

Bryan M. Maitland

Research Fish Biologist

Curriculum Vitae

July 2025

📍 USDA Forest Service,
Rocky Mountain Research Station, Boise, ID, USA
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🔗 bmailto101

Employment history

2024– **Research Fish Biologist**, Rocky Mountain Research Station, USDA Forest Service
2023–2024 **Research Associate**, Department of Civil and Environmental Engineering, University of Wisconsin-Madison

Education and preparation

EPA Postdoctoral Fellow	2022-2023	University of Wisconsin-Madison
Water Resources Fellow	2020-2022	University of Wisconsin-Madison
Ph.D. Ecology	2020	University of Wyoming
M.Sc. Conservation Biology	2015	University of Alberta
B.S. Conservation Biology	2011	SUNY: ESF

Awards and honours

2024 Outstanding Service Award, USDA FS Rocky Mountain Research Station
2021 Professional Presentation Award, Wisconsin Chapter American Fisheries Society
2019 Dean's Graduate Scholar Award, College of Arts and Sciences University of Wyoming
2018 Eugene Maughan Graduate Award, Western Division American Fisheries Society
2018 Hank Gardner Graduate Award, Department of Zoology and Physiology University of Wyoming
2017 Clemens-Rigler Award, Canadian Aquatic Resources Section American Fisheries Society
2017 Board of Visitors Award, College of Arts and Sciences University of Wyoming
2017 Dennis Anderson Fisheries Award, Department Zoology and Physiology University of Wyoming
2017 William Trachtenberg Scholarship Award, Sustainable Fisheries Foundation
2017 Vern Bressler Fisheries Award, Department of Zoology and Physiology University of Wyoming
2015 Excellence in Fisheries Award, Canadian Aquatic Resources Section American Fisheries Society
2015 Clemens-Rigler Award, Canadian Aquatic Resources Section American Fisheries Society

Research

- Since 2015 I have authored 24 papers in peer-reviewed journals on fisheries and conservation topics.
- On Google Scholar my h-index is 12 with total citations of 551 (as at 1 July 2025).
- I have coauthored 1 R package as a result of my research. There have been over 674 downloads of my packages.

Grants

Awarded

I have acquired \$108,073 in research grants since 2015.

Pending	Sparks, Maitland. "Bull Trout movement using PIT tag arrays in the Boise Basin". <i>Funding from USFWS</i>	\$16,620
2024	Maitland. "Chinook salmon life history and otolith microchemistry". <i>Funding from USDA Forest Service RMRS</i>	\$28,000
2020	Maitland, Rahel. "Accessible underwater landscapes for non-STEM audiences". <i>Funding from UW Biodiversity Institute</i>	\$19,866
2020	Maitland. "Food web responses to tiger muskie biocontrol in Wyoming". <i>Funding from CO-WY AFS</i>	\$1,000
2020	Maitland. "Non-lethal methods for stable isotope analysis in fishes". <i>Funding from NANFA</i>	\$1,000
2019	Maitland. "Diet specialization along stream gradients". <i>Funding from UW Zoology</i>	\$22,000
2019	Maitland. "Validating fin-tissue for stable isotope studies in fishes". <i>Funding from CO-WY AFS</i>	\$1,000
2018	Maitland. "Assimilation and discrimination of C and N in prairie stream fishes". <i>Funding from UW Biodiversity Institute</i>	\$6,000
2017	Maitland. "Isotopic niches and fish biodiversity in Rocky Mountain streams". <i>Funding from UW Biodiversity Institute</i>	\$4,000
2015	Maitland, Rahel. "Factors that influence the diversity of fish assemblages in Wyoming". <i>Funding from UW Biodiversity Institute</i>	\$25,207

Invited, not awarded

Below are invited full proposals that were not awarded:

