

CHAPTER 17: BLACK BEAR MANAGEMENT REPORT

From: 1 July 2010
To: 30 June 2013¹

LOCATION

GAME MANAGEMENT UNITS: 19, 21A, and 21E (55,278 mi²)

GEOGRAPHIC DESCRIPTION: Unit 19, all drainages into the Kuskokwim River upstream from a straight line drawn between Lower Kalskag and Paimiut. Unit 21A, the Innoko River drainage upstream from and including the Iditarod River drainage. Unit 21E, 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.

BACKGROUND

Black bears are distributed throughout Units 19A, 19B, 19C, 19D, 21A, and 21E, and bear densities and hunter interest vary among units. Lower elevation areas associated with boreal forest and river floodplains provide good hunting opportunity, however harvest pressure is low. Harvest pressure is also light in the Alaska Range in Units 19B and 19C. Reported harvest is low in part because only bears which are sent out of state untanned and bears intended for sale are required to be sealed.

In 2001 the department established the experimental micromanagement area (EMMA) surrounding McGrath (528 mi², 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 (RY) 2006–2013 (RY begins 1 July and ends 30 June, e.g., RY13 = 1 July 2013–30 June 2014).

In RY12 a 534 mi² BCFA was also added to the Unit 19A intensive management plan (Fig. 2). This area was created based on research from McGrath which documented an improvement in moose calf survival following bear removals (Keech 2012). Bear removals were initiated in May 2013 and are scheduled for one more season in May 2014.

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

MANAGEMENT DIRECTION

MANAGEMENT GOAL

Units 19, 21A, and 21E

- Provide for the opportunity to harvest black bears.

MANAGEMENT OBJECTIVE

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

METHODS

Black bear harvest data in the McGrath management area are limited. Bear harvest data are typically provided from sealing certificates; however sealing was required only in Unit 19D until RY10. Sealing was also required throughout the entire area for any untanned bear hides or skulls removed from Alaska as well as for those bears intended for sale. Beginning in RY09, harvest tickets were required before hunting black bears in Unit 19D. Finally all bears taken as part of a predator control program were also sealed. Using all available data, we summarized information related to black bear harvest by regulatory year.

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. In the Unit 19D BCFA, the black bear population has been measured using a mark-recapture technique (Keech 2012). In the Unit 19A BCFA, a removal estimator was used to develop an estimate of bear numbers (T. Paragi and B. Taras, memorandum 26 November 2014, Alaska Department of Fish and Game, Fairbanks).

RESULTS AND DISCUSSION

POPULATION STATUS AND TREND

Population Size and Composition

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 mi² management area is estimated to be 8,300–16,600 black bears, based on overall densities of 15–30 bears/100 mi². 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.

The department translocated 102 black bears from the Unit 19D BCFA in 2003 ($n = 67$ independent bears + 8 dependent juveniles) and 2004 ($n = 26$ independents + 8 dependents; 7 of these bears were recaptured from 2003). The pre-removal population in 2003 was estimated at 96

independent black bears and the post-removal estimate in 2004 was 4 independent black bears. This represents an approximately 96% removal. A mark-recapture survey was conducted in May 2007 and the bear control focus area was estimated to have 70 independent black bears (Keech et al. 2011). This survey was again conducted in May 2010 with an estimate of 123 independent black bears in BCFA (Keech 2012). Black bear numbers were higher than pre-control levels 6 years after removal was completed.

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, 2 had 4 cubs, and 2 had 2 cubs. First-year cub survival appeared to be very poor and no females with yearling cubs were observed. Results from the removal estimate suggest there were 94 (SE = 1.9; 95% CI = 92, 102) independent bears within BCFA. This removal represents an approximately 89% removal (84 of 94) in year one.

MORTALITY

Harvest

Hunting Seasons and Bag Limits.

