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STATE OF ALASKA

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Alaska Department of Fish and Game

Walter Kirkness, Commissioner

Sport Fish Division

Alex H. McRea, Director

ANNUAL REPORT OF PROGRESS, 1961-1962

FEDERAL AID IN FISH RESTORATION PROJECT F-5-R-3

SPORT FISH INVESTIGATIONS OF ALASKA

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## INTRODUCTION

This report of progress consists of the job completion reports from the State of Alaska Federal Aid in Fish Restoration Project F-5-R-3, "Sport Fish Investigations of Alaska."

The current project is composed of twenty separate studies and was designed to evaluate the various aspects of the State's recreational fishery resources. The information gathered will provide the necessary background data for better management practices and for the development of future studies. During the current segment, continued emphasis was placed on the overall inventory and cataloging of accessible waters, evaluation of catch data, and investigations on various species of fish.

As a result of several problems of immediate concern, several new studies were instigated during the report year. Data accumulated from these studies has helped solve some problems in projects already in progress.

The population of Alaska is increasing rapidly and this is being reflected in the ever increasing number of "No Trespassing" signs put up by individuals in the vicinity of population centers. Fortunately, much of Alaska's fishery waters are still in the public domain. The division's program of acquiring access to fishing waters continued at a much faster pace since being instigated in 1959. Emphasis is being placed on this job and the successful continuation of this activity will forstall many serious recreational use problems currently facing other states.

The enclosed progress reports are fragmentary in many respects and the interpretations contained therein are subject to re-evaluation as the work progresses.

JOB COMPLETION REPORT  
RESEARCH PROJECT SEGMENT

State: ALASKA

Project No: F-5-R-3

Name: Sport Fish Invest-  
igations of Alaska

Job No: 14-B

Title: Investigations of  
the Tanana River  
Grayling Fisheries:  
Migration Study

Period Covered: July 1, 1961 to December 1, 1961

Abstract:

A total of 5,278 Arctic Grayling were tagged during the 1961 field season. All fish were quieted before tagging by placing them in an MS-222 solution. After recording the fork length, a yellow plastic subcutaneous tag was placed on the ventral surface between the anal opening and pectoral fins. An additional 1,317 grayling were fin clipped. Total numbers now tagged during the two years of 1960-1961 is 14,488 plus the 1,317 fin clips for a grand total of 15,805 marked grayling in Interior Alaska's Tanana drainage.

During the 1961 field season 1,482 tagged grayling were recovered along with 160 fin clip recoveries. The number of recoveries to date is 2,642 fish.

High water conditions prevented field activities during 1/4 of the normal four month season.

Recommendations:

More emphasis should be placed on seining as a method of obtaining grayling from the Chatanika drainage.

It is recommended that an extensive tagging program be started on the Salcha River in 1962.

Findings:

TABLE 1.

<u>Water Area</u>	NUMBER OF GRAYLING TAGGED FOR YEARS 1960 - 1961		
	<u>Number Tagged 1960</u>	<u>Number Tagged 1961</u>	<u>Total Tagged 1960 - 1961</u>
Chatanika River	4,500	4,132	8,632
Delta Clearwater	2,160	443	2,603
Goodpaster River	2,000	54	2,054
Richardson Clearwater	350	635	985
Shaw Creek	200	14	214
Grand Total	<u>9,210</u>	<u>5,278</u>	<u>14,488</u>

TABLE 2.

<u>Water Area</u>	NUMBER OF TAG RECOVERIES FOR YEAR 1960 - 1961				
	<u>Number of Recoveries in 1960</u>	<u>Number of 1960 Tags Recovered in 1961</u>	<u>Number of 1961 Tags Recovered in 1961</u>	<u>Total Recov. 1961</u>	<u>Total Recoveries 1960-61</u>
Chatanika River	688	514	664	1,178	1,866
Delta Clearwater	200	131	27	158	358
Goodpaster River	12	6	3	9	21
Richardson Clearwater	6	57	76	133	139
Shaw Creek	0	1	3	4	4
Grand Total	<u>906</u>	<u>709</u>	<u>773</u>	<u>1,482</u>	<u>2,388</u>

TABLE 3.

PERCENT OF TAGGED GRAYLING RECOVERED BY AREAS

<u>Water Area</u>	<u>1960</u>	<u>1961*</u>	<u>Total Percent Recoveries for Years 1960-61**</u>
Chatanika River	15.2	16.7	21.6
Delta Clearwater	9.2	6.0	13.7
Goodpaster River	.6	5.5	1.0
Richardson Clearwater	1.7	11.9	14.1
Shaw Creek	.0	21.4	1.4

\* Percent figured on the recoveries of only those tagged in 1961, almost 50% of all tag recoveries in 1961 were 1960 tagged fish.

\*\* Percent includes all recoveries of all fish tagged for years 1960 - 1961.

Objectives:

To determine the migratory trends of the arctic grayling in the Tanana River drainage; specifically to study the inter-relationship between the Goodpaster River and the Delta Clearwater; movements of grayling into the Shaw Creek complex; intra stream movements of grayling in the Delta Clearwater and Chatanika River with emphasis on mortality caused by diversion of waters into the Davidson Ditch and finally to examine closely the grayling population utilizing the Delta Clearwater Lake.

Techniques:

During the 1961 field season only hook-and-line was usable in the Delta Clearwater, Richardson Clearwater, Goodpaster and Shaw Creek waters due to flood conditions. Weirs and fyke-nets were attempted but were constantly being either broken or washed away by the high waters.

Even though flood conditions prevailed during much of the season on the Chatanika River the crews were able to use weirs, seines and fyke-nets quite successfully. In this area there was no use made of the hook-and-line technique.

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