2025	Sparks, Maitland, Carim, Thurow. "A palaeoecological toolset to address shifting baseline syndrome". <i>Funding from DoD SERDP</i>	\$1,500,000
2023	Maitland, Jensen. "Cross-lake comparison of habitat coupling in Lakes Michigan and Superior". <i>Funding from WI SG</i>	\$258,571
2021	Maitland, Latzka, Jensen. "Climate change and groundwater pumping impacts on Wisconsin trout fisheries". <i>Funding from USGS MW CASC</i>	\$399,853

Publications

Theses

1. Maitland, B. M. (2015). *Stream Crossings in the Western Boreal Forest: Assessing Impacts and Prioritizing Restoration for Native Freshwater Fishes* [Master's thesis]. University of Alberta.
2. Maitland, B. M. (2020). *Isotopic Ecology of Aquatic Communities Along the Rocky Mountains— Great Plains Ecoregion* [PhD thesis]. University of Wyoming.

Pre-prints and in-review

1. Keppeler, F. W., Giarrizzo, T., Montaña, C. G., Adite, A., Akin, Ş., Angelini, R., Arantes, C. C., Benedito, E., Bokhutlo, T., El-Sabaawi, R., Garcia, A., Gonzalez-Bergonzoni, I., Hoeinghaus, D., Hoffman, J., Jensen, O. P., Jeppesen, E., Kopf, R. K., Layman, C. A., Lopez, E. O., ... Winemiller, K. O. (2025). *What determines trophic niche breadth? A global analysis of freshwater fishes using isospaces*. bioRxiv. <https://doi.org/10.1101/2025.05.27.656387>

Refereed research papers

1. O'Malley, B. P., & Maitland, B. M. (2014). Observations on the freshwater zooplankton of Dominica, West Indies, including records from the former Matthieu landslide-dam lake. *Pan-American Journal of Aquatic Sciences*, 9(3), 228–333.
2. Maitland, B. M., Cooke, S. J., & Poesch, M. (2015). Finding the Path to a Successful Graduate and Research Career: Advice for Early Career Researchers. *Fisheries*, 40(8), 399–403. <https://doi.org/10.1080/03632415.2015.1065253>
3. Maitland, B. M., Poesch, M., Anderson, A. E., & Pandit, S. N. (2016). Industrial road crossings drive changes in community structure and instream habitat for freshwater fishes in the boreal forest. *Freshwater Biology*, 61, 1–18.
4. Maitland, B. M., Poesch, M., & Anderson, A. E. (2016). Prioritising culvert removals to restore habitat for at-risk salmonids in the boreal forest. *Fisheries Management and Ecology*, 23(6), 489–502. <https://doi.org/10.1111/fme.12188>
5. Pandit, S. N., Maitland, B. M., Pandit, L. K., Poesch, M. S., & Enders, E. C. (2017). Climate change risks, extinction debt, and conservation implications for a threatened freshwater fish: Carmine shiner (*Notropis percobromus*). *Science of the Total Environment*, 598, 1–11. <https://doi.org/10.1016/j.scitotenv.2017.03.228>
6. Craig, L. S., Olden, J. D., Arthington, A. H., Entekhabi, S., Hawkins, C. P., Kelly, J. J., Kennedy, T. A., Maitland, B. M., Rosi, E. J., Roy, A. H., Strayer, D. L., Tank, J. L., West, A. O., & Wooten, M. S. (2017). Meeting the challenge of interacting threats in freshwater ecosystems: A call to scientists and managers. *Elementa: Science of the Anthropocene*, 5(72), 1–15. <https://doi.org/10.1525/elementa.256>
7. Walker, R. H., Maitland, B. M., LaSharr, T. N., Rosing, M. N., & Ben-David, M. (2018). Fate of juvenile salmonids stranded in off-channel pools: Implications for nutrient transfers. *Aquatic Sciences*, 80(1), 10. <https://doi.org/10.1007/s00027-017-0562-z>
8. Maitland, B. M., O'Malley, B. P., & Stewart, D. J. (2019). Subsurface water piping transports plankton and prevents meromixis in a deep volcanic crater lake (Dominica, West Indies). *Hydrobiologia*, 839(1), 119–130. <https://doi.org/10.1007/s10750-019-04000-7>
9. Hickerson, B. T., Maitland, B. M., & Walters, A. W. (2019). Effects of multiple nonnative fish on an imperiled cyprinid, Hornyhead Chub *Nocomis biguttatus*. *Transactions of the American Fisheries Society*, 148(6), 1132–1145. <https://doi.org/10.1002/tafs.10203>
10. Alston, J. M., Maitland, B. M., Brito, B. T., Esmaeili, S., Ford, A. T., Hays, B., Jesmer, B. R., Molina, F. J., & Goheen, J. R. (2019). Reciprocity in restoration ecology: When might large carnivore reintroduction restore ecosystems? *Biological Conservation*, 234, 82–89. <https://doi.org/10.1016/j.biocon.2019.03.021>
11. Kirk, M. A., Maitland, B. M., & Rahel, F. J. (2020). Spatial scale, reservoirs and nonnative species influence the homogenization and differentiation of Great Plains — Rocky Mountain fish faunas. *Hydrobiologia*, 847, 1–15. <https://doi.org/10.1007/s10750-019-04129-5>
12. Voter, C. B., Guerrero-Bolaño, F. J., Latzka, A. W., & Hauxwell, J. A. (2021). Adaptable university-agency early-career fellowship program creates a win-win-win for wisconsin's waters. *Journal of Contemporary Water Research and Education*, 174, 140–155.
13. Maitland, B. M., Rio, C. M. del, & Rahel, F. J. (2021). Effect of temperature on ^{13}C and ^{13}C incorporation rates and discrimination factors in two North American fishes. *Canadian Journal of Fisheries and Aquatic Sciences*, 78(12), 1833–1840. <https://doi.org/10.1139/cjfas-2021-0057>

