

J. M. WILEY
INVESTIGATIONSState of MontanaProject No. F-12-R-1Job No. ITitle of Job: Cataloging the Waters of the Project AreaAbstract:

Survey emphasis was placed on the Clearwater drainage and a total of ten lakes and thirteen streams were surveyed in the project area. Information is being transferred from field records to permanent file cards, and a second set will be prepared for the Helena office.

The surveys of five Clearwater lakes and of six streams tributary to the upper Bitterroot River are treated in separate sections of this report.

It is recommended that survey work be continued, but that for the present time the work plan be rewritten to include the important waters of the project area rather than all the waters of a specific drainage.

Objectives:

To catalog the waters of the project area from the standpoint of physical and chemical characteristics and from the standpoint of fish response to the environment.

Techniques Used:

This year, the survey of the waters of the project area was concerned chiefly with the Clearwater drainage. As there was opportunity to do so, observations were also made on other waters of the project area. Names, locations, acreages, and lengths of streams and lakes were taken from U. S. Forest Service maps and aerial photographs. Stream flows were taken from U.S.G.S. flow data and from field measurements. Fish populations were sampled in all of the surveyed lakes with gill nets, and in most of the surveyed streams with an electric fish shocker. Scale samples were taken from important species of fish collected and sent to the Department's fishery laboratory for age and growth analysis. Information was recorded on field survey and netting forms and is being transferred to special file cards. A second copy of these will be made and sent to the Helena office.

Findings:

A total of ten lakes and thirteen streams were surveyed during the 1954 season, of which seven lakes and three streams were in the Clearwater drainage. Fish populations were sampled on all of the lakes and on eight of the streams.

The Clearwater River rises at the outlet of Clearwater Lake at approximately 4,800 feet above sea level, near the Clearwater-Swan divide. It flows about 40 miles in a southerly direction through Lakes Rainey, Alva, Inez, Seeley, and Salmon to its junction with the Big Blackfoot River at an elevation of slightly less than 3,800 feet above sea level. Fifteen lakes in the drainage have a total surface acreage of approximately 3,800 acres, however over 90% of this acreage is contained in the five main lakes: Alva, Inez, Seeley, Salmon and Placid. Four of these are accessible by a good blacktop highway, and one (Placid) is accessible by a good gravel road. They are all within about 50 miles of Missoula by good roads. They represent perhaps the best potential lake fishery in this section of the district, and while fishermen complain of poor fishing on them at present, the lakes rank high in their interest. The Department has been under considerable pressure for a number of years to try various management measures on them. Because of their importance, considerable survey time was spent on them, and they are covered in a special section of this completion report.

In September 1952, a survey crew sampled the fish populations in six streams in the upper Bitterroot River drainage. Five of the streams had been closed to fishing under the old idea of "feeder" streams. They were inventoried with the understanding that part of them would remain closed and part would be opened to fishing, then all would be resampled within one or two years. These streams were reinventoried this year during October, and because they represent a special problem, they are treated in a separate portion of this report.

Following is a list of lakes and streams surveyed and the data taken:

Lakes: Seeley, salmon, Placid, Alva, Inez, Clearwater, Harpers - physical and chemical data and population sample. Upsata and Unnamed Lakes - physical data and population sample. Brown's Lake - population sample.

Streams: Hughes Creek, Moose Creek, West Fork Bitterroot River, Skalkaho Creek, Burke Creek, Cottonwood Creek - physical data and population sample. Bear Creek and Clearwater River - physical data. Bitterroot River - chemical data.

Analysis and Recommendations:

Physical, chemical and biological data gained through survey is essential to the proper management of the waters of the project area and it is recommended that survey work be continued. However, survey by specific drainage requires that much time be spent on relatively unimportant waters, while important waters in other drainages of the project area receive no attention for several years. It is realized that information on all waters, both good and bad, is essential, a long range objective, but because of the present system of survey by specific drainage is delaying the survey of important waters in other drainages, it is recommended for the present that the survey work plan be rewritten to cover the more important waters of the project area in all drainages. Relative importance of fishing waters is determined largely by fishermen interest, and because fishermen interest usually manifests itself as a request for fish planting, the waters on the present planting program can be taken as a list of the more important fishing waters of the project area.

Summary:

Survey information on waters was collected from U.S.F.S. maps, aerial photographs, U.S.G.S. records and field work. This survey work was concentrated in the Clearwater drainage, and ten lakes and thirteen streams were surveyed during the 1954 season. Fish populations were sampled in all the lakes and on eight of the streams. Scale samples are at the Department's fishery laboratory

for age and growth determinations.

Information is being transferred from field survey sheets to permanent file cards, and a second set of these cards will be prepared for the Helena office.

Because of specific problems, the surveys of five main Clearwater Lakes and six streams tributary to the upper Bitterroot River are treated in separate sections of this report.

It is recommended that the survey project be rewritten to concern the more important waters of the project area rather than all the waters of a specific drainage.

Data and Reports:

The original data and reports are with the project leader in Missoula. Second copies of the lake and stream survey cards will be filed in the Helena office.

Prepared by Arthur N. Whitney

Approved by _____

Date May 1, 1955