Units and Bag Limits	Resident and Nonresident Open Season	Resident and Nonresident Baiting Season
<i>RY10–RY12</i>		
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 Sep–30 Sep
Units 19A and 19D, remainder 5 bears.	No closed season	15 Apr–30 Jun

Harvest of cubs (in first year of life) or females accompanied by cubs was prohibited in all hunting seasons. Same-day-airborne hunting was allowed at registered bait stations, provided the hunter was at least 300 feet from the airplane and sale of hides (with claws attached) and skulls was permitted. A harvest ticket was required to hunt black bears in Unit 19D.

Unit 19D East Bear Predation Control Regulations and Bag Limits.

Units and Bag Limits	Residents-Only Open Season	Residents-Only Baiting Season
<i>RY10–RY12</i>		
Unit 19D bear control focus area. No limit, but permit required.	1 Jul–30 Jun	1 Jul–30 Jun

The public bear control program in Unit 19D East began in RY06 and bear predation control regulations prohibited the harvest of cubs (in first year of life) or females accompanied by cubs through RY08. In RY09 this prohibition was lifted. In addition, in RY09 permittees were also

allowed to take black bears same-day-airborne provided they were at least 300 feet from the airplane, including at bait stations. Sale of untanned hides (with claws attached) and skulls was permitted under control regulations beginning in RY06. In RY09, permittees could also sell tanned hides (with claws attached). Bucket-style foot snares were permitted in RY09 beginning on 15 April 2010. The Unit 19D public bear control program ended in RY13 on 30 June 2014.

Alaska Board of Game Actions and Emergency Orders. No emergency orders were issued for any units in this area during the report period (RY10–RY12). Since RY03 the Board of Game (board) has made several major changes to black bear regulations, as listed below.

RY03 — 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).

RY04 and RY05 — No changes.

RY06 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 hunters were at least 300 feet from the airplane and 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.

RY06 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, no females with cubs or 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.

RY07 and RY08 — No changes.

RY09 Hunting Changes — The board 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 in many units, including Units 19A and 19D East and required salvage of meat resulting from this activity. The prohibition on taking cubs and females with cubs was also lifted for this traditional-use activity in case a female with cubs was encountered. The 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.

RY09 Predation Control Changes — The board clarified that brown bears or black bears taken under a predation control permit in Unit 19D did not count against the statewide bag limit in other units of the state. 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 permittees were at least 300 feet from the airplane; use of bucket-style foot snares; and expanded legal sale of tanned hides as well as untanned hides.

RY10 Hunting Changes — In January 2010 the board classified black bears 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 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.

RY11 — No changes.

RY12 Predation Control Changes — The intensive management plan for Unit 19A was updated to include a 534 mi² 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.

RY13 — No changes.

RY14 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/mi² 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/mi² within BCFA.

Harvest by Hunters. During RY08–RY12, 209 black bears were taken by hunters in Units 19, 21A, and 21E (Table 1). On average 63% of these bears were males. Thirty-nine of these bears were harvested in Unit 19D (where sealing or a harvest ticket was required). Most reported harvest of black bears by hunters, however, comes from Units 19B and 19C (Table 2) where sealing was not required unless the hide and skull were taken out of Alaska. Units 19B and Unit 19C have a high percentage of nonresident hunters who seal bears to transport them home. During RY08–RY12 a small number of defense of life or property kills were reported. It is likely however that more nuisance bears were killed at fish camps or by local residents and not reported.

Harvest by Bear Control. Interest in black bear control permits increased substantially in RY09 once foot-snaring became a legal method of take under bear predation control regulations. Forty-two predation control permits were issued (ML301); however, only 6 bears were taken by 4 permittees. Participation has remained low and overall this program has been ineffective at reducing predation on moose calves.

In May 2013, 84 black bears were removed from the Unit 19A BCFA as part of a department-conducted bear control program. A second year of removals will be conducted in May 2014.

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

Transport Methods. During RY08–RY12, 73% of hunters who reported their black bear harvest used airplanes as their primary access method. Boats are also an important means of transportation and are used for much of the harvest of black bears by local residents.

CONCLUSIONS AND RECOMMENDATIONS

Black bears are common throughout the McGrath management area. Studies recently 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). As a result, hunting regulations were liberalized in Units 19A and 19D and a black bear predation control program was established in the Unit 19A and 19D BCFAs. These actions were taken to increase harvest of black bears with the intent of improving moose calf survival.

