

Volume 4

ARLIS
Alaska Resources
Library & Information Services
Anchorage, Alaska

1962-1963

SH
11
.A73
A4
v. 4

STATE OF ALASKA

William A. Egan, Governor



ANNUAL REPORT OF PROGRESS, 1962 - 1963

FEDERAL AID IN FISH RESTORATION PROJECT F-5-R-4

SPORT FISH INVESTIGATIONS OF ALASKA

Alaska Department of Fish and Game

Walter Kirkness, Commissioner

E. S. Marvich, Deputy Commissioner

Alex H. McRea, Director

Sport Fish Division

Richard Haley, Coordinator

INTRODUCTION

This report of progress consists of Job Segment Reports from the State of Alaska Federal Aid in Fish Restoration Project F-5-R-4, "Sport Fish Investigations of Alaska".

The project is composed of 25 separate studies designed to evaluate the various aspects of the State's recreational fishery resources. While some studies are of a more general nature and deal with gross investigational projects, others have been developed to evaluate specific problem areas. These include studies of king salmon, silver salmon, grayling and State Access requirements. The information gathered will provide the necessary background data for a better understanding of local management problems and development of future investigational studies.

The assembled progress reports may be considered fragmentary in many respects due to the continuing nature of the respective studies. The interpretations contained therein, therefore, are subject to re-evaluation as work progresses and additional information is acquired.

JOB COMPLETION REPORT

RESEARCH PROJECT SEGMENT

State: ALASKA Name: Sport Fish Investigations of Alaska.

Project No: F-5-R-4 Title: Investigation of the Lower Southeast Alaska Salt Water Sport Fish Harvest.

Job No: 1-D

Period Covered: May 1, 1962 to February 28, 1962.

Abstract:

A creel census of the saltwater sport catch in the more utilized fishing areas of the Ketchikan vicinity was made between May 15 and September 8, 1962. A system of coverage of weekend days, holidays and week days was employed. The most important species entering the saltwater fishery was the king salmon, followed by silver salmon. Other salmon, halibut and rockfishes were considered incidental.

Recommendations:

It is recommended that king salmon fishing in spawning streams of the area be restricted to improve escapement.

It is recommended the size restriction on sport caught king salmon be removed to eliminate the necessity of releasing badly injured small fish.

It is recommended this study be continued to further augment available data on the king salmon sport fishery.

Objectives:

To obtain a reasonable estimate of the species and numbers of sport fishes harvested in saltwater in the Ketchikan and adjacent areas.

To obtain an index of the sizes and age classes of these saltwater sport fish.

To assess angler catch success and effort of pressure exerted on these sport species of fish by sport gear.

To make aerial spawning ground counts of king salmon on these streams directly contributing to the Ketchikan area fishery.

Techniques Used:

Census Methods

Boat counts were made on the fishing grounds by a ground observer stationed at a point from which he could visually observe the fishing activity at any particular time. The number of boats on the fishing grounds adjacent to Ketchikan were noted both morning and evening. At Mountain Point, they could be observed from the South Tongass Highway. The Clover Pass Area was visually checked from the road above Point Higgins and from the dock at Knudsen's Cove.

Angler contacts were made at Hole-in-the-Wall near Mountain Point and in the Clover Pass Area at Knudsen's Cove and at Clover Pass Resort. These locations are the most popular landings in the Ketchikan area. They lie eighteen miles apart near the opposite extremities of the South Tongass Highway. Many people moor their small boats at facilities in these locations and fish in surrounding waters. The Clover Pass area is more popular due to better weather protection.

An angler, upon landing, was questioned as to his fishing success. Very few were reluctant to disclose the desired information which was duly tabulated. Contacts were made on a schedule that would interview those anglers who fished before the average work-day in the morning and also those who fished after the normal work-day in the evening. A creel census form is included here.

Data Collected

The catch of fish by species, numbers and size and the fish released.

The time spent fishing and number of anglers per boat.

Rod and reel anglers sport fishing or commercial strip fishing.

Area fished.

Weather.

