JOB COMPLETION REPORT

INVESTIGATIONS PROJECTS

State of__Montana_____

Project No.__F-5-R-1_____   Work Plan No.__VII_____   Job No.__VII-B_____

Title of Job: Population Surveys of Streams Within the Project Area._____

Objectives:

In order to effect or sustain proper management of waters from a fishery
standpoint it is desirable to have information regarding the existing
fish populations. The objective of this study was to gather data from
several streams in the project area in an effort to obtain information
needed in management.

Techniques Used:

Sampling was done with an electric shocking device and each 300 foot
section was blocked off with 1/2-inch, square mesh nets. All fish were
weighed and measured and scale samples were taken from a high percentage
of each species.

In order to expedite the job and work as many streams as possible the
sampling sections were chosen by merely driving to the streams at the
lower, middle and upper ends and shocking a section in each of these
locations.

Findings:

Judith River.
The origin of the Judith River is in the Little Belt Mountains. From
the junction of the South Fork and the Middle Fork the river flows
north and east approximately eighty-five miles and empties into the
Missouri river in northern Fergus county. The mouth of the Judith is
not far distant from Fort Peck reservoir. The influence of the reser-
voir on the fishery of the Judith river has not yet been studied.

The five-year plan of fish distribution and management calls for 25,000
yearling Rainbow trout to be planted above Utica and 15,000 three-inch
Brown trout to be planted below the Hobson bridge each year. Other
plants are listed for tributary streams.

Three sections were sampled in the Judith river during the latter part
of August 1951. The findings are listed in table 1.

Table 1. Fish populations found in sampled sections of the Judith River, Judith Basin county, Montana, Autumn of 1951.*

Sections	Rainbow trout			Cutthroat trout			Whitefish			Suckers
	Sublegal	Legal	Total	Sublegal	Legal	Total	Sublegal	Legal	Total	Total
Near Utica	21	17	38	0	0	0	20	5	25	175
Calculated number per mile	420	340	760	0	0	0	400	100	500	3,500
Flanigan's Park	9	7	16	0	0	0	0	0	0	0
Calculated number per mile	180	140	320	0	0	0	0	0	0	0
South Fork	0	9	9	1	0	1	2	0	2	0
Calculated number per mile	0	180	180	20	0	20	40	0	40	0

* In addition to the above fish numerous Sculpins were found in all three sections and in the section at Utica a minnow was found in abundance.

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The section sampled near the town of Utica contained a large population
of fish, however non-game fish predominated and the game fish of legal
size were fewer than in other similar sized streams studied. The non-
game fish population contained two species of suckers, sculpins and at
least one species of minnow. The sculpin population was high in all
three sections that were sampled. There may be suckers and whitefish
in the area adjacent to the Flanigan Park section even though none were
found in the sampled section. The portion of stream shocked was almost
entirely a riffle area and contained no deep holes where both whitefish
and suckers would be expected.

Analysis and Recommendations:

Further study of the Judith River is recommended before a sound manage-
ment plan can be presented.

Summary:

Three sections of the Judith river were sampled with an electric shocker
in order to determine the fish populations present.

It was found that the Judith river in the vicinity of Utica contains a
large population of non-game fish. In the sections studied rainbow
trout, cutthroat trout and whitefish were the only game fish present
and none of these were found in average numbers as compared with other
similar sized streams within the project area.

Further study is recommended.

Data and Reports:

The original data is with the fisheries biologist at Belt, Montana.

Preapred by   Nels A. Thoreson   Approved by

Date   March 19, 1952

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