

# FISHERIES RESTORATION IN A FLOW-REGULATED RIVER ON A PRIVATE RANCH

## Intern:

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**Mentors:**  
Dr. Yoichiro Kanno – Associate Professor, Dept. Fish, Wildlife, and Conservation Biology, Warner College  
Helen Acosta – Master's Student, Dept. Fish, Wildlife and Conservation Biology  
Brien Rose – Director of Natural Resources/Fisheries Biologist, Blue Valley Ranch  
Dan Schroder – Summit County Director, CSU Extension

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## BLUE VALLEY RANCH – KREMMLING, CO

### PROJECT INTRODUCTION

My CSU extension internship revolved around gaining necessary interdisciplinary natural resources skills to be successful in natural resources positions. Much of my time this summer was spent working on Blue Valley Ranch in Kremmling, CO learning fisheries related tasks. Additionally, I spent 2 weeks working with Summit County CSU Extension engaging with the community in both river management and community outreach, and other various natural resources related topics.



Figure 1. Field sampling on Blue Valley Ranch

### INTERNSHIP GOALS

- Learn fisheries management skills
- Electroshocking fish to collect data
- General fish hatchery operations and maintenance
- Communicating effectively with various stakeholders
- Learn to properly transport/stock fish
- Performing proper data collection under various river flows



Figure 2. Blue Valley Ranch fish hatchery

### THE INTERNSHIP

#### Blue Valley Ranch

My time working on Blue Valley Ranch provided me with valuable hands-on skills. I learned how to seine ponds for fish, safely setup tanks for fish transportation, and effectively electro fish for adult and juvenile fish in the Blue river. Among these skills I also learned about fish hatchery care starting from egg development all the way to stocking juvenile fish. I also performed other non-fisheries related tasks such as tree planting fields for forest rejuvenation. In addition to performing these various tasks, I deepened my understanding on various ecological topics by asking coworkers questions who have been performing these jobs for much longer than I have.

#### Summit County Extension Outreach

In the middle of my time spent on Blue Valley Ranch I spent 2 weeks working with Dan Schroder who is the CSU Extension agent for Summit County. The goal around this experience was to learn community outreach skills and see firsthand how important it is to engage with the community regarding natural resources. I experienced an array of outreach including teaching young students about freshwater macroinvertebrates and water quality, repairing bucking rails and trails with Summit County Land Crew, and sampling Boreal Toads for chytrid fungus.

#### Additional Lab Work

In addition to the previous 2 components of my internship I also went out on various field sampling days with Dr. Kanno's laboratory, furthermore, I gained more hands-on experience in a lab setting in support of fisheries research. I spent two separate weeks performing juvenile Brown Trout and Mottled Sculpin data collection at Blue Valley Ranch with the lab, and spent an additional few day's RFID tagging Brook Trout near Red Feather Lakes, CO.



Figure 3. Detecting fish implanted with PIT tags on Elkhorn Creek (Left). Electrofishing setup at Blue Valley Ranch (Right)

### Key Takeaways

This internship supported me with skills to further advance my professional career in natural resources. The experience I gained from this summer internship has me feeling more confident that pursuing a career in natural resources is what I want to do. Having the components of hands-on fisheries experience on a private ranch, as well as getting to engage with the surrounding community with natural resources related topics made this internship fun and engaging, as well as helpful in pursuing a career in natural resources.



Figure 4. Boreal Toad (*Anaxyrus boreas boreas*) sampling with U.S. Forest Service



Figure 5. Dan and other hikers (Left). Myself and CSU sampling crew at Blue Valley Ranch (Right)

### NEXT STEPS

Concluding this internship, I am continuing to work in Dr. Kanno's lab over the academic school year. This entails lab work on campus, as well as occasional field sampling events. I am also currently looking at further education in the form of pursuing my Masters degree in some form of natural resources.