February 25, 1964

FISHERIES MANAGEMENT PROJECT EVALUATION

C-5-R-13 Central Montana Fisheries Study--Steve E. Swedberg

Job IV. Evaluation of Planting Catchable Sized Rainbow Trout into Waters Containing High Population Densities of Less Desirable Species of Fish

In 1963 Lake Francis, near the town of Valier, Pondera County, Tiber Reservoir in Liberty and Toole Counties and the Marias River below Tiber Dam, primarily in Liberty and Hill Counties, were to be stocked with "graded" six to seven inch rainbow trout. These waters already contained high densities of fish of several different species.

The primary objective was to find out how many of the tagged trout released would be caught by the angler. Also, two other objectives were to be considered.

One was to evaluate angler use figures for Tiber Reservoir. Past annual angler use figures put out by the Bureau of Reclamation were considered to be far in excess than those figures estimated by district wardens and fisheries personnel.

An additional objective was to see if a fishery could be provided to satisfy the demand expressed by anglers and other interested persons in Chester and other near-by communities.

The original plan was to stock Lake Francis with 10,000 trout, with 5,000 of this number receiving jaw tags. Tiber Reservoir was to be planted with 20,000 trout, with the fish being split into two groups. Willow Creek Arm, an arm of Tiber Reservoir, was to receive 10,000 trout, with 5,000 of this number receiving jaw tags. The other 10,000 trout were to be planted along the southern shoreline near angler access areas; with 5,000 of this number fin clipped. Also, 5,000 trout were to go into the Marias River below Tiber Dam; with half of these trout jaw tagged.

Plans for the recovery of tagged fish included a statistical sampling plan, thirty-two days of warden assistance and a summer employee. Any additional checks were to be made with gill nets.

Actual plants of tagged and marked fish that were introduced into Lake Francis, Tiber Reservoir and Marias River were:

Species: Rainbow trout

Date released	Location	Number--	Average length in inches	Mark
July 9, 1963	Lk. Francis	3,060-----	10	Plastic jaw tag
July 8, 10, 12, 1963	Tiber Res. (Willow Cr. Arm)	9,636-----	10	Plastic jaw tag

Date released	Location	Number--	Average length in inches	Mark
July 12, 1963	Tiber Res. (Willow Cr. Arm)	10,000-----	5	The right belly fin has been clipped off close to the body. The left fin was not clipped.
July 12, and 15, 1963	Marias River below Tiber Dam 1/	4,640-----	10	The left belly fin was clipped, but the right fin was not.

Due to a very low water level in Lake Francis only 3,060 jaw tagged rainbow trout were released. From the time of stocking in July 9, 1963 and until February 25, 1964 only 37 tags had been returned by 13 anglers; with two anglers taking 20 of the 37 tags on one trip. All available creel census information indicated that even on week-ends the fishing pressure was extremely low. Therefore, we recommend that this phase of the program be discontinued.

Tiber Reservoir was planted with 19,636 marked rainbow trout in 1963, and by February 25, 1964 sixty-nine marked trout had been checked; this amounts to approximately a .004 per cent return. There were 453 anglers censused during this period and they caught a total of 170 rainbow trout, or approximately .38 of a trout per angler; or .15 of a marked trout per angler. If one were to delete the aesthetic values and just figure the cost of producing the marked trout, and the return to the angler, he would find that the cost of production amounts to $2,845.36 and that $16.81 were returned to the angler. 2/ In lieu of planting trout we would suggest stocking Tiber Reservoir with sauger and channel catfish.

The best trout fishing in the Tiber area was below Tiber Dam in the Marias River. All available creel census indicates that from July 9, 1963 through February 25, 1964 a total of 701 anglers caught 512 rainbow trout. Of the 512 trout caught 504 were marked. Since 4,640 marked rainbow trout were released in this area the 504 marked rainbow accounted for a return of 10.9%. The cost of producing the 4,640 trout was $1,206.40 and the return to the angler amounted to $131.04. The number of marked rainbow trout taken per angler was .72 and the catch per hour was .31. It is suggested that this area be stocked with jaw-tagged rainbow trout in 1964. Perhaps a blue colored jaw tag could be used in 1964 to distinguish this plant from the white jaw tags placed on the trout in Tiber Reservoir in 1963. We would probably only receive tag return information, except for the warden creel census, but then we would not have to have a census taker living in the vicinity all summer.

Place footnotes 1 & 2 here

Mel Kraft, our summer student, lived at the park below Tiber Dam and censused anglers for 35 days within a period from July 9, to September 2, 1963. Mel's census showed that the average number of anglers per day on Tiber Reservoir was 12.8. This figure means that for 365 days the number of fishermen would be 3,506. 3/ The number of fishermen using Tiber Reservoir in 1963, according to the U. S. Bureau of Reclamation, was 17,250 anglers. This last figure would mean that the average number of fishermen per day would be 47.3 anglers. Although both angler use figures are only estimates, we believe that the angler use figures submitted by the U. S. Bureau of Reclamation are too high.

we plan to discontinue this project since we feel that the three ~~This project will be discontinued.~~ objectives have been satisfied.

1/ The loads were split, approximately 3,190 were planted just below the outlet down to the park. The other 1,450 were placed just above the first bridge (Pugsley's) downstream from the dam.

2. 2/ Figuring that at the present time a 5 inch rainbow trout costs .034 cents to produce and a 10 inch rainbow trout costs .26 cents to produce, at the Great Falls Fish Hatchery (5 of the marked fish returned were 5 inches in length).

3/ Estimated number of fishermen per year is 6 months average number per day, and 6 months $\frac{1}{2}$-average number per day.