



Fall 2023

## A message from the Section President

Dear Water Quality Section (WQS) Members:

My name is Jonathan Leiman, and I work in the Maryland Department of the Environment's Water Quality Modeling Division in Baltimore. As the WQS President I am establishing three goals for my term from 2023–2025:

- 1) Clearly define the WQS's deliverables, and thereby what value the Section provides to its members.
- 2) Develop a Water Quality Section symposium for the AFS meeting in San Antonio in 2025 that: (1) encourages collaboration between fisheries scientists and Clean Water Act/Safe Drinking Water Act professionals, and (2) encourages students to participate who seek a career in these sectors.
- 3) Enumerate challenges that WQS members are facing professionally, either technically or in their career.

During the next 24 months, I hope to lead the WQS as a forum for discourse on how fisheries science can inform methodologies and techniques for water quality management. Please be in touch if you are interested in engaging with me and Section leadership directly, we are trying to encourage more regular participation from members so we can learn from members' knowledge and experience. If you have any ideas or questions for improving the WQS, or on any of the three goals listed above, please be in touch: [jonathan.leiman@maryland.gov](mailto:jonathan.leiman@maryland.gov).

All the best for a great fall and winter,  
Jonathan

## 2023 Section Business Meeting

The Section held its business meeting on August 22 during the Annual AFS meeting in Grand Rapids, MI and virtually. The meeting agenda and notes are posted on the website at: <https://waterquality.fisheries.org/wp-content/uploads/2023/09/WQ-Section-Meeting-Agenda-and-Notes-8.22.23.pdf>. If you have questions, comments, please contact [pkusnierz@alumni.nmu.edu](mailto:pkusnierz@alumni.nmu.edu).

## Awards

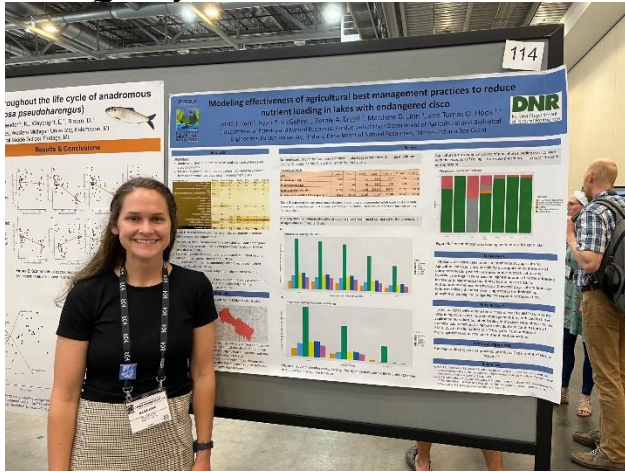
### *Gregg Lomnicky Awarded for Meritorious Service*



The Water quality section has been fortunate to benefit from the long-term commitment and leadership provided by Gregg Lomnicky. Gregg joined AFS in 1987. In 1992, he received the AFS Pro Pin for convincing 22 students to join AFS! He became a lifetime member and ran for office as Section

President, serving from 2007-2009. Gregg has served the Section as Treasurer/Secretary for many years. In that role, he served as editor of the Water Matters newsletter and developed the Section's first website. Please join us in honoring Gregg for his decades-long service to the Water Quality Section and AFS. <https://waterquality.fisheries.org/gregg-lomnicky-awarded-for-meritorious-service/>

## Water Quality Section Student Poster Award



Congratulations to Jelsie Kerr (Purdue University) who received the Water Quality Section's Student Poster Award at the annual meeting in Grand Rapids, MI! Her poster was titled *Modeling effectiveness of agricultural best management practices to reduce nutrient loading in lakes with endangered cisco* and was coauthored by Ryan McGehee, Bernie Engel, Matthew Linn, and Tomas Höök. A pdf of her poster can be found on the Section website at: <https://waterquality.fisheries.org/wp-content/uploads/2023/10/Jelsie-Kerr-Poster-AFS-2023.pdf>.

