CURRICULUM VITAE February 2025

WINSOR HAYES LOWE

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APPOINTMENTS

June 2005 - 2011: Assistant Professor, Division of Biological Sciences, University of Montana

June 2011 - 2016: Associate Professor, Division of Biological Sciences, University of Montana

June 2016 - Present: Full Professor, Division of Biological Sciences, University of Montana

August 2013 - 2015: Interim Director, Wildlife Biology Program, University of Montana

EDUCATION

Postdoctoral Associate, Institute of Ecosystem Studies, February 2003 - April 2005

Ph.D., Dartmouth College, Ecology and Evolutionary Biology, December 2002

M.S., University of Montana, Organismal Biology and Ecology, 1997

B.A., Middlebury College, Biology and Environmental Studies, *cum laude*, 1994

HONORS

2022 Merit Award for outstanding faculty performance, University of Montana

2020 Merit Award for outstanding faculty performance, University of Montana

2014 Merit Award for outstanding faculty performance, University of Montana

2012 Merit Award for outstanding faculty performance, University of Montana

2010 Helen and Winston Cox Educational Excellence Award, College of Arts and Sciences, University of Montana.

2009 Merit Award for outstanding faculty performance, University of Montana

2006 Merit Award for outstanding faculty performance, University of Montana

2002 Student Award Finalist, Society for Conservation Biology

1998 Alumni Award, Department of Biological Sciences, Dartmouth College

1994 Departmental Honors, Environmental Studies, Middlebury College

GRANTS

2024 U.S.D.A. Forest Service, "Aquatic Invasive Species Monitoring Partnership", with Taylor M. Wilcox. $90,000.

2023 U.S.D.A. Forest Service, "Preventing the introduction and spread of invasive species", with Taylor M. Wilcox. $200,000.

2022 U.S. National Science Foundation, Arlington, VA, “LTER: Long-Term Ecological Research at the Hubbard Brook Experimental Forest”, $7,650,000 ($149,998 to UM)

2019 U.S. Army Corps of Engineers, “Western spadefoot toad (*Spea hammondii*) eDNA study”. $90,289.

2019 U.S. National Science Foundation, Arlington, VA, “REU Supplement: The causes and consequences of variation in dispersal distance”. $6,500

2018 U.S.D.A. Forest Service, "Mapping brook trout (*Salvelinus fontinalis*) distribution with eDNA", with Mike K. Schwartz (PI). $70,099

2017 U.S. Army Corps of Engineers, “TO 25: Developing eDNA monitoring tools for the western spadefoot toad (*Spea hammondii*)”. $40,901

2017 U.S. National Science Foundation, Arlington, VA, “The causes and consequences of variation in dispersal distance”. $506,393

2016 U.S. National Science Foundation, Arlington, VA, “LTER: Long-Term Ecological Research at the Hubbard Brook Experimental Forest”, with Gary Lovett (PI). $6,762,000 ($105,000 to UM)

2016 U.S. Army Corps of Engineers, “TO 11.4: Surveying threatened species on Travis and Beale Air Force Bases, California”. $333,778

2015 U.S. Army Corps of Engineers, “TO 4.0: Union Creek and Northgate Pond comprehensive Plan”, with Maury Valett (PI) and Cara Nelson. $101,422

2015 U.S. Geological Survey, Alexandria, VA, “Amphibian and invertebrate community responses to wetland mitigation”, with Blake Hossack. $34,048

2014 U.S. Army Corps of Engineers, “Cooperative agreement to collect, analyze, and apply resource data to implement rehabilitation and maintenance of public lands”, with Ric Hauer (Director) and 9 other Associate Directors. $45 M (projected)

2014 U.S. National Science Foundation, Arlington, VA, “REU Supplement: Coexistence in stream metacommunities”. $6,500

2013 U.S. National Science Foundation, Arlington, VA, “REU Supplement: Coexistence in stream metacommunities”. $6,500

2012 U.S. National Science Foundation, Arlington, VA, “Evolutionary mechanisms influencing the spread of hybridization: genomics, fitness, and dispersal”, with Gordon Luikart, Fred Allendorf, and Clint Muhlfeld. $600,000

2012 U.S. National Science Foundation, Arlington, VA, “REU Supplement: Coexistence in stream metacommunities”. $7,500

2011 USDA Forest Service Rocky Mountain Research Station, Fort Collins, CO, “A national synthesis of wildlife habitat corridors and connectivity”, with Mike Schwartz and Kevin McKelvey. $50,000

2011 USDA Forest Service Rocky Mountain Research Station, Fort Collins, CO, “Detection and monitoring rare species presence and nonnative species invasions using environmental DNA”, with Kevin McKelvey, Mike Young, and Mike Schwartz. $125,000

2011 U.S. National Science Foundation, Arlington, VA, “Coexistence in stream metacommunities”. $380,000

2011 Amphibian Research and Monitoring Initiative, USGS, Alexandria, VA, “Buffering stream salamander populations against the potential loss of tributary habitat”, with Evan Grant and Bill Fagan. $383,697

2010 USDA, San Dimas Technology and Development Center, San Dimas, CA, “Amphibian movement through road-stream crossings”. $81,994

2009 Park Oriented Biological Support, USGS, Alexandria, VA, “Assessing the threat of climate change to headwater amphibians in Glacier National Park”, with Steve Corn and Blake Hossack (*graduate student*). $71,931

2008 University of Montana Faculty Grant, Missoula, MT, "The importance of population genetics in understanding and predicting amphibian declines: an application to boreal toad (*Bufo boreas*) conservation in Glacier National Park", with Mike Machura (*graduate student*). $5,000

2008 Five Valleys Land Trust / Rock Creek Trust, Missoula, MT, "Ecological effects of constructed ponds in the Rock Creek drainage", with Jonathan Ebel (*undergraduate student*). $17,500

2008 USGS Water Center, Bozeman, MT, "The importance of ecologically connected streams to the biological diversity", with Adam Sepulveda (*graduate student*). $6,930

2008 Northeastern States Research Cooperative, USDA Forest Service, Newtown Square, PA, "Forest succession and terrestrial-aquatic biodiversity in Northern Forest watersheds", with Keith Nislow, David King, Robert Brooks, and Steve Coughlan. $58,944

2008 Amphibian Research and Monitoring Initiative, USGS, Alexandria, VA, "Sublethal effects of wildfire and logging on amphibians: synergistic effects on vigor, stress, and disease", with Steve Corn and Blake Hossack (*graduate student*). $74,672

2007 Charlotte Martin Foundation, Seattle, WA, "The importance of ecologically connected streams to the biological diversity of watersheds", with Chris Frissell and Adam Sepulveda (*graduate student*). $10,640

