

CHAPTER 21: BROWN BEAR MANAGEMENT REPORT

From: 1 July 2012
To: 30 June 2014¹

LOCATION

GAME MANAGEMENT UNIT: 20E (10,680 mi²)

GEOGRAPHIC DESCRIPTION: Fortymile, Charley, and Ladue river drainages, including the Tanana Uplands and all drainages into the south bank of the Yukon River upstream from and including the Charley River drainage.

BACKGROUND

The brown bear, also referred to as grizzly bear in Interior Alaska, population in Unit 20E declined to low levels during the 1950s as a result of the widespread use of poison during an intensive, year-round, federal wolf control program. After the program ended, bears were lightly exploited throughout the 1960s and 1970s.

During the early 1980s, predation by brown bears was identified as a major factor in maintaining the moose population in Unit 20E at low densities (0.2 moose/mi², 0.5 moose/km²; Gasaway et al. 1992). Hunting regulations were liberalized in an attempt to reduce the brown bear population and decrease predation pressure on moose calves. Regulation changes included lengthening the brown bear season; increasing the bag limit from 1 bear/4 years to 1 bear/year; and waiving the \$25 resident brown bear tag fee during regulatory years (RY) 1984 through RY89 (RY begins 1 July and ends 30 June; e.g., RY89 = 1 July 1989 through 30 June 1990) and from RY02 to the present. Annual brown bear harvest increased from a mean of 4 during RY72–RY81 to a mean of 18 during RY82–RY89 and declined slightly during RY89–RY01 and RY02–RY11 to a mean of 14 during both time periods. In 2004 the Alaska Board of Game (board) further increased the annual bag limit to 2 bears and approved the upper Yukon–Tanana predation control program in which Alaska residents were issued predation control permits to take bears within a 2,741 mi² control area (expanded to 4,046 mi² in RY06) in southern Unit 20E. Within the predator control area, individuals were allowed to take an unlimited number of brown bears, to bait brown bears, and sell untanned brown bear hides. The program also allowed take of brown bears at bait stations the same day permittees were airborne, provided they were at least 300 feet from the airplane at the time of taking. However, the control program was suspended in July 2009 because hunter harvest and kill by predation control permittees remained low (Bentzen 2011).

¹ At the discretion of the reporting biologist, this unit report may contain data collected outside the report period.

During the mid-1980s, Boertje et al. (1987) estimated the annual May population in a 4,000 mi² portion of Unit 20E at 41 brown bears of all ages/1,000 mi² (16 bears/1,000 km²) and the November population at 31 bears of all ages/1,000 mi² (12 bears/1,000 km²). The Unit 20E population in May 2008 was estimated to be 30–37 bears/1,000 mi² (12–14 bears/1,000 km²) or 320–394 bears of all ages (Bentzen 2009) and appears to have been stable since 1985–1986, although declines in some areas of the unit may have occurred during times of high localized harvest. Gardner (2003) estimated a 2% annual decline in the brown bear population in portions of southern Unit 20E during 1982–1988 and 1992–1996 because localized harvest levels were 6–9% of the estimated brown bear population in those areas, including harvest rates of 8–20% of the female bears >5-years old. However, Gardner (2003) reported that harvest was within sustainable levels in Unit 20E as a whole.

MANAGEMENT DIRECTION

When developing brown bear management goals and objectives for Unit 20E, we also considered the management goals and objectives for moose and caribou populations in the area. Coordinating predator and ungulate population and harvest objectives in Unit 20E is necessary because the board designated the moose population in most of Unit 20E and the Fortymile caribou herd as important for high levels of human consumptive use. Under the intensive management law (Alaska Statute 16.05.255[e]–[g]), the board must consider intensive management if an ungulate population is depleted or has reduced productivity and regulatory action to significantly reduce harvest becomes necessary. Research from southern Unit 20E in the 1980s suggested that the moose population has remained at low densities due to predation, and brown bears were found to be the primary predator on newborn moose calves (Gasaway et al. 1992). Brown bears are also an important predator on newborn caribou calves (Boertje and Gardner 1999). However, in light of changes in moose and caribou populations and their habitat since this research was conducted, future investigations should reevaluate the influence of brown bear predation on Unit 20E moose and caribou population dynamics.

