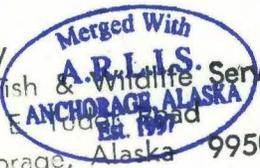


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BROWN BEAR SURVEYS
of
BECHAROF NATIONAL WILDLIFE MONUMENT



Summer of
1980 ,

Becharof National Wildlife Monument
U.S. Fish and Wildlife Service
King Salmon, Alaska

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BROWN BEAR SURVEYS
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BECHAROF NATIONAL WILDLIFE MONUMENT
Summer, 1980

Introduction

Aerial brown bear surveys were conducted over several major streams in the Becharof National Wildlife Monument throughout the month of August and early September. During this period, the bears were concentrated on the streams to feed on salmon which had returned to the streams to spawn. The objectives of the survey were to determine population status, distribution, composition, and areas and periods of peak use. Hopefully, the data obtained will provide information useful in the development of a brown bear management plan for the monument, and will assist in future management decisions affecting the brown bear.

Methods

Surveys flown on August 7, 21 and 29, 1980 were conducted from a Cessna 180. All other surveys were conducted from a Piper Super Cub (PA - 18 equipped with a 150 H. P. engine).

Flights were conducted at elevations of 100 to 600 feet, depending upon weather conditions and types of terrain. Usually the plane was flown with half flaps, again depending on weather and terrain. Streams were flown slightly off to one side or the other in order to give the observer optimum visibility.

The observer on all flights was Becharof Monument Manager John Taylor. The observer recorded all information on a tape recorder except during the September 5 survey when the information was transcribed on paper.

All surveys except the September 5 survey were flown late in the evening between 6 and 9:00 pm. It is believed that the bears were most active during this period and in the early morning. The early morning was not chosen due to ground fog which is common to the area.

Findings

A total of eighteen creeks and rivers and portions of Becharof Lake were flown one or more times. Unfortunately, because of inclement weather conditions (primarily turbulent winds), time available and aircraft availability, only twelve of the streams were flown three or more times. A lack of funding ended the surveys prematurely in September.

A total of 347 bears were classified (Table I). The composition of the population surveyed was 90 cubs (25.9 %), 55 yearlings (15.9 %), 78 sows with young (22.5 %) and 124 single bears (35.7 %). The average litter size for cubs was 1.9 and for yearlings 1.8.

The largest number of bears seen on a single three-hour survey was 68 on August 29.

Discussion and Suggestions

The streams listed in Table I include three unnamed areas which are referred to as Severson Creek, Last Creek and Bible Camp Creek. Severson flows into Becharof Lake immediately below the base of the Severson Peninsula on the south side. Last Creek flows through the valley at the extreme southeast tip of Becharof Lake. Bible Camp Creek is located immediately west of the spit found on the northeast shore of Becharof Lake.

Most of the streams meandering through the flat terrain are relatively narrow (5-20 feet), shallow, and have numerous gravel bars. They become less meandering as they enter the mountain foothills where often small steep canyons are present on each side of the stream. The vegetation along the stream banks is mostly willow or short tundra heath, thus visibility is usually good.

Several of the streams are short such as Cleo and Otter while Bear and Salmon Creeks penetrate well into the mountains and are negotiable by salmon for 10 or more miles. Featherly Creek has a falls just above the right-hand fork which salmon can not negotiate. This portion of Becharof Lake has numerous islands and bays. High, steep-walled mountains rise from Ruth Lake and the Last Creek drainage.

The largest number of bears were seen on Bear, Becharof and Cleo Creeks.

Trails criss-crossing back and forth between streams indicate there is considerable movement and interchange of bears on all streams in the monument. There were fewer bears seen on Featherly and Burls Creeks located on the west side of the Island Arm than on streams located on the east side.

Observations of bears on Becharof Lake, Big Creek, Marie Creek and the King Salmon River were made incidentally during flights to and from surveying other streams.

The Ruth River had an excellent salmon run during late August, but no bears were seen on the river. Reports from moose hunters to ADF&G indicated that a number of bears were using the area in September. However, a lack of funding and aircraft precluded the confirming of these reports. When the river was flown on October 9 no bears or salmon were observed. This river warrants additional surveys next season, especially in September.

The surveys flown this summer were not conclusive enough to determine beginning, ending or peak periods of use on most streams. Nor were the surveys comprehensive enough to determine bear density or numbers on the monument. The surveys were adequate, however, to indicate a healthy population of bears with forty-one percent of the bears being cubs or yearlings. Substantial information was also gathered on specific stream use by bear and salmon. Such data will be necessary during the formulation of management plans for the monument.

Additional data is needed on 1980 surveyed streams, and initial information is needed on Shelikof Strait streams and lateral streams of the Kejulik River. In 1981, surveys are planned to begin the first week of July and continue

through the month of September. Surveys will be weekly except from August 10-21 when daily surveys will be flown, weather permitting. When possible, surveys will again be conducted in a supercub and between 6 and 9 pm.

It is assumed that the monument will have a pilot on staff and a supercub assigned to the station by July. If this is not the case, air support will be obtained locally through air charter services for the July, September and first and last weeks of August surveys. During the August 10-21 period an OAS pilot and supercub on floats will be required full-time.

For the August 10-21 surveys it is planned to base the observer, pilot and plane at the ADF&G cabin located on an island in the Island Arm of Becharof Lake. Since the weather in King Salmon (60 miles away from the survey area) is not always the same as that of Becharof, this type of operation would be safer and permit more surveys. Optimum weather conditions are extremely important for the Shelikof Strait surveys.

