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POPULATION ECOLOGY OF THE KENAI PENINSULA
BLACK BEAR

By
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Progress Report
Federal Aid in Wildlife Restoration
Project W-22-3 and W-22-4
Job 17.5R

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(Printed August 1985)

PROGRESS REPORT (RESEARCH)

State: Alaska

Cooperators: Ted Spraker, ADF&G; and the U. S. Fish and Wildlife Service

Project No.: W-22-3 Project Title: Big Game Investigations
W-22-4

Job No.: 17.5R Job Title: Population Ecology of the Kenai Peninsula Black Bear

Period Covered: 1 July 1983-30 June 1984
(Includes data collected through 31 December 1984)

SUMMARY

Capture information, as well as morphometric and blood physiology data, are presented for black bears (Ursus americanus) captured during the 1984 field season in both the Moose Research Center (MRC) and Finger Lakes study areas on the Kenai Peninsula. Den dimensions from 22 winter dens are listed. No estimates of density were available because of lack of biometrics support.

Key words: black bear, Kenai Peninsula, population ecology, (Ursus americanus).

CONTENTS

Summary	i
Background	1
Objectives	1
Procedures	1
Study Areas	1
Results and Discussion	2
Capture and Handling	2
Morphometric, Blood, and Hair Data	2
Current Status, Movements, and Home Range	2
Density	3
Denning Ecology	3
Literature Cited	4
Tables	5

BACKGROUND

Black bear (*Ursus americanus*) studies were initiated on the Kenai Peninsula in 1977 (Franzmann and Schwartz 1979; Schwartz and Franzmann 1980, 1981; Schwartz et al. 1982, 1983a, 1984), as part of a comprehensive predator-prey study. Work with black bears was concentrated in the 1947 burn area at the MRC from 1977-1981. Work was expanded in 1982 to include an area burned by fire in 1969. We are currently comparing population dynamics and abundance of black bears between the 2 areas. The original hypotheses being tested were presented in Schwartz et al. (1983b).

OBJECTIVES

To determine, compare, and contrast the population density, age structure, productivity, and survival of the black bear populations in the MRC and Swanson River-Finger Lakes study areas.

To evaluate seasonal, temporal, and spatial aspects of bear movements as they relate to food abundance within the 2 study areas.

PROCEDURES

Methods used to capture, age, radio-collar, monitor movements, and estimate bear density were described by Schwartz et al. (1983a).

STUDY AREAS

The MRC study area is located on the Kenai National Wildlife Refuge (KNWR) on the northwestern Kenai Peninsula lowlands. A detailed description of the area appears in Schwartz et al. (1983a).

Also on the KNWR, the 2nd study area (Finger Lakes) is located on the northcentral Kenai Peninsula lowlands in the 1969 burn. A large fire in 1969 burned 35,200 ha of upland forest and bog. The dominant vegetation is birch, aspen, and willow with a grass understory. Because the 1969 burn was a much "hotter" fire than the 1947 burn, the area was almost completely burned and few islands of unburned timber remain. A detailed description can be found in Smith (1984).

RESULTS AND DISCUSSION

Capture and Handling

Sixteen yearlings were radio-collared and ear-tagged in February and March 1984 while in their winter dens: 3 were from the MRC area and 13 from the Finger Lakes area (Table 1). No bears were tagged in the Finger Lakes area during the summer field season. Several spotting flights were flown in May and early June in an attempt to locate untagged bears for capture. Only 2 small bears were sighted, both of which were presumed to be yearling or 2-year-olds. No unmarked adults were spotted.

Trapping operations were initiated at the MRC study area on 31 May 1984 and continued through 25 July 1984. During this period, we captured 32 bears during 1,118 trap-days. Trapping success was 34.9 days per bear trapped during the 1984 period and 19.8 days per bear in 1983.

Of the 32 bear captures, 14 were different individuals, of which 7 were new captures (Table 1). Of these 7 new bears, all but one were males. The female was an adult, but not a resident of the study area. We radio-collared her, but her main home range area was northeast of the study area near Grouse Lake. This female was captured on June 2 and was probably in estrus when captured.

We have seen a similar pattern with resident females. They will move into areas which are not part of their normal home range during the breeding season of a year in which they breed. We also trapped from 11 September to 3 October and caught 1 bear in 256 trap-nights.

