

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Effect of Water Chemistry and Pressure on Lake Trout Embryos and Fry, Yellowstone NP

Discipline: Natural

Type of Project: Research/Technical Assistance

Funding Agency: National Park Service

Other Partners/Cooperators: USGS Montana Cooperative Fishery Research Unit

Student Involvement: Yes, M.Sc.

Effective Dates: 09/01/2015 - 08/31/2019

Funding Amount: \$90,017

Investigators and Agency Representative:

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Project Abstract: The development of alternative nonnative lake trout suppression methods to be used in concert with intensive gillnetting in Yellowstone Lake is highly desirable to park managers. Yellowstone Lake offers unique opportunities to harness the natural hydrothermal features of the lake bottom in the suppression of lake trout embryos. Researchers will determine which chemical compounds induce mortality in lake trout embryos and larvae and determine if pressure will induce mortality in lake trout embryos or larvae. Researchers will investigate attributes of lake trout spawning sites in Yellowstone Lake (substrate size, interstitial space, hyporheic exchange, etc.) and evaluate efficacy of field applications of chemical compounds and/or pressure guns on lake trout spawning sites in Yellowstone Lake.

Outcomes with Completion Dates:

Final results will appear in an MS thesis and in peer-reviewed publications - August 31, 2019.

Keywords:

Yellowstone National Park, Montana State University, water chemistry, lake trout, water pressure