MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

FISHERIES DIVISION
JOB PERFORMANCE REPORT

STATE: Montana PROJECT TITLE: Northwest Montana Fishery Study

PROJECT NO.: F-7-R-33 JOB TITLE: Inventory of waters of the project area

JOB NO.: I-a

PERIOD COVERED: July 1, 1983 through June 30, 1984

OBJECTIVES

1. To determine flow and habitat requirements in selected streams in the Whitefish, Stillwater, Thompson, and Swan River drainages for the purpose of establishing reservation of flows to provide minimum flow requirements for aquatic life. This objective was met and the information will be presented in the forthcoming Progress Report.

2. To monitor kokanee fishery of Lake Mary Ronan by: a) periodic creel census checks (opening day, and occasionally during winter and summer), and b) collecting fish population data with gill nets to determine catch success, size, and age and growth rates of kokanee. The existing data will be summarized and presented as a special project segment.

3. To establish relative abundance indices of kokanee and other associated game fish species in large regional lakes (over 3,000 surface acres). This segment will emphasize initial work on Whitefish and Ashley Lakes. This objective was partially completed. Time constraints prevented obtaining data from several large lakes.

4. To determine fisheries potential of lakes and streams by obtaining chemical, physical, and biological parameters for the management of sport fish species. This objective was met and the information will be updated in a progress report.

5. To monitor size fluctuations and age of annual kokanee spawning populations in several lakes. This objective was partially met. Kokanee age data compiled for several lakes has not been analyzed.

6. To investigate and approve stream alteration projects as required by the Montana Streambed Preservation and Lakeshore Protection Acts. This objective was met. An update of the projects reviewed will be presented in the progress report.

7. To establish minimum stream flow requirements for aquatic life and other mitigation measures in streams where proposed micro-hydro development permit applications have been received, and to assess potential adverse effects of fishing values on both migratory and resident trout species. This objective was met. An update of minimum flow determinations for all projects reviewed will be presented in the progress report.

ACCOMPLISHMENTS

Four to five cross-sectional stream profile measurements were collected at three locations on the Swan River. Flow needs to maintain suitable channel width are based on a wetted perimeter-discharge relationship of those measurements. Recommended flows will be selected when the wetted perimeter begins to decrease abruptly with lower flows.

Winter creel data, opening day creel census data, and gill netting data have been collected for Lake Mary Ronan for several years. Management recommendations, including stocking quotas and season restrictions, have been based on the assessment of these data.

Periodic gill netting was conducted for several large lakes to establish relative abundance indices and species composition of trout and salmon. These lakes include Little Bitterroot, Ashley, McGregor and Whitefish lakes. In addition, data have been collected on zooplankton and mysis shrimp abundance on a seasonal basis. Analysis of these data will be forthcoming in the job completion report.

Gill netting was conducted for several small lakes to assess the relative abundance of fish and recommended management changes were necessary. These lakes included Island, Heart, Crescent, Moore, Upper and Lower Martin, Estes, Skyles, Spencer and Bull lakes. Fish population estimates were determined for designated catch and release (artificial flies and lures only) fishing areas located on the Thompson and South Fork Flathead Rivers to assess size and age class structure changes associated with these special regulations.

The size of mature spawning kokanee has been monitored annually each fall for the past several years. Fish are collected by gill netting, electrofishing or beach seining in conjunction with hatchery spawn taking operations. Fish samples in the fall of 1983 were collected from 15 lakes. These included Ashley, Bitterroot, Glen, Lindberg, Spar, Tally, Swan, Middle Thompson, Dickey, Lake Mary Ronan, Lake Blaine, Bull, McGregor, Whitefish and Holland lakes.

A total of 29 hydraulic stream projects affecting fisheries habitat were reviewed in Region One during the project period. Field reviews were made along with specific written recommendations to minimize the impact on fisheries habitat.

Stream cross-section measurements were determined for several proposed micro-hydro developments in the Kootenai and Clark Fork River drainages. These streams included Honeymoon, Graves, Pine, Napoleon Gulch, Gold, Sullivan, Terriault, Spread and Meadow Creeks. Minimum flow recommendations

will be calculated from a series of measurements based on the wetted perimeter-discharge relationship.

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