

MONTANA STATE DEPARTMENT OF FISH AND GAME
HELENA, MONTANA

JOB COMPLETION REPORT

F-11-R-3 Job 1A.
(Completion Report file has)
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Title of Job: Tongue River Rehabilitation

- Objectives:
1. To check the relative abundance of species in the Tongue River below Tongue River Dam.
 2. To evaluate the success of brown trout introductions in the section of river below Tongue River Dam.
 3. To test the effectiveness of creating in the river an area with very little, or at least a much reduced competition; then stocking the area with fry (in this instance walleye), and seeing whether or not they can become established and thrive.
 4. To develop a sport fishery in an area where it had declined to a very low point.

Description:

Tongue River Dam, a State Water Conservation Board Project, is located in Big Horn County, Montana, Township 8 South, on the line between Range 40 and 41 East. The spill-way, or outlet, is in Section 13 of Township 8 South, Range 41 East.

Flow in Tongue River is controlled by the dam. At the time of the rehabilitation, May 28, 1955, the flow was cut from over 300 c.f.s. to 56 c.f.s. Average width at 56 c.f.s. was approximately 80 feet and the average depth was 0.53 feet.

The river bed for some distance below the dam is largely rocky, with some gravel. Some silting has occurred in the backwaters and behind the diversion dams. The general terrain is rough. Coniferous cover is found over the countryside with some cottonwoods in the bottoms.

Techniques Used:

The project was timed to coincide with the hatch of walleye at the Federal Fish Hatchery in Miles City.

Flow was decreased for the rehabilitation through the cooperation of the water users and the caretaker at the dam.

Seventeen 40-pound sacks of "Fish-Tox" were applied in the section of river between the dam and the Flying V Ranch, a distance of 10 river miles as measured by map measure. In the more inaccessible areas, the "Fish-Tox" was carried downstream by boat, though for the most part, the river had a trail along shore and the toxicant could be carried by truck.

The toxicant was applied in "slugs", that is, sacks of the toxicant would be washed into the stream at one point. The "slug" was then followed downstream until

it became evident that there was less effect on the fish, when another "slug" would be applied. The distance that the "slug" appeared to be effective in this case was slightly under a mile. In the last three to four miles of the river covered, the "slugs" were not followed downstream but were applied at the observed effective distance. This jumping ahead was done to cover the section of river before dark and to reach the end of the section before the increased flow of the river could catch up.

During the application of the toxicant, it was not possible to spend much time in taking samples and making observations. Assistance in sampling was given by those helping, Warden George Hollibaugh; Superintendent of the Federal Fish Hatchery at Miles City, R. W. Branum; and local residents. Relative abundance only was determined during progress downstream. There was not time for intensive counts and measurements; and, since the flow was to be increased immediately following the project, there was no opportunity to go back over the area covered. Scales from random samples of fish were taken and were sent to the Fish and Game Laboratory at Montana State College.

The third day following application of the toxicant, over 500,000 walleye fry were liberated in the upper one-third of the "reduced competition" area by R. W. Branum.

Findings:

To date the project has been successful in that the current objectives were achieved. Large numbers of fish were removed from the section of the river selected for rehabilitation. Whether or not the introduced walleye fry can thrive and become established remains to be seen. Checks made during the summer of 1956 with an electric shocker should determine that point.

There was a heavy population of fish in the section of the river worked. In order of abundance by numbers, the fish present were as follows: bullhead, black crappie, sucker, yellow perch, red horse, carp, brown trout, golden shiner, longnose dace, rock bass, walleye pike. The bullheads, crappies and perch were all quite small and seemingly stunted. A total of perhaps forty brown trout was observed. All of these trout were found within the first three miles of stream below the dam--for the most part, within the first one-half mile. Actually, in a rehabilitation project it is impossible definitely to locate the fish since they do try to avoid the toxicant and could run for some distance in front of it. The number of trout was negligible as compared to total numbers of fish seen; however, several of the trout were quite large, ranging probably up to seven pounds. One walleye pike was seen, a fairly large specimen that would weigh about six pounds. According to local reports, sauger were at one time very abundant in the river. A few of the crappie, the trout and the one walleye comprised the total of desirable fish seen. The carp, while not the most numerous, made up the greatest single weight by species. Most of the carp seen were quite large. Suckers were numerous, many were fairly large and in apparently good condition. There were very few of the golden shiners, longnose dace, or rock bass seen.

On the morning following application of the toxicant, two small bullheads in distress were observed just above the Burton Brewster diversion dam. This dam measures approximately twenty-nine stream miles below Tongue River Dam.

Conclusions:

Final results must necessarily wait until it is determined whether or not the

walleye can become established in the Tongue River. While the rough fish will undoubtedly return to the rehabilitated section of the river, they will have suffered a very major set-back. Before the rough fish can return and reproduce, the walleye will have had an opportunity to become established. The walleye is very piscivorous and could be a factor in control of rough fish populations.

Recommendations:

1. That checks be made in the summer of 1956 to determine the success of the walleye introductions in the river.
2. That no further plants of trout be made below the dam without further evaluation.
3. That should this technique prove successful, the same procedure be followed in other sections of the Tongue River.
4. That should the technique not prove successful in this instance, further trials be made using other techniques.

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Approved by Charles K. Phenicie

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