2007 Northeastern States Research Cooperative, USDA Forest Service, Newtown Square, PA, "Bioaccumulation and biomagnification of mercury in upland food webs of the Northeast", with Nick Rodenhouse and Renate Gebauer. $78,716

2004 Conservation Stewardship Program Grant, Sweet Water Trust, Boston, MA, "Designing and promoting stream-based ecological reserves", with Gene Likens. $10,000

2003 Andrew W. Mellon Foundation Grant, "Effects of longitudinal variation in stream pH on salamander populations", with Gene Likens. $14,000

2000 Dissertation Improvement Grant, U.S. National Science Foundation, Arlington, VA, "Local controls of landscape abundance patterns of a stream salamander", with Doug Bolger. $8,265

1999 Watershed Action Program Grant, Sweet Water Trust, Boston, MA, "Assessing aquatic biodiversity in northeastern headwater streams using an amphibian indicator". $10,720

1998 Watershed Action Program Grant, Sweet Water Trust, Boston, MA, "Northeast headwaters conservation project". $9,600

PUBLICATIONS

Strait, J.T., R.P. Kovach, L.A. Eby, C.C. Muhlfeld, M.C. Boyer, S.J. Amish, P. Lukacs, **W.H. Lowe**, G. Luikart,. *In review*. Invasive hybridization has variable effects on trout survival in contrasting environments.

Strait, J.T., R.P. Kovach, M. Kardos, S.J. Amish, C.C. Muhlfeld, L.A. Eby, M.C. Boyer, **W.H. Lowe**, G. Luikart. *In prep*. Genome-wide SNP analysis reveals loci linked to fitness traits in a salmonid hybrid zone.

Cayuela, H., … ,**W.H. Lowe**, et al. *In review*. Global patterns and drivers of amphibian survival. *Science*.

Moeller, A.K., A. Lindbloom, M. McDevitt, **W.H. Lowe**, and P.M. Lukacs. *In press*. A lifetime of experiences: modeling habitat quality through cumulative effects on individual survival. *Methods in Ecology and Evolution*.

Cochrane, M.M., and **W.H. Lowe**. *In press*. Drought increases movements and home range size in a headwater stream salamander. *Freshwater Science*.

Lowe, W.H., B.R. Addis, and M.M. Cochrane. 2024. Outbreeding reduces survival during metamorphosis in a headwater stream salamander. *Molecular Ecology* 33:e17375.

Cochrane, M.M., and **W.H. Lowe**. 2024. Stage-specific demographic effects of hydrologic variation in a stream salamander. *American Naturalist* 203:E175-E187.

Cochrane, M.M., B.R. Addis, L.K. Swartz, and **W.H. Lowe**. 2024. Individual and population growth rates increase with watershed area in a stream salamander. *Ecology* 105:e4217.

Lowe, W.H., B.R. Addis, M.M. Cochrane, and L.K. Swartz. 2023. Source-sink dynamics within a complex life cycle. *Ecology* 104:e3991.

Steenweg, R., M. Hebblewhite, C. Burton, J. Whittington, N. Heim, J. Fisher, A. Ladle, **W.H. Lowe**, T. Muhly, J. Paczkowski, and M. Musiani. 2023. Testing umbrella species and food-web properties of large carnivores in the Rocky Mountains. *Biological Conservation* 278:109888.

Addis, B.R., and **W.H. Lowe**. 2022. Environmentally associated variation in dispersal distance affects inbreeding risk in a stream salamander. *American Naturalist* 200:802-814. (*graduate student 1st author*)

Bryant, A.R., C.R. Gabor, L.K. Swartz, R. Wagner, M.M. Cochrane, and W.H. Lowe. 2022. Differences in corticosterone release rates of larval spring salamanders (*Gyrinophilus porphyriticus*) in response to native fish presence. *Biology* 11:484. https://doi.org/10.3390/biology11040484

Cayuela, H., J.F. Lemaître, J.P. Léna, V. Ronget, I. Martínez-Solano, J. Clavel, E. Muths, D. Pilliod, B.R. Schmidt, G. Sánchez-Monte, J. Gutiérrez-Rodríguez, G. Pyke, K. Grossenbacher, J. Bosch, K.H. Beard, L.L. Woolbright, B.A. Lambert, D.M. Green, J.M. Garwood, R.N. Fisher, K. Matthews, D. Dudgeon, A. Lau, J. Speybroeck, R. Homan, R. Jehle, E. Başkale, E. Mori, J.W. Artzen, P. Joly, M.J. Lannoo, J. Maerz, **W.H. Lowe**, A. Valenzuela-Sánchez, D.M. Christiansen, C. Angelini, J.M. Thirion, J. Merilä, G.R. Colli, M.M. Vasconcellos, T.C.V. Boas, Í.C. Arantes, P. Levionnois, B. Reinke, C. Vieira, G. Marais, J.M. Gaillard, and D.A.W. Miller. 2022. Sex-related differences in aging rate are associated with sex chromosome system in amphibians. *Evolution* 76:346-356.

Lowe, W.H., T.E. Martin, D.K. Skelly, and H.A. Woods. 2021. Thanks to Song *et al*. *Trends in Ecology & Evolution* 36:360-375.

Bayer, M.O., and **W.H. Lowe**. 2021. Top-down effects of salamanders on macroinvertebrates in fishless headwater streams. *Herpetologica* 77:111-120.

Lowe, W.H., T.E. Martin, D.K. Skelly, and H.A. Woods. 2021. Metamorphosis in an era of increasing climate variability. *Trends in Ecology & Evolution* 36:360-375.

Bayer, M.O., L.K. Swartz, and **W.H. Lowe**. 2021. Predictors of biofilm biomass in oligotrophic headwater streams. *Northeastern Naturalist* 28:28-48.

Strait, J.T., L.A. Eby, R.P. Kovach, C.C. Muhlfeld, M.C. Boyer, S.J. Amish, S. Smith, **W.H. Lowe**, G. Luikart. 2021. Hybridization alters growth and migratory life-history expression of native trout. *Evolutionary Applications* 14:821-833.

Addis, B.R., and **W.H. Lowe**. 2020. Long-term survival probability, not current habitat quality, predicts dispersal distance in a stream salamander. *Ecology* 101:e02982. (*graduate student 1st author*)

Swartz, L.K., **W.H. Lowe**, E.L. Muths, and B.R. Hossack. 2020. Species-specific responses to wetland mitigation among amphibians in the Greater Yellowstone Ecosystem. *Restoration Ecology* 28:206-214. (*graduate student 1st author*)

Lowe, W.H., L.K. Swartz, B.R. Addis, and G.E. Likens. 2019. Hydrologic variability contributes to reduced survival through metamorphosis in a stream salamander. *Proceedings of the National Academy of Sciences (USA)* 116:19563-19570.