Angling Techniques Used by Fishermen

Anglers word.

Notation of gear assembled in the boat.

Spawning Ground Counts of King Salmon

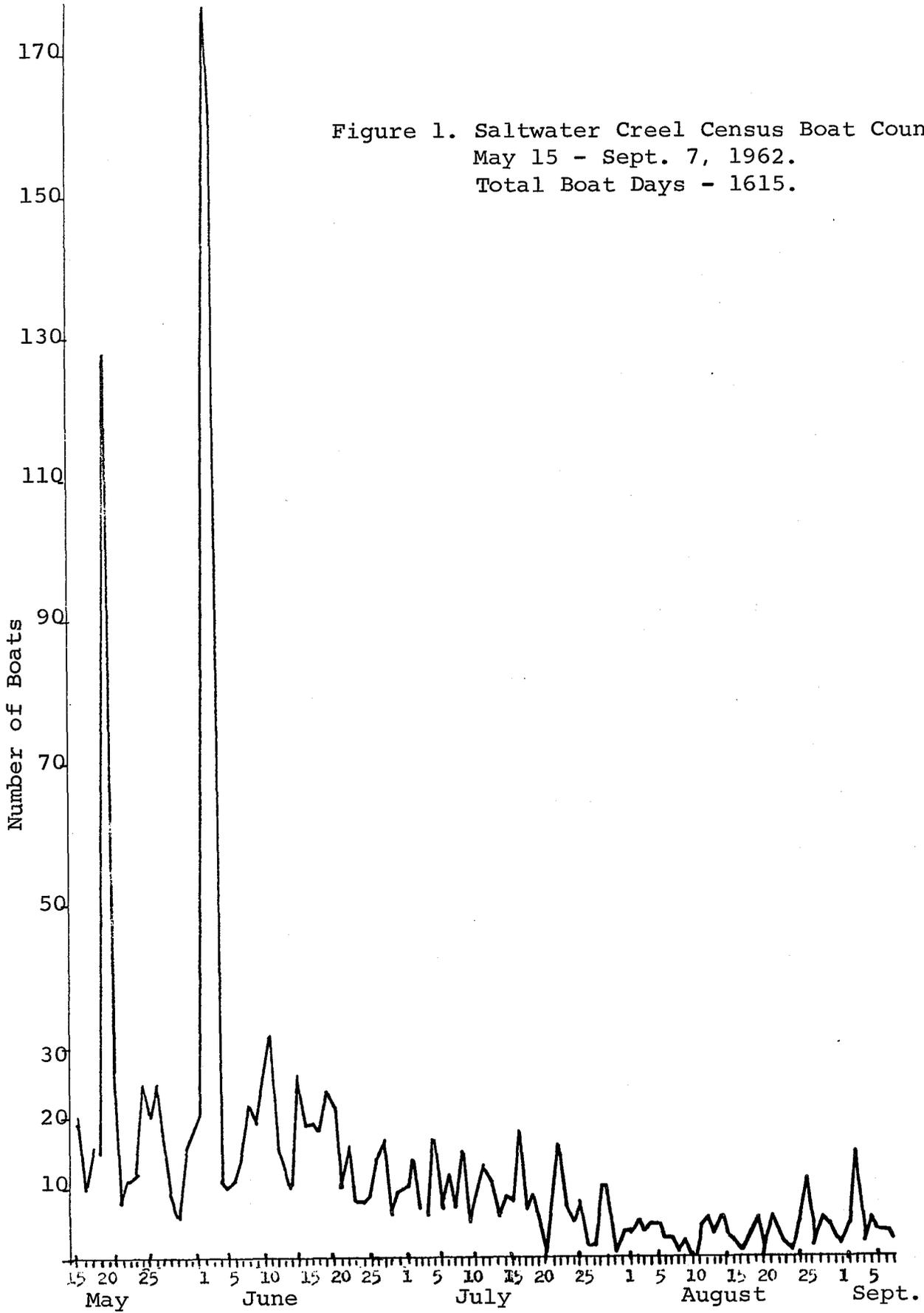
King salmon.

