MONTANA FISH AND GAME DEPARTMENT
FISHERIES DIVISION
JOB COMPLETION REPORT
RESEARCH PROJECT SEGMENT

State of Montana

Project No. F-5-R-17 Name Central Montana Fisheries Study

Job No. I Title Inventory of Waters of the Project Area

Period Covered: July 1, 1967 to June 30, 1968

Abstract:

Bean Lake, Ackley Lake and Eureka Reservoir were gill-netted to check on species composition, survival and growth of fish. Average length, weights and species composition of the catch is given. Growth rates of coho salmon were slower than rainbow trout in Bean Lake. Belt Creek, Cut Bank Creek and the Marias River were electrofished. Brown trout survival was fair in both Belt Creek and Cut Bank Creek. Information is given on work done on Big Spring Creek.

Recommendations:

STREAMS

Further checks should be made on Cut Bank and Belt Creeks to see if brown trout have reproduced. Catchable trout plants in the Marias River below Tiber Dam should be reduced or eliminated because of the increasing northern pike population.

LAKES

Gill net sampling in Bean Lake, Ackley Lake and Eureka Reservoir should be continued. Since rainbow trout growth has exceeded that of coho salmon in Bean Lake it is recommended that salmon planting be discontinued and an additional 20,000 rainbow trout fingerling be planted. Additional creel census is needed on Bean Lake. Suckers are continuing to increase in Eureka Reservoir and it will probably be necessary to rehabilitate the reservoir in the next year or two.

FARM PONDS

The program to survey and investigate farm ponds should be continued.

Objectives:

The purpose of this job is to determine the physical, chemical, and biological characteristics of the waters of importance to the recreational fishery of the project area.

Techniques Used:

Fish were collected using a 300-volt DC shocker and 125-foot nylon sampling gill nets. Fish were measured to the nearest tenth of an inch total length and weighed to a hundredth of a pound.

Findings:

STREAMS

Belt Creek and Cut Bank Creek were sampled during August of 1967 with an electrical shocker to check on the success of a fingerling brown trout plant made in July of 1965.

Six sections (totaling approximately one mile in length) of Belt Creek were shocked and 48 brown trout taken. The trout averaged 10.2 inches and 0.49 pounds. They ranged in size from 5.3 inches to 13.5 inches. None of the brown trout examined were expected to spawn in the fall of 1967.

Two series of bottom samples were taken in Belt Creek during the year. Each series consisted of a four-foot square bottom sample taken at each of ten stations. The samples were sorted to order and the numbers recorded. The information is in the files at the District office in Great Falls.

Cut Bank Creek was sampled between the water supply dam at Cut Bank and the golf course. Twenty-one brown trout averaging 13.1 inches and 0.96 pounds were taken in this area. Brown trout examined from this stream were mature and should have spawned in 1967. Areas of the stream from the water supply dam downstream were checked during April in an effort to find young-of-the-year brown trout. No young brown trout were found but sampling will be tried again later in the year.

The Marias River from the Tiber Reservoir spillway to the Sanford State Park, approximately one-third mile, was sampled with an electrical shocker during April of 1968. The object was to determine what species were present in that part of the river and their relative abundance.

Rainbow trout, brown trout, mountain whitefish, northern pike and sauger were the game fish taken. Other species included carp, river carpsucker, yellow perch, white sucker and northern redhorse sucker. No burbot or goldeye were taken, although they were reported in a sample of fish taken in this area in 1961. It is known that goldeye inhabit this area later in the year.

The most numerous game fish taken were mountain whitefish, these ranged from 5.7 inches to 13.8 inches. Wild rainbow trout from 3.8 inches to 19.2 inches were taken. No northern pike were reported in 1961, although nine were taken during this sampling. The northern pike ranged from 26.5 inches to 39.0 inches. Two brown trout were collected. It is assumed that these fish drifted downstream from the Cut Bank Creek plant. Paddlefish have been reported taken by bow and arrow immediately below the reservoir.

During the last part of June, July, August and part of September a partial creel census was conducted on Big Spring Creek at Lewistown. The objective of this creel census was to determine areas of fishing pressure on the stream and get some idea of catch per hour and species composition of the catch.

As the census clerk had other duties to perform, census was taken whenever possible, usually in the evenings and on weekends.

A total of 379 fishermen were contacted during the census. These included both fishermen who were through fishing and those who were not. These fishermen had fished for 706 hours and caught 690 trout. Fishermen averaged 1.82 fish per trip when contacted and had a catch per hour of 0.98.