Erős, T. and **W.H. Lowe**. 2019. The landscape ecology of rivers: from patch-based to spatial network analyses. *Current Landscape Ecology Reports* 4:103-112.

Honeycutt, S.A., J.M. Garwood, **W.H. Lowe**, and B.R. Hossack. 2019. Spatial capture-recapture reveals age- and sex-specific survival in stream amphibians. *Oecologia* 190:821-833. (*graduate student 1st author, cover*)

Addis, B.R., B.W. Tobalske, J.M. Davenport, and **W.H. Lowe**. 2019. A distance-performance trade-off in the phenotypic basis of dispersal in a stream salamander. *Ecology and Evolution* 10.1002/ece3.5583. (*graduate student 1st author*)

Lowe, W.H. and B.R. Addis. 2019. Matching habitat choice and plasticity contribute to phenotype-environment covariation in a stream salamander. *Ecology* 100:e02661.

Swartz, L.K., B.R. Hossack, E.L. Muths, R.L. Newell, and **W.H. Lowe**. 2019. Aquatic macroinvertebrate community responses to wetland mitigation in the Greater Yellowstone Ecosystem. *Freshwater Biology* 64:942-953. (*graduate student 1st author*)

Rodenhouse, N.L., **W.H. Lowe**, R.L.E. Gebauer, K. McFarland, and M.S. Bank. 2019. Mercury bioaccumulation in temperate forest food webs associated with headwater streams. *Science of the Total Environment* 665:1125-1134.

Davenport, J.M. and **W.H. Lowe**. 2018. Testing for microgeographic effects on the strength of interspecific competition. *Copeia* 106:501-506. (*postdoc 1st author*)

Lowe, W.H., B.R. Addis, M.R. Smith, and J.M. Davenport. 2018. The spatial structure of variation in salamander survival, body condition and morphology in a headwater stream network. *Freshwater Biology* 63:1287-1299.

Wilcox, T.M., Schwartz, M.K., and **W.H. Lowe**. 2018. Evolutionary community ecology: thinking outside the (taxonomic) box. *Trends in Ecology & Evolution* 33:240-250. (*graduate student 1st author*)

Kovach, R.P., C.C. Muhlfeld, R. Al-Chokhachy, S.J. Amish, J.L. Kershner, R.F. Leary, **W.H. Lowe**, G. Luikart, P. Matson, D.A. Schmetterling, B.B. Shepard, P.A.H. Westley, D. Whited, A. Whitely, and F.W. Allendorf. 2017. No evidence for ecological segregation protecting native trout from invasive hybridization. *Global Change Biology* 2017:1-2.

Muhlfeld, C.C., R.P. Kovach, R. Al-Chokhachy, S.J. Amish, R.F. Leary, **W.H. Lowe**, G. Luikart, P. Matson, P.A.H. Westley, D. Whited, A. Whitely, and F.W. Allendorf. 2017. Legacy introductions and climatic variation explain spatiotemporal patterns of invasive hybridization in a native trout. *Global Change Biology* 2017:1-11.

Lowe, W.H., R.P. Kovach, and F.W. Allendorf. 2017. Population genetics and demography unite ecology and evolution. *Trends in Ecology & Evolution* 32:141-152.

Fields, W.R., E.H.C. Grant, and **W.H. Lowe**. 2017. Detecting spatial ontogenetic niche shifts in complex dendritic ecological networks. *Ecosphere* 8:e01662.

Kovach, R.P., B.K. Hand, P.A. Hohenlohe, T. Cosart, M.C. Boyer, H. Neville, C.C. Muhlfeld, S.J. Amish, K. Carim, S. Narum, **W.H. Lowe**, F.W. Allendorf, and G. Luikart. 2016. Vive la

résistance: genome-wide selection against introduced alleles in invasive hybrid zones. *Proceedings of the Royal Society B* 283:20161380.

Canestrelli, D., D. Poretta, **W.H. Lowe**, R. Bisconti, C. Carere, and G. Nascetti. 2016. The tangled evolutionary legacies of range expansion and hybridization. *Trends in Ecology & Evolution* 31:677-688.

Hauer, F.R., H. Locke, V.J. Dreitz, M. Hebblewhite, **W.H. Lowe**, C.C. Muhlfeld, C.R. Nelson, M.F. Proctor, and S.B. Rood. 2016. Gravel-bed river floodplains: the ecological nexus of glaciated mountain landscapes. *Science Advances* 2:e1600026.

Wilcox, T.M., K.S. McKelvey, M.K. Young, A.J. Sepulveda, B.B. Shepard, S.F. Jane, A.R. Whiteley, **W.H. Lowe**, and M.K. Schwartz. 2016. Understanding environmental DNA detection probabilities: a case study using a stream dwelling char *Salvelinus fontinalis*. *Biological Conservation*. 194:209-216. (*graduate student 1st author*)

Honeycutt, S.A., B.R. Hossack, and **W.H. Lowe**. 2016. Movement and true survival of a stream amphibian in relation to culvert design. *Journal of Wildlife Management*. 80:761-770. (*graduate students 1st author*)

Kovach, R.P., G. Luikart, **W.H. Lowe**, M.C. Boyer, and C.C. Muhlfeld. 2016. Risk and efficacy of human-enabled hybridization for climate-change adaptation: response to Hamilton and Miller (2016). *Conservation Biology* 30:428-430.

Scribner, K.T., **W.H. Lowe**, E. Landguth, G. Luikart, D.M. Infante, G.E. Whelan, and C.C. Muhlfeld. 2016. Applications of genetic data to improve management and conservation of river fishes and their habitats. *Fisheries* 41: 174-188.

Davenport, J.M. and **W.H. Lowe**. 2016. Does dispersal influence intraspecific competition in a stream salamander system? *Journal of Zoology* 298:46-53. (*postdoc 1st author*)

Lowe, W.H., C.C. Muhlfeld, and F.W. Allendorf. 2015. Manifest density: a reply to Philips and Baird. *Trends in Ecology & Evolution* 30:565-566.

