



LEARNERS AND LEADERS

Trout & Coldwater Fisheries Ecology

**ADVANCING  
COLDWATER FISHERIES  
SCIENCE AND  
DISCOVERY**

*WHAT IT TAKES*

The Campaign for  
**MONTANA STATE UNIVERSITY**





LEARNERS AND LEADERS

## Trout & Coldwater Fisheries Ecology

# A TRADEMARK EARNED.

Montana State has led the way in wild trout conservation and management since the 1960s. The region's premier wild trout waters are a natural laboratory for faculty whose basic and applied aquatic ecology research and exceptional reputation for educating fisheries professionals have earned us the distinction of being Trout U™.



## BUILDING ON A HISTORY OF COOPERATION.

To protect our coldwater fisheries—the Bighorn, Madison, Jefferson, Missouri, Gallatin, Yellowstone and the Henry's Fork—MSU faculty working alongside Montana Fish, Wildlife, and Parks helped to pioneer methods for sampling and monitoring wild trout populations, for cessation of stocking rivers with hatchery fish and for initiating angling policies like catch and release regulation, which are now commonplace throughout the world's trout waters.

MSU's legacy of collaborative efforts with Montana FWP and the Montana Cooperative Fishery Research Unit continues today. This cooperation is built on relationships that often begin as faculty teach and mentor students who then graduate and become professionals in the field.

**RESEARCH PROTECTS THE VITALITY OF OUR RIVERS & STREAMS.  
\$2M IN PRIVATE SUPPORT WILL CREATE A LEGACY OF SUPPORT  
DEVOTED TO TROUT & AQUATIC HABITATS.**





## TROUT: "CANARY IN THE COAL MINE."

Trout requirements for clear, cold, clean water make them particularly susceptible to anticipated threats from climate change. MSU researchers have investigated and provided detailed information on temperature requirements for bull trout, cutthroat trout, rainbow and brook trout.

This vital information paired with the insight that trout are known to be the canary in the coal mine as early detectors of water flow and water temperature change, will help researchers monitor and manage the effects of warmer temperatures, declining streamflows and replacement by more temperature-tolerant species.

## TROUT RESEARCH FUNDING PRIORITIES.

Native trout conservation in  
Yellowstone & Glacier National Parks

Growth and survival of trout in  
sensitive headwaters

Rainbow and Brown trout movement  
in the Smith River and effects  
of changing water flows and  
temperatures

Invasive species and disease threats

Ecology and population dynamics  
of salmonflies

## The numbers on trout ecology—no exaggerations.

# 1936

the year MSU began educating  
natural resource professionals

# 60+

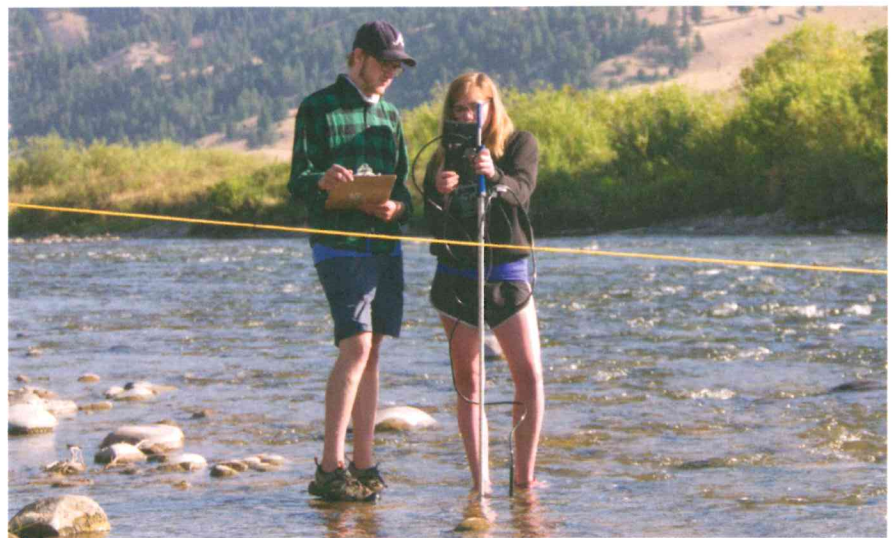
GRADUATES OF MSU WORKING AS  
FISHERIES PROFESSIONALS IN THE  
WESTERN U.S. AND ALASKA

# 100+

NUMBER OF GRADUATE FISHERIES  
PROJECTS DIRECTED COOPERATIVELY  
WITH MSU IN THE REGION

# 7,500

volumes contained in  
the MSU Library Trout and  
Salmonid Collection



## STRENGTHENING MSU AS A HUB OF TROUT EDUCATION.

The **Trout and Coldwater Fisheries Chair** will strengthen MSU's offerings and opportunities for undergraduate students of fisheries, fellowships for graduate students and for the expansion of trout conservation education and research in the face of imminent threats.

