



## ELLEN HAMANN

University of Idaho

DeVlieg Taylor Graduate Research Assistantship 2007-2009

Master Degree

19 October 2011

Dear Members of the DeVlieg Foundation Board,

Greetings from the University of Wisconsin-Madison! It's been a long road to get here, but it all started at Taylor Wilderness Research Station in the backcountry wilderness of Idaho.

In April of 2010, I successfully defended my Master's thesis: **"Assessing spawning habitat selection and quantifying straying rates of wild Chinook salmon (*Oncorhynchus tshawytscha*) in a wilderness basin."** My advisor, Dr. Brian Kennedy, and I are in the final stages of revisions on one publication and are ready to submit the findings for the second chapter within the coming month. Thanks to your generous support of our research, we were also able to present the findings of chapter one, **"Juvenile dispersal impacts straying behaviors of adults in a migratory population"** at the international symposium on the population ecology of stream salmonids held in Spain in May of 2010.

In April of this year, I was offered the opportunity to work with Dr. Peter McIntyre at the Center for Limnology at the University of Wisconsin-Madison. While leaving the mountains and streams and beauty of Idaho was one of the more difficult decisions I've had to make, the chance to work in Africa again made the prospect of returning to the Midwest bearable! Our group researches the incredible fish diversity in Lake Tanganyika (Tanzania, Africa), the world's second deepest and second oldest lake. Specifically we are interested in assessing the role that grazing fish play in sustaining ecosystem productivity through nutrient storage, recycling, and new inputs, and the project merges organismal and ecosystem perspectives to assess how sensitive this unique system may be to over-fishing and climate change.

My time at the University of Idaho has more than prepared me for the challenges of my new position, and I am grateful for the education and mentorship I received and the financial support from the DeVlieg Foundation that made our research possible. Thank you.

Best wishes, Ellen Hamann



## Research


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2007-2009

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**CIFEES** - Integrative Fish Ecology  
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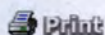
### Life history variability in the Middle Fork of the Salmon River system: Migration decisions in a disturbed wilderness environment

#### Brief Description (ppt)

#### Research Goals

The overall goal of this study is to understand ecological drivers of movement and life history variation of Pacific salmon in the Big Creek Watershed. We then hope to place these relationships between habitat and movements in the context of pristine salmon rivers throughout the northern Pacific. Currently little is known concerning juvenile salmonid movements, and my research will look at these movements in the context of environmental conditions that may be driving migrations. We will be using a combination of techniques from PIT tagging to otolith microchemistry to determine differences in fish size, growth rates, and migration timing within the watershed. Additionally we are collaborating with researchers at the **Salmonid Rivers Observatory Network (SaRON)** based out of the University of Montana's Flathead Lake Biological Station. SaRON's goal is to look at salmon productivity and biodiversity from a habitat perspective, focusing on the type, amount, and quality that is available. They look at habitat as a constantly shifting mosaic shaped by dynamic biophysical processes over long time scales. SaRON observatory sites are located throughout the Pacific Rim from Russia to Alaska and British Columbia, and collaborations with them will enable us to make cross-site comparisons between Big Creek and international pristine river systems.

*Electroshocking Upper Big Creek for juvenile Chinook and steelhead.*



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**The field work for my research is based out of the University of Idaho's Taylor Wilderness Research Station located in the Frank Church/River of No Return Wilderness area of central Idaho.**

Wilderness environments are valuable research settings for looking at what current successful life history strategies are and using them as a reference for what historical strategies might have been. We can then use these pristine systems as a basis for comparison to other habitats that have been impacted by anthropogenic effects. This type of research becomes even more relevant in an era of increased environmental change and human impacts that threaten to alter entire ecosystems. Global warming and climate change have huge implications for anadromous salmonids. Remote headwater streams like Big Creek will be of utmost importance for the continued persistence of the species as thermal barriers and altered hydrologic regimes continue to impact stream and river networks throughout the Pacific Northwest.



*Weighing the juvenile steelhead and then inserting a PIT tag.*

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