Wilcox, T.M., K.S. Mckelvey, M.K. Young, **W.H. Lowe**, and M.K. Schwartz. 2015. Environmental DNA particle size distribution from Brook Trout (*Salvelinus fontinalis*). *Conservation Genetics Resources* 7:639-641. (*graduate student 1st author*)

Crook, D.A., **W.H. Lowe**, F.W. Allendorf, T. Erős, D.S. Finn, B.M. Gillanders, W.L. Hadwen, C. Harrod, V. Hermoso, S. Jennings, R.W. Kilada, I.A. Nagelkerken, M.M. Hansen, T.J. Page, C. Riginos, B. Fry, and J.M. Hughes. 2015. Human effects on ecological connectivity in aquatic ecosystems: integrating scientific information to support assessment, management and mitigation. *Science of the Total Environment* 534:52-64.

Addis, B.R., **W.H. Lowe**, B.H. Hossack, and F.W. Allendorf. 2015. Population genetic structure and disease in montane boreal toads: more heterozygous individuals are more likely to be infected with amphibian chytrid. *Conservation Genetics* 16:833-844. (*graduate student 1st author*)

Lowe, W.H., C.C. Muhlfeld, and F.W. Allendorf. 2015. Spatial sorting promotes the spread of maladaptive hybridization. *Trends in Ecology & Evolution* 30:456-462.

Deitchler, E., J.M. Davenport, and **W.H. Lowe**. 2015. Homing behavior of the northern Spring Salamander, *Gyrinophilus porphyriticus*, in a northeastern headwater stream. *Herpetological Conservation and Biology* 10:235-241. (*undergraduate 1st author*)

Hand, B.K., T.D. Hether, R.P. Kovach, C.C. Muhlfeld, S.J. Amish, M. Boyer, S.M. O'Rourke, M.R. Miller, **W.H. Lowe**, F.W. Allendorf, P.A. Hohenlohe, and G. Luikart. 2015. Genomics of

introgression: discovery, mapping, and validation of thousands of species-diagnostic SNPs by RAD sequencing. *Current Zoology* 61:146-154.

Hand, B.K.*****, **W.H. Lowe***, R.P. Kovach, C.C. Muhlfeld, and G. Luikart. 2015. Landscape community genomics: understanding eco-evolutionary processes in complex environments. *Trends in Ecology & Evolution* 30:161-168. (******shared 1st-authorship*)

Kovach, R.P., C.C. Muhlfeld, **W.H. Lowe**, F.W. Allendorf, and G. Luikart. 2014. Dispersal and selection mediate hybridization between a native and invasive species. *Proceedings of the Royal Society B* 282:e20142454 (*postdoc 1st author*)

Jane, S.F., T.M. Wilcox, K.S. McKelvey, M.K. Young, M.K. Schwartz, **W.H. Lowe**, B.H. Letcher, and A.R. Whiteley. 2015. Distance, flow, and PCR inhibition: eDNA dynamics in two headwater streams. *Molecular Ecology Resources* 15:216-227. (*graduate student 1st author*)

Cecala, K.K., **W.H. Lowe**, and J.C. Maerz. 2014. Riparian disturbance restricts movement of stream salamanders. *Freshwater Biology* 59:2354-2364. (*graduate student 1st author*)

Davenport, J.M, B.R. Hossack, and **W.H. Lowe**. 2014. Partitioning the non-consumptive effects of predators on prey with complex life histories. *Oecologia* 176:149-155. (*postdoc 1st author*)

Wilson, M.K., **W.H. Lowe**, and K.H. Nislow. 2014. Family richness and biomass of understory invertebrates in early and late successional habitats of northeastern forests. *Journal of Forestry* 112:337-345. (*graduate student 1st author*)

Lowe, W.H. and M.A. McPeek. 2014. Is dispersal neutral? *Trends in Ecology & Evolution* 29:444-450.

Muhlfeld, C.C., R.P. Kovach, L.A. Jones, R. Al-Chokhachy, M.C. Boyer, R.F. Leary, **W.H. Lowe**, G. Luikart, and F.W. Allendorf. 2014. Invasive hybridization is accelerated by climate change in a threatened species. *Nature Climate Change* 4:620-624.

McGuire, K.J., C.E. Torgerson, G.E. Likens, D.C. Buso, **W.H. Lowe**, and S.W. Bailey. 2014. Network analysis reveals multi-scale controls on streamwater chemistry. *Proceedings of the National Academy of Sciences (USA)* 111:730-735.

Wilcox, T.M., M.K. Schwartz, K.S. McKelvey, M.K. Young, and **W.H. Lowe**. 2014. A blocking primer increases specificity in environmental DNA detection of bull trout (*Salvelinus confluentus*). *Conservation Genetics Resources* 6:283-284. (*graduate student 1st author*)

Mondelli, M., J.M. Davenport, and **W.H. Lowe**. 2014. *Gyrinophilus porphytricus* diet. *Herpetological Review* 45:109-110. (*undergraduate student 1st author*)

Landguth, E.L., C.C. Muhlfeld, R.S. Waples, L.A. Jones, **W.H. Lowe**, D.C. Whited, J. Lucotch, H.M. Neville, and G. Luikart. 2014. Combining demographic and genetic factors to map population vulnerability in stream species. *Ecological Applications* 24:1505-1524.

Wilson, M.K., **W.H. Lowe**, and K.H. Nislow. 2014. What predicts terrestrial invertebrate subsidy use by brook trout (*Salvelinus fontinalis*) in headwater streams? *Freshwater Biology* 59:187-199. (*graduate student 1st author*)

Eby, L.A., **W.H. Lowe**, *et al.* 2014. Priorities and protocols for freshwater monitoring. Pp. 132-141 *in* L.S. Mills and T. Tempa, editors. Wildlife research techniques in mountainous landscapes. Ugyen Wangchuck Institute for Conservation and Management, Bunthang, Bhutan.

Hossack, B.R., **W.H. Lowe**, M.A.H. Webb, M.J. Talbott, K.M. Kappenman, and P.S. Corn. 2013. Population-level thermal performance in a cold-water ectotherm is linked to ontogeny and local environmental heterogeneity. *Freshwater Biology* 58:2215-2225. (*with cover photo*)

Ebel, J.D., and **W.H. Lowe**. 2013. Constructed ponds and small stream habitats: hypothesized interactions and methods to minimize impacts. *Journal of Water Resources and Protection*

5:723-731. (*undergraduate 1st author*)

Wilcox, T.M., K.S. McKelvey, M.K. Young, S.F. Jane, **W.H. Lowe**, A.R. Whiteley, and M.K. Schwartz. 2013. Robust detection of rare species using environmental DNA: the importance of primer specificity. *PLoS ONE* 8:e59520. (*graduate student 1st author*)

Hossack, B.R., **W.H. Lowe**, and P.S. Corn. 2013. Rapid increases and time-lagged declines in amphibian occupancy after wildfire. *Conservation Biology* 27:219-228. (*graduate student 1st author*)

