 1 July and ends 30 June (e.g., RY15 = 1 July 2015–30 June 2016). This report is produced primarily to provide agency staff with data and analysis to help guide and record agency efforts but is also provided to the public to inform it of wildlife management activities. In 2016 the Alaska Department of Fish and Game's (ADF&G, the department) Division of Wildlife Conservation (DWC) launched this 5-year report to report more efficiently on trends and to describe potential changes in data collection activities over the next 5 years. It replaces the brown bear management report of survey and inventory activities that was previously produced every 2 years.

I. RY14–RY18 Management Report

Management Area

Units 19, 21A, and 21E include drainages of the Kuskokwim River upstream from the community of Lower Kalskag, the Yukon River drainage from Paimiut upstream to but not including the Blackburn Creek drainage, and the entire Innoko River drainage. This area encompasses about 55,278 mi^2 in Interior Alaska.

Summary of Status, Trend, Management Activities, and History of Brown Bear in Units 19, 21A, and 21E

Brown bears, also known as grizzly bears in noncoastal regions, are widely distributed throughout Units 19, 21A, and 21E. Brown bear densities and hunter interest vary among units. Most brown bear harvest occurs within Units 19B and 19C and is generally lower in surrounding areas.

Population surveys have not been conducted in these units and estimates of bear numbers are based on known bear densities in similar habitats (Miller et al. 1997). It is estimated that there are around 900–1,250 brown bears in Unit 19 and around 390 bears in Units 21A and 21E combined (Pegau and Osborne 1987, Boudreau 2005, Seavoy 2015).

In 2001 the department established an experimental micromanagement area (EMMA; Fig. 1) to focus predator control and associated management efforts in a relatively small area and to conduct research on the efficacy of predator control (ADF&G 2009). In addition to harvest by hunters, this included capture and relocation of black and brown bears (Keech et al. 2011). The EMMA was created within an approximately 20-mile radius of McGrath (528 mi^2), an area which includes the highest density of moose in Unit 19D.

In 2009 the Board of Game (board) reauthorized the Unit 19D East predation control implementation plan, and the EMMA was renamed the bear control focus area (BCFA; Fig. 2).

BCFA was a 534 mi^2 area around McGrath and contained portions of the Holitna, Hoholitna, Stony, and Kuskokwim river drainages.

