

CHARLOTTE G. GABRIELSEN

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Fairbanks, AK 99775 *website:* charlottégabrielsen.weebly.com
- RESEARCH landscape ecology; wetland ecology; conservation biology; remote sensing landscape genetics
- EDUCATION 2017 **University of Wyoming**, PhD; Ecology
Dissertation: Assessing climatic influences to wetland ephemerality and the effect of variability on wetland-dependent species diversity
Committee: Melanie Murphy (chair), Jeffrey Evans, Matt Carling, Carlos Martinez del Rio, Annika Walters
- 2011 **University of New Hampshire**, MS; Natural Resources: Wildlife
Thesis: Effects of habitat fragmentation and water quality on wood frog population genetic structure in vernal pools
Committee: Adrienne Kovach (chair), Kimberly Babbitt, William McDowell
- 2009 **Hartwick College**, BA in Biology; Minor: Environmental Science & Policy
Thesis: Seed discrimination by Black-capped chickadees on basis of heft
Advisor: Peter Fauth
- PROFESSIONAL EXPERIENCE **Postdoctoral Research Fellow**, University of Alaska Fairbanks, Institute of Arctic Biology, Alaska Cooperative Fish and Wildlife Research Unit (*Aug 2017 – present*)
- Expanded Graduate Teaching Assistant**, University of Wyoming (*Aug 2016 – May 2017*)
- Graduate Teaching Assistant**, University of Wyoming (*Aug 2015 – May 2016*)
- NASA Space Grant Research Fellow**, University of Wyoming (*Aug 2014 – Jun 2015*)
- Wyoming Toad Assistant Field Coordinator**, University of Wyoming (*May – July 2014*)
- Graduate Teaching Assistant**, University of Wyoming, (*Aug 2012 – May 2014*)
- Conservation Genetics Lab Technician**, University of New Hampshire (*Sept 2011 – May 2012*)
- Graduate Teaching Assistant**, University of New Hampshire (*Aug 2009 – Dec 2011*)
- Stewardship Intern**, UVM Land Stewardship Program, Burlington, VT (*May – Aug 2009*)
- Environmental Policy Researcher**, Foundation for Rural Development and Action Research (FORDAR), Iganga, Uganda (*Dec 2008 – Feb 2009*)
- Daniel Smiley Research Intern**, Daniel Smiley Research Center, Mohonk Preserve, New Paltz, NY (*May – Aug 2007*)
- Crops Program Research Intern**, Cornell Cooperative Extension Crops Program, Warwick, NY (*May – Aug 2006*)
- West Nile Field & Lab Technician**, West Nile Surveillance Program, New York State Department of Health, Middletown, NY (*May – Aug 2005, May – Aug 2006*)
- PUBLICATIONS † Undergraduate co-author
- Gabrielsen CG, MA Murphy M, JS Evans. 2016. Using a multiscale and probabilistic approach to identify spatial-temporal wetland gradients. *Remote Sensing of Environment* 184: 522-538.
- Gabrielsen CG, AI Kovach, K Babbitt, W McDowell. 2013. Limited effects of suburbanization on the genetic structure of an abundant vernal pool-breeding amphibian. *Conservation Genetics* 14(5): 1083-1097.
- Gabrielsen CG, MA Murphy M, JS Evans. *In prep.* Timing is everything: Snow drives stability of prairie

wetland ecosystems. Manuscript in preparation for submission to *Global Change Biology*.

Gabrielsen CG, MA Murphy, JS Evans *In prep*. Hierarchical analysis of amphibian diversity across a gradient of wetland ephemerality. Manuscript in preparation for submission to *Landscape Ecology*.

Gabrielsen CG, MA Murphy, JS Evans. *In prep*. Influence of ephemerality and species diversity on genetic connectivity of two amphibians with distinct hydroperiod requirements. Manuscript in preparation for submission to *Molecular Ecology*.

Sulser AE†, CG Gabrielsen, MA Murphy *In prep*. Evaluating the effects of disease and predation on amphibian occupancy using environmental DNA. Manuscript in preparation for submission to *Molecular Ecology*.