Hossack, B.R., **W.H. Lowe**, R.K. Honeycutt, S.A. Parks, and P.S. Corn. 2013. Interactive effects of wildfire, forest management, and isolation on amphibian and parasite abundance. *Ecological Applications* 23:479-492. (*graduate students 1st and 3rd authors*)

Hossack, B.R., **W.H. Lowe**, J.L. Ware, and P.S. Corn. 2013. Disease in a dynamic landscape: host behavior and wildfire reduce amphibian chytrid infection. *Biological Conservation* 157:293-299. (*graduate student 1st author*)

Sepulveda, A.J., **W.H. Lowe**, and P.P. Marra. 2012. Using stable isotopes to test for trophic niche partitioning: a case study with stream salamanders and fish. *Freshwater Biology* 57:1399-1409. (*graduate student 1st author*)

Lowe, W.H., M.A. McPeek, G.E. Likens, and B.J. Cosentino. 2012. Decoupling of genetic and phenotypic divergence in a headwater landscape. *Molecular Ecology* 21:2399-2409.

Brooks, R.T, K.H. Nislow, **W.H. Lowe**, M.K. Wilson, and D.I. King. 2012. Forest succession and terrestrial-aquatic biodiversity in small forested watersheds: a review of principles, relationships, and implications for management. *Forestry* 85:315-328. (*graduate student 3rd author*)

Cosentino, B.J., C.A. Phillips, R.L. Schooley, **W.H. Lowe**, and M.R. Douglas. 2012. Linking extinction-colonization dynamics to genetic structure in a salamander metapopulation. *Proceedings of the Royal Society B* 279:1575-1582. (*graduate student 1st author*)

Lowe, W.H. 2012. Climate change is linked to long-term decline in a stream salamander. *Biological Conservation* 145:48-53.

Lowe, W.H., and M.A. McPeek. 2012. Can natural selection maintain long-distance dispersal? Insight from a stream salamander system. *Evolutionary Ecology* 26:11-24.

Sepulveda, A.J., and **W.H. Lowe**. 2011. Coexistence in streams: Do source-sink dynamics allow salamanders to persist with fish predators? *Oecologia* 166:1043-1054. (*graduate student 1st author*)

Lowe, W.H. 2010. Explaining long-distance dispersal: effects of dispersal distance on survival and growth in a stream salamander. *Ecology* 10:3008-3015.

Lowe, W.H., and F.W. Allendorf. 2010. What can genetics tell us about population connectivity? *Molecular Ecology* 19:3038-3051.

Grant, E.H.C., J.D. Nichols, **W.H. Lowe**, and W.F. Fagan. 2010. Use of multiple dispersal pathways facilitates amphibian persistence in stream networks. *Proceedings of the National Academy of Sciences (USA)* 107:6936-6940.

Mullen, L.B., H.A. Woods, J.M. Schwartz, A.J. Sepulveda, and **W.H. Lowe**. 2010. Scale-dependent genetic structure of Idaho giant salamanders (*Dicamptodon aterrimus*) in stream networks. *Molecular Ecology* 19:898-909. (*graduate student 1st author*, *with cover photo*)

Hossack, B.R., M.J. Adams, E.H.C. Grant, C.A. Pearl, J.B. Bettaso, W.J. Barichivich, **W.H. Lowe**, K. True, J.L. Ware, and P.S. Corn. 2010. Low prevalence of chytrid fungus

(*Batrachochytrium dendrobatidis*) in U.S. headwater amphibians. *Journal of Herpetology* 44:253-260. (*graduate student 1st author*)

Lowe, W.H. 2009. What drives long-distance dispersal? A test of theoretical predictions. *Ecology* 90:1456-1462.

Sepulveda, A.J., and **W.H. Lowe**. 2009. Local and landscape-scale influences on the occurrence and density of *Dicamptodon atterimus*, the Idaho Giant Salamander. *Journal of Herpetology* 43:469-484. (*graduate student 1st author*)

Grant, E.H.C., L.E. Green, and **W.H. Lowe**. 2009. Salamander occupancy in headwater stream networks. *Freshwater Biology* 54:1370-1378.

Sepulveda, A.J., W.T. Colyer, **W.H. Lowe**, and M.R. Vinson. 2009. Using nitrogen stable isotopes to detect long-distance movement in a threatened cutthroat trout. *Canadian Journal of Fisheries and Aquatic Sciences* 66:672-682. (*graduate student 1st author*)

Lowe, W.H. 2009. Amphibia of aquatic ecosystems. *In* G. E. Likens, editor. *Encyclopedia of Inland Waters*. Elsevier, Oxford, UK.

Cosentino, B.J., **W.H. Lowe**, and G.E. Likens. 2009. Population biology and movement of the northern spring salamander, *Gyrinophilus porphyriticus*, in four New Hampshire headwater streams. *Verh. Internat. Verein. Limnol.* 30:677-680 (*undergraduate 1st author*)

Lowe, W.H., M.A. McPeek, G.E. Likens, and B.J. Cosentino. 2008. Linking movement behavior to dispersal and divergence in plethodontid salamanders. *Molecular Ecology* 17:4459-4469.

Greene, B.T., **W.H. Lowe**, and G. E. Likens. 2008. Forest succession and prey availability influence the strength and scale of terrestrial-aquatic linkages in a headwater salamander system. *Freshwater Biology* 53:2234-2243. (*undergraduate 1st author*)

Grant, E.H.C., **W.H. Lowe**, and W.F. Fagan. 2007. Living in the branches: population dynamics and ecological processes in dendritic networks. *Ecology Letters* 10:165-175. (*with cover photo*)

Lowe, W.H., G.E. Likens, and B.J. Cosentino. 2006. Self-organization in streams: the relationship between movement behaviour and body condition in a headwater salamander. *Freshwater Biology* 51:2052-2062. (*with cover photo*)

Lowe, W.H., G.E. Likens, and M.E. Power. 2006. Linking scales in stream ecology. *BioScience* 56:591-597. (*with cover photo*)

Lowe, W.H., G.E. Likens, M.A. McPeek, and D.C. Buso. 2006. Linking direct and indirect data on dispersal: isolation by slope in a headwater stream salamander. *Ecology* 87:334-339.

Lowe, W.H. 2006. The trouble with rivers. *BioScience* 56:260-263.

Nislow, K.H., and **W.H. Lowe**. 2006. Influences of logging history and riparian forest characteristics on macroinvertebrates and brook trout (*Salvelinus fontinalis*) in headwater streams (New Hampshire, U.S.A.). *Freshwater Biology* 51:388-397.