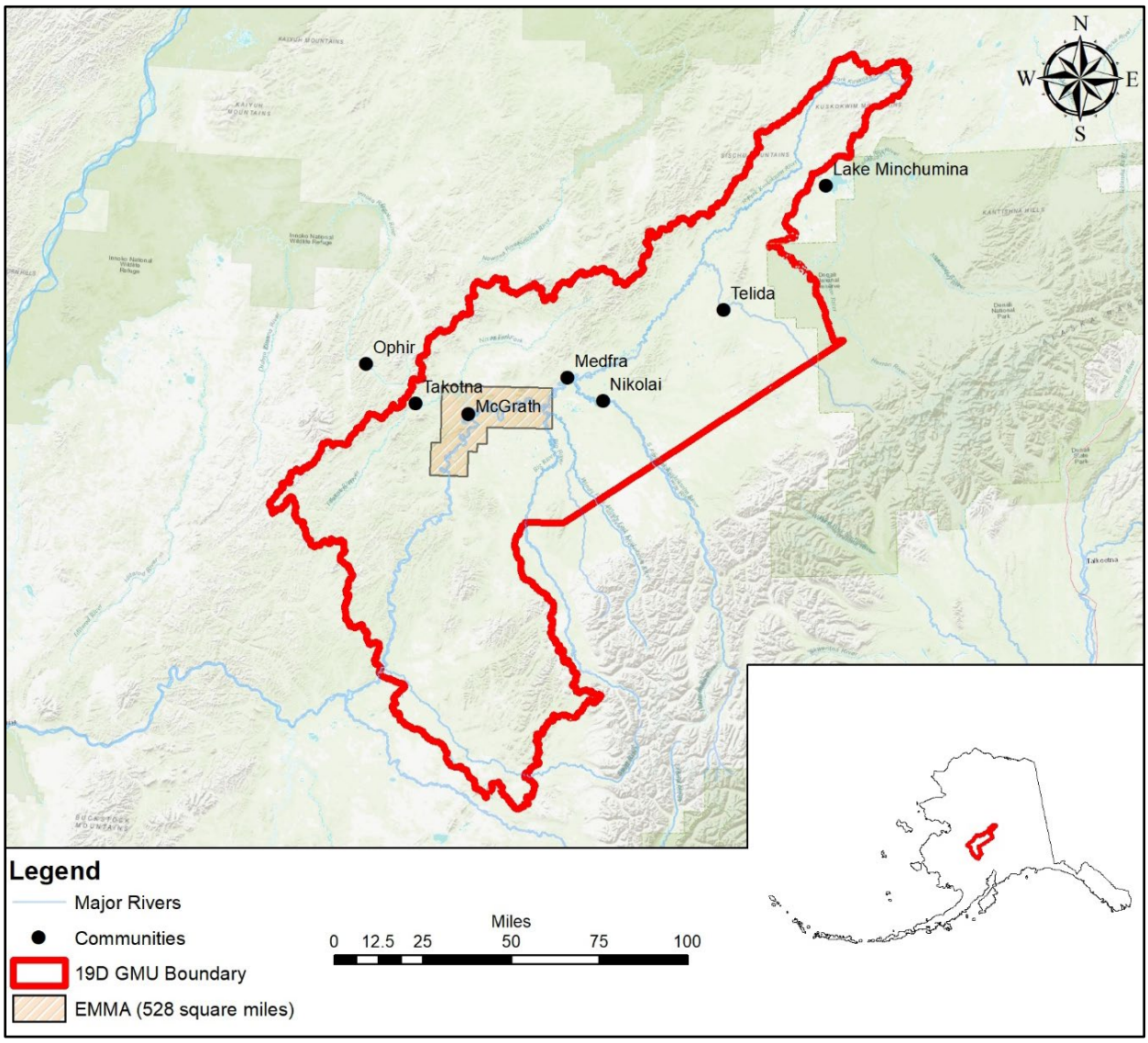

Figure 1. Unit 19D and experimental micromanagement area (EMMA) for predator control, Interior Alaska, regulatory years 2014–2018.

The project was intended to study the effects of predator management on animals such as black bears and wolves, to increase the number and harvest of moose in the unit, and to reduce brown (and black) bear predation on moose calves. The program was approved by the board at the request of local hunters concerned about low moose numbers. Department-sponsored lethal predator control was conducted in Unit 19A during May 2013 (RY12) and May 2014 (RY13) for black and brown bears; results are summarized by Seavoy (2015). In RY14 the board suspended public bear control but provided the option for department-sponsored bear control in the instance that moose abundance and harvest criteria warrant such efforts.

Within RY14–RY18, Unit 19D experienced an increase in brown bear sightings closer to McGrath. More frequent sightings of brown bears near town are being reported by locals engaged in other activities around the area. Public anecdotes suggest this is an increase from previous years and resembles patterns from prior to bear control in the EMMA. Despite these increased sightings, brown bear harvest in Unit 19D has remained consistent over the last 10 years at an average of 4 brown bears harvested per year.