MANAGEMENT GOAL

- Provide maximum opportunity to hunt brown bears in Unit 20E.

MANAGEMENT OBJECTIVES

- Manage for temporary reductions in the brown bear population or for reduction in bear predation where it may be limiting moose population growth (e.g., moose populations are below food-limiting densities, with autumn calf:cow ratios <25:100).
- After moose populations increase to desired levels, reduce bear harvests to allow for bear population stabilization or recovery.

METHODS

Brown bears harvested in Unit 20E must be sealed by a department representative within 30 days of the kill. Furthermore, bears killed in defense of life or property, by vehicles, or through illegal means become the property of the state and are also sealed by department representatives. During the sealing process, we determine the sex of the bear, measure the length and width of the skull, extract a premolar tooth, and collect information on harvest date, specific harvest location, transport methods, and time the hunter spent afield. Premolar teeth were sent to Matson's

Laboratory (Milltown, Montana, USA) for age determination. Harvest data were summarized by regulatory year.

RESULTS AND DISCUSSION

POPULATION STATUS AND TREND

The Unit 20E population in May 2008 was estimated to be 30–37 bears/1,000 mi² (12–14 bears/1,000 km²) or 320–394 bears of all ages (Bentzen 2009). This population estimate was based on a combination of a 2005 estimate (Gross 2007) and the results of a DNA-based mark-recapture study conducted in southern Unit 20E in 2006 (C. Gardner, K. Kellie, and J. Citta, Wildlife Biologists, ADF&G, memorandum 12 March 2008, Fairbanks).

During RY09–RY13, it is likely that the Unit 20E brown bear population remained stable and similar to May 2008 levels. Harvest during RY09–RY13 averaged 16 bears per year, which is 5% of the lower estimated population level, and included 57% males. Boertje et al. (1987) hypothesized that harvest rates of 4–8% would not result in short-term declines in the Unit 20E brown bear population, although it may become limited at the 8% harvest rate. However, an estimated harvest rate of 11% during 1981–1991 in Unit 20A resulted in a 28% population decline (Reynolds and Boudreau 1992), while more than 10 years of 9–10% harvest rates in Unit 13 resulted in little reduction in bear numbers, although the Unit 13 bear population was likely supported by immigration of numerous subadult males into the area (Tobey and Kelleyhouse 2007). Unit 20E lacks large, lightly-hunted populations of brown bears in adjacent areas, and immigration of subadult males is expected to be low. Furthermore, compared to Unit 13, food availability for brown bears is lower in Unit 20E, which has a shorter growing season, less rainfall, and lacks both salmon and ground squirrels. This suggests that harvest levels of 10% or more of the population would result in a population decline in Unit 20E; however, with an estimated harvest rate of $\leq 5\%$ during RY09–RY13, it is very unlikely that harvest influenced population trend.

MORTALITY

Harvest

Season and Bag Limit. During RY12–RY13, the brown bear hunting season in Unit 20E for both resident and nonresident hunters was 10 August–30 June. Cubs ≤ 2 -years old and females with cubs were protected from harvest. The bag limit of 2 bears every year did not count against the bag limit of 1 bear every 4 years in other units.

Alaska Board of Game Actions and Emergency Orders. In spring 2012 the board approved the harvest of brown bears at black bear bait stations during open black bear baiting seasons (15 April–30 June in Unit 20E) at permitted black bear baiting stations in Units 12, 20C, 20E, and 21D. The board required hunters who take brown bears over bait in these areas to salvage the edible meat in addition to the hide and skull.

In February 2014 the board did not approve a proposal to reimplement a brown bear control area in southern Unit 20E as part of the upper Yukon-Tanana predator control program.

