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SOUTHEASTERN BROWN BEAR STUDIES

by
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Project Progress Report
Federal Aid in Wildlife Restoration
Project W-17-6, Job 4.7R

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JOB PROGRESS REPORT (RESEARCH)

State: Alaska

Cooperator: Robert E. Wood

Project No: W-17-6

Project Title: Big Game Investigations

Job No. 4.7R

Job Title: Movement and Populations
of Brown Bear in the
Hood Bay Drainage of
Admiralty Island

Period Covered: July 1, 1973 through June 30, 1974

SUMMARY

Twelve bears were trapped with Aldrich foot snares along fish creeks in Hood Bay on Admiralty Island from September 9 through September 23, 1973. Bears were marked and life history information was collected.

Observations of bears utilizing the beaches in Hood Bay were made from May 24 through June 4, 1974. Thirty-two different bears, 13 of which were tagged, were observed during this period.

Four bears (one tagged) were taken by hunters in Hood Bay during spring 1974.

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BACKGROUND

Much of the better brown bear (*Ursus arctos*) habitat on Admiralty Island is included in the Juneau Unit timber sale that the U.S. Forest Service awarded to Champion International, Inc. in 1968. Logging will greatly alter the existing habitat through clearcutting, road building and introduction of greater numbers of people. Permanent logging camps will be constructed and plans call for a public road running the length of the island. The sale contract allows for logging 95 percent of the available commercial timber. The Sierra Club has filed suit against the Forest Service, contending the Service violated the Multiple Use Sustained Yield Act, and in all probability it will be a year or more before the suit is settled.

This study was initiated to evaluate the effects of clearcutting and logging related activities on brown bears. Hood Bay was chosen as a study area because of its large population of bears, its geographic location with respect to other bays of importance to bears, its excellent salmon streams and the fact that it is one of the first areas within the Champion sale scheduled for logging.

OBJECTIVES

To determine the density, productivity and sex and age composition of the brown bear population in the Hood Bay drainage on Admiralty Island and to measure movements of these bears within and between the Hood Bay drainage and adjacent drainages.

PROCEDURES

Aldrich foot snares were operated from September 9 through September 23, 1973 along the three major salmon streams in Hood Bay. Snares were used along the creek in the South Arm September 9-17 and on the two creeks at the head of the North Arm from September 18 to September 23.

The trapping and tagging work was accomplished by two men using a maximum of eight snares at any one time. Trail sets along fish creeks were used exclusively and snares were anchored in place.

Bears were immobilized using drugs, dosages and procedures established by Glenn and Miller (1970). In most instances, a first premolar was removed for aging purposes, the bears were weighed using a 500-pound capacity spring scale and body measurements were taken.

All bears were ear-tagged with two nylon jumbo Rototags. White tags were used for males and yellow for females. Three-inch squares of Saflag were placed under the Rototags on the backs of the ears. Appendix I lists the color combinations used. Lip and groin tattoos were applied with a Spaulding Fieldmaster electric tattoo marker.

Spring observations to evaluate bear movements and to obtain a minimum population estimate were conducted in Hood Bay from May 24 through June 4, 1974. A skiff was used to patrol the beaches and tideflats to locate bears and efforts were made to ascertain presence or absence of ear tags and to identify individuals.

FINDINGS

Fall Tagging

Twelve bears were trapped and tagged from September 9 through September 23. Eight were tagged in the South Arm from September 9 through 17 in approximately 45 snare days and the other four were tagged in 35 snare days from September 18 through September 23 in the North Arm.

Trapping conditions were excellent in the South Arm. Water levels were fairly high initially but dropped steadily during the week and fish were abundant and easily obtainable at all times. Conditions in the North Arm were not as good because the fish run was apparently quite small and was essentially over by the time trapping started. Some bears were still using the flats but most sign appeared to be a week or two old. Trapping should have been initiated in the North Arm and then switched to the South Arm to take into account the difference in timing of the fish runs.

No recaptures of previously tagged bears were made. One foot injury (broken or disjointed) occurred. This bear (#33-73) was closely observed the following spring and no indication of the injury could be detected.

One female was shot when she charged while we were attempting to dart a yearling cub in a snare.

One tagged bear (#15-72) was shot by a hunter in Hood Bay on September 7, 1973. The bear was a male, tagged in September 1972 when 2.5 years old, which had moved about 10 miles from the North Arm into the South Arm. Ears, ear tags and the lip tattoo were in excellent condition but the numbered pendant on the collar was chewed and badly faded.

