

KATHERINE M. STRICKLER

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Education

- 2008 Ph.D., Fish and Wildlife Sciences, University of Idaho, Moscow, Idaho
1990 M.S., Biological Sciences, Stanford University, Stanford, California
1987 B.A., Human Biology, Stanford University, Stanford, California

Professional Experience

- 2014–present Research Scientist, Adjunct Faculty, Instructor, School of the Environment, Washington State University
2012–2014 Research Scientist, Department of Fish and Wildlife Sciences, University of Idaho
2008–2011 Postdoctoral Research Fellow, Department of Fish and Wildlife Resources, University of Idaho
1998–2008 DeVlieg Doctoral Fellow for Wilderness Research, Research Assistant, Instructor, Department of Fish and Wildlife Resources, University of Idaho
1994–2006 Senior Biologist, Science Applications International Corporation, Boise, Idaho
1990–1994 Research Scientist, Raptor Research Center, Boise State University

Teaching Experience

- 2017–2019 Instructor, School of the Environment, Washington State University. “Restoration Ecology” (senior capstone course), “Measurements and Analysis in Natural Resource Sciences” (sophomore level course).
2000–2016 Instructor, “Riparian Ecology and Management,” University of Idaho. Advanced undergraduate course.
2016–2017 Course developer, online learning module in Stream Ecology for Washington State University Extension Master Naturalist program.
2016 Co-Lead, one-day workshop, “Monitoring aquatic biodiversity with molecular tools,” National Military Fish and Wildlife Association, Pittsburgh, Pennsylvania.
2011 Co-Lead, one-day workshop, “Modeling population viability with imperfect data,” Yakima Training Center, Washington.

Website Development

www.ednaresources.science Environmental DNA Information and Resources

Webinars

- 2018 An online resource center for supporting the application of environmental DNA technology. Environmental DNA Technical Exchange Workshop.
- 2016 Monitoring amphibians using environmental DNA. Department of Defense Natural Resources Program.
- 2016 Environmental DNA online resource center: overview and engagement. Presented to invited audience of eDNA practitioners, *with* Ryan Risenmay.
- 2015 Environmental DNA: A new tool for species inventory, monitoring, and management. Department of Defense SERDP and ESTCP Webinar Series, *with* Caren Goldberg (presenter).
- 2014 Monitoring amphibian and aquatic reptile populations using environmental DNA. Presented to Partners in Amphibian and Reptile Conservation, *with* Caren Goldberg.
- 2014 Environmental DNA: A new tool for detecting and monitoring aquatic species. Presented to the Department of the Navy Southwest Technical Forum, *with* Caren Goldberg.

Undergraduate Student Mentoring

- 2018-2019 Alicia Lam, Washington State University, Honors thesis: "Uptake of microplastics in the tissues in juvenile Chinook salmon."
- 2017-2018 Tatiana Galvins, Washington State University, Honors thesis: "Microplastics in the environment: investigation of research trends and gaps."

Selected Publications

- Fremier, A.K., K.M. Strickler, J. Parzych, S. Powers, and C.S. Goldberg. 2019. Stream transport and retention of environmental DNA pulse releases in relation to hydrogeomorphic scaling factors. *Environmental Science and Technology* 53:6640-6649.
- Goldberg, C.S., K.M. Strickler, and A.K. Fremier. 2018. Degradation and dispersion limit environmental DNA detection of rare amphibians in wetlands: increasing efficacy of sampling designs. *Science of the Total Environment* 633:695-703.
- Goldberg, C. S., C. R. Turner, K. Deiner, K. E. Klymus, P. F. Thomsen, M. A. Murphy, S. F. Spear, A. McKee, S. J. Oyler-McCance, R. S. Cornman, M. B. Laramie, A. R. Mahon, R. F. Lance, D. S. Pilliod, K. M. Strickler, L. P. Waits, A. K. Fremier, T. Takahara, J. E. Herder, and P. Taberlet. 2016. Critical considerations for the application of environmental DNA methods to detect aquatic species. *Methods in Ecology and Evolution* doi:10.1111/2041-210X.12595.

Selected Publications (*continued*)

- Strickler, K. M., A. K. Fremier, and C. S. Goldberg. 2015. Quantifying the effects of UV, temperature, and pH on degradation rates of eDNA in aquatic microcosms. *Biological Conservation* 183:85-92.
- Goldberg, C. S., K. M. Strickler, and D. S. Pilliod. 2015. Moving environmental DNA methods from concept to practice for monitoring aquatic macroorganisms. *Biological Conservation* 183:1-3.
- Paprocki, N., Glen, N., Strickler, K.M., Atkinson, E., Watson, C., and J. Heath. 2015. Changing habitat use associated with distribution shifts of wintering raptors. *Journal of Wildlife Management* 79:402-412.
- Fremier, A.K., and K.M. Strickler. 2011. Topics in river structure and function. *BioScience*.
- Mills, L.S., K.M. Strickler, J.M. Scott, and S.A. Temple. 2012. Ecology and management of small populations. Pages 270-292 in *Research and management techniques for wildlife and habitats* (N. Silvy, ed). Seventh edition. The Wildlife Society, Bethesda, Maryland.
- Horne, J.S., and K.M. Strickler. 2011. Quantifying the importance of patch-specific changes in habitat to metapopulation viability of an endangered songbird, the golden-cheeked warbler. *Ecological Applications* 21:2478-2486.
- Strickler, K.M., and K. Lohman. *In revision*. Territory occupancy, nest site selection, and nesting success in American dippers (*Cinclus mexicanus*). *Condor*.
- Arkle, R.A., D.S. Pilliod, and K.M. Strickler. 2010. Fire, flow, and dynamic equilibrium in stream macroinvertebrate communities. *Freshwater Biology* 55:299-314.
- Anderson, C. M., G.M. Spellman, C.S. Ferrell, K.M. Strickler, and S.K. Sarver. 2008. Conservation genetics of American dipper (*Cinclus mexicanus*): the genetic status of a population in severe decline. *Conservation Genetics* 9:939-944.
- Strickler, K.M. 2008. American dippers (*Cinclus mexicanus*) and montane streams: habitat selection, nesting ecology, and movements in relation to stream conditions. Ph.D. dissertation, University of Idaho, Moscow, ID.
- Mills, L.S., J.M. Scott, K.M. Strickler, and S.A. Temple. 2005. Ecology and management of small populations. In Braun, C.E., editor. *Research and management techniques for wildlife and habitats*. Sixth edition. The Wildlife Society, Bethesda, Maryland.
- Strickler, K., and K. Lohman. 2002. Relationship between aquatic invertebrate communities and environmental factors in mesic and xeric watersheds. *Verh. int. Ver. Limnol.* 28(1): 183-189.

