

Ellen J. Hamann

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Education

2007-2010 **M.S. Environmental Science, University of Idaho**, Department of Fish and Wildlife Resources and Environmental Science Program; Moscow, ID

1997-2000 **B.A. Biology, Augustana College**, Department of Biology; Sioux Falls, SD

Research and Professional Experience

Work and Teaching Experience

2011- Present **Lab Manager, McIntyre Lab, Center for Limnology, University of Wisconsin-Madison**

Oversee and contribute to field operations and conduct chemical analyses of samples in the laboratory for group projects in Tanzania, Thailand, Hawaii, the Great Lakes, and Wisconsin rivers. Create and manage content to publicize barrier removal efforts in the Great Lakes Basin and promote general awareness around lesser-known migratory fishes. Field responsibilities include coordinating logistics; collecting, handling, and sampling fish and invertebrates using gillnets, electrofishing, snorkeling, and SCUBA; measuring ambient water conditions using sondes and thermistors; managing field data; maintaining and repairing field gear; and coordinating field efforts with collaborators. Laboratory work includes water chemistry analysis using an API and IC; preparation and analysis of fish and algal tissue for CNS analysis with an Elemental Analyzer; otolith preparation and microchemistry analysis using ICP-MS; and stable isotope sample preparation. Additional responsibilities include creating and managing web content; purchasing equipment; compiling and organizing field data and samples; writing summary reports and manuscripts; hiring, training, and supervising temporary employees, undergraduate workers, and student volunteers; serving on CFL committees; and leading outreach efforts.

2014 **Fisheries survey leader, Operation Wallacea (Peru)**

Caught and identified fishes within the Pacaya-Samiria Reserve (Amazon Basin) using gillnet and traditional baited rods. Supervised middle-school and university students in the field, taught fish ecology lectures, and instructed students in safe fish handling, dissection, data quality, and current sampling methodologies.

2010-2011 **Lab Manager, Integrated Fish Ecology and Ecosystem Studies, University of Idaho**

Assisted field and laboratory operations related to the study of salmon life history and climate change in the Snake River Basin. Work responsibilities included intensive salmon carcasses sampling in remote field locations; formulating methodologies; preparing and processing otolith samples for microchemical and isotopic analysis; coordinating schedules for data collection and processing with project personnel and collaborators; overseeing temperature monitoring at sites within the Salmon River Basin; and writing manuscripts.

2007-2009 **Graduate Teaching Assistant, University of Idaho**

Environmental Science Program; Course: Field Activities in Environmental Sciences

Department of Fish and Wildlife Resources; Course: Fish Ecology

- 2007** **Field Technician, Department of Fish and Wildlife Resources, University of Idaho**
Studied site-specific growth rates, cohort density, and survival for juvenile Chinook salmon in Big Creek, Idaho. Conducted 24-hour snorkel surveys to observe and document foraging behavior.
- 2005-2007** **Wildlife Technician, Colorado Division of Wildlife**
Identified reservoirs with potential for non-native fish escapement into critical habitat. Performed hydroacoustic surveys on West Slope reservoirs to estimate fish populations and assisted in non-native fish removal using electrofishing techniques.
- 2006** **Research Biologist, LGL Alaska Research Associates, Inc.**
Conducted land and boat-based surveys of Beluga whales in Cook Inlet (Alaska) to observe and document whale behavior, and used beach seines to assess fish community composition in tributaries impacted by a proposed mining project.
- 2006** **Research Technician, Native Village of Eyak**
Applied PIT, Floy, and radio tags to Chinook and Sockeye salmon to evaluate salmon escapement in the Copper River (Alaska).
- 2004-2005** **Fisheries Observer, A.I.S., Inc.**
Collected data at sea on commercial fishing vessels and provided information necessary for the National Marine Fisheries Service to estimate fish population trends and manage the Northeast fisheries. Documented marine mammal and avian interactions with fishing gear and performed necropsies.
- 2001-2003** **Rural Aquaculture Promotion Extension Agent, US Peace Corps, Zambia**
Worked with local subsistence farmers in order to enhance food/protein availability and provide a reliable income source for rural Zambians. Instructed farmers in site selection, pond design and construction, fingerling handling, transport and stocking, pond management, harvesting and marketing, farm system integration, and farm planning and economics.

Graduate and Undergraduate Research

- 2007-2010** **“Assessing spawning habitat selection and quantifying straying rates of wild Chinook salmon (*Oncorhynchus tshawytscha*) in a wilderness basin”**
Quantify straying rates of adult Chinook salmon based upon reconstructions of juvenile rearing habitats from otolith microchemistry fingerprints. Work involved electrofishing surveys, biological data collection, spawning ground surveys, adult carcass collections, otolith processing and microchemistry, and spatial habitat analysis. Study biophysical and geomorphic parameters influencing spawning habitat selection by Chinook salmon in Big Creek, Idaho. Used remote sensing technologies (including satellite imagery and high-resolution digital imagery) and ground measures (productivity and Acoustic Doppler Profile measures) to evaluate and quantify availability of preferred habitat for various life stages throughout the watershed. Dr. Brian Kennedy, advisor.
- 1997-2001** **“Chromosome Arm Dosage Effects on the Expression of the High molecular Weight Glutenin Proteins of Wheat”**
Created chromosome dosage series for the long and short arm of chromosome 6A and 6B in Chinese Spring wheat. Work involved planting seeds, performing cross pollinations, harvesting, and cataloging seeds. Used Feulgen staining procedures for

root tip examination and examined chromosomes under a microscope. Dr. Mike Wanous, advisor.