Gabrielsen CG, P Bertand P, K Proft, L Miles, Cuervo L, D Jochimson, N Balkenhol, LP Waits. *In prep*. Assessing landscape-wide effects of fragmentation by roads on genetic diversity and structure. Manuscript in preparation for submission to *Landscape Ecology*.

TEACHING

Expanded Teaching Assistant

EXPERIENCE

LIFE 3400: General Ecology, University of Wyoming (Fall 2016 - Spring 2017)

Competitive selection process (1 position); as co-instructor, worked closely with primary instructor; developed and delivered at least 10 lectures; assisted with exam writing and evaluation criteria.

Teaching Assistant

LIFE 1020: Life Science for Elementary Education Majors, University of Wyoming, (Spring 2016)

Assisted with combined lecture-laboratory (3-hr) sections 2x/week and graded assignments.

LIFE 1010: Principles of Biology, University of Wyoming, (Fall 2012, 2013, 2015; Spring 2013, 2014)

Taught 1-2 laboratory sections/week each semester; graded group activities from lecture; prepared and graded exams; prepped all General Biology labs prior to each week's lab; lectured during lecture section at least once per semester.

NR 655: Vertebrate Biology, University of New Hampshire (Spring 2011)

Designed and taught lab exercises; graded lab assignments and practicals for three 3-hr laboratory sections/week.

NR 415: Global Biological Change, University of New Hampshire (Spring 2010)

Assisted lecture, facilitated current events briefings by students; led 3 one-hour discussion groups/week.

BIO 420: Introduction to Forensic Science, (Fall 2009, 2010, 2011)

Developed laboratory materials and graded lab activities and assignments; taught 3 laboratory sections per week each semester.

Workshops

Molecular Methods for Rangeland Wildlife (1 full day workshop), Society for Range Management Annual Meeting, Corpus Christi, TX (February 2, 2016)

Developed workshop materials and presented lectures and hands-on activities to address the application of molecular data to management questions.

Spatial Analysis in R (4 three-hour sessions), University of Wyoming, October 1, 6, 8 & 13, 2015)

Assisted attendees (15 total; 2 faculty/staff, 13 graduate students) during workshop exercises

Invited Guest Lecturer

REWM 2000: Principles of Rangeland Management, "Wetland ecosystem services in working rangeland systems," University of Wyoming (March 22, 2016)

REWM 4900: Rangeland Management Planning, "Wetland management in a multiuse rangeland

landscape,” University of Wyoming (March 3, 2016)

GEN 805: Population and Quantitative Genetics, “Applying landscape genetics methods to the study of fragmented populations,” University of New Hampshire (Nov 7, 2011)

MENTORING

Undergraduate Independent Research

Elise Sulser University of Wyoming (*Spring 2015-Spring 2016*)

Wyoming NSF/EPSCoR Program Directed Study

Project: “Factors affecting probability of amphibian occurrence on Pole Mountain: Evaluating water quality, disease, and predation using environmental DNA”

Sierra Jech. University of Wyoming '16 (*Spring 2013-Spring 2014*)

Wyoming NSF/EPSCoR Program Directed Study

Project: “Water quality in the Prairie Pothole Region: Assessing contemporary quality parameters for wetland systems”

PRESENTATIONS

2017 Amphibian distribution and connectivity as a function of rarity using eDNA and NGS. M. Murphy, W.C. Funk.; C. Gabrielsen, A. Gygli. Jul 26 2017. International Congress for Conservation Biology. Cartagena, Colombia

2016 Wavering water in the West: Predicting the effects of climate change on wetlands and amphibian diversity. 4 March 2016. UW Ecology Student Symposium. Laramie, WY

Predicting wetlands in drylands: Influence of climate change on wetland drying and amphibian diversity. 24 Feb 2016. Front Range Student Ecology Symposium. Fort Collins, CO

Modeling wetland ephemerality under climate change: Implications for amphibian diversity and gene flow. 2 Feb 2016. Society of Range Management Annual Meeting. Corpus Christi, TX

