

MARIE PERKINS, Ph.D.

College of Natural Resources, University of Wisconsin-Stevens Point
800 Reserve Street, Stevens Point, WI 54481

P: 715-346-2755, mperkins@uwsp.edu

<https://marieperkins.weebly.com>

EDUCATION

- 2017 **Ph.D., McGill University** (Natural Resource Sciences), Ste Anne de Bellevue, Quebec, Canada. Thesis: Exposure science to investigate factors influencing mercury concentrations in non-piscivorous birds. Supervisor: Dr. Nil Basu.
- 2007 **M.S., Louisiana State University** (Renewable Natural Resources), Baton Rouge, Louisiana, USA. Thesis: The use of stable isotopes to determine the ratio of resident to migrant King Rails in southern Louisiana and Texas. Supervisor: Dr. Sammy King.
- 2002 **B.S., Central Michigan University** (Biology, Natural Resources), Mt. Pleasant, Michigan, USA. Concentration: Wildlife ecology and management.

PROFESSIONAL EXPERIENCE

- 2019- **Assistant Professor, University of Wisconsin – Stevens Point**, Stevens Point, Wisconsin
- 2017-2019 **Postdoctoral Fellow, Harvard University**, Cambridge, Massachusetts
*Supervisor: Dr. Elsie Sunderland
- 2012-2013 **Research Associate, University of Michigan**, Ann Arbor, Michigan
*Supervisor: Dr. Nil Basu
- 2010-2012 **Shorebird and Rail Program Manager, BRI**, Gorham, Maine
*Supervisors: Dr. Lisa Ferguson and Dr. David Evers
- 2008-2010 **Research Biologist, Jaya Corporation**, Vicksburg, Mississippi
*Consultant at U.S. Army Engineer Research and Development Center, Wetlands and Coastal Ecology Branch, Supervisor: Dr. Charles Klimas

TEACHING

University of Wisconsin – Stevens Point

- Management of Wildlife Habitat (WLDL 451), Co-Lead 2019, Lead 2020, 2021, 2022
- Introduction to Fisheries, Forestry, and Wildlife Resources (NRES 250 Lab), Lead 2019, 2020, 2021
- Wildlife Profession and Preparation (WLDL 100), Co-lead 2020, 2021, 2022
- Wildlife Management Techniques (WLDL 350), Co-Lead 2020
- Field Experience in Wildlife Management Techniques (WLDL 340), Lead 2020, 2021
- Wildlife of North America (WLDL 372), Lead 2021, 2022
- Biodiversity and Conservation Biology (NRES 458), Lead 2021

Harvard University

- Introduction to Environmental Science and Engineering (ES 6), Teaching Fellow, 2018

McGill University

- Ornithology (WILD 420), Instructor of Record, 2014
- Population and Community Ecology (ENVB 305), Teaching Assistant, 2014
- Biophysical Environment (ENVB 210), Teaching Assistant, 2013

STUDENT MENTORING

Graduate Students

- Shannon Finnerty M.S., Natural Resources, UW - Stevens Point, 2021 - present

Graduate Student Committees

- Andy Greenawalt M.S., Natural Resources, UW - Stevens Point, 2020 - present
- Macayla Greider M.S., Natural Resources, UW - Stevens Point, 2020 - present
- Jordan Thompson M.S., Natural Resources, UW - Stevens Point, 2019 - present
- Sarah A. Dzielski M.S., SUNY College of Environmental Science and Forestry, 2021
- Matthew Hanneman M.S., Natural Resources, UW - Stevens Point, 2019 - 2021

Project Advisor

- Lagomorph project - Student Chapter of The Wildlife Society
- Wild bird project - Student Chapter of The Wildlife Society (co-advisor)

Research Mentor

- Jeffrey Edwards, undergraduate student, UW - Stevens Point
- Quinn Fulmer, undergraduate student, UW - Stevens Point
- Shujuan Chan, M.S. student, Harvard T.H. Chan School of Public Health
- Vladislav Sevostianov, undergraduate student, Harvard University
- Hefei Lin, M.Sc. student, McGill University
- Justine Hadrava, undergraduate student, McGill University
- Jessica Pawly, M.Sc. student, McGill University (currently medical student, Drexel University)
- Maia Siedlikowski, M.Sc. student, McGill University (currently registered nurse)