Harvest by Hunters. Hunters reported killing 18 and 17 brown bears in RY12 and RY13, respectively (Table 1). This is slightly higher than the previous 5-year average harvest of 15

bears per year. With few exceptions, harvest has been stable since RY92 and has averaged 15 bears per year. Harvest during RY12–RY13 was composed of 54% males, which is lower than the previous 5-year mean of 63% males.

Brown bear harvest during RY12–RY13 was distributed throughout the unit, although areas along the Taylor Highway in southern Unit 20E received the highest concentration of harvest. These areas include the Mosquito Fork and Dennison Fork drainages, which together encompass 25% of the total Unit 20E area but saw 44% of the total harvest during RY12–RY13. The proportion of harvest within the Mosquito Fork and Dennison Fork drainages increased from 29% to 36% to 41% during RY82–RY91, RY92–RY01, and RY02–RY11, respectively. Concurrently, harvest decreased within the Middle Fork Fortymile River drainage (10% of the total Unit 20E area) from 30% during RY82–RY91 to 12% during RY02–RY11.

Although the Mosquito Fork and Dennison Fork drainages (2,681 mi²) have received an increasing proportion of the harvest during the past 30 years, it is unlikely that harvest has influenced population trend within this area. First, harvest within this area during RY02–RY13 averaged 6.6 brown bears per year. With an estimated density of 30–37 bears/1,000 mi², this would represent an 8.2% harvest rate of the lower estimated population size. Although this is likely approaching or slightly exceeding the maximum sustainable harvest rate for this specific area, this harvest rate is based on the lower estimated population level, and these drainages are surrounded by areas which are relatively lightly hunted. Second, harvest of adult females (>5-years old) during RY02–RY11 averaged 0.4 bears per year (complete age data are not yet available for RY12–RY13, and age data are missing for 5 of 22 females harvested during RY02–RY11). Assuming a sex composition similar to Unit 20A in 1981 and 1991 in which adult females composed 25% of the population (Reynolds and Boudreau 1992), the harvest of 0.4 adult females per year would be a 2% harvest rate of adult females based on the lower population estimate. This is less than the estimated maximum sustainable harvest rate of 5.8% for the adult female proportion of the population (Miller 1988). Third, average male skull size between RY82–RY91 (20.8 inches), RY92–RY01 (19.6 inches), and RY02–RY13 (20.6 inches) did not statistically differ as determined by one-way ANOVA ($F[2,104] = 2.23, P = 0.11$). Furthermore, average male age did not statistically differ between these 3 time periods ($F[2,94] = 0.23, P = 0.79$). If harvest was causing a decrease in the population within this area, skull size and age of harvested animals would likely decrease over time as larger and older animals became scarcer in the population. Based on the estimated harvest rate of the total population and the adult female portion of the population as well as stable male skull sizes and ages during RY82–RY13, it is unlikely harvest influenced population trend within the Mosquito Fork and Dennison Fork drainages, which have seen an increased proportion (and concentration) of the total harvest over time.

Beginning in RY12, brown bears could be harvested at black bear bait stations in Unit 20E. During RY12 and RY13, 2 and 3 bears, respectively, were harvested over bait, representing a total of 67% and 75% of the spring harvest (Table 1). Of the 5 bears harvested over bait, 3 were male (60%), similar to the overall harvest ratio during RY12–RY13 of 54% males.

Hunter Residency and Success. Resident hunters took 94% and 82% of the brown bears harvested in RY12 and RY13, respectively (Table 2). Historically, little guided hunting for brown bears occurred in Unit 20E, and nonresidents accompanied by second-degree of kindred

residents occasionally take a bear while hunting moose or caribou. During RY12–RY13, guided nonresidents harvested 3 brown bears, and 1 brown bear was harvested by a nonresident hunting with a second-degree of kindred resident.

Harvest Chronology. Similar to past reporting periods, the majority of the brown bear harvest (76–83%) in Unit 20E occurred during the fall when moose and caribou hunters were afield (Table 3).

Transport Methods. During RY12–RY13, airplanes (37%), highway vehicles (31%), and all-terrain vehicles (20%) continued to be the most common modes of transportation used by successful brown bear hunters (Table 4).

