

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: GNLCC-Predicting Effects of Climate Change on Aquatic Ecosystems

Discipline: Natural
Type of Project: Research
Funding Agency: US Fish and wildlife Service
Other Partners/Cooperators: University of Montana
Effective Dates: 9/14/2011 - 1/31/2014
Funding Amount: \$193,775 [FY13: \$85,000; FY11: \$ 108,775]

Investigators and Agency Representative:

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Project Abstract:

Global climate change is likely to dramatically impact the structure and function of freshwater systems, yet no studies have comprehensively assessed the potential effects of climate change on aquatic ecosystems in the Great Northern Landscape. The research here aims to build upon and existing climate change and transboundary research program to assess the potential hydrologic, geomorphic, and thermal effect on foodwebs, native salmonids (threatened bull trout and westslope cutthroat trout) and lotic habitats in the transboundary (US and Canada) Flathead River system. The project will apply new and existing techniques for combining downscaled and regionalized climate models linked with specific spatial data, fine-scale aquatic species vulnerability assessments (invertebrates-fish), population genetic data, and remotely sensed riparian and aquatic habitat analysis. Results may be used to identify populations and habitats most susceptible to the impacts of climate change; develop monitoring and evaluation programs; inform future research needs; and develop conservation delivery options in response to climate change and other stressors (e.g., habitat loss and invasive species) that are often complicated or exacerbated by climate change.

Outcomes with completions dates: January 31, 2014

Keywords: climate change, aquatic ecosystems, transboundary Flathead River, United State, Canada, US Fish and wildlife Service), Flathead Lake Biological Station, University of Montana