

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Upper Muddy Creek Sucker Genetic Analysis
Type of Project : Research
Project Discipline : Natural
Funding Agency: Bureau of Land Management
Other Partners/Cooperators:
Effective Dates: May 21, 2007 – May 1, 2009
Funding Amount: \$91,580.00
Investigators and Agency Representative: PI: David McDonald Associate Professor, Department of Zoology and Physiology Dept. 3166, Univ. of Wyoming 1000 E. Grand Ave. Laramie, WY 80721 Tel: (307) 766-3012 Lab: (307) 766-2754 E-Mail: dbmcd@uwyo.edu
Project Abstract: The range-wide conservation strategy for roundtail chub, bluehead sucker, and flannelmouth sucker identifies “the overall goal of conservation genetics should be to preserve available genetic diversity, including identifying and preserving genetically distinct populations as well as those that provide redundancy of specific genetic material across the species’ range” (UDWR 2004). Our three objectives, will provide guidelines for conservation of the two native suckers. Our breeding experiments will show us 1) how hybrids arise and 2) their viability. Knowing their viability will help us determine which types of hybridization may be a threat to the genetic integrity of the native species. We will also assess 3) whether our results in Muddy Creek can be generalized to other watersheds where white suckers hybridize with natives. If so, then field biologists elsewhere can also assess genotype by the field phenotype. For example, a biologist could be confident in judging that a fish morphologically intermediate between a bluehead and a flannelmouth is indeed a bluehead/white hybrid genetically. Managers can then develop efficient strategies to address the genetic threats. For example, they could decide which removals would most effectively preserve the genetic integrity of the natives, and have guidelines for reestablishment of genetically pure populations in areas where removals are feasible.
Outcomes with completion dates (reports, publications, workshops, videos, etc.): Quarterly Report submitted to BLM October 2007
Keywords: Native fish, hybridization, genetics, introgression, introduced species