PUBLICATIONS

Peer-reviewed Manuscripts

1. Fallon, J.A, E.P. Smith, N. Shoch, J.D. Paruk, E.A. Adams, D.C. Evers, P.G.R. Jodice, **M. Perkins**, D.E. Meatey, and W.A. Hopkins. 2020. Ultraviolet-assisted oiling assessment improves detection of oiled birds experiencing symptoms of hemolytic anemia after exposure to the Deepwater Horizon oil spill. *Ecotoxicology* 29:1399–1408.
2. Heddle, C., J. Elliott, T. Brown, M. Eng, M. Perkins, N Basu, and T. Williams. 2020. Continuous exposure to mercury during embryogenesis and chick development affects later survival and reproduction of zebra finch (*Taeniopygia guttata*). *Ecotoxicology* 29, 1117–1127.

3. **Perkins, M.**, O.P. Lane, D.C. Evers, A. Sauer, E.M. Adams, N.J. O’Driscoll, S.T. Edmunds, A.K. Jackson, J. Hagelin, J. Trimble, and E.M. Sunderland. 2020. Historical patterns in mercury exposure for North American songbirds. *Ecotoxicology*, 29, 1161-1173
4. **Perkins, M.** and N. Basu. 2018. Dried blood spots for estimating mercury exposure in birds. *Environmental Pollution* 236:236-246.
5. Basu, N., J.W.L. Eng, **M. Perkins**, A. Santa Rios, G. Martincevic, K. Carlson, and R. Neitzel. 2017. Development, validation, and application of a novel method to measure methylmercury in newborn dried blood spots from the Michigan BioTrust for Health. *Environmental Research* 159:276-282.
6. **Perkins, M.**, B.D. Barst, J. Hadrava, and N. Basu. 2017. Mercury speciation and subcellular distribution in the liver of experimentally-dosed and wild birds. *Environmental Toxicology and Chemistry* 36:3289–3298. **Nominated for Best Paper Award 2017.**
7. Srigboh, R.K., N. Basu, J. Stephens, E. Asampong, **M. Perkins**, R.L. Neitzel, and J. Fobil. 2016. Multiple elemental exposures amongst workers at the Agbogbloshie electronic waste (e-waste) site in Ghana. *Chemosphere* 164:68-74.
8. **Perkins, M.**, L. Ferguson, R.B. Lanctot, I.J. Stenhouse, S. Kendall, S. Brown, J.O. Hall, K. Regan, and D.C. Evers. 2016. Mercury exposure and risk in breeding and staging Alaskan shorebirds. *The Condor* 118:171-182.
9. Fournier, A., A. Sullivan, J. Bump, **M. Perkins**, M. Shieldcastle, and S. King. 2016. Combining citizen science and stable isotope analysis reveals migratory connectivity in a secretive species, the Virginia rail (*Rallus limicola*). *Journal of Applied Ecology* 54: 618-627.
10. Evers, D.C., J.A Schmutz, N. Basu, C.R. deSorbo, J.S. Fair, C.E. Gray, J. Paruk, **M. Perkins**, K. Regan, B.D. Uher-Koch, and K.G. Wright. 2014. Mercury exposure and risk in Yellow-billed Loons breeding in Alaska and Canada. *Waterbirds* 37:147-159.
11. **Perkins, M.**, S.L. King, and J. Linscombe. 2010. Effectiveness of capture techniques for rails in emergent marsh and agricultural wetlands. *Waterbirds* 33:376-380.
12. **Perkins, M.**, S.L. King, S.E. Travis, and J. Linscombe. 2009. Use of morphometric measurements to differentiate between species and sex of King and Clapper Rails. *Waterbirds* 32:579-584.