Other Mortality

Intraspecific mortality inflicted by adult male bears is likely the greatest source of nonhunting bear mortality in Unit 20E (Miller et al. 2003). During 2008–2012, the annual cub survival rate during the first year of life in southern Unit 20E was estimated to be 39%, with the majority of cub mortality occurring during the first half of June (Gardner et al. 2014). No brown bears were recorded as being taken in defense of life or property incidents during RY12–RY13.

HABITAT

Assessment

All of Unit 20E is suitable brown bear habitat, although habitat quality varies by area. Few human developments exist, except the Taylor Highway and the small communities of Eagle, Boundary, and Chicken. The region offers a variety of forbs and berries consumed by brown bears. However, there are no arctic ground squirrels and salmon are virtually absent. Both are important food sources elsewhere in Alaska. Habitat quality and diversity is improving following implementation of the *Alaska Interagency Fire Management Plan* (Alaska Wildland Fire Coordinating Group 1998) which allowed wildfires and prescribed burns to occur on hundreds of thousands of acres.

Enhancement

In 2004 and 2005 approximately 2,700 mi² of habitat burned within Unit 20E. Revegetation of burned areas has provided an abundance of high quality forage for moose and provided brown bears with forage species that are limited or unavailable in mature spruce forests.

Research from 2006 to 2012 indicated that brown bears initially avoided the large 2004–2005 burned areas in Unit 20E (C. Gardner, K. Kellie, and J. Citta, memorandum 12 March 2008). Capture and radiotelemetry data indicated that the large burns may have initially acted as barriers to bear movement. Few males and fewer, if any, females crossed the burn, and there was no evidence that any bear's home range was centered within the burn. The bears probably redistributed themselves adjacent to the burn; however, the effects of the fire on brown bear survival adjacent to burns are poorly understood. By 2008–2012, home ranges of GPS-collared adult females showed significant overlap with areas burned in 2004, suggesting that the bears were no longer avoiding the large burned areas (Gardner et al. 2014).

Wildfires burned 9,760 and 36,423 acres during 2012 and 2013, respectively, and likely had little influence on unitwide brown bear population dynamics.

NONREGULATORY MANAGEMENT PROBLEMS/NEEDS

Research in Unit 20E and other parts of Alaska demonstrated that brown bear and wolf predation can be the primary factor limiting moose and caribou population growth (Gasaway et al. 1992). Altering wolf and bear predation simultaneously was recommended by Gasaway et al. (1992) to achieve maximum potential to increase moose numbers. Unit 20E brown bear harvest increased during the 1980s but has remained relatively stable since then, even with continued liberal hunting regulations and brown bear control programs during RY04–RY08. These harvest levels are unlikely to be effective at reducing brown bear numbers enough to reduce their predation on moose calves.

Additional methods for reducing brown bear numbers continue to be explored. To substantially increase moose numbers in Unit 20E, other brown bear control measures may be necessary. Although further research is needed, one measure may include extensive fire to encourage outmigration of bears. The brown bear population appeared to temporarily redistribute out of portions of the bear control area that were burned during 2004–2005, which likely resulted in reduced predation on moose calves for several years following wildfires in those areas (C. Gardner, ADF&G, unpublished data, Fairbanks).

CONCLUSIONS AND RECOMMENDATIONS

In May 2008, an estimated 320–394 bears of all ages resided in Unit 20E, and harvest data indicate the population has fluctuated little since 1981 despite the most liberal hunting regulations in Alaska. Low harvest rates are likely due to 1) the relative inaccessibility of most of Unit 20E, 2) dense forest cover or downed timber which hinders hunters' ability to access or harvest bears and discourages hunters from coming to Unit 20E specifically to hunt brown bears, and 3) an unwillingness of moose and caribou hunters to opportunistically harvest bears due to the inconvenience and expense of caring for harvested bear hides.