2015 All in the timing: Wetlands, climate, and drought in rangelands. 30 Oct 2015. Research Across Disciplines Seminar. University of Wyoming. Laramie, WY

Evaluating species diversity under climate change: eDNA analysis in a semi-arid wetland ecosystem. 5-10 July 2015. International Association of Landscape Ecology World Congress, Waterscape Genetics Symposium. Portland, OR

2014 Wetlands, ephemerality, and climate change. 3-6 Nov 2014. Sustainable Management of Rangeland Resources Extension Educator’s Conference. Laramie, WY

Climate change effects on amphibian persistence in the Plains and Prairie Pothole Region. 24 September 2014. Laramie Audubon Society/Isaak Walton League Lecture Series. Laramie, WY

Implication of wetland ephemerality for amphibian diversity and gene flow. 26-28 Aug 2014. WY-TWS and CMPS Joint Annual Meeting. Sheridan, WY

Modeling wetland ephemerality under climate change: Implications for amphibian biodiversity and gene flow. 27 May-1 June 2014. Landscape Genetics Synthesis Meeting. Coeur d’Alene, ID

Understanding wetland ephemerality in the context of climate change. 5 March 2014. Plains and Prairie Potholes Landscape Conservation Cooperative Webinar

Understanding wetland ephemerality in the context of climate change. 25 February 2014. Great Northern Landscape Conservation Cooperative Sage Steppe Partner Forum Webinar Series

Understanding wetland ephemerality in the context of climate change. 21 February 2014. UW Ecology Student Symposium. Laramie, WY

2013 Classification of remotely sensed Prairie Pothole wetlands using Random Forests. 16-19 September 2013. Geospatial Conference of the West. Laramie, WY

Disentangling the effects of roads on connectivity of natural populations: Insights from molecular road ecology. 14-18 April 2013. US-IALE. Austin, TX

Effects of climate change on wetland hydroperiod and biodiversity across the Prairie Pothole Region, USA. 22 February 2013. UW Ecology Student Symposium. Laramie, WY

- 2012 Effects of climate change on wetland hydroperiod and biodiversity in the Prairie Pothole Region. 13-15 November 2012. The Wildlife Society: Wyoming Chapter Annual Meeting. Laramie, WY
- 2011 Population genetic structure of wood frogs in NH vernal pools. University of New Hampshire Graduate Research Conference. Durham, NH. 16-17 April 2011.
The effects of habitat fragmentation and water quality on wood frog population genetic structure. 17-19 April 2011. Northeast Fish and Wildlife Conference. Manchester, NH.
Assessing habitat fragmentation and water quality effects on local wood frog population genetic structure. 8 January 2011. Lamprey River Watershed Association Annual Meeting. Durham, NH
- 2010 Effects of habitat fragmentation and water quality on genetic structure of wood frogs in vernal pools in southeastern New Hampshire. Winter Harbor, ME. 24-26 July 2010. Northeast Partners in Amphibian and Reptile Conservation (NEPARC) Meeting. Winter Harbor, ME
- 2009 Seed discrimination by black-capped chickadees (*Parus atricapillus*) on basis of heft. 22 April 2009. Hartwick College Biology Symposium. Oneonta, NY

GRANTS &
FELLOWSHIPS

- 2016 Program in Ecology Graduate Student Travel Grant (\$500)
University of Wyoming Academic Affairs Graduate Student Travel Grant (\$350)
- 2015 Society of Wetland Scientists, Student Research Grant (\$1,000)
Wyoming NASA Space Grant Travel Grant (\$250)
Sigma Xi, Grant-in-Aid of Research (\$600)
University of Wyoming, Biodiversity Research Grant (\$10,000)
The Wetland Foundation Field Travel Grant (\$800)
- 2014 University of Wyoming, Ecosystem Science & Management Graduate Travel Grant (\$300)
Program in Ecology Summer Stipend Grant (\$2,000)
Wyoming Chapter of The Wildlife Society, Graduate Student Grant (\$1,000)
Haub Grant for Student Research and Creative Activities (\$800)
Wyoming NASA Space Grant Graduate Research Fellowship (\$20,000)
The Nature Conservancy, Weaver Grant (\$1,000)
Sigma Xi, Grant-in-Aid of Research (\$400)
- 2013 Laramie Audubon Society, Small Grant (\$500)
Prairie Biotic Research, Inc., Small Grant (\$1,000)
- 2011 University of New Hampshire, Graduate School Travel Grant (\$250)
- 2008 Fred L. Emerson Foundation International Travel Grant (\$4900)