14. Maitland, B. M., & Rahel, F. J. (2021). Nonlethal fin sampling of North American freshwater fishes for food web studies using stable isotopes. *North American Journal of Fisheries Management*, 41(2), 410–420. <https://doi.org/10.1002/nafm.10539>
15. Medinski, N. A., Maitland, B. M., Jardine, T. D., Drake, D. A. R., & Poesch, M. S. (2022). A catastrophic coal mine spill in the Athabasca River watershed induces isotopic niche shifts in stream biota including an endangered rainbow trout ecotype. *Canadian Journal of Fisheries and Aquatic Sciences*, 1–14. <https://doi.org/10.1139/cjfas-2021-0112>
16. Maitland, B. M., & Latzka, A. W. (2022). Shifting climate conditions affect recruitment in Midwestern stream trout, but depend on seasonal and spatial context. *Ecosphere*, 13(12), e4308. <https://doi.org/10.1002/ecs2.4308>
17. Lapides, D. A., Maitland, B. M., Zipper, S. C., Latzka, A. W., Pruitt, A., & Greve, R. (2022). Advancing environmental flows approaches to streamflow depletion management. *Journal of Hydrology*, 607, 127447. <https://doi.org/10.1016/j.jhydrol.2022.127447>
18. Kirk, M. A., Maitland, B. M., Hickerson, B. T., Walters, A. W., & Rahel, F. J. (2022). Climatic drivers and ecological impacts of a rapid range expansion by non-native smallmouth bass. *Biological Invasions*, 24, 1311–1326. <https://doi.org/10.1007/s10530-021-02724-z>
19. Feiner, Z. S., Shultz, A. D., Sass, G. G., Trudeau, A., Mitro, M. G., Dassow, C. J., Latzka, A. W., Isermann, D. A., Maitland, B. M., Homola, J. J., Embke, H. S., & Preul, M. (2022). Resist-accept-direct (RAD) considerations for climate change adaptation in fisheries: The Wisconsin experience. *Fisheries Management and Ecology*, 29(4), 346–363. <https://doi.org/10.1111/fme.12549>
20. Ward, N. K., Lynch, A. J., Beever, E. A., Booker, J., Bouska, K. L., Embke, H., Houser, J. N., Kocik, J. F., Kocik, J., Lawrence, D. J., Lemon, M. G., Limpinsel, D., Magee, M. R., Maitland, B. M., McKenna, O., Meier, A., Morton, J. M., Muehlbauer, J. D., Newman, R., ... Wilkening, J. L. (2023). Reimagining large river management using the Resist-Accept-Direct (RAD) framework in the Upper Mississippi River. *Ecological Processes*, 12(1), 48. <https://doi.org/10.1186/s13717-023-00460-x>
21. Maitland, B. M., & Rahel, F. J. (2023). Aquatic food web expansion and trophic redundancy along the Rocky Mountain—Great Plains ecotone. *Ecology*, 104(7), e4103. <https://doi.org/10.1002/ecy.4103>
22. Maitland, B. M., Bootsma, H. A., Bronte, C. R., Bunnell, D. B., Feiner, Z. S., Fenske, K. H., Fetzer, W. W., Foley, C. J., Gerig, B. S., Happel, A., Höök, T. O., Keppeler, F. W., Kornis, M. S., Lepak, R. F., McNaught, A. S., Roth, B. M., Turschak, B. A., Hoffman, J. C., & Jensen, O. P. (2024). Testing food web theory in a large lake: The role of body size in habitat coupling in Lake Michigan. *Ecology*, 105(10), e4413. <https://doi.org/10.1002/ecy.4413>
23. Barrus, N. T., Maitland, B. M., & Rahel, F. J. (2024). Assessing a standardized method to identify optimal baselines for trophic position estimation in stable isotope studies of stream ecosystems. *Hydrobiologia*, 851, 4673–4691. <https://doi.org/10.1007/s10750-024-05618-y>
24. Sparks, M. M., Maitland, B. M., Felts, E., Swartz, A., & Frater, P. (2025). hatchR: A toolset to predict when fish hatch and emerge. *Fisheries*.