All other salmon.

Findings:

Figure 1 is a plot of the number of boats observed fishing in the Ketchikan area. The two high points show the effort induced by the Ketchikan King Salmon Derby Sweepstakes Days. The number of boats fishing on the

Figure 1. Saltwater Creel Census Boat Counts,
May 15 - Sept. 7, 1962.
Total Boat Days - 1615.



census taker's days off are plotted by extrapolation. It was noted that many more boats were observed fishing than could be checked at the landings by the one creel census recorder. The index calculated for the whole census period was one boat checked at the moorages for 9.85 boats observed fishing.

The catch data collected by creel census is compiled as follows:

Table 1
King Salmon Catch, 1962

Month	<u>KETCHIKAN</u>			<u>BELL ISLAND</u>		
	Number	Average Size	Released	Number	Average Size	Released
May	8	28.25 lbs.	None Reported	None Rept.		
June	18	23.4 "	6	55	22.1 lbs	0
July	5	11.4 "	7	10	16.9 "	
Aug.	4	13 "	8	None Rept.		
Sept.	2	17.5 "	1	"		

Table 2
Silver Salmon Catch, 1962

Month	<u>KETCHIKAN</u>			<u>BELL ISLAND</u>		
	Number	Average Size	Released	Number	Average Size	Released
May	0		None Reported	None Reported		
June	8	5.75 lbs	"	"		
July	19	6.0 "	"	"		
Aug.	61	8.7 "	"	2	8.0 lbs.	
Sept.	31	9.2 "	None Reported	None Reported		

Table 3.

Bottom Fish, Catch 1962

Month	Halibut	Average Size	Rockfish	Average Size
May	3	30 pounds	11	5.5 pounds
June	3	27.7 pounds	16	4.0 pounds
July	0		10	2.0 pounds
August	1	10 pounds	2	3.5 pounds
September	0		None reported	

No age analysis has been done to date on any of the fish scales sampled. The ages of the adult salmonoids are normal for the respective species. Very few immature silver salmon enter the catch. Sizes of immature kings are known to widely overlap those of the adults, particularly the precocious males. Age patterns of the other species of fish are normal for unexploited populations.

The time spent fishing, hours of fishing and the number of anglers per boat is given in Table 4.

Table 4.

Hours Fished and Angler Counts, 1962.

Month	<u>KETCHIKAN</u>			<u>BELL ISLAND</u>		
	A.M. Hours	P.M. Hours	Anglers/ Boat	A.M. Hours	P.M. Hours	Anglers/ Boat
May	127.75	327.5	2.0	No	Check	
June	241	539.75	2.04	212	142	2.2
July	51	219.0	1.53	50	25.5	2.3
August	97	302.25	1.9	0	12	2.0
Sept.	35.5	74	2.33	3	0	2.0

Many saltwater anglers purchase commercial fishing licenses and are motivated to fish by the market value of their catch or to dispose of their surplus fish. The creel census data collected shows the following:

Table 5. Comparison of Sport Anglers and Commercial Fishermen, 1962.

Month	Sport Anglers	Commercial Anglers
May	51	15
June	109	7
July	36	23
August	13	46
September	0	14

The location of each boat observed fishing was recorded to the nearest landmark. In most instances, anglers fished those locations most easily reached from the dock at which they were contacted. They were as follows:

Table 6. Boat Counts in Favored Locations, 1962.

Location	May	June	July	August	September
Knudsen's Cove*	148	268	134	50	16
Clover Pass	5	114	4	4	
Guard Island		6	1	2	
Mountain Point	92	160	27	17	2
Hole-in-the-Wall	36	82	25	7	2
Other	4	2	2	2	4

* Most of the anglers fishing out of Knudsen's Cove fished Clover Pass and so, for practical purposes, these two entries should be combined. The same is true for Mountain Point and Hole-in-the-Wall.

The weather had a marked effect on the fishing effort. Gales set in which made small boat fishing unsafe or uncomfortable. At the other extreme, a bright calm day brought out anglers as much for the outing as the fishing. A plot of the effort-weather relationship in numbers of boats between May 16 and September 8 may be seen in the following plot of boat counts.