Sixty-three fishermen who were through fishing were contacted. They had 2.5 fish per man, and caught fish at the rate of 0.83 fish per hour. The majority of the trout caught (95 per cent) were rainbow trout, while the remainder were brown trout. Hatchery rainbow trout made up 65 per cent of the trout taken.

To determine areas of pressure, cars were counted along the stream. It was found that 77 per cent of the cars were above town.

Big Spring Creek flows directly through the town of Lewistown and for several blocks directly under the business section of town. During earlier years, many of the businesses dumped sewage and other pollutents directly into the stream. Most of this has been cleaned up at present, but a check was made through the business area to determine if there was domestic pollution present. With the cooperation of the City sanitarian and engineer, sources of possible pollution were investigated. One bar drain, a hotel sink drain and the hospital laundry sewage lines were found to empty directly into the stream. All of these pollution sources have now been corrected by the owners.

Eight bottom sample stations were set up on Big Spring Creek during April. A four-foot square sample was taken at each station. The samples have been sorted and the data is filed in the District Office in Great Falls.

A landownership map of property adjecent to Spring Creek was completed. The map will be used when contacting ranchers about habitat problems along the stream and in obtaining fisherman access.

A study designed to obtain fish population data in various areas of Big Spring Creek was started during 1967 and will conclude in 1968. The study is being conducted by the Cooperative Fishery Unit at Montana State University and the completion report will be written by this agency when completed.

Ackley Lake, a shallow 247-acre irrigation impoundment located in Judith Basin County, was rehabilitated in September, 1966. Suckers and carp were the two major species killed.

During April of 1967, a live car of fingerling trout were placed in the lake and were in good condition after 48 hours. The lake was replanted with 76,000 four-inch rainbow and 51,000 kokanee fry the later part of April. Three overnight gill nets set during mid-July, 1967, took three rainbow 9 to 12 inches in length and 14 suckers. It was assumed from this netting and other observations that the survival of fingerling rainbow was extremely poor. The suckers probably entered the lake from the Judith River. In an attempt to provide fishing for the fall and winter months, 42,000 catchable rainbow trout were planted during July. Fishing during the fall of 1967 was good and has continued during 1968.

Warden creel census taken during March and April, 1968 shows 250 fishermen caught 627 rainbow in 786 hours. This is a catch per hour of 0.80 and 2.5 fish per fisherman. Trout were averaging about 12 inches and 0.60 pounds during this period.

Eureka Reservoir, located in Teton County, is a 400 surface acre irrigation reservoir fed by a diversion ditch from the Teton River. The water levels are quite stable and the reservoir produces an excellent fish population.

The reservoir was rehabilitated three times since 1958 to eradicate suckers, the last time in 1964. Fishing has generally been good and trout growth above average. Planting rates have varied from 190,000 after rehabilitation to 85,000 fingerling rainbow planted in 1966.

Since February, 1966, two 125-foot gill nets have been set each year to check on growth of fish and ratio of trout to suckers. Fingerling trout planted in the spring of 1965 averaged 11.6 inches and 0.63 pounds by February, 1966. Fingerlings planted in the spring of 1966 averaged 11.8 inches and 0.73 pounds during February of 1967. The spring plant of 1967 averaged 12.0 inches and 0.73 pounds by February of 1968. Suckers made up 8 per cent of the catch in 1966, 33 per cent in 1967 and 50 per cent in 1968.

Bean Lake, located in Lewis and Clark County, is one of the most popular fishing areas in the District. The 1965 statewide mail fishing pressure survey indicated that the 200 surface acre lake had 7,680 fisherman trips. This does not include the fall, winter and spring fishery.

The lake has been managed primarily as a rainbow trout fishery. During 1964 and 1965, approximately 35,000 rainbow trout were planted annually. During 1966, 53,000 four-inch rainbow were stocked and in 1967, 51,000 three-inch rainbow trout and 21,000 three-inch silver salmon were planted in the lake.

The growth of the rainbow has been good. The 1966 plant of rainbow trout averaged 11.1 inches and 0.52 pounds a year after they were planted and 14.9 inches and 1.47 pounds after two years in the lake. The 1967 rainbow plant averaged 12.5 inches and 0.86 pounds by late April, 1968, just a year after they were planted. Silver salmon averaged 11.9 inches and 0.61 pounds after a year in the lake.

On May 28, 1967, a creel census was conducted on the lake. Approximately 90 per cent of the fishermen were contacted. A total of 120 fishermen fished for 509 hours and caught 186 trout. Boat fishermen were most successful with a catch per hour of 0.58 fish. Shore fishermen averaged 0.18 fish per hour. The combined catch rate was 0.37 fish per hour.

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Date: June 12, 1968