Technical Reports

1. Roseman, E. F., Riley, S. C., Farha, S. A., Maitland, B. M., Tucker, T. R., Provo, S. A., & McLean, M. W. (2013). *Status and Trends of the Lake Huron Offshore Demersal Fish Community, 1976-2012*. USGS Great Lakes Science Center.
2. Mitro, M., Feiner, Z. S., Latzka, A. W., Embke, H. S., Homola, J. J., Isermann, D. A., Maitland, B. M., Sass, G. G., Shaw, S., Shultz, A. D., Tsyehaye, I., & Vander Zanden, J. (2021). *Wisconsin Initiative on Climate Change Impacts: Fisheries Working Group Report*. Nelson Institute for Environmental Studies, University of Wisconsin-Madison.
3. Maitland, B. M., Sparks, M. M., Felts, E., Swartz, A., & Frater, P. (2025). *hatchR: Predict Fish Hatch and Emergence Timing* (Version 0.3.2) [Computer software]. <https://github.com/bmait101/hatchR>
4. Maitland, B. M., & Loheide, S. P. (2025). *Pumped storage hydropower in California: Environmental effects and opportunities for co-benefits*. University of Wisconsin-Madison.

Unpublished working papers

TO COME

Software

1. Maitland, B. M., Sparks, M. M., Felts, E., Swartz, A., & Frater, P. N. (2025). *hatchR: Predict Fish Hatch and Emergence Timing*. <https://github.com/bmait101/hatchR>

Professional Service

Ad-hoc reviewer

Granting agency external reviewer

Conference organization and service

Professional society service

Professional society membership

University service

Teching

Mentoring

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Special skills and training

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Pre-doctoral research and field experience