We continue to meet our management goal to provide for maximum brown bear hunting opportunity in Unit 20E, but we did not meet our management objective to temporarily reduce the brown bear population or to reduce brown bear predation where it may be limiting moose population growth (e.g., where moose populations are below food-limiting densities, with autumn calf:cow ratios <25:100). Average fall moose calf:cow ratios during 2008–2012 were greater than 25:100 west of the Taylor Highway ($\bar{x}$ = 27 calves:100 cows, range = 17–37 calves:100 cows) but were lower than 25:100 east of the Taylor Highway ($\bar{x}$ = 16 calves:100 cows, range = 5–28 calves:100 cows), and the total Unit 20E moose population has not yet increased to desired levels. Liberal brown bear seasons (including allowing the take of brown bears at black bear bait stations beginning in RY12) and bag limits, incidental harvest by high numbers of moose and caribou hunters, and an active brown bear control program during RY04–RY08 were all unsuccessful at reducing the bear population.

Incentives or methods and means other than those allowed under current hunting regulations or the brown bear control program (RY04–RY08) will be necessary if the brown bear population is to be substantially reduced to accomplish our management objectives. Several ideas to increase the number of brown bears killed include allowing nonresidents to hunt brown bears in Unit 20E without a guide under general hunting regulations, allowing the sale of tanned hides, snaring as a

means of take, and allowing the take of cubs and females with cubs under a bear control program.

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Table 1. Unit 20E brown bear mortality, regulatory years^a 2007–2013.

Regulatory year	Reported					Predator control kill ^b			Nonhunting kill ^c			Total reported kill			
	Hunter kill					M	F	Unk	M	F	Unk	M (%)	F (%)	Unk	Total
	M	F	Unk	Total	Baited ^d										
<i>2007</i>															
Autumn 2007	7	2	0	9		1	0	0	0	0	0	8 (80)	2 (20)	0	10
Spring 2008	2	2	0	4		4	1	0	0	0	0	6 (67)	3 (33)	0	9
Total	9	4	0	13		5	1	0	0	0	0	14 (74)	5 (26)	0	19
<i>2008</i>															
Autumn 2008	6	4	0	10		0	0	0	0	0	0	6 (60)	4 (40)	0	10
Spring 2009	3	0	0	3		1	1	0	0	0	0	4 (80)	1 (20)	0	5
Total	9	4	0	13		1	1	0	0	0	0	10 (67)	5 (33)	0	15
<i>2009</i>															
Autumn 2009	6	5	0	11					0	0	0	6 (55)	5 (45)	0	11
Spring 2010	1	1	0	2					0	0	0	1 (50)	1 (50)	0	2
Total	7	6	0	13					0	0	0	7 (54)	6 (46)	0	13
<i>2010</i>															
Autumn 2010	8	6	0	14					0	0	0	8 (57)	6 (43)	0	14
Spring 2011	2	1	0	3					0	0	0	2 (67)	1 (33)	0	3
Total	10	7	0	17					0	0	0	10 (59)	7 (41)	0	17
<i>2011</i>															
Autumn 2011	10	5	0	15					0	0	0	10 (67)	5 (33)	0	15
Spring 2012	1	1	0	2					0	0	0	1 (50)	1 (50)	0	2
Total	11	6	0	17					0	0	0	11 (65)	6 (35)	0	17
<i>2012</i>															
Autumn 2012	8	7	0	15	0				0	0	0	8 (53)	7 (47)	0	15
Spring 2013	2	1	0	3	2				0	0	0	2 (67)	1 (33)	0	3
Total	10	8	0	18	2				0	0	0	10 (56)	8 (44)	0	18
<i>2013</i>															
Autumn 2013	7	6	0	13	0				0	0	0	7 (54)	6 (46)	0	13
Spring 2014	2	2	0	4	3				0	0	0	2 (50)	2 (50)	0	4
Total	9	8	0	17	3				0	0	0	9 (53)	8 (47)	0	17

^a Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 2007 = 1 July 2007–30 June 2008).^b The brown bear control portion of the upper Yukon–Tanana predation control program was suspended beginning 1 July 2009.^c Includes defense of life or property kills, research mortalities, and other known human-caused accidental mortality.^d The take of brown bears at black bear bait stations was legalized in Unit 20E beginning in spring 2013.