AWARDS &
HONORS

- 2016 Frank Rauzi Range Management Scholarship (\$3,200)
Academic Affairs Summer PhD Augmentation Award (\$2,200)
Outstanding Life Sciences Teaching Assistant Award (\$500)
Schuman/Smith Rangeland Graduate Award (\$490)
- 2015 Mary Mead Graduate Scholarship for Women in Agriculture (\$3,500)
Schuman/Smith Rangeland Graduate Award (\$750)
University of Wyoming, Vern Bressler Fisheries Scholarship (\$1,200)
- 2014 RM URISA, Graduate Scholarship (\$250)

- WY-TWS and CMPS Joint Annual Meeting, Best Poster Presentation (\$100)
 Johnston Family Brand of Excellence Graduate Scholarship (\$5,500)
 Honorable Mention, Sigma Delta Epsilon Graduate Women in Science National Fellowship
 University of Wyoming, Vern Bressler Fisheries Scholarship (\$2,000)
 ASPRS-RMR, Graduate Scholarship (\$200)
- 2013 Geospatial Conference of the West, Student Poster Award (\$100)
 Geospatial Conference of the West, Graduate Scholarship (\$185)
 RM URISA, Graduate Scholarship (\$500)
- 2011 University of New Hampshire, Teaching Assistantship Award (\$3500)
- 2009 Hartwick College, Faculty Scholar Award
 Hartwick College, Departmental Distinction in Biology

PRESS
 COVERAGE

- 2016 “UW-Led Study Highlights the ‘Fluid’ Nature of Surface Water”
University of Wyoming Featured News (Oct 5, 2016)
The Branding Iron Vol. 119, Issue 50 (Dec 15, 2016)
UW College of Agriculture & Natural Resources ‘Agademics’ Newsletter (Nov 2016 Issue) *Environmental Monitor* (October 13, 2016); *Feedstuffs* (Oct 10, 2016)
- 2013 “Climate change study includes Fort Pierre National Grassland”
Capital Journal (Dec 8, 2013)

SERVICE

Leadership Positions

- Faculty Representative*, Program in Ecology, University of Wyoming (*Sept 2016 – Aug 2017*)
Co-President, Program in Ecology, University of Wyoming (*Sept 2013 – Sept 2014*)
Graduate Student Symposium Committee, University of Wyoming (*Sept 2012 – Sept 2014*)

Educational outreach

- Educational lesson presenter*. Led an educational lesson and hike for the Little Laramie Hikers (approximately 40 children aged 1-12 and their parents). “A frog’s life: transforming from a tadpole to a frog” (*July 6, 2016*)
- BioBlitz herpetology survey leader*. Led amphibian and reptile surveys for approximately 50 participants. Belvoir Ranch, Cheyenne, WY (*June 11, 2016*)
- WyoBio observation vetter*, Vet citizen science amphibian observations for the Wyoming Biodiversity Citizen Science Initiative (WyoBio) database (*May 2016 – present*)
- Remote sensing workshop leader*, Led three remote sensing workshops for middle- and high-school girls. “Not just a pretty picture: remote sensing with satellites,” Women in STEM Conference (*May 17, 2016*)
- Enrichment activity leader*, “From energy to satellite images: Using spectra to observe the world around us,” Wyoming State Science Fair Enrichment Activity (*March 7, 2016*)
- Wetlands Workshop leader*, “Exploring our wonderful wetlands,” Girl Scouts in Science: Discovering Wyoming Water NSF-EPSCoR collaborative grant (*Oct 24, 2015*)
- Citizen scientist*, Winter Moose Day (Feb 28, 2015; Jan 16, 2016); Rocky Mountain Amphibian Project (Summer 2015), University of Wyoming Biodiversity Institute
- Volunteer*, Wyoming Women in Science Conference (*May 13, 2015*)
- Judge*, Wyoming State Science Fair (*March 2, 2015*)
- Panelist*, Wyoming Women in Math, Science and Engineering Professional Forum (*Feb 26, 2014*)