Currently MSU's Fisheries Science and Management curriculum is **covered by only one faculty member**. Additional resources are needed if the program is to keep up with the research demands and training of professionals who will protect our valuable coldwater fisheries.

Bolstering the case for the chair are the **unparalleled institutional resources** for wild trout studies nearby. Conservation organizations like Trout Unlimited as well as a number of stream restoration companies have close ties to the area or are headquartered here.

Additionally, the MSU Library continues to build upon its world-class **research collection of trout and salmonid literature**, with writings from renowned trout anglers and scientists including Bud Lilly, Joan Wulff, Professor Robert Behnke, George Grant and Nick Lyons.



# Why it matters. STORIES OF STUDENT SUCCESS

## Heidi Anderson and Niall Clancy

Heidi Anderson and Niall Clancy have spent a good chunk of the 2016 summer driving up and down sections of the Madison and Gallatin rivers looking at salmonflies. The two students are monitoring the insect species, a member of the Stonefly family, because the macroinvertebrate is a key indicator of water quality and stream health.

Heidi, originally from Corvallis, Oregon, is a graduate student in biological sciences and Niall, an undergraduate from Hamilton, Montana, is earning a degree in fish and wildlife management. They are working collaboratively under Assistant Professor of Ecology Dr. Lindsey Albertson assessing how salmonfly populations are affected by changing water temperatures and water flows.

“The lab has been my community, my home away from home, and it has really confirmed for me that this is the field I want to be in.”



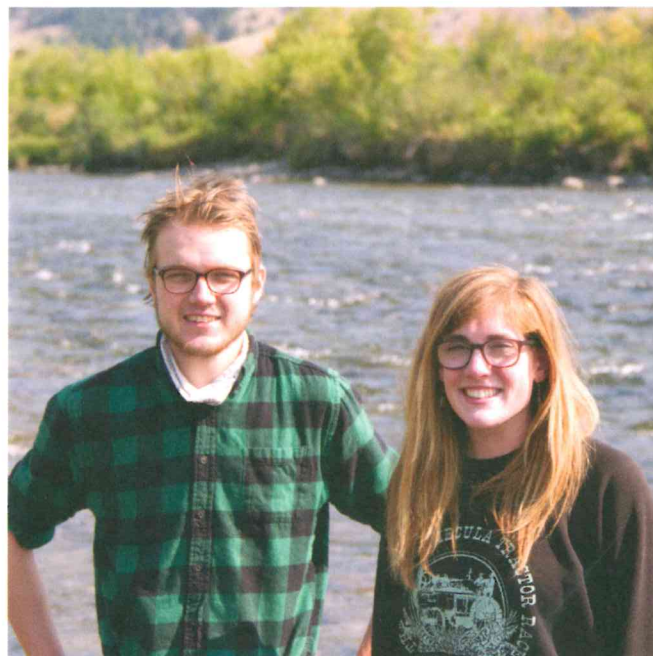
Niall Clancy

The students observe and record data on the emergence of salmonflies from nymph form to adult form. The goal is to figure out how high water temperatures and how low water flows can get and still maintain a healthy salmonfly population. Their research will help contribute to progressive management policies and the sustainability of coldwater fisheries for Montana's fishing and tourism industries.

Both Heidi and Niall chose to study at MSU because of its location and excellent reputation as a research

university. “Dr. Albertson's research was the most interesting. It wasn't esoteric which was really important to me. And I knew I wanted to stay in the West,” Heidi explained. Heidi has found the ecology department to be very welcoming and appreciates the sense of community she feels with the support of other graduate students offering resources, materials and advice.

As an undergraduate, Niall has found the same remarkable encouragement and support both in the classroom and outdoors doing research. “The lab has been my community, my home away from home, and it has really confirmed for me that this is the field I want to be in.”



Niall Clancy and Heidi Anderson



Learn more about how to write your own page of Montana State University history.

**Development Office**  
MONTANA STATE UNIVERSITY  
ALUMNI FOUNDATION  
info@msuaf.org  
406-994-4207  
montana.edu/WhatItTakes