Spring Observations

Observations conducted in Hood Bay from May 24 through June 4, 1974 indicated there were at least 32 different bears utilizing 25 to 30 miles of beach. Four bears were killed in Hood Bay during the spring 1974 season. Thirteen of the 32 bears observed were tagged and one of the four hunter-killed bears was tagged. Maximum number of tagged bears still alive at the time of the observations was 40. Good data on bear movements in and out of Hood Bay are not available so it is impossible to arrive at a figure of tagged bears within the drainage and at any one time. The number of bears that reside in, or move through, Hood Bay in the spring is certainly larger than 36. On several days we observed at least 15 different bears. Some bears were observed only once during the 12 days of observation and some were seen on 4 different days.

Of the 32 different bears observed, 17 were adults without cubs and five were sows with a total of 10 cubs, all yearlings or older.

The Saflag ear markers, although apparently not very permanent, were visible under good conditions at ranges up to 2,200 yards. The tagged bears observed during spring observations were marked the previous September.

Most of the spring effort was concentrated in the South Arm because of hunter activity in the North Arm. Only four of the 32 different bears were seen in the North Arm. The majority of observations occurred between noon and 11:00 P.M. The period from 8:00 P.M. to dark was by far the most productive time for observing bears.

Movements

No tagged bears have been reported killed outside of Hood Bay and no sightings of tagged bears were received during the report period. One boar, tagged in September 1972 as a 12.5-year-old, was killed by a hunter in May 1974 approximately four miles from the tagging site. While in the snare, this bear had broken a hind leg and had chewed off three toes. When shot, the foot was gone, but the stump was healed over. Three family groups (all containing cubs-of-the-year) had members tagged during the fall of 1973 and all three groups were observed in June 1974 within three miles of the tagging sites. One adult male and one 3.5-year-old sow, both tagged in September 1973, were observed in June 1974 within three miles of the tagging area. The sow had suffered a broken or disjuncted front foot in the snare in September but no sign of the injury could be detected when she was observed the following June.

DISCUSSION

The minimum number of different bears using Hood Bay in the past four years, as shown by spring beach counts, has been: 18 in 1971, 17 in 1972, 31 in 1973 and 32 in 1974. During 1971 and 1972 observations were made in conjunction with spring trapping efforts and the time spent observing was less than during 1973 and 1974.

Little is known of movements into or out of the bay and consequently it is difficult to arrive at a population estimate for Hood Bay. Simultaneous counts were made in adjacent Pybus and Gambier Bays in the spring of 1973 but no tagged bears were seen. Fourteen different bears were seen in Pybus and 29 in Gambier during the nine-day observation period but not all were observed closely enough to determine if they had been tagged. It is probable that the other bays in the vicinity of Hood Bay, such as Chiak, Whitewater and Eliza Harbor, contain similar densities of bears.

Hunters have killed two tagged bears, both in Hood Bay, and two reports of tagged bears (one from Pybus and one from Gambier) have been received. No tagged bear reports from Hood Bay have been received from other than Department personnel.

LITERATURE CITED

Glenn, L.P. and L.H. Miller. 1970. Report on 1969 brown bear studies. Alaska Dept. Fish and Game, Fed. Aid in Wildl. Rest. Prog. Rept. Proj. W-17-2.

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Appendix I. Bears marked in Hood Bay, September 1973.

Bear No.	Sex	Cem. Age	Weight	Date Tagged	Left Ear			Right Ear			Lip and Groin Tattoo
					Roto No.	Tag Color	Saflag Color	Roto No.	Tag Color	Saflag Color	
27-73	F	14.5	400*	9/12/73	23	Y	Green	24	Y	Orange	27-73
28-73	M	10.5	600*	9/12/73	18	W	Red	17	W	Green	28-73
29-73	F	14.5	290	9/13/73	25	Y	Green	26	Y	White	29-73
30-73	F	0.5	65	9/13/73	27	Y	None	28	Y	None	30-73
31-73	F	12.5	500	9/13/73	19	W	Green	20	W	Green	31-73
32-73	M	0.5	70	9/16/73	22	W	None	21	W	None	32-73
33-73	F	3.5	200	9/17/73	34	Y	Orange	35	Y	Orange	33-73
34-73	M	1.5	150	9/17/73	23	W	White	24	W	Red	34-73
35-73	F	15.5	345	Dead	--	-	-	--	-	-	--
36-73	M	1.5**	220	9/20/73	25	W	White	26	W	Orange	36-73
37-73	F	9.5	390	9/20/73	31	Y	Red	32	Y	Red	37-73
38-73	F	0.5	95	9/20/73	30	Y	None	29	Y	None	38-73
39-73	F	11.5	325	9/21/73	33	Y	Blue	27	W	Blue	39-73

* Weights estimated

** Estimated age from tooth replacement is 2.5 or older.