When weather does not permit flying, the observer can study and collect data on the bears from the ground. The cabin is within easy boating distance of all Island Arm streams which include the major use streams of Bear, Becharof and Cleo Creeks.

Literature Cited

Troyer, Will. 1975. Brown Bear Studies - Katmai. Unpub. Report. National Park Service, Anchorage. pp. 1, 8-11.

TABLE I - COMPOSITION AND NUMBERS OF BEARS CENSUSED IN BECHAROF NATIONAL WILDLIFE MONUMENT

<u>STREAM</u>	<u>DATE</u>	<u>SOWS WITH CUBS</u>			<u>SOWS WITH YEARLINGS</u>			<u>SINGLES</u>			<u>TOTAL</u>	<u>SALMON RUN</u>
		<u>♀1C</u>	<u>♀2C</u>	<u>♀3C</u>	<u>♀1Y</u>	<u>♀2Y</u>	<u>♀3Y</u>	<u>S</u>	<u>M</u>	<u>L</u>		
Albert Cr.	08/11							1			1	Fair
Bear Cr.	08/07								5	2	7	Good
	08/12		2				1		1	1	12	Excellent
	08/13		2		1		2	1	5	1	23	Excellent
	08/21		2		2		1		6	2	22	Excellent
	08/29	1	1				1	4	1	3	16	Excellent
	09/05		2				1		4	1	14	Good
Becharof Cr.	08/07				1	1			2	2	9	Excellent
	08/11	2	1		2				4	2	17	Excellent
	08/12	1	4					1			15	Excellent
	08/13	1	2	1	1					1	15	Excellent
	08/21		2		1			1			9	Excellent
	08/29		1		1			3	4	2	14	Good
	09/05		1						2	1	6	Good
Becharof Lk.	08/07								2		2	
Bible Camp Creek	08/07		1						2		5	Fair
	08/11		1								3	Good
	08/21		1								3	Good
	08/29										0	Poor
Big Cr.	08/29		1							1	4	Unknown

TABLE I CONTINUED

<u>STREAM</u>	<u>DATE</u>	<u>SOWS WITH CUBS</u>			<u>SOWS WITH YEARLINGS</u>			<u>SINGLES</u>			<u>TOTAL</u>	<u>SALMON RUN</u>
		<u>♀1C</u>	<u>♀2C</u>	<u>♀3C</u>	<u>♀1Y</u>	<u>♀2Y</u>	<u>♀3Y</u>	<u>S</u>	<u>M</u>	<u>L</u>		
Burl's Cr.	08/07							1		1	2	Good
	08/12	1	1			1				1	9	Good
	08/29										0	Poor
Cleo Cr.	08/12					3		1		1	11	Good
	08/13					1		1	2	1	7	Good
	08/21		1						1		4	Excellent
	08/29	1	1		1				4	3	14	Excellent
	09/05		2					1	2		9	Good
Featherly Cr.	08/07										0	Good
	08/12										0	Good
	08/13										0	Good
	08/29					1			4	2	9	Good
	09/05					1		1		1	5	Good
Gertrude Cr.	08/29									1	1	Unknown
Katrine Cr.	08/07		2			1			2		11	Good
	08/11								2		2	Fair
	08/13		1								3	Fair
	08/21										0	Poor
	08/29										0	Poor
	09/05										0	Poor

TABLE I CONTINUED

<u>STREAM</u>	<u>DATE</u>	<u>SOWS WITH CUBS</u>			<u>SOWS WITH YEARLINGS</u>			<u>SINGLES</u>			<u>TOTAL</u>	<u>SALMON RUN</u>
		<u>♀1C</u>	<u>♀2C</u>	<u>♀3C</u>	<u>♀1Y</u>	<u>♀2Y</u>	<u>♀3Y</u>	<u>S</u>	<u>M</u>	<u>L</u>		
Margaret Cr.	08/07								1		1	Good
	08/11		1			1					6	Fair
	08/13							1			1	Fair
	08/21		1					2			5	Fair
	08/29		1								3	Poor
King Salmon River	08/07									1	1	Unknown
	08/29								1		1	Unknown
Last Cr.	08/12										0	Good
Otter Cr.	08/12										0	Poor
	08/21										0	Poor
	08/29									1	1	Poor
Ruth River	08/12										0	Excellent
	08/29										0	Excellent
Salmon Cr.	08/12		2		1		1		2	1	15	Fair
	08/13		1					1		1	5	Fair
	08/21		2								6	Fair
	08/29								3		3	Fair

TABLE I CONTINUED

<u>STREAM</u>	<u>DATE</u>	<u>SOWS WITH CUBS</u>			<u>SOWS WITH YEARLINGS</u>			<u>SINGLES</u>			<u>TOTAL</u>	<u>SALMON RUN</u>
		<u>♀1C</u>	<u>♀2C</u>	<u>♀3C</u>	<u>♀1Y</u>	<u>♀2Y</u>	<u>♀3Y</u>	<u>S</u>	<u>M</u>	<u>L</u>		
Severson Cr.	08/07									1	1	Fair
	08/11										0	Fair
	08/13						1			2	6	Good
	08/21									1	1	Fair
	08/29										0	Poor
Kejulik River	08/07								1		1	Unknown
	08/11								1		1	Unknown
	08/13										0	Unknown
	08/29									1	1	Unknown
	09/05						1				3	Unknown
Marie Cr.	09/05									1	1	Unknown

<u>DAILY TOTALS:</u>	<u>Date</u>	<u>Total</u>
	08/07	40
	08/11	30
	08/12	60
	08/13	61
	08/21	50
	08/29	68
	09/05	<u>38</u>

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