WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2004MT30B

Title: Evaluation of various methods to assess condition of perennial stream ecosystems

Project Type: Research

Focus Categories: Management and Planning, Conservation, Ecology

Keywords: proper functioning condition, riparian health, ecosystem stability, aquatic macroinvertibrates, trout habitat, stream morphology

Start Date: 03/01/2004

End Date: 02/28/2005

Federal Funds: $6,100

Non-Federal Matching Funds: $15,501

Congressional District: 1

Principal Investigator:
Clayton Marlow

Abstract

The evaluation of streamside or riparian health has become of great interest to land managers, rehabilitation specialists, and outdoor recreational users. These interests coincide with the desire to maintain or restore stream ecosystems. The problem is riparian and upland management policy throughout Montana and the Northern Rocky Mountain region is driven by the assumption that high ecological condition in riparian areas is indicative of good trout habitat and unimpaired water quality. This study will collect data on 4 streams in eastern Montana and 4 streams in western Montana measuring in-stream habitat and morphological features. Each stream section will be divided into 4 reaches, and riparian condition will be evaluated using Proper Functioning Condition, NRCS health status, and Greenline composition assessment methods. In-stream habitat conditions along with macroinvertebrate population characteristics will set the baseline for evaluating in-stream habitat and ecosystem health. The final products of this project are a Master's thesis, instructional material for university courses, workshops for landowners and managers, and the potential application outside the state of Montana such as Wyoming and Idaho.