Lowe, W.H. 2005. Factors affecting stage-specific distribution in the stream salamander *Gyrinophilus porphyriticus*. *Herpetologica* 61:135-144.

Lowe, W.H., and G.E. Likens. 2005. Moving headwater streams to the head of the class. *BioScience* 55:196-197.

Bernhardt, E.S., G.E. Likens, R.O. Hall, D.C. Buso, S.G. Fisher, T.M. Burton, J.L. Meyer, W.H. McDowell, M.S. Mayer, W.B. Bowden, S.E.G. Findlay, K.H. Macneale, R.S. Stelzer, and **W.H. Lowe**. 2005. Can't see the forest for the stream? The role of instream processing in modifying terrestrial nitrogen exports. *BioScience* 55:219-230.

Lowe, W.H., K.H. Nislow, and G.E. Likens. 2005. Forest structure and stream salamander diets: implications for terrestrial-aquatic connectivity. *Verh. Internat. Verein. Limnol.* 29:279-286.

Lowe, W.H., K.H. Nislow, and D.T. Bolger. 2004. Stage-specific and interactive effects of sedimentation and trout on a headwater stream salamander. *Ecological Applications* 14:164-172.

Lowe, W.H. 2003. Linking dispersal to local population dynamics: a case study using a headwater salamander system. *Ecology* 84:2145-2154.

Nislow, K.H., and **W.H. Lowe**. 2003. Influences of logging history and stream pH on brook trout in 1st-order streams in New Hampshire. *Transactions of the American Fisheries Society* 132:166-171.

Lowe, W.H. 2002. Landscape-scale spatial population dynamics in human-impacted stream systems. *Environmental Management* 30:225-233.

Lowe, W.H., and D.T. Bolger. 2002. Local and landscape-scale predictors of salamander abundance in New Hampshire headwater streams. *Conservation Biology* 16:183-193.

Hauer, F.R., J.A. Stanford, J.J. Giersch, and **W.H. Lowe**. 2001. Distribution and abundance patterns of macroinvertebrates in a mountain stream: an analysis along multiple environmental gradients. *Verh. Internat. Verein. Limnol.* 27:1485-1488.

Lowe, W.H., and F.R. Hauer. 1999. Ecology of two large, net-spinning caddisflies in a mountain stream: distribution, abundance, and metabolic response to a thermal gradient. *Canadian Journal of Zoology* 77:1637-1644.

Popular articles:

Lowe, W.H. 2012. Climate change is linked to long-term decline in a stream salamander. *FrogLog*, Winter.

Margolis, A., K.H. Nislow, and **W.H. Lowe**. 2006. Headwater logging makes food for trout. *Northern Woodlands*, Winter.

Lowe, W.H. 2003. Salamanders, sediment, and trout: a bad mix. *Northern Woodlands*, Spring.

Lowe, W.H. 2003. Spring salamanders and stream conservation. *News from Hudsonia* 18:1-3.

Lowe, W.H., and D.T. Bolger. 2002. Logging history, brook trout, and drainage structure affect salamander abundance in New Hampshire headwater streams. *N.H. Audubon* 38:8-10.

INVITED SEMINARS

Case Western Reserve University, Cleveland, OH, November 2017
W.K. Kellogg Biological Station, Hickory Corners, MI, November 2016
Washington State University, Pullman, WA, October 2014
Colorado State University, Rising Star Ecologist, April 2014
Monash University, Melbourne, AU, March 2013
University of Sydney, Sydney, AU, March 2013
Griffith University, Brisbane, AU, March 2013
Charles Darwin University, Darwin, AU, March 2013
Australian National University, Canberra, AU, February 2013
Dartmouth College, Hanover, NH, April 2011
Coweeta Hydrologic Laboratory, Otto, NC, June 2010
University of Missouri, Columbia, MO, November 2009
Yale University, New Haven, CT, October 2008
Smithsonian National Zoological Park, Washington, DC, October 2008
Northwest Fisheries Science Center, NOAA Fisheries Service, Seattle, WA, May 2008

University of Illinois, Champagne-Urbana, IL, May 2008
Landscapes to Riverscapes Symposium, Moscow, ID, May 2007
Patuxent Wildlife Research Center, Laurel, MD, March 2006
Victoria University, Wellington, NZ, November 2005
University of Massachusetts, Amherst, MA, March 2005
University of Montana, Missoula, MT, February 2004
3rd International Wildlife Management Congress, Christchurch, NZ, December 2003
University of Maine, Orono, ME, October 2002

CONFERENCE PRESENTATIONS

Joyce, L.M**.** and **W.H. Lowe**. "Beavers, Frogs, and Fungus: Oh My!" 16th Annual Waterton-Glacier Science and History Day, Glacier National Park, MT, July 2019.

Joyce, L.M. and **W.H. Lowe**. "Ecologically-Engineered Amphibian-Parasite Dynamics in Glacier National Park", Montana Aquatic Research Conference, Flathead Lake Bio Station, MT, April 2019.

Joyce, L.M. and **W.H. Lowe**. "Ecologically-Engineered Amphibian-Parasite Dynamics in Glacier National Park", University of Tampa Symposium, Tampa, FL, December 2018.

Addis, B.R., and **W.H. Lowe**. "Effects of environmental variation on dispersal distance in a stream salamander", Society for Freshwater Science Annual Meeting, Salt Lake City, UT, May 2019.

Addis, B.R., and **W.H. Lowe**. "Effects of environmental variation on dispersal distance in a stream salamander", LTER All Scientists' Meeting, Pacific Grove, CA, October 2018.

Lowe, **W.H.**, and B.R. Addis. "Matching habitat choice and plasticity contribute to phenotype-environment covariation in a stream salamander", Hubbard Brook Cooperators Meeting, Thornton, NH, July 2019.

Swartz, L.K., **W.H. Lowe**, B.R. Addis, and G.E. Likens. "Hydrologic variability decreases survival through metamorphosis in a stream salamander", Hubbard Brook Cooperators Meeting, Thornton, NH, July 2019.

Joint Meeting of the American Society of Naturalists, Society for the Study of Evolution, and Society of Systematic Biologists, June 2017, Portland, OR. B.R. Addis, B. Tobalske, and **W.H. Lowe**. A distance-performance trade-off in the phenotypic basis of dispersal in a stream salamander.

Joint Meeting of Ichthyologists and Herpetologists, July 2017, Austin, TX. **W.H. Lowe**. A grounded approach to dispersal research.