Morphometric, Blood, and Hair Data

No attempt was made to assess the morphometric data (Table 2) or blood chemical data (Tables 3 and 4) collected during this report period. These data have been entered on computer input forms and will be analyzed for the final report next year.

Current Status, Movements, and Home Range

We are currently monitoring 20 black bears (Table 5) in the MRC study area. Bear B1 shed her collar at her winter den, probably because it was not replaced properly when she was drugged in her den in February. Also, bears B53 and B66 both shed their collars and the radio transmitters probably failed on bears B16 and B25. Five bears were shot by hunters. Three of these were harvested while in their summer feeding areas near north Kenai, while the other two were shot within their normal home ranges. Bear B11 also died of unknown causes while

migrating between his home range area and his summer feeding area in north Kenai. His carcass was within 100 m of an oilfield road in the Swanson River oilfield on the Kenai National Wildlife Refuge. The carcass was rotten and full of maggots when located thus precluding a detailed field necropsy. We did salvage the bones and skull. There were no broken or damaged bones, and the teeth and skull were in good condition. We also used a metal detector to determine if there was a bullet in the carcass: none was found. Because the evidence to delineate cause of death was lacking, cause of death was listed as unknown.

We are currently monitoring 18 bears in the Fingers Lake area (Table 6). We lost contact with bears C1, C3, C21, C28, C35, C44, C46, C47, and C56, either because of shed radios or radio failures. In addition, 9 bears (C7, C14, C20, C22, C24, C25, C30, C36, and C45) were harvested by hunters. This harvest represents a significant percentage of the total marked population in 1984. If we include only radio-collared bears that were known to be alive during 1984, this harvest of 9 radio-collared bears represents approximately 26% of the marked population. If we include marked bears whose radios failed sometime prior to 1984, and bears that were only ear-tagged prior to 1984, but believed to be alive, then this harvest of 9 bears represents 23% of the total marked population. Both represent high rates of mortality. This increase in the harvest also corresponds to a significant increase in total bear harvest in Units 7 and 15, the game management units which encompass the Kenai Peninsula. Exact causes for this increase are not known. Most of the bears shot in the study area were killed by hunters using bait. Baiting was reinstated on the Kenai Peninsula in July 1983 under permits from the Department of Fish and Game. Permit restrictions were lifted in July 1984.

We have no data on movements and home range for this report. Movement data have been recorded on mylar maps for computer digitizing, and descriptive records have been recorded on a database program, but due to a shortage of available biometric support in the Anchorage regional office, no analysis data were available.

Density

No density estimates are available for this report due to a shortage of available biometric support in the Anchorage office.

Denning Ecology

Dimensions of 22 black bear dens were recorded during this report period; 10 were from the Finger Lakes area and 12 from

the MRC study area (Table 7). Data have been entered onto a computer input file and will be analyzed for the final period.

LITERATURE CITED

- Franzmann, A. W., and C. C. Schwartz. 1979. Kenai Peninsula moose calf mortality study. Alaska Dep. Fish and Game. Fed. Aid in Wildl. Rest. Final Rep. Proj. W-17-10. 18pp.
- Schwartz, C. C. and A. W. Franzmann. 1980. Black bear predation on moose. Alaska Dep. Fish and Game. Fed. Aid in Wildl. Rest. Annual Rep. Proj. W-17-10. 82pp.
- _____, and _____. 1981. Black bear predation on moose. Alaska Dep. Fish and Game. Fed. Aid in Wildl. Rest. Proj. W-17-10. Juneau. 43pp.
- _____, _____, and D. C. Johnson. 1982. Black bear predation on moose. Alaska Dep. Fish and Game. Fed. Aid in Wildl. Rest. Annual Rep. Proj. W-21-2. 44pp.
- _____, _____, and _____. 1983a. Black bear predation on moose. Alaska Dep. Fish and Game. Fed. Aid in Wildl. Rest. Final Rep. Proj. W-17-10, W-17-11, W-21-1, W-21-2, and W-22-1. Job 17.3R. Juneau. 135pp.
- _____, _____, and _____. 1983b. Population ecology of the Kenai Peninsula black bear. Alaska Dep. Fish and Game. Fed. Aid in Wild. Rest. Prog. Rep. Proj. W-22-1 and W-22-2. Job 17.5R. Juneau. 17pp.
- _____, _____, and _____. 1984. Population ecology of the Kenai Peninsula black bear. Alaska Dep. Fish and Game. Fed. Aid in Wild. Rest. Prog. Rep. Proj. W-22-2. Job 17.5R. Juneau. 27pp.
- Smith, P. A. 1984. Kenai black bears and cranberries: bear food habits and densities. M. S. Thesis. Univ. of Alaska, Fairbanks. 144pp.

