Ref ID: 71300

JOB COMPLETION REPORT

DEVELOPMENTS AND OPERATIONS

State of Montana

Project No. F-24-D-2

Job No. I

Name Southeastern Montana Fishery Study

Title Statewide Lake and Stream Rehabilitation - Colstrip Pond #1

Period Covered: Sept. 1, 1957 to April 30, 1958

Abstract:

On September 24, 1957, Colstrip Pond #1 was treated with 55 gallons of Chem Fish Special, a commercially prepared fish toxicant sold by the Chemical Insecticide Corporation. Fish were observed in distress almost immediately following the first application of toxicant. About 24 hours after application of the toxicant all the fish that could be visually observed were dead.

Objectives:

Colstrip Pond #1, formed in an abandoned coal strip mine, is owned by the Northern Pacific Railway Company and maintained for recreation of the Colstrip and surrounding communities. Management has consisted of fish planting, regulations, and some attempts at fertilization. Prior to keeping fish planting records in 1950, the pond had been stocked with pumpkinseeds, perch, bullheads and bass. Gill net sets in 1950 indicated a stunted population of most of the above species. Since 1950 approximately 15,000 walleye pike and 10,000 northern pike have been planted (to eat the stunted fish). Gill nets sets in 1957 indicated a stunted population similar to those in 1950, with no trace of walleye pike or northern pike. Regulations have varied from closing the pond for a season to let the little fish grow larger, to opening the pond for the entire year to catch the little fish that did not grow larger. Verbal reports say the pond has also been fertilized to make the fish grow larger. The Fish and Game Department undertook rehabilitation of the pond and will attempt to restock it with trout in 1958.

Techniques Used:

Since the pond contained a population of bullheads and is fed by underground seepage, the commercial fish toxicant, Chem Fish Special, was used. This toxicant was selected because of dispersal characteristics that give a slight advantage for killing bullheads. Toxicant application was made with hand pumps and a motor operated pump from a boat. The hand pumps were used on the shoreline and in weedy areas where the boat could not operate close enough to be reached by spray from the motor driven pump. An attempt was made to use this pump for open-water application. The pump was not suited for this, and a direct hose connection was made between toxicant barrel and the water, and the toxicant was run directly into the propwash of the outboard motor. This resulted in a faster application, which appeared as adequate as using the spray pump.

Findings:

During the time of application of toxicant and resulting fish kill, the water temperatures varied between 56° and 60° F. The maximum depth of the pond was 20 feet. Small pumpkinseeds and perch were observed in distress along the shoreline almost immediately after toxicant application began. The interval between toxicant application and the first observations of bullheads in distress was approximately 6 hours. About 24 hours after toxicant application, all fish that could be visually observed were dead. To date no attempt has been made to determine the completeness of the kill.

Conclusions and Recommendations:

Chem Fish Special dispersal is rapid and its tendency to accumulate near the bottom is of value in poisoning fish, such as bullheads, that normally remain near the bottom. The tendency of this toxicant to rapidly settle to the bottom leaves some question as to how long surface water remains toxic. In problem waters it may be desirable to use a combination of Chem Fish Special and Pro-Noxfish. Pro-Noxfish dispersal rates appear to be much slower and might keep the upper water toxic longer than Chem Fish Special.

The present equipment for applying toxicant in open water is not satisfactory, especially in a 12-foot boat. Experimentation and development of such equipment is desirable.

Prepared by Perry H. Nelson

Date March 15, 1958

Approved by George D. Holton
Assistant Coordinator