Table 2. Unit 20E residency of successful brown bear hunters, regulatory years 1992–2013^{a,b}.

Regulatory year	Resident (%)	Nonresident (%)	Unknown (%)	Total successful hunters
1992	11 (85)	2 (15)	0 (0)	13
1993	20 (95)	1 (5)	0 (0)	21
1994	9 (82)	2 (18)	0 (0)	11
1995	9 (43)	9 (43)	3 (14)	21
1996	22 (92)	2 (8)	0 (0)	24
1997	9 (82)	2 (18)	0 (0)	11
1998	8 (73)	3 (27)	0 (0)	11
1999	3 (60)	2 (40)	0 (0)	5
2000	14 (78)	4 (22)	0 (0)	18
2001	11 (100)	0 (0)	0 (0)	11
2002	13 (93)	1 (7)	0 (0)	14
2003	17 (85)	3 (15)	0 (0)	20
2004	14 (88)	2 (12)	0 (0)	16
2005	11 (92)	1 (8)	0 (0)	12
2006	2 (40)	3 (60)	0 (0)	5
2007	12 (92)	1 (8)	0 (0)	13
2008	12 (92)	1 (8)	0 (0)	13
2009	12 (92)	1 (8)	0 (0)	13
2010	15 (88)	2 (12)	0 (0)	17
2011	16 (94)	1 (6)	0 (0)	17
2012	17 (94)	1 (6)	0 (0)	18
2013	14 (82)	3 (18)	0 (0)	17

^a Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 1992 = 1 July 1992–30 June 1993).

^b Does not include bears killed by predator control permittees, defense of life or property kills, or illegal kills.

Table 3. Unit 20E brown bear harvest chronology by month, regulatory years 1992–2013^{a,b}.

Regulatory year	Harvest by month (%)							<i>n</i>
	Aug	Sep	Oct	Nov	Apr	May	Jun	
1992	4 (31)	5 (38)	1 (8)	0 (0)	0 (0)	1 (8)	2 (15)	13
1993	6 (29)	12 (57)	1 (5)	0 (0)	1 (5)	1 (5)	0 (0)	21
1994	2 (18)	8 (73)	0 (0)	0 (0)	0 (0)	0 (0)	1 (9)	11
1995	3 (14)	10 (48)	0 (0)	0 (0)	1 (5)	6 (29)	1 (5)	21
1996	7 (29)	13 (54)	0 (0)	0 (0)	0 (0)	2 (8)	2 (8)	24
1997	2 (18)	9 (82)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	11
1998	5 (45)	6 (55)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	11
1999	0 (0)	2 (40)	0 (0)	0 (0)	0 (0)	3 (60)	0 (0)	5
2000	3 (17)	15 (83)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	18
2001	2 (18)	7 (64)	0 (0)	0 (0)	1 (9)	0 (0)	1 (9)	11
2002	3 (22)	9 (64)	0 (0)	0 (0)	1 (7)	1 (7)	0 (0)	14
2003	7 (35)	8 (40)	1 (5)	0 (0)	1 (5)	2 (10)	1 (5)	20
2004	4 (25)	9 (56)	0 (0)	0 (0)	0 (0)	2 (13)	1 (6)	16
2005	2 (17)	4 (33)	2 (17)	0 (0)	0 (0)	3 (25)	1 (8)	12
2006	1 (20)	4 (80)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5
2007	4 (31)	5 (38)	0 (0)	0 (0)	1 (8)	3 (23)	0 (0)	13
2008	4 (31)	6 (46)	0 (0)	0 (0)	0 (0)	2 (15)	1 (8)	13
2009	5 (39)	6 (46)	0 (0)	0 (0)	0 (0)	2 (15)	0 (0)	13
2010	4 (23)	10 (59)	0 (0)	0 (0)	0 (0)	2 (12)	1 (6)	17
2011	1 (6)	14 (82)	0 (0)	0 (0)	0 (0)	1 (6)	1 (6)	17
2012	3 (17)	11 (61)	1 (5)	0 (0)	0 (0)	2 (11)	1 (6)	18
2013	5 (29)	8 (47)	0 (0)	0 (0)	0 (0)	3 (18)	1 (6)	17

^a Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 1992 = 1 July 1992–30 June 1993).^b Does not include bears killed by predator control permittees, defense of life or property kills or illegal kills.

