END OF YEAR PROJECT REPORT/JOB PROGRESS REPORT
FY 93: JULY 1, 1992 - JUNE 30, 1993

Division Fisheries Region 3 SBAS Project Number 3324

Project Title Southwest Montana Big Hole River Grayling Study

Federal Aid Project Number F-46-R-6

Study I Job K

Report Period 7/1/92 Ending Date 6/30/93

Principal Investigators

E. Richard Vincent, Regional Fisheries Manager
Pat Byorth, Fisheries Program Specialist
Richard Oswald, Fisheries & Wildlife Biologist

OBJECTIVES

1. Make population estimates of fluvial arctic grayling on the McDowell - Wisdom study sections during the spring (June) with the objective of maintaining arctic grayling populations of at least 40 II year and older grayling per mile (Headwaters of Big Hole to Pintlar Creek).
COMPLETED

2. Make a September population estimate of arctic grayling for the McDowell - Divide reach of the Big Hole River.
NOT COMPLETED - Due to low water conditions, this population estimate for fluvial arctic grayling was not possible.

3. Determine spring spawning migration of adult grayling using a tagging and electrofishing survey.
COMPLETED

4. Determine the Fall - Winter migration of grayling to winter habitat using fish tags, electrofishing and radio telemetry gear.
COMPLETED

5. Capture and spawn 10-15 ripe female grayling to continue to stock in Axolotl lake to establish a wild brood stock of fluvial grayling.
COMPLETED.

6. Trap and spawn the fluvial arctic grayling established in Axolotl lake taking eggs and sperm to hatchery for rearing and restocking in the Big Hole River study area.
COMPLETED

7. Mark and evaluate the success of grayling stocked in the Big Hole River from grayling spawned from the Axolotl and hatchery brood of fluvial arctic grayling.
COMPLETED.

8. Map and inventory grayling habitat using aerial photography, orthoquads, physical and observational measurements. Habitat would include: 1) spawning areas, 2) rearing areas, 3) summer and 4) wintering areas.
COMPLETED.

9. Determine thermal suitability using USGS gage at Wisdom.
COMPLETED.

10. Monitor losses of young-of-year grayling to larger irrigation diversions upstream from Wisdom using electrofishing gear.
COMPLETED

11. Conduct a hooking mortality study which would monitor losses of angler released grayling held in live cars for a 24 hour period.
COMPLETED.

Prepared by E. Richard Vincent Date 9/15/93

Regional Supervisor Richard Vincent Date 9/17/93