Manuscripts in Review and Preparation

1. **Perkins, M.**, I.J. Stenhouse, N. Basu, J. Bêty, R. Brentzen, H.R. Gates, M.-A. Giroux, J.-F. Lamarre, R.B. Lanctot, and N. Lecomte. Factors influencing mercury exposure in Arctic-breeding shorebirds. *Environmental Science & Technology*. In Prep, for submission Feb. 2022.

- DuBay, S.G., B. Weeks, P. Davis-Kean, C.C. Fuldner, N. Harris, S. Hughs, **M. Perkins**, B. O'Brian, and C. Weyant. Reconstructing historical pollution landscapes: The potential of biological collections for public health, policy, and environmental justice. *Environmental Health Perspectives*. In Prep, for submission May 2022.

Media Coverage

- Living Bird Magazine “Birds need clean air safeguards just as much as we do. Here’s why” July 2021. <https://www.allaboutbirds.org/news/birds-need-clean-air-safeguards-just-as-much-as-we-do-heres-why/>
- onEarth.org, “Thousands of birds migrate to the Arctic - unfortunately, so does mercury”, Aug. 11, 2016. <https://www.nrdc.org/onearth/thousands-birds-migrate-arctic-unfortunately-so-does-mercury>
- Audubon, “High mercury levels pose another setback for Arctic birds”, July 22, 2016. <http://www.audubon.org/news/high-mercury-levels-pose-another-setback-arctic-birds>
- The Wildlife Society, “High levels of mercury found in Alaska’s Arctic shorebirds”, July 18, 2016. <http://wildlife.org/high-levels-of-mercury-found-in-alaskas-arctic-shorebirds/>

Reports and Technical Notes

- Stenhouse, I.J., J.L. Goyette, K.J. Regan, and **M. Perkins**. 2014. Quantifying mercury exposure in North American Arctic-breeding shorebirds. Report to U.S. Fish & Wildlife Service and the Wildlife Management Institute. BRI Report #2014-14. Biodiversity Research Institute, Portland, ME. 31 pp.
- Basu, N., M. Bradley, C. McFeely, and **M. Perkins**. 2013. Public health and hydraulic fracturing in Michigan. In "Hydraulic Fracturing in the State of Michigan". **Peer-reviewed**. Graham Environmental Sustainability Institute, University of Michigan, Ann Arbor, MI. 37 pp. [<http://graham.umich.edu/publications/hydraulic-fracturing-michigan-technical-report-public-health>]
- Evers, D., E.M. Adams, **M. Perkins**, L. Savoy, C.S. Flegel, M. Duron, A. Gilbert, I. Johnson, and J. McKay. 2011. End-of-study draft summary report: Estimating oiling and mortality of secretive marsh birds from the Deepwater Horizon oil spill, NRDA Deepwater Horizon (MC 252) Oil Spill (bird study #3). BRI-NRDA-DWH Report #3.3. Biodiversity Research Institute, Gorham, ME.
- Perkins, M.**, C. V. Klimas, J. Dunbar, T. Foti, and J. Pagan. 2011. Using General Land Office survey records in ecosystem restoration planning. EBA Technical Notes Collection. ERDC TN-EMRRP-EBA-9. U.S. Army Engineer Research and Development Center, Vicksburg, MS.
- Wilder, T.C., W.M. Ford, and **M.M. Perkins**. 2011. A bibliography of selected literature on indirect impacts associated with Clean Water Act Section 404 permits. ERDC/EL TR-11-16. U.S. Army Engineer Research and Development Center, Vicksburg, MS.
- Klimas, C.V., T. Foti, J. Dunbar, J. Pagan, and **M. Perkins**. 2010. Analysis and recommendations for restoration of the Grassy Lake and Lower Little River Bottoms

Ecosystem. Report to the U.S. Army Corps of Engineers District, Little Rock. U.S. Army Engineer Research and Development Center, Vicksburg, MS.

7. **Perkins, M.**, S.L. King, and D. Krementz. 2009. Stopover habitat use by King Rails: Evaluation and habitat management implications. Final Report to US Fish & Wildlife Service. Louisiana State University, Baton Rouge, LA.