American Fisheries Sociery – Western Division Annual Meeting, May 2017, Missoula, MT. R.P. Kovach, M. Boyer, **W.H. Lowe**, F.W. Allendorf, and G. Luikart. Selection against rainbow trout admixture across populations, environments, and the genome.

Ecological Society of America Annual Meeting, August 2017, Portland, OR. R.P. Kovach, C.C. Muhlfeld, **W.H. Lowe**, M. Boyer, F.W. Allendorf, and G. Luikart. Climate driven invasive hybridization erodes fitness in a cold-water fish.

Annual Meeting of the Hubbard Brook Cooperators, July 2017, West Thornton, NH. **W.H. Lowe**. The spatial structure of eco-evolutionary interactions in Hubbard Brook streams.

Ecological Society of America Annual Meeting, August 2016, Fort Lauderdale, FL. B.R. Addis, **W.H. Lowe**, and B.W. Tobalske. Long, lean, swimming machines: assessing the morphological basis of dispersal in a stream salamander.

Annual Symposium of the Fisheries Society of the British Isles, July 2016, Bangor, Wales, UK. Wilcox T.M., McKelvey K.S., Young M.K., Sepulveda A.J., Shepard B.B., Jane S.F., Whiteley A.R., **Lowe W.H.**, Schwartz M.K. Understanding environmental DNA detection probabilities: a case study using a stream-dwelling char.

Joint Partner Wildlife Conference, February 2016, Coeur d'Alene, ID. L.K. Swartz, B.R. Hossack, and **W.H. Lowe**. Amphibian responses to wetland mitigation in the Greater Yellowstone Ecosystem.

American Fisheries Society, August 2015, Portland, OR. T.M. Wilcox, K.S. Mckelvey, M.K. Young, A.J. Sepulveda, B.B. Shepard, S.F. Jane, A.R. Whiteley, **W.H. Lowe**, and M.K. Schwartz. Understanding environmental DNA detection probabilities: a case study using a stream dwelling char *Salvelinus fontinalis*.

Annual Meeting of the Hubbard Brook Cooperators, July 2015, West Thronton, NH. B.R. Addis and **W.H. Lowe**. Long, lean swimming machines: morphological correlates of swimming performance in a stream salamander.

Annual Meeting of the Hubbard Brook Cooperators, July 2015, West Thornton, NH. C. Bayer and **W.H. Lowe**. Salamander community structure alters stream benthic macroinvertebrate densities.

American Geophysical Union, December 2014, San Francisco, CA. K.J. McGuire, C.E. Torgerson, G.E. Likens, D.C. Buso, **W.H. Lowe**, and S.W. Bailey. Multi-scale variations in streamwater chemistry and hydropedological implications for hotspot development.

American Fisheries Society, August 2014, Quebec City, CA. T.M. Wilcox, K.S. McKelvey, M.K. Young, S.F. Jane, **W.H. Lowe**, and M.K. Schwartz. Finding an environmental DNA target in a haystack of congenerics and PCR inhibitors.

Joint Meeting of Ichthyologists and Herpetologists, July 2014, Chattanooga, TN. J.M. Davenport, B.K. Hossack, and **W.H. Lowe**. Partitioning the non-consumptive effects of predators on prey with complex life histories.

Society for Conservation Biology, July 2014, Missoula, MT. **W.H. Lowe**, M.A. McPeek, and F.W. Allendorf. What can evolution tell us about the ecology of dispersal?

Society of Conservation Biology, July 2014, Missoula, MT. T.M. Wilcox, K.S. McKelvey, M.K. Young, S.F. Jane, **W.H. Lowe**, and M.K. Schwartz. Environmental DNA for conservation biology.

Ecological Society of America, August 2013, Minneapolis, MN. J.M. Davenport and **W.H. Lowe**. Dispersal structures intraspecific competition in a stream salamander.

Southeastern Ecology and Evolution Conference, March 2014, Statesboro, GA. M. Smith, J.M. Davenport, and **W.H. Lowe**. A preliminary investigation of mesohabitat preferences by Brook Trout (*Salvelinus fontinalis*) in northeastern U.S. headwater streams.

Annual Meeting of the Hubbard Brook Cooperators, July 2013, West Thornton, NH. J.M. Davenport and **W.H. Lowe**. Dispersal structures intraspecific competition in a stream salamander.

1st Joint Congress of Evolutionary Biology, July 2012, Ottawa, ON. B.R. Addis, **W.H. Lowe**, and F.W. Allendorf. Up high and down low: elevation strongly influences genetic structure in boreal toads (*Bufo boreas boreas*).

World Congress of Herpetology, August 2012, Vancouver, BC. B.R. Hossack, **W.H. Lowe**, and P.S. Corn. Interactive effects of wildfire, forest management, and isolation on amphibian and parasite abundance.

Northwest Partners in Amphibian and Reptile Conservation, March 2012, Hood River, OR. B.R. Hossack, **W.H. Lowe**, and P.S. Corn. Interactive effects of wildfire, forest management, and isolation on amphibian and parasite abundance.

Ecological Society of America, August 2011, Austin, TX. **W.H. Lowe**. Climate change and long-term decline in a stream salamander population.

American Fisheries Society Meeting, UMT Student Chapter, May 2011, Missoula, MT. M.K. Wilson and **W.H. Lowe**. The influence of watershed-scale forest characteristics on the supply of terrestrial prey to eastern brook trout (*Salvelinus fontinalis*).

Society for Northwest Vertebrate Biology, March 2011, Gigg Harbor, WA. B.R. Hossack, **W.H. Lowe**, and P.S. Corn. Wildfire and fragmentation: effects on amphibian populations and associated nematodes.

Ecological Society of America, August 2010, Pittsburgh, PA. **W.H. Lowe**. The causes and consequences of variation in dispersal distance.

Annual Meeting of the Hubbard Brook Cooperators, July 2010, West Thronton, NH. **W.H. Lowe**. Causes and consequences of variation in dispersal distance.

The North American Benthological Society, June 2010, Santa Fe, NM. A.J. Sepulveda and **W.H. Lowe**. Coexistence in streams: do source-sink dynamics allow salamanders to persist with fish predators?

Ecological Society of America, August 2009, Albuquerque, NM. **W.H. Lowe**. What drives long-distance dispersal? A test of theoretical predictions.

Annual Meeting of the Hubbard Brook Cooperators, July 2008, West Thronton, NH. **W.H. Lowe**, G.E. Likens, M.A. McPeek, and B.J. Cosentino. Linking movement behavior to dispersal and divergence in plethodontid salamanders.

Ecological Society of America, August 2008, Milwaukee, WI. **W.H. Lowe**, M.A. McPeek, G.E. Likens, and B.J. Cosentino. Dispersal and divergence in plethodontid salamanders.