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Table 1. Capture and marking information for 10 and 13 newly captured black bears within the Moose Research Center and Finger Lake study areas, respectively, Kenai Peninsula, Alaska, 1984.

Bear No.	Sex	Date	Capture		Ear tags	
			Location	Right	Left	
B-69 ^a	M	2/28/84	Den SW Rabbit Foot Lake	391	392	
B-70 ^a	F	2/28/84	Den SW Rabbit Foot Lake	394	393	
B-71 ^b	F	2/29/84	Den N Birch Lake	396	395	
B-72	M	6/2/84	Trap No. 7	23	21	
B-73	F	6/2/84	Trap No. 20	654	399	
B-74	M	6/4/84	Trap No. 19	36	26	
B-75	M	6/7/84	Trap No. 11	24	25	
B-76	M	6/7/84	Trap No. 21	34	33	
B-77	M	6/16/84	Trap No. 13	42	37	
B-78	F	6/29/84	Trap No. 25	34	37	
C-44 ^c	F	3/5/84	Den NE Forest Lake	0	0	
C-45 ^c	M	3/5/84	Den NE Forest Lake	347	397	
C-46 ^c	F	3/5/84	Den NE Forest Lake	385	384	
C-47 ^d	M	3/6/84	Den SE Finger Lakes	33	398	
C-48 ^d	F	3/6/84	Den SE Finger Lakes	27	26	
G-49 ^d	M	3/6/84	Den SE Finger Lakes	29	28	
C-50 ^e	M	3/6/84	Den NW Hungry Lake	31	30	
C-51 ^e	M	3/6/84	Den NW Hungry Lake	0	0	
C-52 ^e	M	3/6/84	Den NW Hungry Lake	18	32	
C-53	M	3/7/84	Den NE Plover Lake	672	699	
C-54 ^f	F	3/7/84	Den NE Plover Lake	652	899	
C-55 ^f	M	3/7/84	Den S Akula Lake	656	655	
C-56 ^f	F	3/7/84	Den S Akula Lake	660	670	

^a 1983 cub of B-14.

^b 1983 cub of B-1.

^c 1983 cub of C-14.

^d 1983 cub of C-2.

^e 1983 cub of C-19.

^f 1983 cub of C-31.

Table 2. Morphometric data (cm) for 34 bears captured on the Kenai Peninsula, Alaska, 1984.

Bear No.	Weight (kg)	Age (yr)	Total length	Girth	Skull length	Skull width
B-12	79.6	6	150.0	88.0	27.5	16.4
B-15	75.0	8	161.0	87.0	26.6	15.3
B-39	84.1	5	127.0	87.0	27.9	16.9
B-42	59.1	4	139.0	78.0	25.4	15.2
B-50	25.9	2	--	70.0	21.2	12.6
B-57	38.6	2	--	--	16.8	8.3
B-58	34.1	2	--	--	22.7	13.2
B-65	77.3	4	155.0	90.0	27.3	16.5
B-69	25.9	1	--	--	19.7	11.9
B-70	27.3	1	120.0	58.0	20.4	12.0
B-71	19.1	1	--	62.0	17.8	10.8
B-72	79.6	3	163.0	--	28.4	16.4
B-73	55.4	9	145.0	78.0	25.7	15.7
B-74	115.9	--	--	--	30.1	17.5
B-75	88.6	4	195.0	--	28.6	16.5
B-76	120.4	10	--	--	--	--
B-77	80.0	2	117.0	71.0	23.9	12.6
B-54	28.2	2	--	72.0	20.4	12.9
C-30	113.6	3	173.0	107.0	30.0	18.4
C-31	99.6	17-18	--	--	26.3	15.8
C-34	42.7	2	--	84.0	22.5	13.0
C-44	22.7	1	--	--	18.6	11.3
C-45	--		--	--	19.3	11.0
C-46	--	1	--	68.0	19.4	11.5
C-47	29.6	1	--	63.5	18.3	12.0
C-48	25.0	1	--	62.0	19.1	11.1
C-49	32.3	1	--	78.0	21.0	11.7
C-50	30.4	1	--	70.0	19.3	12.0
C-51	33.2	1	--	74.0	19.7	12.0
C-52	33.6	1	--	75.0	18.4	12.5
C-53	21.4	1	--	62.0	17.8	10.4
C-54	71.4	5	--	98.0	22.6	15.1
C-55	34.1	1	--	78.0	19.4	12.2
C-56	30.0	1	--	70.0	18.7	11.8

