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MONTANA DEPARTMENT OF FISH AND GAME
FEDERAL AID IN FISH RESTORATION SECTION
HELENA, MONTANA

JOB COMPLETION REPORT
DEVELOPMENT AND OPERATIONS

State of Montana

Project No. F-24-D-12

Name Statewide Lake and Stream
Rehabilitation - Park Lake

Period Covered May 1, 1958 to April 30, 1959

Work Accomplished:

Park Lake is located in Jefferson County about 20 road miles southwest of Helena. This lake was purchased with Federal Aid funds in 1958. For supporting documents, maps and photos refer to P.S.&E. of project F-22-L-2.

Canals and Channels: Park Lake is a natural lake the level of which was raised by dyke and dam to supply water for a mining operation about 1888. A one and one-half mile long water supply ditch runs from a diversion dam on Lump Gulch Creek to the lake. Plans call for raising the lake level (about 6 feet) to the former level by putting the ditch back into operation. This would increase production and alleviate possible winter kills.

About three weeks were spent clearing obstructions (rock slides) in the ditch, particularly at the outlet and inlet. Tests revealed leaks and overflows and these were repaired. On September 11, 1958 water was delivered to the lake for about 24 hours and no leaks were observed.

Continuous flows for several weeks might develop more leaks or breaks and a more permanent ditch lining may be necessary for certain areas of the canal. The benefits derived from extensive repairs and maintenance may not compensate for the cost. Periodic winter kills may prove a boon to management.

Population Control:

A hydrographic map of the lake was constructed on July 16, 1958. The lake had a surface area of 33 acres and a volume of about 307 acre feet. The maximum depth was 30 feet and the mean was 9.3.

On September 12, 1958 the lake was treated with 110 gallons of Pro-Noxfish. The concentration used was approximately 1.2 ppm. Application in the open water area was made with a venturi pump. The shore line was sprayed with power and hand pumps.

The only dead fish observed several hours following treatment was the common sucker. This was also the only species taken by gill nets prior to treatment. Two overnight gill net sets were made on September 26, 1958 and no fish were taken.

Recommendations:

The ditch should be put into operation as soon as possible in the spring. Regular checks should be made to observe any leaks or breaks in the ditch. Toxicity tests should be made as soon as possible. It is recommended that 15,000 fry or fingerling rainbow trout be stocked when the water becomes non-toxic.

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Approved by

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Date April 29, 1959