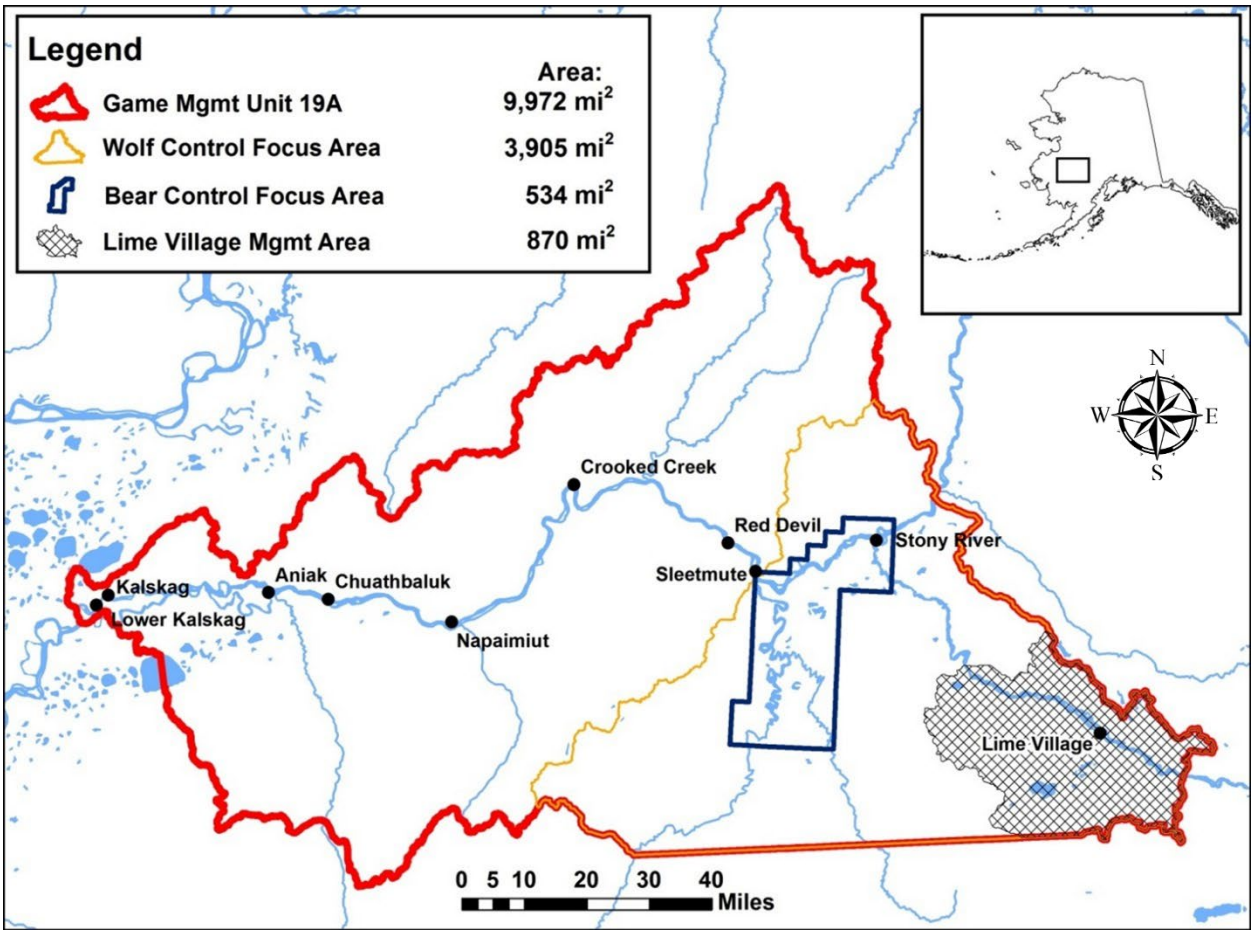

Figure 2. Unit 19A and bear control focus area, Interior Alaska, regulatory years 2014–2018.

Most brown bear harvest is opportunistic in Unit 19D; in Units 19A, 19B, and 19C, they have historically been targeted more directly for harvest. In Unit 19C nonresidents contract guides for opportunities to take brown bears directly, or to take them indirectly through other hunts such as moose and sheep hunts.

In Units 21A and 21E, brown bear harvest is generally opportunistic. Brown bears obtained by nonresidents in these units are commonly harvested while the hunter is engaged in guided moose hunts. Residents in and around the communities of Unit 21E will most commonly harvest brown bears while conducting other activities such as moose hunting or fishing.

Management Direction

Existing Wildlife Management Plans

The current wildlife management plan and direction for brown 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 actions.

Goals

G1. Unit 19D East and BCFA:

- Maintain brown bears as a viable part of the natural ecosystem in Unit 19D East.
- Reduce brown bear populations as low as possible within BCFA.

G2. Units 19A, 19D remainder, 21A, and 21E: Provide the greatest sustained opportunity to hunt brown bears.

G3. Units 19B and 19C:

- Provide the opportunity to take large brown bears.
- Provide the opportunity to hunt brown bears under aesthetically pleasing conditions.

G4. Western portion of Units 19A and 19B (Aniak River drainage): Provide for a subsistence opportunity to take brown bears.

Codified Objectives

Amounts Reasonably Necessary for Subsistence Uses

C1. There was a positive customary and traditional use finding by the Alaska Board of Game and an amount reasonably necessary for subsistence uses of 5 brown bears in Units 19A and 19B (downstream of and including the Aniak River drainage).

C2. Unit19C has a negative finding for customary and traditional use of brown bear.

C3. There was a positive customary and traditional use finding by the Alaska Board of Game for 2–6 brown bears in Unit 19D.

C4. There was a positive customary and traditional use finding by the Alaska Board of Game for 20–25 brown bears in Units 21 and 22.

Intensive Management

Intensive management for brown bears in Unit 19A follows the objectives outlined in "Operational plan for intensive management of moose in Game Management Unit 19(A) during

regulatory years 2014–2019" (in March 2012 the board added bears to this plan). Intensive management for brown bears in Unit 19D follows the objectives outlined in "Operational plan for the intensive management of moose in Unit 19D East during regulatory years 2014–2019." These intensive management plans expire on 30 June 2020 and will be reviewed by the board at that time. There is currently no active bear control taking place in Units 19A or 19D. The board provided the option for department-sponsored bear control if moose population parameters and harvest outlined in the implementation plans suggest bear reductions should occur.

MANAGEMENT OBJECTIVES

M1. Manage grizzly bear populations to sustain a mean annual harvest of no more than 100 bears.

M2. Maintain a 5-year average of at least 50% males in the harvest.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Estimate brown bear densities.

Data Needs

There have been no surveys conducted during RY14–RY18 to directly estimate brown bear populations in the management area. Population estimation is accomplished by using known bear densities in similar habitats developed by Miller et al. (1997). Accurate estimates can aid in setting harvest quotas and understanding trends and population dynamics.

Methods

Direct abundance estimates have not been performed. Instead, extrapolated densities were used to calculate assumed brown bear densities in Units 19, 21A, and 21E (Miller et al. 1997).

