

MONTANA STATE DEPARTMENT OF FISH AND GAME  
FEDERAL AID IN FISH RESTORATION SECTION

HELENA, MONTANA

Job Completion Report  
Development Project

State of Montana

Project No. F-24-D-33

Name Southeastern Montana Fishery Study

Period Covered May 1, 1960 to  
April 30, 1961

Title Statewide Lake and Stream  
Rehabilitation - Rock Island Lake

Abstract:

Rock Island Lake was treated with 55 gallons of toxaphene in August 1960. The toxicant was aerielly applied to the lake. Suckers were the principal trash fish species killed. Efforts will be made to re-establish a fish population by planting trout.

Objectives:

Rock Island Lake is an alpine lake located in the Gallatin National Forest, accessible only by horse trail. The trail is well marked, relatively level, and is easily traveled. The fish population consisted principally of brook trout and suckers, the latter probably introduced by fishermen using them as bait. The sucker population, in addition to limiting the production of desirable fish in the lake, was a potential source of contamination of other nearby waters. Rehabilitation was carried out so the sucker population might be eliminated from the lake.

Techniques Used:

Application of the toxicant to Rock Island Lake was made by aerial spraying. The spray nozzles were removed from the spray booms so that the toxicant was applied in small drops. To improve dispersion of the toxicant in the lake, the toxaphene was pre-emulsified with water. The toxicant was applied in relation to volume of water at a concentration of 0.01 parts per million. Areas which might be missed by aerial application, such as back bays and the outlet, were sprayed manually. The entire perimeter of the lake was checked for possible areas which might be missed by aerial application.

Findings:

It was difficult to find suitable flying condition for aerial spraying at high elevation. Three trips were needed to apply all the toxicant. A period of ten days was needed to get in three trips. One-third of the toxicant had been applied prior to the last observation from the ground. Dead fish were observed about the shoreline and on the lake bottom in the littoral zone. Distressed fish were seen throughout the lake. The remaining toxicant was applied to the lake a week later.

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Date March 1, 1961