Table 4. Unit 20E brown bear harvest by transport method, regulatory years 1992–2013^{a,b}.

Regulatory year	Harvest by transport method (%)									<i>n</i>
	Airplane	Horse	Boat	3- or 4-wheeler	Snowmachine	ORV	Highway vehicle	Walk	Other/ Unk	
1992	6 (46)	0 (0)	0 (0)	3 (23)	0 (0)	1 (8)	3 (23)	0 (0)	0 (0)	13
1993	5 (24)	0 (0)	2 (10)	3 (14)	0 (0)	4 (19)	1 (5)	6 (29)	0 (0)	21
1994	3 (27)	0 (0)	1 (9)	2 (18)	0 (0)	1 (9)	2 (18)	2 (18)	0 (0)	11
1995	13 (62)	0 (0)	2 (9)	2 (9)	0 (0)	1 (5)	1 (5)	2 (9)	0 (0)	21
1996	10 (42)	1 (4)	0 (0)	2 (8)	0 (0)	2 (8)	5 (21)	4 (17)	0 (0)	24
1997	5 (45)	0 (0)	0 (0)	5 (45)	0 (0)	0 (0)	0 (0)	1 (9)	0 (0)	11
1998	8 (73)	0 (0)	0 (0)	0 (0)	0 (0)	2 (18)	0 (0)	1 (9)	0 (0)	11
1999	3 (60)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (40)	0 (0)	0 (0)	5
2000	8 (45)	0 (0)	2 (11)	6 (33)	0 (0)	0 (0)	2 (11)	0 (0)	0 (0)	18
2001	6 (55)	0 (0)	1 (9)	4 (36)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	11
2002	3 (22)	0 (0)	1 (7)	4 (29)	1 (7)	2 (14)	1 (7)	2 (14)	0 (0)	14
2003	8 (40)	0 (0)	0 (0)	6 (30)	2 (10)	0 (0)	2 (10)	2 (10)	0 (0)	20
2004	7 (44)	0 (0)	2 (13)	5 (31)	0 (0)	0 (0)	2 (13)	0 (0)	0 (0)	16
2005	5 (42)	0 (0)	0 (0)	1 (8)	0 (0)	0 (0)	4 (33)	2 (17)	0 (0)	12
2006	4 (80)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	0 (0)	0 (0)	5
2007	6 (46)	0 (0)	2 (15)	1 (8)	1 (8)	1 (8)	2 (15)	0 (0)	0 (0)	13
2008	4 (31)	0 (0)	2 (15)	5 (38)	0 (0)	1 (8)	0 (0)	1 (8)	0 (0)	13
2009	5 (38)	1 (8)	2 (15)	2 (15)	0 (0)	1 (8)	1 (8)	1 (8)	0 (0)	13
2010	6 (35)	0 (0)	0 (0)	6 (35)	0 (0)	1 (6)	3 (18)	1 (6)	0 (0)	17
2011	2 (12)	0 (0)	0 (0)	5 (29)	0 (0)	3 (18)	5 (29)	2 (12)	0 (0)	17
2012	8 (44)	0 (0)	0 (0)	3 (16)	0 (0)	0 (0)	5 (28)	1 (6)	1 (6)	18
2013	5 (29)	0 (0)	0 (0)	4 (24)	0 (0)	2 (12)	6 (35)	0 (0)	0 (0)	17

^a Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 1992 = 1 July 1992–30 June 1993).^b Does not include bears killed by predator control permittees, defense of life or property kills or illegal kills.