## Water News

### *AFS's View on the Sacket Decision*

<https://fisheries.org/2023/05/supreme-court-wotus-decision-puts-fisheries-water-quality-and-human-health-at-risk/>

### *AFS Water Quality Section Perspective published in Fisheries*

The article titled "Addressing Coldwater Temperature Impairment in a Changing Climate" was published in the August issue: <https://afspubs.onlinelibrary.wiley.com/doi/epdf/10.1002/fsh.10924>.

### *Fisheries Article Provides Insight Regarding the Recent Waters of the United States (WOTUS) Ruling*

The article titled "Waters of the United States: An Urgent Call for Action by Fisheries and Aquatic Science Professionals" will appear in an upcoming issue of *Fisheries*. The article can be found at:

<https://afspubs.onlinelibrary.wiley.com/doi/10.1002/fsh.11001>.

### *Seasonal Changes in Fish Tissue Mercury Concentrations*

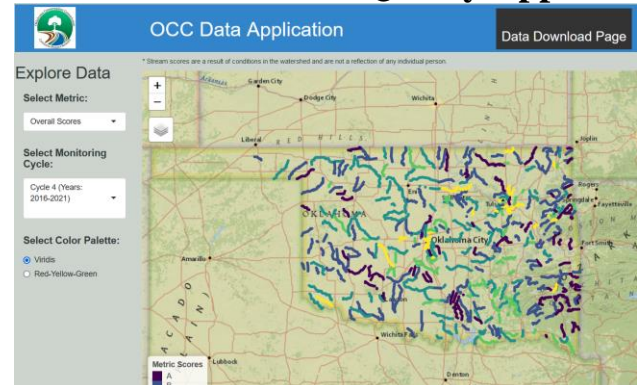
A study from Finland demonstrates how mercury bioaccumulation changes seasonally in percid fishes.

<https://www.sciencedirect.com/science/article/pii/S001393512300988X>.

### *Idaho Feedlot at the Center of Clean Water Act Litigation*

<https://www.dtnpf.com/agriculture/web/ag/news/business-inputs/article/2023/09/06/j-r-simplot-idaho-feedlot-motions>

## Oklahoma Conservation Commission's Water-Quality App



The Oklahoma Conservation Commission (OCC) has created a Web Application to share over 20 years of stream monitoring data with the public. In 2001, OCC began their Rotating Basin Monitoring Program to fulfill the monitoring objectives of Section 319 of the Clean Water Act, to identify and remedy non-point source pollution impaired waterbodies throughout Oklahoma. The OCC monitors sites throughout the state, so that approximately 300 wadeable streams are monitored every 5 years. The Water-Quality Web Application allows users to view water-quality, macroinvertebrate, fish, habitat and overall stream scores from the past 5-year monitoring cycles. Site summaries, detailing individual stream conditions, are linked through site specific popups for approximately 66% of the monitored sites (southern portion of the state), with the remainder scheduled for completion in the next two years. Finally, users

can navigate to a separate web page to download raw and scored data, that can be filtered by location and date range.

The Web Application can be accessed at: <https://occwaterquality.shinyapps.io/OCC-app23a>.

- Joseph Dyer

## Lake Management Water Quality Testing



Water quality testing helps to monitor and track changes in important variables in community lakes. Dissolved oxygen, clarity, pH, and temperature are standard components of a lake management program. In addition, total nitrogen, phosphorus, and fecal and total coliform may be collected. Accurate water quality information is important to have if property managers are to make decisions concerning waterway management.

Monthly collection of data parameters is common, especially before any lake treatment. Temperature and pH can be collected using a hand-held pH pen. The pen has a sensor at the end and the applicator holds it in the water. Both the pH and temp are shown on a digital display. Dissolved oxygen may be collected using a variety of meters or a kit, similar to something pool professionals use to measure pool water chemicals. A small water sample is collected and when introduced to a reagent tube the tube will change color. That color is then compared against a color chart to give the approximate oxygen concentration in the water sample.