Society for Northwest Vertebrate Biology National Meeting, February 2007, Missoula, MT. A.J. Sepulveda and **W.H. Lowe**. Influences of stream network connectivity and habitat quality on the distribution and abundance of Idaho Giant Salamanders, *Dicamptodon aterrimus*.

5th Conference on the Biology of Plethodontid Salamanders, August 2007, San Cristobal de las Casas, MEX. **W.H. Lowe**, M.A. McPeek, G.E. Likens, B.J. Cosentino. Dispersal and divergence in plethodontid salamanders.

Ecological Society of America, August 2007, San Jose, CA. E.H.C. Grant, **W.H. Lowe**, L.E. Greene, and W.F. Fagan. Life in the branches: population distribution and persistence in dendritic ecological networks.

International Congress of Limnology, August 2007, Montreal, CAN. B.J. Cosentino, **W.H. Lowe**, and G.E. Likens. Demography and movement of the northern spring salamander, *Gyrinophilus porphyriticus*, in four New Hampshire headwater streams.

American Society of Limnology and Oceanography, June 2006, Victoria, CAN. **W.H. Lowe**, G.E. Likens, M.A. McPeek, D.C. Buso, B.J. Cosentino, and B.T. Greene. Controls and consequences of dispersal in streams.

Ecological Society of America, August 2005, Montreal, CAN. **W.H. Lowe**, G.E. Likens, M.A. McPeek, and D.C. Buso. Linking direct and indirect data on dispersal: isolation by slope in a headwater stream salamander.

The North American Benthological Society, June 2005, New Orleans, LA. D.L. Strayer and **W.H. Lowe**. Plenary: Linking the abiotic environment to biodiversity in running waters.

Land Trust Alliance, October 2004, Providence, RI. **W.H. Lowe** and G.E. Likens. Capitalizing on headwater streams for land conservation.

International Congress of Limnology, August 2004, Lahti, FI. **W.H. Lowe**, K.H. Nislow, and G.E. Likens. Forest structure and stream salamander diets: implications for terrestrial-aquatic connectivity.

Society for Conservation Biology, July 2004, New York, NY. **W.H. Lowe**, K.H. Nislow, and D.T. Bolger. Stage-specific and interactive effects of sedimentation and trout on a headwater stream salamander.

Annual Meeting of the Hubbard Brook Cooperators, July 2004, West Thronton, NH. **W.H. Lowe**, G.E. Likens, M.A. McPeek, and D.C. Buso. Gene flow in 3D: isolation by slope and distance in a headwater stream salamander.

The North American Benthological Society, June 2004, Vancouver, CAN. **W.H. Lowe**, K.H. Nislow, and D.T. Bolger. Effects of logging on stream macroinvertebrate communities and vertebrate populations in New England headwater streams.

Long Term Ecological Research Network All Scientists Meeting, September 2003, Seattle, WA. **W.H. Lowe** and G.E. Likens. Multi-scale controls on salamander distribution and abundance in headwater stream networks.

10th Cary Conference, April 2003, Institute of Ecosystem Studies, Millbrook, NY. **W.H. Lowe**. Effects of habitat heterogeneity at multiple spatial scales on the distribution and abundance of a headwater stream salamander.

Ecological Society of America, August 2002, Tucson, AZ. **W.H. Lowe**. The role of dispersal in local population dynamics of a headwater stream salamander.

Society for Conservation Biology, July 2002, Canterbury, UK. **W.H. Lowe**. Landscape-scale spatial population dynamics in human-impacted stream systems.

Society for Conservation Biology, June 2000, Missoula, MT. **W.H. Lowe** and D.T. Bolger. Local and landscape-scale predictors of salamander abundance in New Hampshire headwater streams.

The North American Benthological Society, June 1997, San Marcos, TX. **W.H. Lowe** and F.R. Hauer. Ecology of two large, net-spinning caddisflies in a mountain stream: distribution, abundance and metabolic response to a thermal gradient.

COURSES TAUGHT

Freshwater Ecology (BIOE 428), 5 credits, lecture and lab, 30-40 upper-level undergraduates, Spring Semester

Advanced Population and Community Ecology (BIOB 506), 4 credits, lecture and discussion, 15-20 graduate students, Fall Semester

Topics in Spatial Ecology (BIOB 596), 1 credit, 3-4 graduate students, Fall and Spring Semesters

Senior Wildlife Seminar (WILD 494), 3 credits, 20-30 senior undergraduates, Fall and Spring Semesters, 2013-2015

Seminar in Landscape Genetics (BIOL 561), 1 credit, 12 graduate students, Fall Semester, 2007

GRADUATE ADVISING

Major professor to:

Adam Sepulveda (Ph.D., 2010), Lindy Mullen (M.S., 2009), Blake Hossack (Ph.D., 2011), Matt Wilson (M.S., 2012), Ken Honeycutt (M.S., 2014), Taylor Wilcox (Ph.D., 2017), Leah Swartz (M.S., 2017), Brett Addis (M.S., 2013; Ph.D., 2019), Miriam Bayer (M.S., 2018), Leah

Joyce (Ph.D., 2023), Maddie Cochrane (Ph.D., 2023), Eric Lyons (Ph.D., ongoing), Harris Sloan (Ph.D., ongoing), David Tevs (Ph.D., ongoing), Whitney Adam (Ph.D., ongoing)

PROFESSIONAL SERVICE

- Member, Scientific Commission of the Fund for Scientific Research (FNRS), Brussels, Belgium, 2015-2020.
- Aquatic Biodiversity Training Workshop, Jakar, Bhutan, Spring 2010, Spring 2012
- NSF Doctoral Dissertation Improvement Grant Panel, Spring 2010, Spring 2012 (x2)
- NSF Pre-Proposal Panels, Spring 2012, Spring 2014, Spring 2015, Spring 2016
- NSF Full Proposal Panel, Spring 2019
- NSF Committee of Visitors, Spring 2019
- *Reviewer for:* American Naturalist, Biological Conservation, Conservation Genetics, Copeia, Ecography, Ecological Applications, Ecological Modelling, Ecology of Freshwater Fish, Ecology, Ecology Letters, Freshwater Biology, Genetics, Herpetologica, Israel Science Foundation, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Environmental Engineering, Journal of Fish Biology, Journal of Herpetology, Limnology and Oceanography, Molecular Ecology, National Geographic Society, Oikos, Proceedings of the Royal Society – B, Theoretical Population Biology, U.S. Environmental Protection Agency, U.S. Geological Survey, U.S. National Science Foundation, Wetlands