MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

FISHERIES DIVISION

JOB PROGRESS REPORT

State: Montana
Project Number: F-46-R-7
Job Number: VI-B

Project Title: Statewide Fisheries Investigations
Study Title: Statewide Surveys and Inventory
Job Title: Statistical Services
Period Covered: July 1, 1993 through June 30, 1994

JOB OBJECTIVES

Maintain a computerized catalog of stream and lakes. Continue cooperative effort with federal agencies to computerize lake and stream survey information. Coordinate and develop prorams to enable the electronic processing of data too voluminous or complex to compile by hand. Statistically analyze methods and data when requested. Coordinate the use of consulting statisticians and contract programmers when requested or needed. Gather trend information on catch rates by species through the use of volunteer fisherman log holders. Maintain a computerized list of fish plants and request for plants.

ACCOMPLISHMENTS

All objectives were fulfilled.

The lake and stream name file and cataloging system was maintained. New water names were entered as inventories were completed by field personnel and corrections of existing entries were made as needed. A total of 11,538 waters are now catalogued.

Stream and Lake Database development was continued with the assistance of NRIS and BPA.

The mark-recapture computer system (MR4) has been rewritten in "C" programming language. The program is available for distribution. A data editor was also written to enable those users with little or no dbase experience to enter and/or edit mark/recapture data.

The Hatchery Production computer programming was begun. The system contains three major areas: 1) Projections; 2) Production; and 3) Plants. The beta release of the projection portion of the software was completed during this time period. The system is projected for completion by the end of December, 1994.

Statistical analysis of various data and methods were made periodically throughout the project period.

Fish planting records were recorded and added to the fish planting database. Data for 62,903 plants have now been entered. The 5 year planting request was updated and the annual plant requests produced.

The fisherman log program was continued as planned. Compilation of the data for the period December 1992, through November 1993, is in progress at the time this report is written.

Data analysis for the period December 1991, through November 1992, showed 558 log holders out of 968 log holders returning their books for coding and analysis. These log holders caught 1.8 fish per hour for the summer months (May-November) and 1.9 fish per hour for the winter months. The annual catch rate was 1.8 fish/hour. Logs were issued to 122 new anglers to the program.

The Bozeman Region had the highest number of fish caught per hour for the summer months, while the Kalispell region had the highest number of fish caught per hour for the winter season (figure 1).

The Miles City region had the highest average number of fish caught per day for the summer season, while the Great Falls had the highest average number of fish caught per day for the winter season. (figure 2).

In the summer, Rainbow trout comprised the largest percent of the game and sport fish catch at 27.6% of the total. In the winter, Yellow Perch accounted for the majority of the sport and game fish catch at 30.1% (figure 3).

Assistance and trouble shooting of both hardware and software were provided when requested.

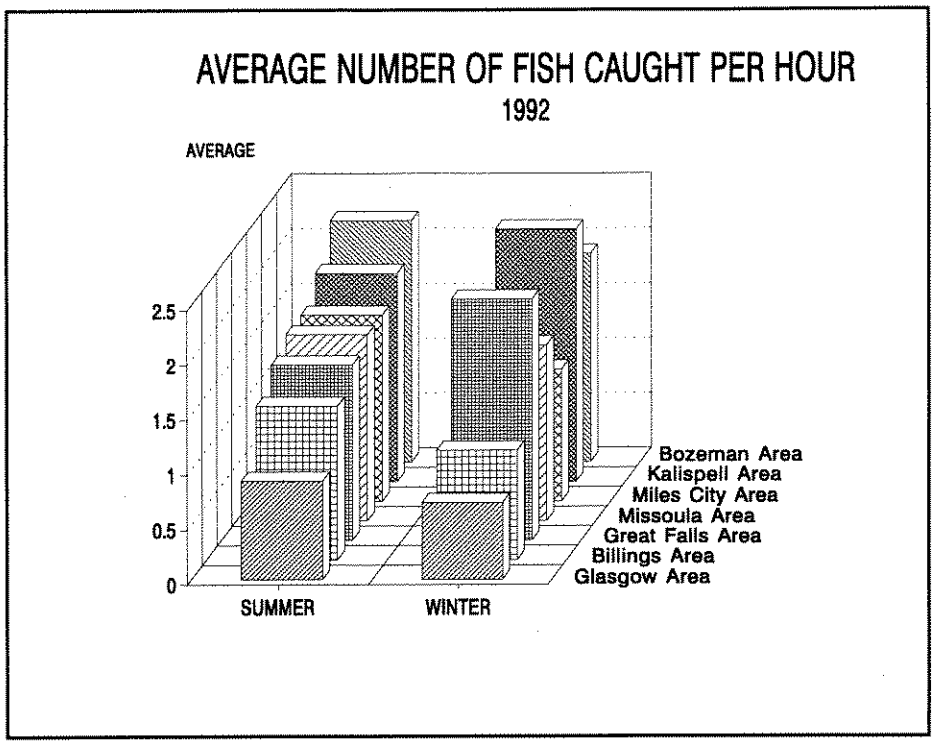

Figure 1. Average number of fish caught per hour by Fish, Wildlife & Parks regions for the summer and winter seasons.

