

F-20-R-9 Job No. I. Inventory of the Waters of the Project Area - Donald Bianchi

The purpose of this job is to determine the physical, chemical and biological characteristics of the waters of highest importance to the total recreational fisheries picture of the project area, and where practicable to obtain estimates of existing or potential fisherman use and fishermen access. The purpose is also to inventory the present waters that are not producing a desirable sport fishery and determine corrective measures.

An inventory will be taken of the highly important waters to recreational fishing in the project area. To a large extent those waters of importance are those where artificially propagated fishes are to be liberated and where request has been expressed for such liberation. Specific information will be gathered and evaluated on those waters that appear capable of supporting a more desirable fishery, but because of many adverse factors are not producing a fishery. While investigating waters of primary importance, project personnel will record information concerning waters of lesser importance as opportunity arises and time permits. This is incidental to the objective, but will be important to the long-range survey program and will effect the most economical distribution of effort.

Information will be obtained from maps, aerial photographs, U. S. Forest Service, U. S. Soil Conservation Service and other agencies, and from local residents, as well as from field investigations.

The completeness of the survey on any one body of water must be regulated by the characteristics of that stream or lake. The nature of some is such that the detailed survey would be too time consuming and expensive. Such situations will be exceptional. The usual practice will be to complete the survey according to the general outline below.

1. Widths, lengths, volumes of flow for streams, and depths, fluctuations and areas for lakes and impoundments will be compiled from maps, aerial photographs, field measurements and data of various agencies.
2. Drainage, shoreline and bottom characteristics will be noted from field observations.
3. Temperature ranges and stratifications will be established from readings made by project personnel, by hatchery personnel and other department employees.
4. Gross chemical observations will be made, such as pH, alkalinity, dissolved solids and turbidity by standard methods.
5. The suitability of streams and lakes for natural reproduction will be determined by visual observations and sampling.
6. Determination of the species of fish present and their abundance will be made by the most practical methods.
7. Fish age and growth samples may be collected, if necessary and analysis of the samples will be made at the Fish and Game Laboratory, Montana State College, Bozeman, Montana.
8. Where pollution, potential pollution or other habitat destruction is involved, bottom organism samples may be taken and analysis will be made at the department Fisheries Laboratory, Montana State College. Electrical sampling of the fish population will be carried out if feasible.

9. Existing and/or potential fishermen use will be sampled or measured by actual counts, mechanical automobile counters and by other visual observations.
10. The status of access will be noted, including land ownership, natural accessibility and posting against trespass.