This method of calculation assigns a bear density to varying habitat qualities ranging from poor, moderate, or good. Each habitat descriptor has an associated estimated density of bears per 1,000 mi^2. By dividing the total area of a unit by 1,000 mi^2 and then multiplying the associated bear density attributed to the habitat quality, an approximated density can be generated.

Results and Discussion

The habitat in Unit 19A (9,969 mi^2) is of moderate quality, which could support a density of 20 bears/1,000 mi^2, or 200 bears. Unit 19B contains about 7,500 mi^2 of good quality bear habitat, which could support 75 bears/1,000 mi^2 or 560 bears. Unit 19C has about 5,200 mi^2 of good quality habitat (50 bears/1,000 mi^2 = 260 bears) and about 1,500 mi^2 of moderate-quality habitat (20 bears/1,000 mi^2 = 30 bears). Unit 19D (12,405 mi^2) generally contains poor-quality habitat which could support 15 bears/1,000 mi^2 or 185 bears (Boudreau 2005). A similar approach was used for Units 21A and 21E with estimated densities of 25 bears per 1,000 mi^2 in moderate quality bear habitat and 15 bears per 1,000 mi^2 in poor habitat. In Unit 21A there are about 1,500 mi^2 of moderately good habitat (25 bears/1,000 mi^2 = 40 bears) and about 9,500 mi^2 of

poor habitat (15 bears/1,000 mi^2 = 150 bears). Therefore, the total population estimate for Unit 21A is 190 bears. Unit 21E consists of about 1,000 mi^2 of moderately good habitat (25 bears/1,000 mi^2 = 25 bears) and about 7,000 mi^2 of poor habitat (15 bears/1,000 mi^2 = 105 bears). The total population estimate for Unit 21E is 100–200 bears.

Since direct methods of population estimation, such as mark recapture techniques, have not been used in the management area, utilizing densities generated from similar habitat to calculate estimates is currently the most practical way to approximate brown bear numbers in Units 19, 21A, and 21E.

Recommendations for Activity 1.1

The department will continue to use approximate brown bear densities.

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor and analyze harvest data.

Data Needs

Harvest data are necessary to determine whether the codified and management objectives are achieved.

Methods

ADF&G biologists used data from sealing certificates to obtain date and location of kill, sex, skull size, hunter residency, transportation method, commercial services use, and kill type (e.g., harvest by hunters, illegal kill, research mortality, defense of life or property, etc.).

Harvest by Hunters-Trappers

Brown bear harvest was highly variable among the units during RY14–RY18 (Tables 1a–1f). In Unit 19A, 28 brown bears were harvested (Table 1a). In Unit 19B, 68 total bears were reported harvested (Table 1b). Unit 19C had the highest level of harvest with 74 total brown bears taken (Table 1c). In Unit 19D, harvest was 17 brown bears. Harvest was low in both Unit 21A at 8 total bears taken (Table 1e) and Unit 21E with 24 total brown bears harvested (Table 1f). Most harvest occurred during the fall and harvest for the entire area during the reporting period totaled 219 brown bears.

The 5-year mean annual harvest (RY14–RY18) for the entire area was 44 brown bears. Male bears made up an average of 58% (128 of 222) of the reported harvest during the reporting period.

The age class of bears harvested was as follows: bears ≤5 years old = 47%; 6–10 years old = 21%; 11–15 years old = 12%; 16–20 years old = 7%; and 21–25 years old = 3%.

Season and Bag Limit

Unit	Bag limits[a]	Resident open season[b]	Nonresident open season
Units 19A and 19D	2 bears every regulatory year	10 Aug–30 Jun	10 Aug–30 Jun
Units 19B and 19C	1 bear every regulatory year	1 Sep–31 May	1 Sep–31 May
Unit 19A downstream of and including the Aniak River drainage	2 bears every regulatory year by registration permit RB601	10 Aug–30 Jun	No open season
Unit 19B downstream of and including the Aniak River drainage	1 bear every regulatory year by registration permit RB601	10 Aug–30 Jun	No open season
Units 21A and 21E	1 bear every regulatory year (nonresidents) 2 bears every regulatory year (residents)	10 Aug–30 Jun	10 Aug–30 Jun

[a] Bear cubs of <2 years of age and females accompanied by cubs are illegal to harvest.
[b] Includes both Subsistence and General Hunts.

Table 1a. Unit 19A brown bear harvest by type of kill, Interior Alaska, regulatory years 2014–2018.

