

# Matthew C. Groce

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## EDUCATION

### ***Masters of Science (Aquatic Ecology)***

Department of Fish, Wildlife, & Conservation Biology, Colorado State University, Fort Collins (May 2011)  
Thesis: “Evaluating the success of Arkansas darter translocations in southeastern Colorado.”

### ***Bachelor of Science (Environmental Science), minors in Chemistry and GIS***

Huxley College of the Environment, Western Washington University, Bellingham (May 2006)

## RESEARCH INTERESTS

Interaction between physical, chemical, and biological components of aquatic ecosystems; ecology and conservation of riverine ecosystems and the organisms inhabiting them; interaction of stream fishes with their habitat at different spatial and temporal scales; quantifying and explaining spatial heterogeneity in aquatic ecosystems; spatial ecology, connectivity, and fragmentation in freshwater ecosystems; impacts of nonnative species on native fish assemblages.

## HIGHLIGHTS OF PROFESSIONAL EXPERIENCE

### ***Technology Transfer Specialist, Rocky Mountain Research Station (November 2013 – present)***

I perform technology transfer duties associated with promoting the science that is created by Region 1, 4, and 6 scientists. I facilitate manager-researcher collaboration to identify and deliver relevant research tools and procedures through a variety of media.

### ***Environmental Scientist, Washington Department of Ecology (March 2013 – September 2013)***

As a crew leader, I was responsible for planning and conducting field work, office work, and data management and analysis in support of studies evaluating the effectiveness of salmon habitat preservation and restoration. I oversaw a field crew of 4 technicians and assigned them specific field tasks. In addition, I tracked the progress of data collection in the field, ensured that work was completed at study sites, downloaded and managed data in the office, and reported progress to my immediate supervisor.

### ***Fisheries Ecologist, Terraqua Environmental Consulting (June 2012 – October 2012)***

As crew leader, I coordinated field crew activities and provided detailed instructions to field technicians; strictly followed Columbia Habitat Monitoring Program (CHaMP) data collection protocols, including using a Total Station to conduct detailed stream channel habitat and topographic surveys in the Methow, Entiat, and Wenatchee watersheds; monitored data collection and managed collected survey data for post processing using CAD and ArcGIS; bathymetric maps of channel surface were used to create digital elevation models (DEMs) which will be used to track habitat changes and sediment movements over time at a very fine scale; ensured proper care and maintenance of all gear; performed duties with a high degree of quality, accuracy, precision, consistency, and efficiency.

### ***Fishery Biologist, Pacific States Marine Fisheries Commission (December 2011 – March 2012)***

Led a crew that conducted redd surveys and stream habitat surveys to document presence, determine habitat suitability, and identify restoration activities needed to facilitate the recovery of critically endangered steelhead in southern California.

### ***Watershed Resource Technician (Fisheries), Seattle Public Utilities (June 2008 – October 2008)***

Captured, PIT tagged, and tracked juvenile bull trout and rainbow trout in tributary streams to assess distribution, seasonal movements, habitat use, and growth in the Cedar River watershed.

**Research Assistant, Northwest Fisheries Science Center, NOAA** (January 2008 – April 2008)

Performed night snorkel surveys and assisted with laboratory duties, including sorting and identifying macroinvertebrate samples, as part of a long-term study examining the ecological effects of recolonization by Pacific salmonids and trout in the upper Cedar River watershed.

**Biological Science Technician, Olympic National Park** (June 2006 – Oct. 2006, June 2007 – Nov. 2007)

Performed snorkel and electrofishing surveys of anadromous Pacific salmonids in large rivers systems of the Olympic Peninsula. Conducted redd and spawner surveys and assumed lead role for a radio telemetry project tracking resident bull trout in the upper Elwha River.

**GIS Technician, U.S. Geological Survey Washington Water Science Center** (March 2006 – June 2006)

Mapped hydrogeologic units to assess ground water resources. Studied the shape and structure of rivers using airborne multispectral imaging and LIDAR mapping.