Grants and Honors

- 2019 Research Grant, "Scaling up from individuals to populations: integrating spatial ecology with multi-locus environmental DNA to improve detection and estimate population parameters," Strategic Environmental Research and Development Program, Department of Defense, co-Principal Investigator, with C. Goldberg (lead PI), J. Manning, M. Parsley, M. Miller, and R. Peek. \$1,417,849.

Grants and Honors *(continued)*

- 2018 Research Grant, "Transitioning the Online Environmental DNA Resource Center to Long-Term Management and Support," Environmental Security Technology Certification Program, Department of Defense, lead Principal Investigator, *with* C. Goldberg. \$105,870.
- 2017 Project of the Year, Environmental Security Technology Certification Program, Resource Conservation and Resiliency, Department of Defense. "Environmental DNA as a Tool for Monitoring Aquatic Vertebrates."
- 2016 Research Grant, "Using Environmental DNA to Improve Detection and Shorten Survey Time Frames for Endangered Fairy Shrimp," Legacy Program, Department of Defense, co-lead Principal Investigator, *with* C. Goldberg. \$105,210.
- 2015 Research Grant, "An Online Resource Center for Supporting the Application of Environmental DNA Technology," Environmental Security Technology Certification Program, Department of Defense, lead Principal Investigator, *with* C. Goldberg, R. Risenmay, A.K. Fremier, and B. Shors. \$305,689.
- 2015 Research Grant, "eDNA-KIT: A Web-Based Toolbox for Putting Environmental DNA Into Practice," Legacy Program, Department of Defense, co-lead Principal Investigator, *with* C. Goldberg and A.K. Fremier. \$66,180.
- 2014 Research Grant, "Monitoring Amphibian Populations Using Environmental DNA," Legacy Program, Department of Defense, *with* C. Goldberg and A.K. Fremier. \$109,976.
- 2012 Research Grant, "Environmental DNA as a Tool for Monitoring Aquatic Vertebrates," Environmental Security Technology Certification Program, Department of Defense, *with* C. Goldberg and A.K. Fremier. \$797,187.
- 2012 Research Grant, "Monitoring Amphibian and Reptile Populations Using Environmental DNA," Legacy Program, Department of Defense, *with* C. Goldberg and A.K. Fremier. \$116,484.
- 2012 Research Grant, "Feasibility Study for Delisting Species Under the ESA and Managing Them as Conservation Reliant Species," Legacy Program, Department of Defense, *with* D. Lawson and W.F. Seybold. \$88,941.
- 2009 Research Grant, "Linking Conservation Actions with Population Viability Models: a Renewed Call for Adaptive Management on Department of Defense Installations," Strategic Environmental Research and Development Program, Department of Defense, *with* J.M. Scott, L.S. Mills, E.O. Garton, J.S. Horne, and C. Hartway. \$341,770.
- 2006 Research Grant, "A Risk Assessment Framework for Defining Scientifically-Defensible Recovery Goals for Listed Species," Strategic Environmental Research and Development Program, Department of Defense, *with* J.M. Scott, L.S. Mills, and E.O. Garton. \$989,414.
- 2002 Research Grant, "Effects of Prescribed and Wildland Fire on Aquatic Ecosystems in Western Forests," Joint Fire Science Program. \$24,000.

Professional and Academic Service

- 2014-2015 Guest editor, *Biological Conservation* special issue on environmental DNA
- 2010-2013 Chair, HawkWatch International, Inc., Conservation Science Advisory Council.
- 2007 Organizing Committee, Cooper Ornithological Society annual conference
- 2006-2013 Board of Directors, HawkWatch International, Inc.
- 2004 College of Natural Resources Promotion and Tenure Committee
- 2003-2004 College of Natural Resources Academic Redesign, Graduate Education Committee
- 2002-2004 Chair, Graduate Student Association Campus Safety Committee
- 2002-2003 Violence against Women on Campus Community Response Team
- 2002-2003 University Safety Committee
- 2001, 2004 Department of Fish and Wildlife Faculty Search Committees
- 2001-2003 Graduate Student Association Departmental Representative
- 1999-2019 Reviewer, *Environmental DNA*, *Biological Conservation*, *Environmental Science and Technology*, *Hydrobiologia*, *Royal Society Open Source*, *Reviews in Fish Biology and Fisheries*, *Aquatic Invasions*, *Journal of the North American Benthological Society*, *Freshwater Science*, *Conservation Biology*, *The Condor*, *The Auk*, *Northwest Science*, *Pacific Entomologist*, *Journal of Arid Environments*