- 2000** **“Population size and density effects on fertilization in *Botryllus schlosseri*”**
Research Experience for Undergraduates (REU) Research, Darling Marine Center, University of Maine. Developed experimental design, constructed arrays, maintained and cared for study organisms, extracted embryos, and analyzed data. Dr. Phil Yund, advisor.

Publications

- McIntyre, P.B., C. Reidy Liermann, E. Childress, **E.J. Hamann**, J. Hogan, S.R. Januchowski-Hartley, A.A. Koning, T.M. Neeson, D.L. Oele, and B.M. Pracheil. Conservation of migratory fishes in freshwater ecosystems. In Closs G, Krkosek M, & Olden JD: *Conservation of Freshwater Fishes*. In press.
- Hamann, E.J.**, B.P. Kennedy, D.C. Whited, and J.A. Stanford. 2014. “Spatial variability in spawning habitat selection by Chinook salmon (*Oncorhynchus tshawytscha*) in a wilderness river.” *River Research and Applications* **30**: 1099-1109.
- Hamann, E.J.** and B.P. Kennedy. 2012. “Juvenile dispersal affects straying behaviors of adults in a migratory population.” *Ecology* **93**:733-740.
- Phillippi, A., **E. Hamann**, and P. Yund. 2004. “Fertilization in an egg-brooding colonial ascidian does not vary with population density.” *Biol. Bull.* **206**(3): 152-160.

Presentations

- Kraemer, B.M., **Hamann, E.**, Vadeboncoeur, Y., Yu-jung Kim, L., and McIntyre, P. B. 2015. “Temperature sensitivity of organismal and ecosystem respiration rates in Lake Tanganyika.” 2015 ASLO Aquatic Sciences Meeting, Granada, Spain. (*oral presentation*)
- Kennedy, B.P. and **Hamann, E.J.** 2011. “The spatial scale and ecological drivers of homing in a migratory salmon population.” Ecological Society of America 96th Annual Meeting, Austin, TX. (*oral presentation*)
- Kennedy, B.P. and **Hamann, E.J.** 2011. “Integrating Migration and River Landscapes: Functional and Methodological Links Between Watershed Processes and Salmon Life History Strategies.” American Fisheries Society 141st Annual Meeting, Seattle, WA. (*oral presentation*)
- Hamann, E.J.** and B.P. Kennedy. 2010. “Quantifying straying rates of adult Chinook salmon (*Oncorhynchus tshawytscha*) based upon reconstructions of juvenile rearing habitats from otolith microchemistry fingerprints.” International Symposium: Advances in the Population Ecology of Pacific Salmonids, Lueca, Spain. (*oral presentation*)
- Hamann, E.J.** and B.P. Kennedy. 2010. “Use of remote sensing and ground measures to assess spawning habitat availability and selection by Chinook salmon (*Oncorhynchus tshawytscha*).” American Fisheries Society Idaho Chapter, Pocatello, ID. (*poster*)
- Hamann, E.J.**, B.P. Kennedy, and J.A. Stanford. 2009. “Use of remote sensing, satellite imagery, and on-the-ground field measures to classify salmon habitat and ecosystem structure in Big Creek, Idaho.” American Fisheries Society Idaho Chapter, Boise, ID. (*oral presentation*)

Hamann, E.J. and B.P. Kennedy. 2008. "Life history variability in the Middle Fork Salmon River: Migration decisions in a disturbed wilderness environment." Fish & Wildlife 501 Seminar, University of Idaho, Moscow, ID. (*oral presentation*)

Kruse, J.D., J.D. Munkvold, E.E. Lee, E.A. Hamann, **E.J. Hamann**, and M.K. Wanous. 2000. "Chromosome Arm Dosage Effects on the Expression of the High molecular Weight Glutenin Proteins of Wheat." Proceedings of the South Dakota Academy of Science.

Outreach and Invited Lectures

2014 Fishes of the Pacaya Samiria
Course: Operation Wallacea field course for undergraduates, Iquitos, Peru (Invited lecture)

2014 World Fish Migration Day 2014
Promoting awareness of migratory fishes in the Great Lakes Basin; Center for Limnology and Shedd Aquarium in Chicago, IL (Outreach)

2014 Fish on the run
Creation of website (<http://fishontherun.weebly.com/>) to consolidate team research on migratory fishes in the Great Lakes Basin and beyond (Outreach)

2011-14 Center for Limnology Open House
Public outreach event to promote current research and demonstrate data collection methods in limnology (Outreach)

2010 Conflicts and controversy in salmon ecology in the Pacific Northwest
Course: Law, Ethics, and the Environment, University of Idaho (Invited lecture)

2010 Ecology, biodiversity, and life history variation of Pacific salmon
Course: Introduction to Environmental Science, University of Idaho (Invited lecture)

2009 Satellites and GPS
Educating elementary students about GIS; Sunnyside Elementary School (Outreach)

2009 Ecology of Pacific Salmon
Course: Introduction to Environmental Science, University of Idaho (Invited lecture)

Trainings and Professional Development

SCUBA Open Water Certification

Salmonid Rivers Observatory Network (SaRON) field training, Flathead Lake Biological Station, MT

Nez Perce Tribe Spawning Grounds Workshop, Big Creek, ID

University of Idaho Wilderness Symposium (invited guest), Post Falls, ID

McMillan Offshore Survival Training, Woods Hole, MA

National Marine Fisheries Service Observer Training, Woods Hole, MA

US Peace Corps Volunteer/Aquaculture Training, Mwekera Research Station, Zambia

Software and technical proficiencies

Microsoft Office suite

ArcGIS (Mapping and spatial analysis)

R, SAS (Statistical packages)

Wordpress, Weebly, Blogger (Website development)

Moovly (Animation software)
Facebook, Twitter, Instagram