- Steve Weinsier and Steve Montgomery  
Allstate Resource Management  
[info@allstatemanagement.com](mailto:info@allstatemanagement.com)

## Recent Member Publications

The most up to date list can be found at: [https://waterquality.fisheries.org/wp-content/uploads/2023/11/Water-Quality-Section-Publications\\_11.14.23.pdf](https://waterquality.fisheries.org/wp-content/uploads/2023/11/Water-Quality-Section-Publications_11.14.23.pdf).

Asarian, J.E., C. Robinson, and L. Genzoli. 2023. Modeling seasonal effects of river flow on water temperatures in an agriculturally dominated California River. *Water Resources Research* 59(3):e2022WR032915.

Eilers, J., R. Miller, D. Loomis, and A. Vogel. 2023. Effects of cyprinid removal and reintroduction: Diamond Lake, Oregon. *Lake and Reservoir Management* 39(2):156–173.

Eilers, J., K. Vache, and R. Grost. 2023. Mechanical removal of minnows (*Gila bicolor*) to improve water quality in a hydropower impoundment, Lemolo Lake, Oregon, USA. *Hydrobiology* 2(3):475–490.

Eilers, J., C. Davis, D. Vander Meer, and K. Vache. 2022. Spring peak flows control abundance of *Cladophora* in a Hydropower-Impacted River. *River Research and Applications*. DOI: 38(10):1746–1756.

Flitcroft, R., L. Whitman, J. White, R. Wallick, L. Stratton Garvin, C. Smith, R. Plotnikoff, M. Mulvey, T. Kock, K. Jones, P. Gruendike, C. Gombert, G. Giannico, A. Dutterer, D. Brown, H. Barrett, B. Bangs, and R.M. Hughes. 2023. Science to support conservation action in a large river system: the Willamette River, Oregon, USA. *Water Biology and Security*:100203.

Hughes, R. M., M. Callisto, D. A. DellaSala, M. Feio, T. Ferreira, J. R. Karr, N. Kleynhans, J. H. Michael Jr., R. Ruaro, R. L. Vadas Jr., and C. O. Yoder. 2023. Global concerns related to water biology and security: a commentary on passive scientific writing. *Water Biology and Security*:100191



Hughes, R. M., P. S. Pompeu, M. Callisto, K. Chen, L. Juen, and B. F. Terra. 2023. Tropical and subtropical streams: a synthesis. *Water Biology and Security*:100188

Hughes, R. M., A. T. Herlihy, R. Comeleo, D. V. Peck, R. M. Mitchell, and S. G. Paulsen. 2023. Patterns in and predictors of stream and river macroinvertebrate genera and fish species richness across the conterminous USA. *Knowledge and Management of Aquatic Ecosystems* 424:19.

Kusnierz, P. C., J. Leiman, and H. I. Jager. 2023. Addressing coldwater temperature impairment in a changing climate. *Fisheries* 48(8):324–330.

Linares, M. S., D. R. Macedo, M. Callisto, R. M. Hughes, and D. M. P. Castro. 2023. The past is never dead: legacy effects alter the structure of benthic macroinvertebrate assemblages. *Limnetica* 42(1):55–67.

Makki, T., H. Mostafavi, A. A. Matkan, R. Valavi, R. M. Hughes, S. Shadloo, H. Aghighi, A. Abdoli, A. Teimori, S. Eagderi, and B.W. Coad. 2023. Predicting climate change impacts on riverine fish species diversity in a biodiversity hotspot region. *Scientific Reports* 13(1):14347.

Patiño R., V. G. Christensen, J. L. Graham, J. S. Rogosch, and B. H. Rosen. Toxic algae in inland waters of the Conterminous United States-a review and synthesis. *Water* 2023 15(15):2808.

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## **In Closing**

Thank you for reading this issue of the newsletter. We appreciate the effort of all of those members that contributed to it! Happy Thanksgiving!

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[www.facebook.com/AFS-Water-Quality-Section-369954383031160/](https://www.facebook.com/AFS-Water-Quality-Section-369954383031160/)  
<https://waterquality.fisheries.org/>