Table 3. Black bear blood chemical data collected on the Kenai Peninsula, Alaska, 1984.

Bear No.	Date	Age (yr)	Sex	Glucose mg/dl	Cholesterol mg/dl	Triglyceride mg/dl	LDH U/L	SGOT U/L	SGPT U/L	Alkaline Phosphatase										BUN mg/dl	Creat. mg/dl	Bili-rubin mg/dl	Uric Acid mg/dl
										mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl	mg/dl				
B-12	7/13/84	6	F	84	311	213	394	50	16	22	4.9	8.3	1.69	145	5	111	17	14	0.9	0.1	1.4		
B-15	7/10/84	8	F	92	336	174	768	118	66	18	4.6	9.5	2.07	143	5	105	21	11	0.8	0.1	1.1		
B-39	7/6/84	5	M	104	231	204	350	100	62	31	5.9	8.9	1.51	139	4	107	17	14	1.0	0.1	1.4		
B-50	2/27/84	2	F	89	343	285	349	41	9	18	4.2	11.5	2.74	145	4	105	20	8	3.3	0.1	1.2		
B-42	7/13/84	4	F	5	330	244	253	71	53	38	6.3	10.0	1.59	145	5	110	18	12	0.9	0.0	2.0		
B-54	2/27/84	5	F	89	435	127	656	160	64	12	5.1	11.5	2.25	142	4	105	12	3	2.7	0.2	0.2		
B-57	6/3/84	2	F	81	298	326	404	66	16	123	5.6	9.7	1.73	146	4	110	16	13	0.8	0.1	1.2		
B-58	6/7/84	2	F	116	269	235	902	298	166	38	5.4	9.7	1.80	144	4	110	18	15	0.7	0.2	1.3		
B-65	6/26/84	4	M	9	293	313	999	204	156	59	4.5	9.8	2.18	140	4	105	18	28	0.7	0.1	3.4		
B-69	2/28/84	1	M	69	388	194	366	31	5	14	4.3	11.2	2.60	142	4	103	23	5	2.3	0.1	0.7		
B-70	2/28/84	1	F	85	445	142	499	27	7	20	4.5	10.0	2.22	148	4	106	18	4	2.2	0.0	1.0		
B-71	2/29/84	1	F	114	429	314	469	27	1	18	4.0	9.4	2.35	146	4	106	18	15	2.9	0.1	0.9		
B-72	6/2/84	3	M	107	395	168	856	181	70	50	6.4	9.9	1.55	146	4	107	18	14	0.7	0.0	1.0		
B-73	6/2/84	9	F	67	242	292	489	185	71	69	6.0	9.1	1.50	147	3	108	19	14	0.9	0.1	1.2		
B-74	6/4/82	--	M	133	376	252	699	192	55	32	5.5	9.9	1.80	153	4	110	18	23	0.9	0.1	0.5		