**Biological Science Technician, USGS Western Fisheries Research Center** (April 2005 – Sept. 2005)

Sampled fish, macroinvertebrates, periphyton, and riverine habitat to develop baseline data on marine-derived nutrients in the aquatic ecosystem of the upper Elwha River watershed prior to ongoing dam removal and large-scale ecosystem restoration.

## SKILLS & EXPERTISE

- ◆ **Aquatic ecology:** Fisheries (identification and enumeration of Pacific salmonids and Great Plains fishes; upstream/downstream, night/day snorkeling; capture by backpack electrofishing, minnow trapping, dip netting, and angling; PIT tagging; radio telemetry; carcass & redd surveys), stream habitat characteristics (channel unit classification, discharge, macroinvertebrates, large woody debris, pebbles, riparian vegetation, solar radiation)
- ◆ **Water quality:** collection and processing of water samples for chemical analyses, advanced water testing analytical methods including: temperature, pH, conductivity, salinity, alkalinity, nutrients, turbidity, suspended and dissolved solids, biological oxygen demand, dissolved oxygen, fecal coliform, chlorophyll *a*, periphyton, and macroinvertebrates
- ◆ **Wetland ecology:** delineation techniques including identification of wildlife, vegetation, hydric soils, and hydrologic features
- ◆ **Geospatial:** extensive navigation experience using GPS; digitization, spatial analysis, and geostatistics using ArcGIS; remote sensing and image processing using ERDAS; cartographic design using Adobe Illustrator and Photoshop
- ◆ **Computer operation:** proficient with Microsoft Office programs (Word, Excel, Access, PowerPoint); fluent with programming languages (C++, Visual Basic, and HTML)
- ◆ **Statistical analysis:** Program R, S-plus, SAS, SPSS, occupancy modeling (Program MARK and PRESENCE)
- ◆ **Other:** Wilderness First Aid Responder and CPR certified (American Heart Association), conversational Spanish

## PEER-REVIEWED PUBLICATIONS/TECHNICAL REPORTS

**Groce, M. C., K. D. Fausch, and L. L. Bailey.** 2012. Evaluating the success of Arkansas darter translocations in Colorado: an occupancy sampling approach. *Transactions of the American Fisheries Society* 141: 825-840.

**Groce, M. C., and K. D. Fausch.** 2010. Evaluating the success of Arkansas darter translocations in Colorado: an occupancy sampling approach. Final report to Colorado Division of Wildlife, Task Order CSU0905, Colorado State University, Fort Collins.

**Groce, M. C., and K. D. Fausch.** 2010. Field Evaluation to improve translocation success of Arkansas darters in Colorado: a Species of Greatest Conservation Need. Annual report to Colorado Division of Wildlife, Task Order CSU0905, Colorado State University, Fort Collins.

## PRESENTATIONS

- Groce, M. C.**, K. D. Fausch, and L. L. Bailey. 2011. Evaluating the Success of Arkansas Darter Translocations in Colorado: an Occupancy Sampling Approach. American Fisheries Society Annual Meeting. September 4-8, Seattle, WA.
- Groce, M. C.** 2010. Evaluating the Success of Arkansas Darter Translocations in Colorado: an Occupancy Sampling Approach. Department of Fishery and Wildlife Biology, Colorado State University, Graduate Faculty Seminar, September 3.
- Groce, M. C.**, K. D. Fausch, and L. L. Bailey. 2010. Evaluating the Success of Arkansas Darter Translocations in Colorado: an Occupancy Sampling Approach. Colorado/Wyoming Chapter of the American Fisheries Society. March 1-3, Laramie, WY.
- Groce, M. C.** 2009. Field evaluation to improve translocation success of Plains fishes in southeastern Colorado. Guest Lecturer, Fisheries Science (FW401), Colorado State University, December 4, 2009. Dr. Brett Johnson, Instructor.

## HONORS & AWARDS

- ◆ The Cutthroat Chapter - Trout Unlimited Memorial Research Fellowship (Fall 2009)
- ◆ The Gregory L. Bonham Memorial Scholarship (Fall 2009)
- ◆ Freda T. Roof Memorial General Scholarship (Fall 2009)
- ◆ Colorado State University Graduate Fellowship Award (2009, 2010)
- ◆ American Water Works Association Scholarship (2005-2006)