AWARDS AND GRANTS

Grants

2011	U.S. Fish and Wildlife Service Region 7 Avian Health and Disease Program FY2012-FY2013. Evers, D. C., L. M. Ferguson, I. J. Stenhouse, and M. Perkins . Quantifying mercury exposure in North American Arctic-breeding shorebirds.	94,840 USD
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Fellowships

2016-2017	McGill University Graduate Excellence Award	1,000 CAD
2013-2016	Fulbright Canada Science Technology Engineering and Mathematics	105,000 CAD
2013-2014	McGill University Graduate Excellence Award	10,000 CAD

Travel Awards

2016	McGill University Graduate Research Enhancement and Travel Award	350 CAD
2015	Western Hemisphere Shorebird Group Meeting Student Travel Grant	750 USD
2015	International Conference on Mercury as a Global Pollutant Student Travel Grant	650 USD

PRESENTATIONS

Invited Talks and Seminars

1. **Perkins, M.**, O.P. Lane, D.C. Evers, A. Sauer, E.M. Adams, N.J. O’Driscoll, S.T. Edmunds, A.K. Jackson, J. Hagelin, J. Trimble, and E.M. Sunderland. 2020. Historical patterns in mercury exposure for North American songbirds. North American Ornithological Conference 7th Annual Meeting, Virtual.
2. **Perkins, M.** 2018. An overview of monitoring methods, capture techniques, and population status for North American rails. Grand Rapids Audubon Club Nature Program, Grand Rapids, Michigan, USA.
3. **Perkins, M.**, I.J. Stenhouse, N. Basu, J. Bêty, R. Brentzen, D.C. Evers, H.R. Gates, M.-A. Giroux, J.-F. Lamarre, R.B. Lanctot, and N. Lecomte. 2016. Mercury exposure in Arctic-breeding shorebirds. North American Ornithological Conference 6th Annual Meeting, Washington D.C., USA.

4. **Perkins, M.**, I.J. Stenhouse, N. Basu, J. Bêty, R. Brentzen, H.R. Gates, M.-A. Giroux, J.-F. Lamarre, R.B. Lanctot, and N. Lecomte. 2015. Quantifying mercury exposure for multiple shorebird species across the North American Arctic using blood and feather samples. 6th Western Hemisphere Shorebird Group Meeting, Wallops Island, Virginia, USA.
5. **Perkins, M.**, I.J. Stenhouse, N. Basu, J. Bêty, H.R. Gates, M.-A. Giroux, J.-F. Lamarre, R.B. Lanctot, and N. Lecomte. 2014. Quantifying mercury exposure for multiple shorebird species across the North American Arctic using blood and feather samples. National Wildlife Research Centre Seminar Series, Carleton University, Ottawa, Ontario, Canada.
6. **Perkins, M.**, and S.L. King. 2006. The use of stable isotopes to determine the ratio of resident to migrant King Rails in southwestern Louisiana. King Rail Conservation Action Plan Workshop. Memphis, Tennessee, USA.

Selected Conference Talks

1. **Perkins, M.**, B.D. Barst, J. Hadrava, and N. Basu. 2017. Mercury speciation and subcellular distribution in the liver of experimentally-dosed and wild birds. 13th International Conference on Mercury as a Global Pollutant, Providence, Rhode Island, USA.
2. **Perkins, M.**, and N. Basu. 2015. Using blood spots to assess mercury exposure in humans and wildlife. 12th International Conference on Mercury as a Global Pollutant, Jeju, Korea.
3. **Perkins, M.**, L. Eggert, R.B. Lanctot, N. Basu, I.J. Stenhouse, J. Bety, JF. Lamarre, R. Gates, and D.C. Evers. 2013. Evaluating blood and feather mercury concentrations for multiple Arctic shorebird species across a large spatial scale. 11th International Conference on Mercury as a Global Pollutant, Edinburgh, Scotland.
4. **Perkins, M.**, C.V. Klimas, and J.B. Dunbar. 2009. Characterizing baseline conditions as a fundamental step in establishing ecosystem restoration targets and potential. U.S. Army Corps of Engineers Research and Development Conference. Memphis, Tennessee, USA.
5. **Perkins, M.**, and S.L. King. 2006. The use of stable isotopes to determine the ratio of resident to migrant King Rails in southwestern Louisiana. North American Ornithological Conference 4th Annual Meeting. Veracruz, Mexico.