Table 7

Boat Counts During Various Weather Conditions, 1963.									
Month	No. Days Censused	Fair		Cloudy-Calm		Rain		Stormy	
		Boats	Days	Boats	Days	Boats	Days	Boats	Days
May	12	72	3	199	6	14	1	33	2
June	22	52	2	527	16	45	4	4	0
July	22	91	8	80	10	31	4		0
August	22	41	6	29	6	17	5	4	5
Sept.	6	31	4						2
TOTAL:	84	287	23	835	38	107	14	41	9

The angling techniques used by saltwater anglers, in most instances, employ herring, either fresh, frozen or artificial. The individual angler's preference was determined by conversation or visual gear check. Herring are used whole, plug cut, strips, alive, with or without dodgers, harness or needle-hooks and trolled, drifted, spin fished or mooched. Often an angler may change his method of bait presentation several times during the course of the day with success or failure of each method dependent on conditions imposed by weather, tide or behaviour of the salmon.

Often fishing technique is influenced by the presence or absence of trash fish. Allowing a bait to get near the bottom can be depended upon to produce harassment from unwanted species of fish such as turbot, Irish Lords, small rockfishes, ratfish, ling cod or halibut. Slow moving baits of any sort that take salmon are attractive to dogfish shark which are a complete pest.

Table 8. Salmon Escapement in Behm Canal Streams in 1962.

Streams	July 16 Salmon Kings	July 30 Salmon Kings	August 17 Salmon Kings	August 30 Salmon Kings
Herman Creek	1,600	11,000	11,000	6,800
Grant Creek		6,600	4,800 6	1,700 4
Eulachon Creek	3,500	16,600	5,000 145	2,300 135
Unuk River				
Clear Creek		50	Muddy	
Kerr Creek	Muddy	Muddy	Muddy	
Gene's Lk. & Creek	12	4,000 150	650 50	No count
Lake Creek			30	25
Clear Creek		1,000	3,500 100	900
Klahini R.	4,800	11,500	5,000 100	1,000 4
Sak's Cove Cr.	1,800	14,500	4,000	2,500
Chickamin R.				
Clear Cr.		1,200	Muddy	Muddy
R.Chocoa Cr.	1	6,000 6	3,500	2,500
King Cr.	6	18,500	16,600	1,800
Humpy Cr.		10,500	7,500 100	3,500 25
LeDuc Cr.	400	200	50	52 2
Entrance Cr.	50	25	1,200	20
S.Fork Cr.	Muddy	Muddy	5,000 400	1,000 50
Grizzly Cr.	Muddy	950	1,500 25	150 35
Wilson R.	35,000	68,000	97,000	75,000
Blossom R.	5,200	27,700	40,000	11,500 25

In conjunction with creel census it is desirable to know how many of the local stocks of king salmon reach their spawning grounds. The time period when these fish reach the spawning gravels extends over six weeks from mid-July to early September. Aerial surveys were made of the streams used by king salmon off Behm Canal. These streams rear most of the locally produced adult king salmon taken in the Ketchikan vicinity.

Noted in the aerial surveys were the numbers and species of salmon on the spawning gravel. These observations are tabulated in Table 8.

The total kings sighted by drainages is as follows:

Table 9.

Salmon Escapement in Major Behm Canal Rivers, 1962.

<u>Stream</u>	<u>July 16</u> Kings	<u>July 30</u> Kings	<u>Aug. 17</u> Kings	<u>Aug. 30</u> Kings
Unuk River	162	150	331	179
Klahini River	...	...	100	4
Chickamin River	7	6	775	132
Wilson River	...	...	...	...
Blossom River	...	...	...	25

Notable is the absence of king salmon in the Wilson River System although this river is believed to be a significant producer of these fish.

Prepared by:

Robert T. Baade
Fishery Biologist

Approved by:

Richard Haley
D-J Coordinator

Date: March 1, 1963.

Alex H. McRea, Director
Sport Fish Division