



Fall 2024

A message from the Section President

Dear AFS Water Quality Section (WQS) Members,

On August 10-14, 2025 in San Antonio, Texas our section will be hosting a symposium on the overlap in workflow between water quality and fisheries professionals. Several section members have already volunteered to contribute and assist with the symposium. Join us. Below is the abstract that this initial group of volunteers drafted for submission to the Annual Meeting.

2025 Symposium:

Linking fisheries and Clean Water Act programmatic information and numerical data for improved water quality management

The Clean Water Act supports a variety of designated uses, with fisheries being one of the most pronounced in terms of ecological and socio-economic value. Therefore, administrators of the Clean Water Act have an interest in identifying linkages between water quality management frameworks and techniques used by natural resource agencies to manage fisheries for commercial, recreational, and conservation values. Coupling water quality and fisheries management to achieve better endpoints can be done by identifying: (1) regulatory initiatives like toxins in fish tissue and permits, (2) indicator species like aquatic invertebrates, and (3) data generated by water quality and biological monitoring. This symposium will seek to cultivate these three links between Clean Water Act administrators and fisheries professionals.

CALLING ALL WQS MEMBERS and their colleagues: this is an opportunity to set up a large tent including colleagues and students and to be creative with discussing the variety of

applications of our everyday work. **Please especially consider inviting your colleagues in your state's environmental protection agencies and divisions.** Professionals who work on any Clean Water Act and Safe Drinking Water Act issues or programs are strongly encouraged to participate.

Please be in touch with me directly if you are interested in contributing or assisting.

Looking forward,

Jonathan

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2024 Section Business Meeting

The Section held its business meeting on September 16 during the Annual AFS meeting in Honolulu, HI and virtually. The meeting agenda and notes are posted on the website, [here](#). If you have any questions or comments, please contact Paul Kusnierz at pkusnierz@alumni.nmu.edu.

Awards

2024 AFS Fellows

We congratulate Yushun Chen as a 2024 AFS Fellow! Pictured below with AFS president Cecil Jennings, Yushun was honored for leading international research programs to inform fisheries management and policy and fostering close professional relationships between Chinese & US fisheries scientists & managers, and the AFS & the China Society of Fisheries. He fostered collaborations was by serving as AFS Water Quality Section president and by developing a new, international, open-access journal (Water Biology & Security, IF:5.1) to further scientific exchanges between western and eastern scientists.



See more information about [this](#) and [other](#) awards. Remember that former fellows are happy to prepare nominations. For example, you can contact Yetta Jager (hjager@utk.edu).

Water Quality Section Student Poster Award

As in past years, the Section will give an award to the best water quality-related student poster at the 2025 Annual Meeting. The winner will receive a \$100 award and bragging rights. In 2024, none of the posters associated with the top ten abstracts were presented at the Honolulu meeting, possibly due to travel restrictions. We hope to have a winner next year, so please submit your poster abstracts and plan on attending. Professors, please encourage your students to present in San Antonio!

Fulbright Brazil Scholar Program 2025–2026

Applications are not being accepted for the Fulbright Brazil Scholar Program at: <https://fulbright.org.br/awards-for-us-citizens/all-disciplines-award/>. If you would like some assistance with applying, please reach out to Bob Hughes at hughes.bob@amnisopes.com.

Water Quality Section Officers

We are now accepting nominations for the Water Quality Section's next President-Elect. Having this officer position filled is essential to maintaining a functional section. We will be holding the election this spring. The President-Elect serves two years in this position, two years as President, and two years as past president. Additional information can be found in the Section's [bylaws](#). If you would like to run or nominate someone (with their permission) for

this position or are curious to know more, please contact pkusnierz@alumni.nmu.edu.

Call for papers

The open-access, international journal, **Water Biology & Security**, is seeking manuscripts on the following special topics:

- 1) Aquatic animal health & welfare
- 2) Spatially extensive aquatic ecological surveys & assessments
- 3) eDNA
- 4) Biodiversity research in regulated rivers
- 5) Urban aquatic ecosystems
- 6) Mine tailings facility disasters
- 7) Non-perennial stream & river ecology

For more information, contact Bob Hughes (hughes.bob@amnisopes.com)

Water News

Trickle-down effects of WOTUS ruling

The May 2023 ruling on the *Sackett v. EPA* case changed the definition of 'Waters of the U.S.' such that a waterway is under the jurisdiction of the federal government only if it is adjacent to navigable waters. The impacts of this decision are trickling down to states, even though surface linkage to navigable waters (interstate transport) is not relevant at the state level. Several states, including those impacted by Hurricane Helene, introduced bills removing protections from wetlands lacking surface connection arguing that the state doesn't need protections beyond those required by the Federal government. For example, Tennessee introduced a bill to remove protection from over half of the remaining wetlands in the state. This bill was tabled after Hurricane Helene highlighted the need for wetlands to moderate the effects of increased precipitations and extreme events related to climate change.