B-75	6/7/84	4	M	69	276	181	608	119	37	57	5.4	10.4	1.93	141	5	104	21	9	1.1	0.0	0.8		
B-76	6/7/84	10	M	88	189	205	745	90	30	17	4.7	8.6	1.83	143	4	106	19	7	1.2	0.1	0.8		
B-77	6/16/84	2	M	53	306	177	853	97	38	81	8.0	11.3	1.41	142	5	106	17	15	0.9	0.1	0.3		
C-30	6/18/84	3	M	26	344	333	504	68	18	25	11.3	11.4	1.01	141	5	104	11	32	1.2	0.1	2.1		
C-31	3/7/84	17-18	F	89	272	89	351	28	5	16	3.6	9.0	2.50	141	4	104	20	4	2.0	0.1	1.3		
C-34	3/7/74	2	F	78	350	352	261	15	6	14	4.6	10.2	2.22	139	4	98	23	15	3.4	0.1	1.0		
C-44	3/5/84	1	F	83	434	328	394	27	8	35	4.4	11.2	2.55	143	4	106	15	5	2.0	0.1	1.2		
C-45	3/5/84	1	M	87	351	409	874	115	13	13	4.1	9.8	2.18	140	5	103	20	13	1.9	0.1	1.5		
C-46	3/5/84	1	F	114	305	214	412	36	2	43	2.0	9.7	4.85	144	4	104	17	9	2.3	0.1	1.4		
C-47	3/6/84	1	M	56	564	304	488	35	2	40	5.6	10.9	1.95	142	4	101	22	13	2.4	0.1	1.3		
C-48	3/6/84	1	F	83	339	182	456	44	1	49	4.0	9.9	2.48	144	4	106	19	9	2.3	0.3	1.3		
C-49	3/6/84	1	M	8	399	274	484	39	1	51	4.4	10.4	2.36	147	4	104	20	5	2.3	0.0	1.0		
C-50	3/6/84	1	M	90	419	340	731	81	7	18	3.8	10.5	2.76	142	4	102	20	18	2.3	0.1	1.2		
C-51	3/6/84	1	M	90	558	464	341	23	3	40	3.2	11.4	3.56	146	4	104	15	9	2.3	0.2	0.9		
C-52	3/6/84	1	M	84	573	421	547	36	2	60	3.7	12.2	3.30	142	4	104	21	19	2.5	0.2	1.1		
C-53	3/7/84	1	M	53	435	229	404	29	7	40	4.5	10.5	2.33	145	4	106	21	6	2.4	0.1	0.9		
C-54	3/7/84	--	F	72	329	103	475	60	4	9	3.2	9.7	3.03	143	4	106	21	5	2.4	0.1	1.1		
C-55	3/7/84	1	M	1	242	137	330	51	1	50	4.3	8.5	1.98	139	4	100	23	4	2.1	0.1	1.2		
C-56	3/7/84	1	F	138	267	155	311	27	1	72	4.2	9.9	2.36	144	4	105	12	3	1.7	0.0	1.1		