Liberal hunting seasons have not resulted in higher harvest. In all units 21 hunters took 2 bears, while only 2 hunters took 3 bears and no hunters took 4 or 5 bears during RY08–RY12. 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. While no changes to bag limits or seasons are needed, aligning the seasons could be considered to simplify regulations for hunters.

The Unit 19D public bear predation control program through RY13 has had limited success. Prior to RY09, no bears were taken under this program. Foot-snaring began in spring 2010 (RY09). Whereas this generated a large amount of interest from the public, both participation and take ($n = 6$ bears) were 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. Bear snaring is both time-consuming and expensive, and the incentive to harvest a large numbers of bears is low. Predation control trappers quickly become saturated with bear meat after only 1 or 2 bears, and hides taken in midsummer are of poor quality.

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 the 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. 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.

During RY08–RY12 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). 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. Gasoline prices were high (\$7.46/gallon in McGrath as of 20 May 2014) and daily trap checks required for foot-snaring were time-consuming. Local interest in bear meat varies and raw black bear hides are worth only approximately \$100. These factors combined are likely reasons harvest remained low.

Public bear control will end 30 June 2014. As we were not able to harvest 30 bears with hunting and public bear control, it is unlikely we will be able to harvest 30 black bears per year through hunting alone. The Units 19A and 19D intensive management plans were reauthorized by the board at the February 2014 Region III meeting. Part of these plans recommended department-conducted bear control if moose densities fall below 1.2 moose/mi² in either BCFA. Therefore the objective to maintain an annual reported harvest of at least 30 black bears in Unit 19D East will be dropped and replaced with the following activity:

MANAGEMENT ACTIVITY

- 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 the density is <1.2 moose/mi² and 2-year average twinning rates are >20%. All GSPE surveys will be designed to achieve precision of at least $\pm 20\%$ at the 90% confidence interval, but actual precision will vary with survey conditions and funding.

The harvest ticket used in Unit 19D worked well and in RY10 hunters needed to seal black bears only if they wanted to sell the hide or remove the hide and/or skull from Alaska. Local hunters seemed to like this system, and we continued to receive important harvest data from Unit 19D.

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PREPARED BY:

Joshua M. Peirce
Wildlife Biologist III

APPROVED BY:

Jackie J. Kephart
Assistant Management Coordinator

REVIEWED BY:

Laura A. McCarthy
Publications Technician II

Jesse M. Dunshie
Wildlife Technician III

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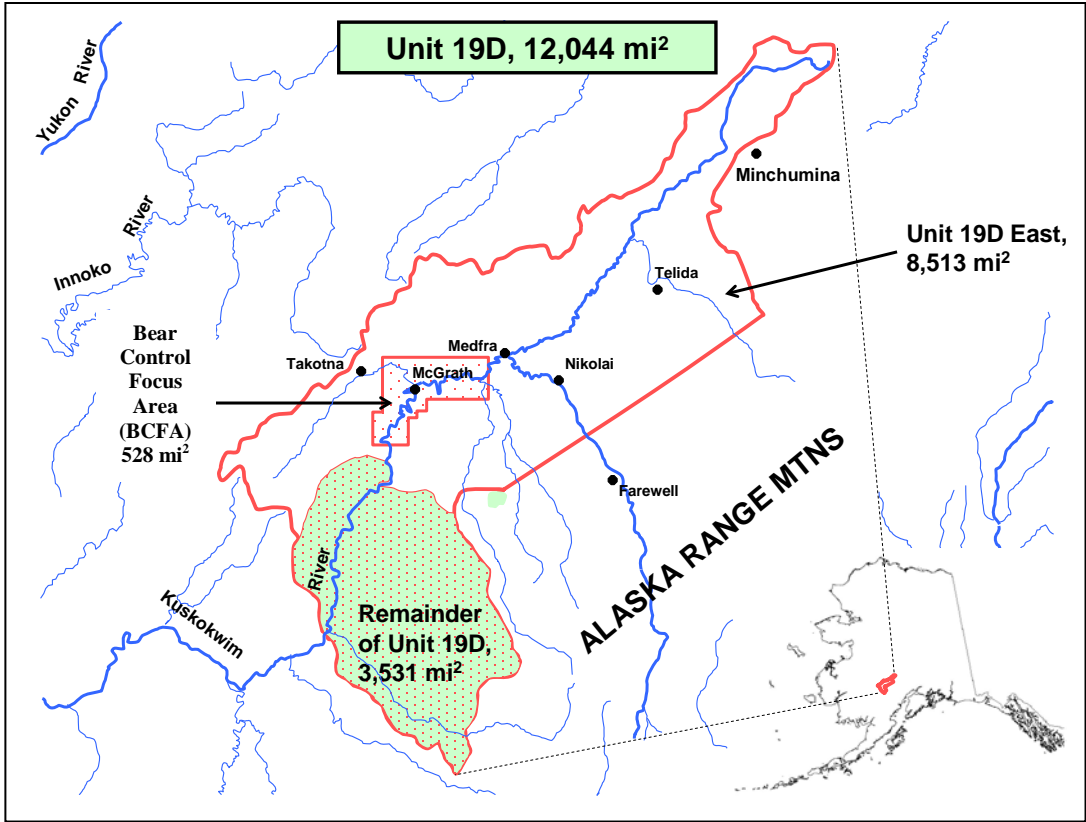