Water quality impacts of Hurricanes Helene and Milton, September 2024

Climate-influenced tropical storms are a significant challenge to water quality. Two powerful hurricanes recently hit the Southeast hard. Raw sewage, animal waste, and industrial contaminants entered Southeast waterways,

exposing fish and other aquatic biota, as well as humans to unsafe conditions. Many waste-water treatment facilities powered down, releasing sewage-laden water over multiple weeks. Animal wastes, including manure and dead animals, were swept into rivers adjoining hundreds of CAFOs in the region. This led to high levels of *E. coli* in lakes and reservoirs and raises concerns for those using private wells. In addition, the path of the two storms passed hundreds of industrial facilities (phosphate fertilizer to power plants, power plants with coal-ash ponds, and nuclear plants). Clearly, research to quantify storm-related releases, effects on aquatic biota, and mitigation options is challenging, but long overdue.

Please friend our facebook page and share relevant news articles or posts [here](#).

Recent Member Publications

A complete [up-to-date list](#) can be found on the Section website.

1. **Hughes, R.M.**, D. Chambers, D.A. DellaSala, J.R. Karr, S.C. Lubetkin, S. O'Neal, R.L. Vadas Jr., and C.A. Woody. 2024. Environmental impact assessments should include rigorous scientific peer review. *Water Biology & Security* doi.org/10.1016/j.watbs.2024.100269.
2. **Hughes, R.M.**, S.A. Peterson, A.T. Herlihy, J. Van Sickle, and D.A. Essig. 2024. Fish tissue mercury in lakes and the moderating effects of selenium. *Fisheries* 49:369-378.
3. **Kusnierz, P. C.** 2024. Reducing total dissolved gas and gas bubble trauma in a regulated river. *Fishes* 9:427.
4. **Kusnierz, P. C.**, and T. D. Tholl. 2024. Effects of Eurasian watermilfoil (*Myriophyllum spicatum*) on North American Fishes. *Journal of Aquatic Plant Management* 62:38-47.
5. **Kusnierz, P., J. Alford**, R. Pierce, B. Tracy, **H. Jager**, and **G. Lomnický**. Accepted 2024. Section 303d of the Clean Water Act: What does it mean for fisheries? *Fisheries*.
6. Moi, D.A., P.R. Kaufmann, L. Riato, G.Q. Romero, P. Kratina, F.T. de Mello, and **R.M. Hughes**. 2024. Habitat diversity mitigates the impacts of human pressure on stream

biodiversity. *Global Change*

Biology. <https://doi.org/10.1111/gcb.17534>

7. Oliveira, J.S., **R.M. Hughes**, and B.F. Terra. 2024. Fish and macroinvertebrate assemblages respond differently to flow cessation in intermittent Brazilian streams. *Austral Ecology* DOI: 10.1111/aec.13558
8. Pilla, R. M., Faehndrich, C. S., Fortner, A. M., Jett, R. T., Jones, M. W., Jones, N. J., C.T. Hansen, **H.I. Jager**, B. Iftak, P.G. Matson, N.A. Griffith. 2024. Shifts in carbon emissions versus sequestration from hydropower reservoirs in the southeastern United States. *Journal of Geophysical Research: Biogeosciences*, 129, e2023JG007580. <https://doi.org/10.1029/2023JG007580>
9. Pracheil, B., V. Chalisehar, **H. Jager**, T. De Silva, W. McDavitt, D. McCoskey, K. Jackson, S. Bockenbauer. Accepted 2024. How fisheries biologists can facilitate the clean-energy transition. *Fisheries*.
10. Ruaro, R., E.A. Gubiani, A.A. Padial, J.R. Karr, **R.M. Hughes**, and R.P. Mormul. 2024. Responses of multimetric indices to disturbance are affected by index construction features. *Environmental Reviews*. 32:278-293
11. Yoon, H.S., F. Corsi, A. Miara, J. Welch, and **H. Jager**. 2024. Climate-driven shifts in freshwater biodiversity will impact mitigation costs for hydropower. *Science of the Total Environment* 954. 176201. <https://doi.org/10.1016/j.scitotenv.2024.176201>

In Closing

We wish everyone a happy Thanksgiving and holiday season.

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