Table 4. Black bear blood protein, electrophoresis and hematologic data collected on the Kenai Peninsula, Alaska, 1984.

Bear No.	Date	Age (yrs)	Sex	Total protein g/dl	Albumin g/dl	Globulin g/dl	Alpha 1 g/dl	Alpha 2 g/dl	Beta g/dl	Gamma g/dl	A/G ratio	Hb g/dl	PCV %
B-12	7/13/84	6	F	6.6	4.4	2.2	0.4	0.5	0.6	0.7	2.0	17.0	43
B-15	7/10/84	8	F	1.4	4.2	3.2	0.5	0.6	0.8	1.3	1.3	18.5	46
B-39	7/6/84	5	M	6.5	3.8	2.7	0.5	0.4	0.8	1.0	1.4	15.0	41
B-42	7/13/84	4	F	7.4	4.1	3.3	0.6	0.6	0.8	1.2	1.3	15.5	47
B-50	2/27/84	2	F	7.9	5.3	2.6	0.7	0.5	0.6	0.9	2.0	19.8	56
B-54	2/27/84	2	F	7.5	5.1	2.4	0.7	0.2	0.5	1.1	2.1	20.0	53
B-57	6/3/84	2	F	6.5	3.7	2.8	0.6	0.6	0.7	0.9	1.3	14.5	43
B-58	6/7/84	2	F	7.4	4.0	3.4	0.7	0.4	0.9	1.5	1.2	11.5	35
B-65	6/26/84	4	M	7.9	4.2	3.7	0.5	1.0	0.7	1.5	1.1	17.5	42
B-69	2/28/84	1	M	7.1	4.9	2.2	0.8	0.4	0.5	0.6	2.2	16.0	40
B-70	2/28/84	1	F	6.5	4.5	2.0	0.7	0.5	0.4	0.5	2.3	0.0	0
B-71	2/29/84	1	F	7.1	4.9	2.2	0.6	0.6	0.3	0.7	2.2	20.0	51
B-72	6/2/84	3	M	6.9	3.8	3.1	0.5	0.7	0.9	1.0	1.3	15.5	44
B-73	6/2/84	9	F	6.8	3.6	3.2	0.5	0.5	0.7	1.5	1.2	16.5	45
B-74	6/4/84	--	M	7.8	4.3	3.5	0.5	0.8	1.1	1.1	1.2	16.0	47
B-75	6/7/84	4	M	6.8	4.1	2.7	0.4	0.6	0.7	1.0	1.5	16.5	45
B-76	6/7/84	10	M	7.7	3.5	4.2	0.5	0.9	1.1	1.6	0.8	0.0	0
B-77	6/16/84	2	M	6.3	4.1	2.2	0.6	0.2	0.6	0.7	1.8	17.5	46
C-30	6/18/84	3	M	7.8	3.9	3.9	0.7	0.7	1.2	1.4	1.0	15.1	54
C-31	3/7/84	17-18	F	8.4	4.6	3.8	0.5	0.2	1.6	1.5	1.2	0.0	0
C-34	3/7/84	2	F	8.9	4.7	4.2	0.6	0.6	1.3	1.8	1.1	0.0	0
C-44	3/5/84	1	F	7.5	4.7	2.8	0.7	0.4	0.8	0.9	1.7	14.5	42
C-45	3/5/84	1	F	8.4	4.9	3.5	0.4	0.5	0.9	2.6	0.9	14.8	40
C-46	3/5/84	1	F	7.4	4.2	3.2	0.7	0.4	0.9	1.3	1.3	15.2	44
C-47	3/6/84	1	M	7.1	4.7	2.4	0.7	0.3	0.9	0.5	1.9	14.0	43
C-48	3/6/84	1	F	7.0	4.8	2.2	0.7	0.3	0.6	0.5	2.2	13.5	42
C-49	3/6/84	1	M	6.9	4.2	2.7	0.8	0.4	0.8	0.7	1.6	14.0	43
C-50	3/6/84	1	M	8.4	5.6	2.8	0.4	0.4	0.7	1.2	2.0	15.0	48
C-51	3/6/84	1	M	8.8	5.6	3.2	0.6	0.3	1.0	1.3	1.8	17.0	52
C-52	3/6/84	1	M	8.0	5.4	2.6	0.5	0.4	1.0	0.8	2.1	15.6	47
C-53	3/7/84	1	M	6.8	4.3	2.5	0.6	0.5	0.7	0.7	1.7	15.6	51
C-54	3/7/84	5	F	9.6	4.4	5.2	0.6	0.4	1.3	3.0	0.9	13.0	43
C-55	3/7/84	1	M	7.0	5.1	1.9	0.5	0.3	0.5	0.5	2.8	12.2	38
C-56	3/7/84	1	F	6.6	4.2	2.4	0.6	0.4	0.7	0.7	1.8	14.6	46

Table 5. Aerial tracking data for 1984 and current status of all black bears captured at the Moose Research Center study area, Kenai Peninsula, Alaska, 1978-84.