Figure 1. Detail area map of Unit 19D.

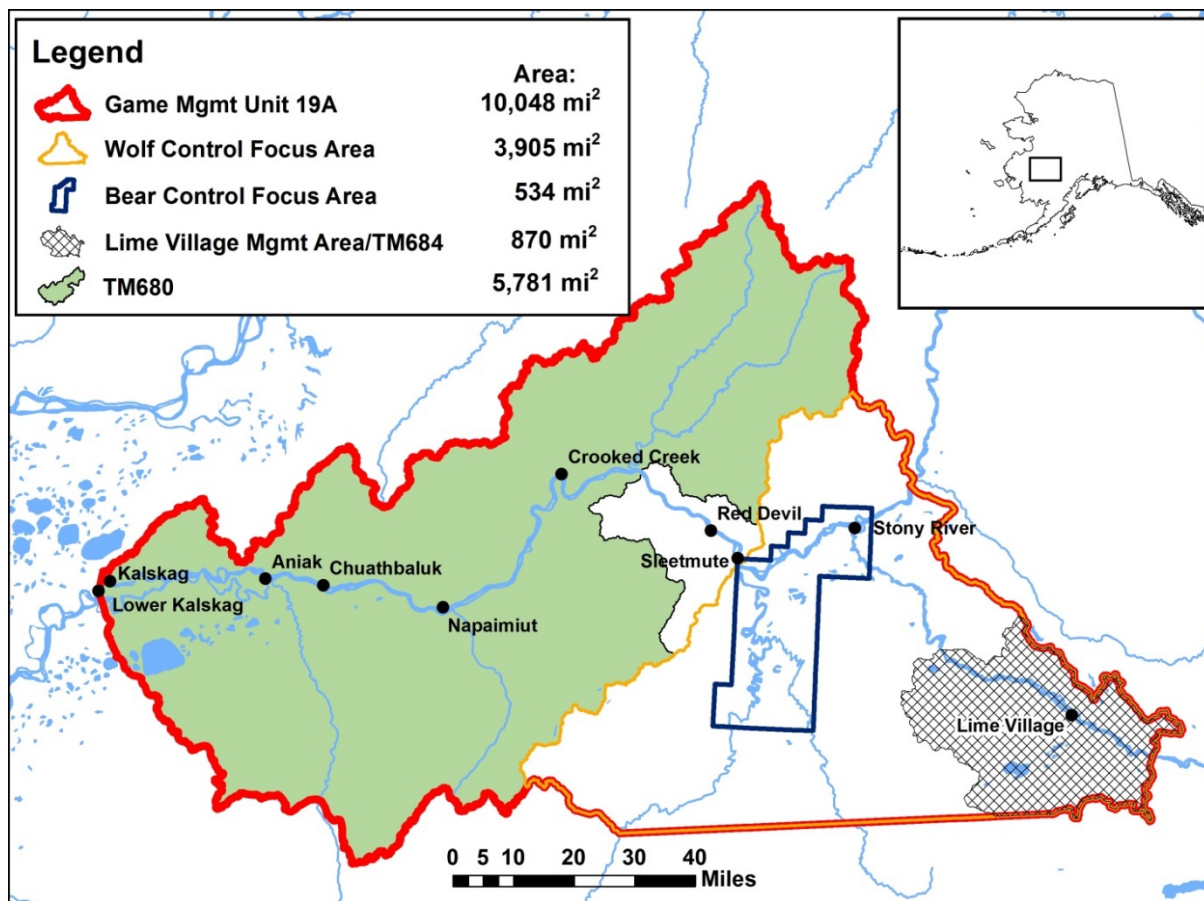


Figure 2. Unit 19A, the wolf control focus area (WCFA), the bear control focus area (BCFA), the Lime Village management area (LVMA), and Tier II moose hunts (TM680 and TM684).

Table 1. Reported black bear harvest in Units 19, 21A and 21E by type of kill, regulatory years^a 2008–2012^b.

Regulatory year	Hunter kill				Nonhunting kill				Total reported kill		
	M	F	Unk	Total	M	F	Unk	Total	M (%)	F (%)	Total
2008	37	21	0	58	0	0	0	0	37 (64)	21 (36)	58
2009	40	19	0	59	5	1	0	6	45 (69)	20 (31)	65
2010	29	18	0	47	1	2	0	3	30 (60)	20 (40)	50
2011	15	8	1	24	1	1	0	2	16 (64)	9 (36)	26
2012	10	11	0	21	38	45	1	84	48 (46)	56 (54)	105

^a Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 2008 = 1 July 2008–30 June 2009).

^b Sealing was required in RY08 and RY09 in Unit 19D East and in the remainder of Unit 19D for bears taken between 1 January and 31 May if removed from Unit 19. 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. Beginning in RY09 a harvest ticket was required for black bears taken in 19D in lieu of sealing, if the untanned hides and skulls remained in Alaska.

Table 2. Reported black bear harvest by unit^a, regulatory years^b 2008–2012^c.

Regulatory year	Unit								Total
	19A	19B	19C	19D	19 Unknown	21A	21E		
2008	14	21	13	8	0	1	1	58	
2009	15	18	15	11	0	3	3	65	
2010	10	5	14	14	0	3	4	50	
2011	3	3	11	6	0	2	1	26	
2012	86	8	7	0	0	1	3	105	
Total	128	55	60	39	0	10	12	304	