	Hunter kill				Nonhunting kill[a]				Total reported kill				
	M	F	Unknown	Total	M	F	Unknown	Total	M	% M	F	Unknown	Total
Fall 2014	4	4	0	8	0	0	0	0	4	50	4	0	8
Spring 2015	3	3	0	6	0	0	0	0	3	50	3	0	6
RY14 total	7	7	0	14	0	0	0	0	7	50	7	0	14
Fall 2015	6	2	0	8	0	0	0	0	6	75	2	0	8
Spring 2016	0	0	0	0	0	0	0	0	0	0	0	0	0
RY15 total	6	2	0	8	0	0	0	0	6	75	2	0	8
Fall 2016	1	2	0	3	0	0	0	0	1	33	2	0	3
Spring 2017	1	0	0	1	0	0	0	0	1	100	0	0	1
RY16 total	2	2	0	4	0	0	0	0	2	50	2	0	4
Fall 2017	1	1	0	2	0	0	0	0	1	50	1	0	2
Spring 2018	0	0	0	0	0	0	0	0	0	0	0	0	0
RY17 total	1	1	0	2	0	0	0	0	1	50	1	0	2
Fall 2018	0	0	0	0	0	0	0	0	0	0	0	0	0
Spring 2019	0	0	0	0	0	0	0	0	0	0	0	0	0
RY18 total	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	16	12	0	28	0	0	0	0	16	57	12	0	28
Average/year	3	2	0	6	0	0	0	0	3	–	2	0	6

Note: RY refers to regulatory year, M refers to male, and F refers to female.
[a] Represents bears killed by defense of life or property, natural or unknown mortality, or illegal means.

Table 1b. Unit 19B brown bear harvest by type of kill, Interior Alaska, regulatory years 2014–2018.

	Hunter kill				Nonhunting kill[a]				Total reported kill				
	M	F	Unknown	Total	M	F	Unknown	Total	M	% M	F	Unknown	Total
Fall 2014	8	6	1	15	0	0	0	0	8	53	6	1	15
Spring 2015	3	0	0	3	0	0	0	0	3	100	0	0	3
RY14 total	11	6	1	18	0	0	0	0	11	61	6	1	18
Fall 2015	7	2	0	9	0	0	0	0	7	78	2	0	9
Spring 2016	3	1	0	4	0	0	0	0	3	75	1	0	4
RY15 total	10	3	0	13	0	0	0	0	10	77	3	0	13
Fall 2016	9	5	0	14	0	0	0	0	9	64	5	0	14
Spring 2017	0	0	0	0	0	0	0	0	0	0	0	0	0
RY16 total	9	5	0	14	0	0	0	0	9	64	5	0	14
Fall 2017	3	7	0	10	0	0	0	0	3	43	7	0	10
Spring 2018	3	0	0	3	0	0	0	0	3	100	0	0	3
RY17 total	6	7	0	13	0	0	0	0	6	46	7	0	13
Fall 2018	4	3	0	7	0	0	0	0	4	57	3	0	7
Spring 2019	2	1	0	3	0	0	0	0	2	67	1	0	3
RY18 total	6	4	0	10	0	0	0	0	6	60	4	0	10
Total	42	25	1	68	0	0	0	0	42	62	25	1	68
Average/year	8	5	<1	14	0	0	0	0	8	–	5	<1	14

Note: RY refers to regulatory year, M refers to male, and F refers to female.

[a] Represents bears killed by defense of life or property, natural or unknown mortality, or illegal means.

Table 1c. Unit 19C grizzly bear harvest by type of kill, Interior Alaska, regulatory years 2014–2018.

	Hunter kill				Nonhunting kill[a]				Total reported kill				
	M	F	Unknown	Total	M	F	Unknown	Total	M	% M	F	Unknown	Total
Fall 2014	6	3	0	9	0	0	0	0	6	67	3	0	9
Spring 2015	3	1	0	4	0	0	0	0	3	75	1	0	4
RY14 total	9	4	0	13	0	0	0	0	9	69	4	0	13
Fall 2015	5	6	0	11	0	0	0	0	5	45	6	0	11
Spring 2016	4	0	0	4	0	0	0	0	4	100	0	0	4
RY15 total	9	6	0	15	0	0	0	0	9	60	6	0	15
Fall 2016	4	7	0	11	0	0	0	0	4	36	7	0	11
Spring 2017	0	1	0	1	0	0	0	0	0	0	1	0	1
RY16 total	4	8	0	12	0	0	0	0	4	33	8	0	12
Fall 2017	5	2	0	7	0	0	0	0	5	71	2	0	7
Spring 2018	2	1	0	3	0	0	0	0	2	67	1	0	3
RY17 total	7	3	0	10	0	0	0	0	7	70	3	0	10
Fall 2018	15	3	0	18	0	0	0	0	15	83	3	0	18
Spring 2019	3	2	0	5	0	1	0	1	3	50	3	0	6
RY18 total	18	5	0	23	0	0	0	0	18	75	6	0	24
Total	47	26	0	73	0	1	0	0	47	64	27	0	74
Average/year	6	5	0	15	0	<1	0	0	9	–	5	0	15

Note: RY refers to regulatory year, M refers to male, and F refers to female.