Bear No.	Sex	Times located 1984	Last observed	Current status
B1	F	5	1 Jun 1984	Status unknown
B2	F	4	26 Oct 1984	Active
B3	M	0	17 June 1983	Status unknown
B4	M	--	2 May 1978	Dead 2 May 1978
B5	M	0	3 Oct 1978	Status unknown
B6	M	--	24 June 1978	Dead 1 Sep 1978
B7	F	--	9 May 1978	Dead 9 May 1978
B8	M	--	25 Apr 1979	Dead 25 Apr 1978
B9	M	12	24 Aug 1984	Dead 24 Aug 1984
B10	M	--	Feb 1983	Status unknown (radio-collar failed)
B11	M	6	29 Jun 1984	Dead 29 Jun 1984
B12	F	19	26 Oct 1984	Active
B13	F	--	26 Aug 1980	Dead 4 Sept 1980
B14	F	20	26 Oct 1984	Active
B15	F	19	26 Oct 1984	Active
B16	M	2	24 Apr 1984	Status unknown
B17	F	--	8 Nov 1978	Dead 14 Sep 1981
B18	F	--	16 Oct 1980	Status unknown
B19	M	--	1 Aug 1979	Dead 18 Sep 1981
B20	F	0	13 Jul 1982	Status unknown
B21	F	0	26 Aug 1980	Status unknown
B22	M	0	20 Jun 1980	Status unknown
B23	F	0	14 Mar 1980	Status unknown
B24	F	20	26 Oct 1984	Active
B25	M	6	20 Jun 1984	Status unknown
B26	M	--	26 Jun 1979	Dead May 1980
B27	M	20	26 Oct 1984	Active
B28	M	--	20 Jun 1979	Dead 18 May 1980
B29	M	--	6 Jun 1980	Dead 25 Sep 1980
B30	F	--	8 Jun 1980	Dead 3 Sep 1980
B31	F	--	18 May 1981	Dead 20 May 1981
B32	M	--	11 Jun 1980	Dead 21 June 1980
B33	M	0	25 Oct 1982	Status unknown
B34	M	--	17 Aug 1982	Dead 28 Aug 1982
B35	F	20	26 Oct 1984	Active
B36	F	0	28 May 1980	Status unknown
B37	M	0	17 Sep 1980	Status unknown
B38	F	20	26 Oct 1984	Active
B39	M	13	26 Oct 1984	Active
B40	M	--	12 June 1980	Dead 21 May 1981

Table 5. Continued.

Bear No.	Sex	Times located 1984	Last observed	Current status
B41	M	7	29 Aug 1983	Dead 12 Oct 1983
B42	F	16	10 Aug 1984	Dead 29 Aug 1984
B43	M	--	13 May 1981	Dead 13 May 1981
B44	F	--	13 May 1981	Dead 14 July 1981
B45	M	--	11 June 1981	Dead 11 June 1981
B46	F	--	13 May 1981	Dead 11 June 1981
B47	M	0	11 May 1982	Status unknown
B48	F	20	26 Oct 1984	Dead 4 May 1984
B49	M	21	26 Oct 1984	Active
B50	F	25	26 Oct 1983	Active
B51	F	--	16 May 1983	Dead 16 May 1983
B52	M	--	30 Jun 1982	Dead 1 July 1982
B53	M	6	9 Jun 1984	Status unknown
B54	F	22	31 Oct 1984	Active
B55	F	15	20 Jul 1983	Status unknown
B56	F	20	26 Oct 1984	Active
B57	F	10	15 Sep 1984	Dead 15 Sep 1984
B58	F	20	26 Oct 1984	Active
B59	F	19	26 Oct 1984	Active
B60	M	0	17 Aug 1983	Status unknown
B61	M	1	11 Jun 1984	Status unknown
B62	M	8	4 Aug 1983	Status unknown
B63	M	0	6 Jun 1983	Status unknown
B64	M	0	6 Jun 1983	Status unknown
B65	M	5	7 Jul 1984	Status unknown
B66	F	4	6 Aug 1983	Status unknown
B67	M	1	5 Jun 1984	Status unknown
B68	M	0	28 Jun 1983	Status unknown
B69	M	12	11 Oct 1984	Active
B70	F	18	31 Oct 1984	Active
B71	F	19	26 Oct 1984	Active
B72	M	1	2 Jun 1984	Status unknown
B73	F	14	26 Oct 1984	Active
B74	M	1	4 Jun 1984	Status unknown
B75	M	1	19 Sep 1984	Dead 19 Sep 1984
B76	M	1	7 Jun 1984	Status unknown
B77	M	4	11 Jul 1984	Status unknown
B78	F	5	26 Oct 1984	Active

Table 6. Aerial tracking data for 1984 and current status of all black bears captured at the Finger Lakes study area, Kenai Peninsula, Alaska, 1982-84.