Avg/Year	26	11	12	8	0	2	2	61	

^a Sealing was required in RY08 and RY09 in Unit 19D East and in the remainder of Unit 19D for bears taken between 1 January and 31 May if removed from Unit 19. 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. Beginning in RY09 a harvest ticket was required for black bears taken in 19D in lieu of sealing, if the untanned hides and skulls remained in Alaska.

^b Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 2008 = 1 July 2008–30 June 2009).

^c Includes bears taken under defense of life or property regulations and those taken during predation control.

Table 3. Units 19, 21A, and 21E black bear harvest chronology^a, regulatory years^b 2008–2012^c.

Regulatory year	Month									Unk/other	Total
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov		
2008	0	0	3	5	0	24	26	0	0	0	58
2009	0	0	8	4	0	21	30	0	1	0	65
2010	0	0	6	6	4	13	21	0	0	0	50
2011	0	1	1	2	4	6	12	0	0	0	26
2012	0	0	84	0	0	4	15	0	0	1	105

^a Sealing was only required in RY08 and RY09 in Unit 19D East and in the remainder of Unit 19D for bears taken between 1 January and 31 May if removed from Unit 19. 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. Beginning in RY09 a harvest ticket was required for black bears taken in Unit 19D in lieu of sealing requirements.

^b Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 2008 = 1 July 2008–30 June 2009).

^c Includes bears taken under defense of life or property regulations and those taken during predation control.