[a] Represents bears killed by defense of life or property, natural or unknown mortality, or illegal means.

Table 1d. Unit 19D grizzly bear harvest by type of kill, Interior Alaska, regulatory years 2014–2018.

	Hunter kill				Nonhunting kill[a]				Total reported kill				
	M	F	Unknown	Total	M	F	Unknown	Total	M	% M	F	Unknown	Total
Fall 2014	5	0	0	5	1	3	0	4	6	67	3	0	9
Spring 2015	0	0	0	0	0	0	0	0	0	0	0	0	0
RY14 total	5	0	0	5	1	3	0	4	6	67	3	0	9
Fall 2015	1	1	0	2	0	0	0	0	1	50	1	0	2
Spring 2016	0	0	0	0	0	0	0	0	0	–	0	0	0
RY15 total	1	1	0	2	0	0	0	0	1	50	1	0	2
Fall 2016	2	2	0	4	0	0	0	0	2	50	2	0	4
Spring 2017	0	0	0	0	0	0	0	0	0	–	0	0	0
RY16 total	2	2	0	4	0	0	0	0	2	50	2	0	4
Fall 2017	0	0	0	0	0	0	0	0	0	–	0	0	0
Spring 2018	0	0	0	0	0	0	0	0	0	–	0	0	0
RY17 total	0	0	0	0	0	0	0	0	0	–	0	0	0
Fall 2018	2	0	0	2	0	0	0	0	2	100	0	0	2
Spring 2019	0	0	0	0	0	0	0	0	0	–	0	0	0
RY18 total	2	0	0	2	0	0	0	0	2	100	0	0	2
Total	10	3	0	13	1	3	0	4	11	65	6	0	17
Average/year	2	<1	0	3	<1	<1	0	<1	2	–	1	0	3

Note: RY refers to regulatory year, M refers to male, and F refers to female.
[a] Represents bears killed by defense of life or property, natural or unknown mortality, or illegal means.

Table 1e. Unit 21A grizzly bear harvest by type of kill, Interior Alaska, regulatory years 2014–2018.

	Hunter kill				Nonhunting kill[a]				Total reported kill				
	M	F	Unknown	Total	M	F	Unknown	Total	M	% M	F	Unknown	Total
Fall 2014	1	1	0	2	0	1	0	1	1	33	2	0	3
Spring 2015	0	0	0	0	0	0	0	0	0	–	0	0	0
RY14 total	1	1	0	2	0	1	0	1	1	33	2	0	3
Fall 2015	0	0	0	0	0	0	0	0	0	–	0	0	0
Spring 2016	0	0	0	0	0	0	0	0	0	–	0	0	0
RY15 total	0	0	0	0	0	0	0	0	0	–	0	0	0
Fall 2016	0	2	0	2	0	0	0	0	0	–	2	0	2
Spring 2017	0	0	0	0	0	0	0	0	0	–	0	0	0
RY16 total	0	2	0	2	0	0	0	0	0	–	2	0	2
Fall 2017	0	1	0	1	0	0	0	0	0	–	1	0	1
Spring 2018	1	0	0	1	0	0	0	0	1	100	0	0	1
RY17 total	1	1	0	2	0	0	0	0	1	50	1	0	2
Fall 2018	0	1	0	1	0	0	0	0	0	–	1	0	1
Spring 2019	0	0	0	0	0	0	0	0	0	–	0	0	0
RY18 total	0	1	0	1	0	0	0	0	0	–	1	0	1
Total	2	5	0	7	0	1	0	1	2	25	6	0	8
Average/year	<1	1	0	1	0	<1	0	<1	<1	–	<1	0	2

Note: RY refers to regulatory year, M refers to male, and F refers to female.
[a] Represents bears killed by defense of life or property, natural or unknown mortality, or illegal means.

Table 1f. Unit 21E grizzly bear harvest by type of kill, Interior Alaska, regulatory years 2014–2018.

	Hunter kill				Nonhunting kill[a]				Total reported kill				
	M	F	Unknown	Total	M	F	Unknown	Total	M	% M	F	Unknown	Total
Fall 2014	1	3	0	4	1	1	0	2	2	33	4	0	6
Spring 2015	0	0	0	0	1	0	0	1	1	100	0	0	1
RY14 total	1	3	0	4	2	1	0	3	3	43	4	0	7
Fall 2015	4	3	0	7	0	0	0	0	4	57	3	0	7
Spring 2016	1	0	0	1	0	0	0	0	1	100	0	0	1
RY15 total	5	3	0	8	0	0	0	0	5	63	3	0	8
Fall 2016	1	3	0	4	0	0	0	0	1	25	3	0	4
Spring 2017	1	0	0	1	0	0	0	0	1	100	0	0	1
RY16 total	2	3	0	5	0	0	0	0	2	40	3	0	5
Fall 2017	0	2	0	2	0	0	0	0	0	–	2	0	2
Spring 2018	0	0	0	0	0	0	0	0	0	–	0	0	0
RY17 total	0	2	0	2	0	0	0	0	0	–	2	0	2
Fall 2018	0	2	0	2	0	0	0	0	0	–	2	0	2
Spring 2019	0	0	0	0	0	0	0	0	0	–	0	0	0
RY18 total	0	2	0	2	0	0	0	0	0	–	2	0	2
Total	8	13	0	21	2	1	0	3	10	42	14	0	24
Average/year	2	7	0	4	<1	<1	0	<1	2	–	3	0	5

