Barriers to Prevent Non-Native Fish Movement: A Survey

Peter Brown and Alexander Zale, 301 Lewis Hall, Montana State University, Bozeman, MT 59717, pbrown@montana

Bradley Shepard, Montana Fish, Wildlife and Parks, 1400 S. 19th Ave., Bozeman, MT 59718, brshepard@mt.gov

Barriers to non-native fish movement are important tools in the conservation of native fish species. Natural and manmade barriers provide protection to some of the last populations of native fish and barriers are frequently used to help restore a species to a larger portion of its native range. Barrier design, longevity, cost, and functionality vary, and those designing barriers often lack all of the information necessary to build the best barrier to meet their management needs. The goal of this project is make information about barrier designs and associated benefits and drawbacks easily accessible to fish managers. We surveyed barriers in six western states currently being used to prevent non-native fish movement. The falls barrier was found to be the most common type of barrier. Other types included mesh, perched culverts and velocity barriers. Results of this survey are stored in a database that can be accessed by the internet. An array of barrier designs has been entered into the database and has helped to expose gaps in the knowledge base necessary to construct effective barriers, such as the jumping performance of wild fish, proper barrier siting, and barrier designs that accommodate high and low discharge.