Bear No.	Sex	Times located 1984	Last observed	Current status
C1	M	2	23 Apr 1984	Status unknown
C2	F	20	26 Oct 1984	Active
C3	M	0	Apr 1984	Status unknown
C4	F	--	12 May 1982	Dead 14 May 1982
C5	M	--	5 Aug 1982	Dead 13 Aug 1982
C6	F	20	26 Oct 1984	Active
C7	M	--	13 Aug 1984	Dead 13 Aug 1984
C8	F	--	27 Aug 1982	Dead 27 Aug 1982
C9	F	--	18 May 1982	Dead 18 May 1982
C10	F	20	26 Oct 1984	Active
C11	M	--	6 May 1983	Dead 15 Sep 1983
C12	F	20	26 Oct 1984	Active
C13	M	0	22 Jun 1982	Status unknown
C14	F	4	9 May 1984	Dead 9 May 1984
C15	M	0	24 May 1982	Status unknown
C16	M	0	10 May 1983	Status unknown
C17	F	20	26 Oct 1984	Active
C18	F	18	26 Oct 1984	Active
C19	F	20	26 Oct 1984	Active
C20	F	20	27 May 1984	Dead 27 May 1984
C21	M	2	8 Jun 1984	Status unknown
C22	F	1	30 May 1984	Dead 30 May 1984
C23	M	0	4 Aug 1983	Status unknown
C24	F	--	27 May 1984	Dead 27 May 1984
C25	F	8	13 Sep 1984	Dead 13 Sep 1984
C26	F	13	26 Oct 1984	Active
C27	F	0	7 Jun 1983	Status unknown
C28	M	2	9 May 1984	Status unknown
C29	F	--	4 Aug 1983	Dead 12 Aug 1983
C30	M	--	26 Jun 1984	Dead 26 June 1984
C31	F	20	26 Oct 1984	Active
C32	F	20	26 Oct 1983	Active
C33	M	--	26 Aug 1983	Dead 26 Aug 1983
C34	F	16	26 Oct 1984	Active
C35	M	2	9 May 1984	Status unknown
C36	M	--	2 Oct 1984	Dead 2 Oct 1984
C37	M	--	23 May 1983	Status unknown
C38	F	--	31 May 1983	Dead 31 May 1983
C39	M	20	26 Oct 1984	Active
C40	F	20	26 Oct 1984	Active
C41	F	0	29 Jul 1983	Status unknown

Table 6. Continued.

Bear No.	Sex	Times located 1984	Last observed	Current status
C42	M	0	12 Sep 1983	Status unknown
C43	F	--	27 May 1983	Dead 27 May 1983
C44	F	12	Jul 1984	Status unknown (shed collar)
C45	M	4	9 May 1984	Dead 9 May 1984
C46	F	12	Jul 1984	Status unknown (shed collar)
C47	M	4	May 1984	Status unknown (shed collar)
C48	F	21	31 Oct 1984	Active
C49	M	13	10 Aug 1984	Status unknown
C50	M	12	30 Jul 1984	Status unknown
C51	M	15	26 Oct 1984	Active
C52	M	17	26 Oct 1984	Active
C53	M	16	26 Oct 1984	Active
C54	F	4	23 May 1984	Status unknown
C55	M	20	26 Oct 1984	Active
C56	F	4	23 May 1984	Status unknown

Table 7. Dimensions (cm) of 22 black bear dens from the Kenai Peninsula, Alaska, 1984.

Bear No.	Entrance			Chamber			Volume (x 1000)	Den length
	Height	Width	Area (x 10)	Height	Width	Length		
C-2	40	60	240	50	89	154	685	144
C-6	38	39	148	65	108	113	793	183
C-10	68	95	646	73	79	200	1,153	200
C-17	35	64	224	53	92	140	633	0
C-19	39	19	74	0	108	87	--	108
C-26	38	45	171	128	89	129	1,469	439
C-28	74	76	562	80	92	79	581	127
C-31	44	56	246	76	125	111	1,054	193
C-39	74	116	858	79	120	200	896	200
C-40	50	44	220	56	86	86	414	109
B-1	48	42	201	74	97	104	746	174
B-38	38	62	235	77	91	114	798	261
B-50	35	55	192	52	64	82	272	147
B-54	32	42	134	65	82	90	479	132
B-59	41	43	176	63	97	131	800	190
B-35	--	--	--	--	--	--	--	--
B-27	38	45	171	76	105	126	1,005	205
B-53	28	34	95	40	77	95	292	95
B-9	50	62	310	50	92	100	460	100
B-14	--	--	--	70	98	103	706	155
B-12	52	51	265	72	90	103	667	180
B-15	39	71	276	91	155	143	2,017	190