Note: RY refers to regulatory year, M refers to male, and F refers to female.
[a] Represents bears killed by defense of life or property, natural or unknown mortality, or illegal means.

Transport Methods

During RY14–RY18 the vast majority (72%) of successful hunters used airplanes as their primary access method (Table 2), followed by 7% of successful hunters using boats. The proportion of successful hunters who used aircraft has not changed substantially since sealing began in the 1960s (Boudreau 2005).

Table 2. Number of brown bears harvested by transport method in Units 19, 21A, and 21E, Interior Alaska, regulatory years 2014–2018.

	Brown bears harvested[a] by transport type									
Regulatory year	Airplane	Dog team or horse	Boat	3- or 4-wheeler	Snow-machine	Off-road vehicles	Highway vehicle	Walk	Unknown	Total
2014	45	0	7	5	2	0	2	4	0	65
2015	36	1	4	2	3	0	0	1	0	47
2016	33	0	3	2	1	1	0	1	0	41
2017	18	1	2	4	2	3	0	0	0	30
2018	28	0	0	4	1	4	0	0	2	39
Total	160	2	16	17	9	8	2	6	2	222
Average/year	32	<1	3	3	2	2	<1	1	<1	44
Percent	72%	<1%	7%	8%	4%	4%	<1%	3%	<1%	–

[a] Harvest includes defense of life or property kills and illegal harvest.

Hunter Residency and Success

During RY14–RY18 nonresidents harvested 76% (169 of 222) of all bears (Table 3). This indicates relatively high use of the McGrath management area by brown bear guides and their nonresident clients. Most nonresident harvest occurs in Units 19A, 19B, and 19C, where hunting guides commonly operate. Alaska residents harvested 24% of all bears.

Table 3. Units 19, 21A, and 21E brown bear successful hunter residency, Interior Alaska, regulatory years 2014–2018.

Regulatory year	Local[a] resident	Nonlocal[b] resident	Nonresident	Unknown	Total successful
2014	9	10	44	2	65
2015	2	5	39	1	47
2016	0	11	29	1	41
2017	1	4	25	0	30
2018	0	7	32	0	39
Total	12	37	169	4	222
Average/year	2	7	34	<1	44

Note: Includes bears killed in defense of life or property, natural or unknown mortality, or illegal means.
[a] Local resident is defined as a resident of a Unit 19, 21A, and 21E community.
[b] Nonlocal resident is defined as an Alaska resident who does not live in a Unit 19, 21A, and 21E community.

Harvest Chronology

Most harvest during RY14–RY18 occurred in the fall, especially in September (63%; Table 4). Only 18% of the total harvest occurred during the spring months of April and May.

Table 4. Units 19, 21A, and 21E brown bear harvest chronology by month, Interior Alaska, regulatory years 2014–2018.

Regulatory year	Aug	Sep	Oct	Apr	May	Other	Total
2014	13	33	5	0	0	0	51
2015	7	30	1	3	11	1	53
2016	7	29	2	6	3	0	47
2017	3	19	1	2	1	0	26
2018	2	28	0	7	7	1	45
Total	32	139	9	18	22	2	222
Percent	14%	63%	4%	8%	10%	1%	–
Average/year	6	28	2	4	4	<1	44

Note: Includes defense of life or property kills and illegal harvest.

Results and Discussion

Department staff met both management objectives for RY14–RY18 with over 50% of the harvest comprised of males and fewer than 100 bears harvested in all units.

There is currently no active predator control on bears in the management area. In Units 19A and 19D East the department has the option to conduct bear control if moose populations fall below thresholds outlined in the respective intensive management operational plans.

Other Mortality

There were 5 nonhunting mortalities documented during RY14–RY18. Defense of life or property mortalities totaled 4 bears (3 in Unit 19D and 1 in Unit 21E), and 1 was taken illegally in Unit 19C.