Reviewer

PLOS One (*November 2017*)
Scientific Reports – Nature (*January 2016*)
Molecular Ecology (*March 2014*)

PROFESSIONAL **Research skills & science communication**

DEVELOPMENT

- 2017 Occupancy Modeling Workshop: Modeling Patterns and Dynamics of Species Occurrence, Presenter: Dr. Darryl MacKenzie (*March 27-31, 2017*)
- 2016 Science Communication & Public Engagement Workshop: Tools for Scientists and Engineers Workshop, American Association for the Advancement of Science (AAAS), University of Wyoming (*Apr 27, 2016*)
- High Resolution Hydrography and Hydrologic Modeling, USGS Hydrography Seminar Series (*Jan 21, 2016*)
- 2015 NASA’s Soil Moisture Active Passive Mission (SMAP) Data Products, NASA Earth Data Webinar (*May 14, 2015*)
- 2014 Real-life Uses of Radar Data for Real-life Scientists: Geospatial Webinar, NASA EOSDIS User Support and Communications, Online (*Feb 26, 2014*)
- Hydrologic Impacts Under Climate Change (HIUCC) Virtual Course, University of Wyoming (*Jan 22-24, 2014*)
- 2013 Environmental Data Management Best Practices: Geospatial Webinar, NASA EOSDIS User Support and Communications, Online (*Sept 12, 2013*)
- Science: Becoming the Messenger Workshop, National Science Foundation, University of Wyoming (*Sept 11, 2013*)
- 2012 Grassland Monitoring Workshop, The Nature Conservancy, Boulder, CO (*Oct 15-19, 2012*)
- Access Training, Information Technology Center, University of Wyoming (*Sept 25-27, 2012*)
- 2010 ArcGIS Training Class, Complex Systems Research Center Institute for the Study of Earth, Oceans, and Space (EOS), University of New Hampshire (*Aug 16-20, 2010*)
- 2009 Wetland Inventory and Delineation Mapping, Green Mountain National Forest Dorset-Peru Integrated Resource Area, USDA Forest Service (*July 20-23, 2009*)
- Non-Native Invasive Species Mapping and Management, Green Mountain National Forest Dorset-Peru Integrated Resource Area, USDA Forest Service (*July 6-8, 2009*)

Pedagogy

- 2017 Life Sciences Program Brownbag Series: “Teaching and learning actively in large science classrooms” (*Spring 2017, biweekly*)
- 2013 Discouraging and Dealing with Plagiarism, Elbrogen Center for Teaching and Learning, University of Wyoming (*March 4, 2013*)
- 2012 Laboratory Teaching, Elbrogen Center for Teaching & Learning, University of Wyoming (*Nov 13, 2012*)
- Teaching Tips, Elbrogen Center for Teaching & Learning, University of Wyoming (*Oct 1, 2012*)
- Assessing and Enhancing your Classroom Environment, Elbrogen Center for Teaching & Learning, University of Wyoming (*Sept 4, 2012*)
- 2009 College Teaching, College of Life Sciences, University of New Hampshire (*Aug 23-27, 2009*)

PROFESSIONAL
AFFILIATIONS

International Association of Landscape Ecology (US Chapter)
The Wildlife Society (Wyoming Chapter)
Society of Wetland Scientists

Graduate Women in Science
American Association for the Advancement of Science
Beta Beta Beta Biology National Honor Society
Gamma Sigma Delta