ARC - 48/59 - 20

MONTANA FISH AND GAME DEPARTMENT

FISH DIVISION

JOB COMPLETION REPORT
DEVELOPMENT PROJECT

Location: Bearmouth, Montana

Type of Job: Poison goldfish in warm water pond

Date or inclusive dates: April 23, 1958

Personnel on Job: Ford, Averett and later Whitney, Lewis, Bailey, Ramsey

Related Data: None--complete report attached

Written by: Averett

Objectives and Techniques Used:

Locate and remove goldfish from warm water pond near Bearmouth, Montana. Used Fish Tox and Pro-Noxfish. Lowered water level by removal of headgate boards.

Findings and Remarks:

At about 0900 hours, April 23, 1958, a telephone call from a Missoula resident was taken by Fish and Game Warden Jim Ford. The person calling told Mr. Ford that he heard that the Fish and Game Department was going to remove the goldfish from the pond near Bearmouth, and would like for us (Fish and Game Department) to save some for him. The Missoula resident further stated that someone had told him of the goldfish in the pond and that this person had previously seined some of them out.

Mr. Ford and I loaded a 40 pound sack of Fish Tox, pump can and other equipment into a vehicle. A trip in relation to Mr. Ford's work was accomplished first. At about 1430 hours, we arrived at the pond near Bearmouth, where the goldfish were reported to be present.

The pond lies adjacent to U. S. highway 10, on the north side. It has an estimated surface area of about one-half acre, and an estimated volume of less than six acre feet. The pond had a temperature of 72°F and is fed by a series of springs near its east and north shorelines.

The outflow is located at the west end of the pond. A headgate of about two feet in height maintains the water level in the pond. The outflow stream flows west along highway 10 for about 200 feet, then goes under the highway through a culvert and empties into the Clark Fork River.

Mr. Ford and I looked the pond over for about 15 minutes, in an effort to locate goldfish. Several small dark colored fish were observed by Mr.Ford. It was impossible to ascertain whether or not they were goldfish.

After observing the pond, we decided to apply some of the Fish Tox to the water. We applied about 20 pounds, both by pump can and by direct mixing, in the pond.

A block net was placed in the outflow stream, to prevent downstream escapement of the fish. After applying the toxicant, we waited for a considerable length of time to check the results. No fish action was detected, and we decided to apply the remaining 20 pounds of Fish Tox. After doing this, and again waiting for fish action, the first fish in distress was noted. This fish was retrieved. It was a small (about 4 inches) goldfish of a brassy-brown color, indicating that it was most likely one or two generations removed from the original plant. Soon afterwards, we were successful in retrieving about one dozen similar fish.

A bright red goldfish was later observed in the pond, along with many other "wild type" fish. It was apparent from their actions that the toxicant was not having a lethal effect upon them. It was then decided that it would be necessary to obtain more toxicant, if a complete kill was to be realized.

Mr. Ford contacted the Missoula office by radio and requested additional toxicant in the form of Pro-Noxfish. At approximately 1800 hours, Messrs. Bailey, Whitney, Lewis and Ramsey arrived at the pond with additional toxicant.

A total of six gallons of Pro-Noxfish was applied to the pond. Due to the springs, at the east end and the rapid flow of water through the pond, heavy concentrations of the toxicant were applied at the east end. Soon after the application of Pro-Noxfish, the goldfish appeared to be in distress.

At about 2000 hours, it was decided that a complete kill had been attained. Enough toxicant had been applied to bring the total toxicity of the pond up to 6 parts per million. It should be mentioned, however, that the rapid outflow of water through the pond prevented this heavy a concentration of toxicant in the pond at any one time.

At this time (2000), we removed two of the headgate boards at the pond outlet and dropped the water level approximately 24 inches. One of the boards was then replaced (the other had floated away) and toxicant was again applied to the pond. This was done in an effort to keep the pond toxic while it filled up again.

The temperature difference between the pond and the Clark Fork River was 30°F. Freshly captured goldfish were placed in a bucket containing water from the Clark Fork River. These fish immediately stiffened and showed signs of distress. Whether or not the temperature difference was enough to cause lethal effects could not be determined, as the goldfish used in the experiment were already under the effect of the toxicant.

A collection of the goldfish was made. Color patterns ranged from bright red through intermediate red and brown to brassy brown. Size groups were from minute fry ($\frac{1}{2}$") to adults (8"). Several other aquarium fishes were also found, which appeared to be guppies, however, their exact species is unknown.

Plans have been formulated to re-toxify the pond several times, in the event unhatched eggs were present during the first toxification.

Mr. Ford did some aqua lung diving in this pond last fall. He saw no fish life of any kind, at that time. Because the pond is small and the water very clear, this is a good indication that these goldfish were planted sometime between the fall of 1957 and spring of 1958.

News releases were given to the local paper and radio and coverage was obtained on each. A display of the collected fish has been made in the window of a local sporting goods store.