Selected Posters

1. **Perkins, M.** and N. Basu. 2016. Using dried blood spots to assess mercury exposure in birds. North American Ornithological Conference 6th Annual Meeting, Washington D.C., USA.
2. **Perkins, M.**, I.J. Stenhouse, N. Basu, J. Bêty, H.R. Gates, M.-A. Giroux, J.-F. Lamarre, R.B. Lanctot, N. Lecomte, and D. Ward. 2014. Quantifying mercury exposure for multiple shorebird species across the North American Arctic using blood and feather samples. Arctic Change 2014, Ottawa, Ontario, Canada.
3. **Perkins, M.** and N. Basu 2014. Using blood spots to assess heavy metal exposure in humans and wildlife. EcoHealth 2014, 5th Biennial Conference of the International Association for Ecology & Health. Montreal, Quebec, Canada.

4. **Perkins, M.**, J. Hinshaw, and N. Basu. 2013. Determining mercury exposure in Western North American grebes by analyzing feathers from museum specimens. 34th Annual Meeting, Society of Environmental Toxicology and Chemistry (SETAC). Nashville, Tennessee, USA.
5. **Perkins, M.**, and S.L. King. 2005. The use of stable isotopes to determine the ratio of resident to migrating King Rails in southwestern Louisiana. 12th Annual Meeting of The Wildlife Society, Madison, Wisconsin, USA.

PROFESSIONAL SERVICE

Committee Experience

- Served on the search and screen committee for the position of Assistant or Associate Professor in Wildlife at the University of Wisconsin - Stevens Point
- Served on the search and screen committee for the position of Assistant Professor in Avian Conservation Biology at McGill University
- Computer Committee and International Programs Committee for the College of Natural Resources, University of Wisconsin – Stevens Point
- Student Commencement Speaker Selection Committee, University of Wisconsin – Stevens Point

Journal Reviewer

Environmental Toxicology and Chemistry (2), Scientific Reports (1), Wilson Journal of Ornithology (1), Emu - Austral Ornithology (1), Wetlands (1), Journal of Field Ornithology (1), Waterbirds (1), Ecotoxicology (3), Environmental Science & Technology (1), PLOS ONE (1)

Professional Memberships

- The Wildlife Society (2008 - current), Vice-chair Wildlife Toxicology Working Group
- Wisconsin Chapter of The Wildlife Society (2019 - current), Diversity Committee member
- Society of Environmental Toxicology and Chemistry (2013, 2016 - current)
- American Ornithological Society (2016 - current)

CERTIFICATIONS

- U.S. Army Corps of Engineers Regulatory V Training Course, Hydrogeomorphic Functional Assessment of Wetlands. Certified by the Engineer Research and Development Center, 2009.
- U.S. Army Corps of Engineers Regulatory IV Training Course, Wetland Delineation. Certified by the Engineer Research and Development Center, 2009.
- National Wildfire Coordinating Group Training Courses: S-130 and S-190, Standards for Survival. Certified by the U.S. Fish and Wildlife Service, 2003.

INTERNSHIPS AND TECHNICIAN POSITIONS

2008 USGS National Wetlands Research Center, Cruger, Mississippi
2008 The Wildlife Society, Bethesda, Maryland
2007 Michigan Natural Features Inventory, Algonac, Michigan
2004 Louisiana State University, Baton Rouge, Louisiana
2003 Big Oaks National Wildlife Refuge, U.S. Fish and Wildlife Service, Madison,

Indiana
2003 USGS Pacific Island Ecosystems Research Center, Hawaii National Park,
Hawaii
2002 The Dow Gardens, Midland, Michigan
2001 The Institute for Bird Populations, Brownwood, Texas
2000 Seney National Wildlife Refuge, U.S. Fish and Wildlife Service, Seney,
Michigan