Alaska Board of Game Actions and Emergency Orders

In March 2014 the board reauthorized both the Unit 19A and Unit 19D East predation control implementation plans and adopted the operational plans associated with each area. The plans were approved for 6 years beginning on 1 July 2014. Public bear control for both black and brown bears ended 30 June 2014 in Unit 19D East. With the adoption of the new Unit 19A and Unit 19D intensive management plans in RY14, the department was given authority to conduct bear control within BCFAs if moose numbers fall below 1.2 moose/mi^2.

In RY10 the board eliminated tag requirements for Units 19, 21A, and 21E. Resident tag fee exemptions, which must be reauthorized annually, were approved by the board during RY14–RY18.

Recommendations for Activity 2.1

Harvest will continue to be monitored and analyzed to ensure management goals and objectives are achieved. Bear sealing continues to deliver the best data to analyze harvest and trends.

3. Habitat Assessment-Enhancement

There were no activities conducted to assess or enhance habitat for brown bears in the management units during RY14–RY18.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

None.

Conclusions and Management Recommendations

ADF&G met the management objectives to sustain a mean annual harvest of no more than 100 bears in all units combined and to maintain a 5-year average of at least 50% males in the harvest. The mean annual harvest during RY14–RY18 was 26 brown bears and the 5-year average of male bear harvest was 58%.

Overall harvest is down from 315 bears during RY09–RY13 to 219 brown bears during this reporting period. It is unclear what has caused the decrease in harvest, but hunter effort is most likely the contributing factor, not population densities.

During this reporting period, 76% of nonresidents took brown bears, which is very similar to the last reporting period. Resident hunters do not typically target brown bears but seem to harvest them opportunistically while engaged in other activities.

Sealing bears continues to be difficult for McGrath area residents as they do not have access to services. However, department staff meet most needs during community visits, or hunters choose to send their bears with temporary sealing certificates to a town to be sealed.

II. Project Review and RY19–RY23 Plan

Review of Management Direction

MANAGEMENT DIRECTION

There are no expected changes from the management directions outlined in the report section.

GOALS

G1. Unit 19D East and BCFA:

- Maintain brown bears as a viable part of the natural ecosystem in Unit 19D East.
- Reduce brown bear populations as low as possible within BCFA.

G2. Units 19A, 19D remainder, 21A, and 21E: Provide the greatest sustained opportunity to hunt brown bears.

G3. Units 19B and 19C:

- Provide the opportunity to take large brown bears.
- Provide the opportunity to hunt brown bears under aesthetically pleasing conditions.

G4. Western portion of Units 19A and 19B (Aniak River drainage): Provide for subsistence opportunity to take brown bears.

CODIFIED OBJECTIVES

<u>Amounts Reasonably Necessary for Subsistence Uses</u>

No changes from RY14–RY18.

There was a positive customary and traditional use finding by the board and an amount reasonably necessary for subsistence uses of 5 brown bears in Units 19A and 19B (downstream of and including the Aniak River drainage).

C2. Unit19C has a negative finding for customary and traditional use of brown bear.

C3. There was a positive customary and traditional use finding by the Alaska Board of Game for 2–6 brown bears in Unit 19D.

C4. There was a positive customary and traditional use finding by the Alaska Board of Game for 20–25 brown bears in Units 21 and 22.

Intensive Management

Predator control on brown bears to support moose populations and harvest will only be conducted in Units 19A and 19D East if moose populations reach the criteria outlined in the intensive management operational plans. These plans are to be reviewed by the board in RY20.

MANAGEMENT OBJECTIVES

Current management objectives will remain as:

M1. Manage grizzly bear populations to sustain a mean annual harvest of no more than 100 bears.

M2. Maintain a 5-year average of at least 50% males in the harvest.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Estimate brown bear densities.

Data Needs

There are no changes from RY14–RY18.

Methods

There are no changes from RY14–RY18. Brown bear densities will continue to be estimated by the method developed by Miller et al. (1997).

2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor and analyze harvest data.

Data Needs

There will be no changes from RY14–RY18. Mandatory brown bear sealing certificates contain harvest data necessary to address management goals and objectives. Collecting harvest information including transport methods, sex, date of kill, and residency helps guide management decisions and identify trends in harvest. Bear bait station registration will also provide information related to location of harvest.

Methods

There will be no changes from RY14–RY18. Harvest will continue to be assessed from sealing records. Bear bait station distribution and harvest will be monitored via mandatory bear bait station registration process and sealing regulations.

3. Habitat Assessment-Enhancement

There are currently no plans to conduct habitat assessment or enhancement projects for brown bears during RY19–RY23.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

None.

Data Recording and Archiving

- All harvest and sealing data are stored on ADF&G's Wildlife Information Network[1].
- Electronic data and files such as survey memos, data sheets, and reports are stored in the WinfoNet Data Archive. Project Title: McGrath Area Office. Primary Region: Region III.
- All hard copy files are stored in filing cabinets within the McGrath area office.

Agreements

None.

Permitting

None.

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