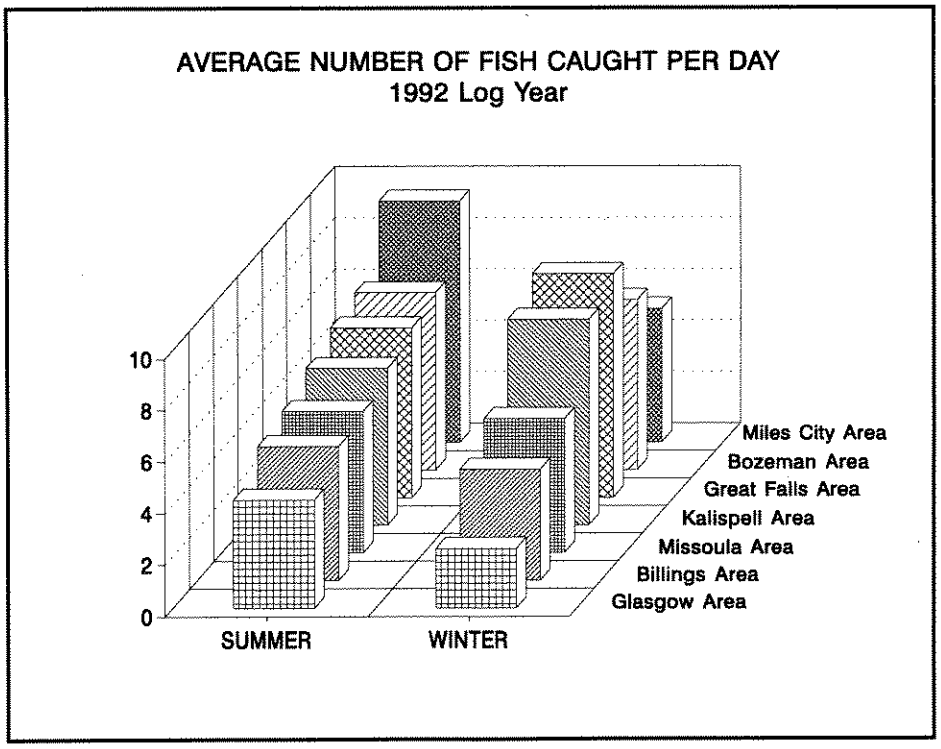

Figure 2. Average number of fish caught per day by Fish, Wildlife & Parks regions for the summer and winter seasons.

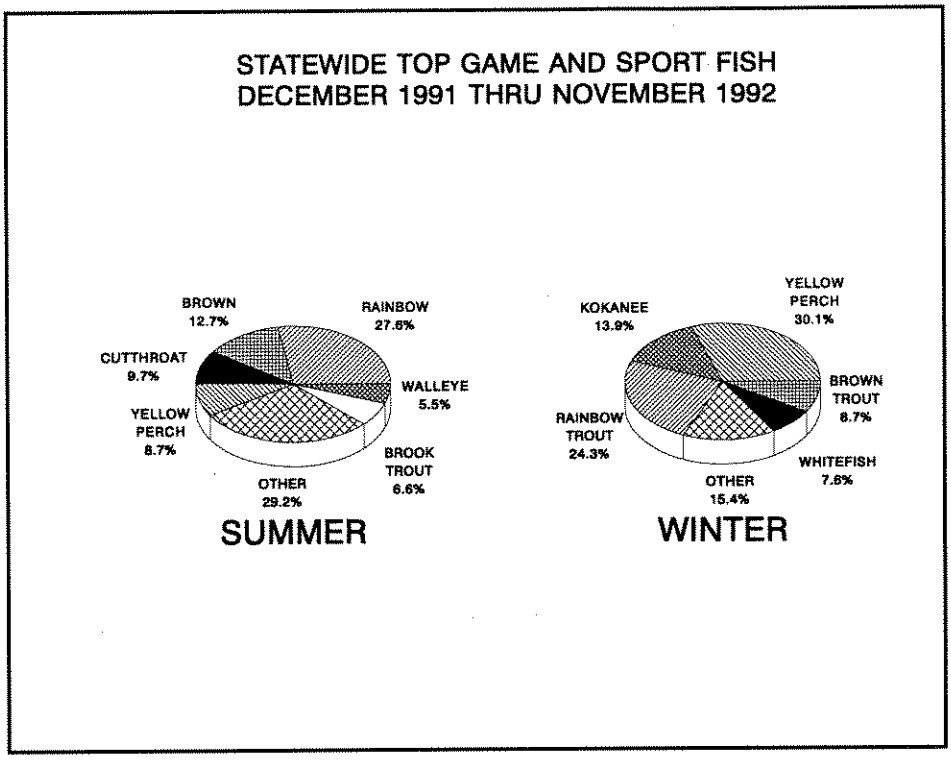

Figure 3. Percent of game and sport fish caught by logholders for the summer and winter seasons for the 1992 log year.

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Date: August 23, 1994