



2024 AGM/Conference Summary



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The American Fisheries Society—Ontario Chapter began 2024 with its Annual Conference on January 26 to 28. The Bayview Wildwood Resort in Severn Bridge, located on the traditional territory of the Anishinaabeg, once again welcomed us and our attendees. The theme this year, “Our Forgotten Freshwater Fauna”, provided an opportunity to hear about and discuss research on less studied species and expand upon our fish ecology knowledge. The meeting teemed with presentations, workshops, and networking and sharing opportunities.

Keeping up with the principles of the Diversity and Inclusivity Subcommittee, Indigenous participation and perspectives were invited and welcomed. Further, the Subcommittee organized two events aiming to bridge any communication gaps, foster inclusivity and engagement, identify barriers, and encourage equity in aquatic sciences. The Sharing Circle session on the Saturday and the Breakout Session on the Sunday, were a huge success with both events continuing well past their scheduled time slots. These were followed up by a post-meeting survey on further steps that could be taken to improve the society’s work on diversity, inclusion, and equity.

Our keynote speaker was Dr. Stuart A. Welsh, from the US Geological Survey, West Virginia Cooperative Fish and Wildlife Research Unit at West Virginia University. Dr. Welsh’s talk, “Hornyheads, Madtoms, and Darters: Narratives on our Forgotten Freshwater Fauna”, highlighted the meeting’s theme and excited

AGM/Conference summary— *cont.*

the audience with numerous pictures, videos, and stories with a peek under the water surface at some of central Appalachia’s fascinating and less famous fish species. The links of the work of early ecologists and naturalists to individual fish ecologies and larger scale conservation today provided an engaging perspective on aquatic science and the ‘forgotten’ fishes.

This year’s AGM hosted a dedication to Alan Dextrase and a tribute to Will Wegman. Three speakers, Nicholas Mandrak (University of Toronto), Scott Reid (OMNRF), and Andrew Drake (DFO), commemorated AI’s journey and contributions to science and reflected on personal experiences. The President’s Award was rededicated and now bears the name ‘AI Dextrase Award’.

Scott Gibson (OMNRF) and Jon Clayton (Credit Valley Conservation) provided an overview of some of Will Wegman’s work. To honour the contributions of Dr. Wegman to networking, collaborations, and mentorship, the AFS-OC mentorship event was rededicated as ‘The Will Wegman Mentorship Event’.

The program included presentations on research topics ranging from bioenergetics, conservation, angler effects, invasive species, and novel technologies, among others. The poster session, apart from exciting science, provided further opportunities for research-focused interaction and networking among all attendees.

Another highlight in the program was a presentation and a workshop by Les Stanfield on “Navigating the Flow: Overview of the Flowing Waters Information System and how it supports Fisheries Research”. This database holds vast amounts of long-term data and holds much promise for integration in future research.



The social event was packed with games and mini breakouts allowing for semi-organized, semi-spontaneous fish chats, laughs, and learning. Unfortunately, with the warm winter the planned ice-fishing had to be called off, but we all enjoyed the views and the warmer temperatures. The customary Student Subunit Raffle sported a variety of prizes among which were a couple of beautiful pieces of Indigenous art (graciously provided by some of our sponsors) that had the excitement rise up.



AGM/Conference summary— cont.

The high quality of all presenters in the oral and poster session made the judging somewhat of a task. The 2024 winner of the E.J. Crossman Award was Mitchell Shorgan from Trent University for his presentation on acoustic telemetry transmitter validation of predation events in small fish. In the poster category, the Al Dextrase Award for best student poster presentation went to Cole MacLeod from Carleton University. His poster was titled “River-Scale Evaluation of Light as a Behavioural Guidance Mechanism for Out-Migrating American Eel *Anguilla rostrata*”.



The Outstanding Mentor Award, which recognizes a fisheries professional who has contributed to an improved experience, such as networking, intellectual support, encouragement, and training opportunities, for AFS-OC students or young professionals was given to Craig Paterson, St. Clair Region Conservation Authority. The award was announced at the Meeting by Ontario Chapter Student Subunit President Markelle Morphet and accepted by the AFS-OC President since Dr. Paterson was unable to attend.

The 2024 AFS-OC Annual Meeting was filled with great science, networking, and sharing, and the organizing committee thanks all speakers, attendees, and sponsors that contributed to its success. Some of the meeting’s content is available on the AFS-OC YouTube channel at <https://www.youtube.com/@ontariochapterafs8439>. We are looking forward to the next year’s AGM and seeing you there.



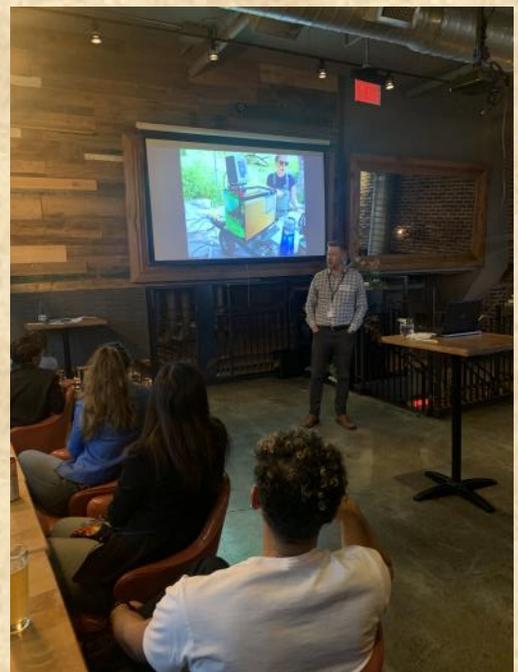
AFS-OC Student Subunit



The subunit had a great start to 2024 with mentorship events. Back in January, our raffle/mentorship event at the AGM involved members and students working together to identify non-sport fish. It was a great way to exchange knowledge and break the ice. In April, we hosted a mentor-mentee mixer in Toronto. Mentors in attendance included professionals at different stages in their careers at the DFO, the MNRF, conservation authorities, consulting, NGOs, and academia. We are grateful to have had Dr. Andrew Drake from the DFO talk about species at risk research in the Great Lakes. Undergraduate and graduate mentees mingled with mentors and participated in a raffle for a ROM *Field Guide to Freshwater Fishes of Ontario* (2022) and the new *Freshwater Fisheries in Canada* (2023) book. Overall, it was a great night, and we want to thank those who made it out despite the weather.



Keep your eyes on your inbox and socials for information on upcoming events including summer photo contests and a Canadian Museum of Nature event. We are also in the process of getting our website information added to the AFS-OC website and will be adding an R tutorial web-series to our page. Stay tuned!



Diversity and Inclusion



By Sarah Steele

At the 2024 Annual General Meeting and Conference, the Diversity and Inclusion Subcommittee hosted a variety of activities throughout the event. The goals included creating a more welcoming space, incorporating non-Western spaces to share fisheries knowledge, and to gather information on how we can improve as a Chapter to support diversity in fisheries.

A Sharing Circle Session was organized to introduce attendees to a non-Western space for knowledge sharing, based on Indigenous traditional protocols (note: not all could be followed). Many thanks to Gary Pritchard for his guidance in creating this opportunity for members to share. It is not permitted to repeat anything that was said during this session, but many of the stories shared surrounded the difficulties individuals faced in fisheries or witnessed



others faced. While hesitation filled the air as the subcommittee introduced the session, everyone found value in the discussion, contributing a personal story, words of encouragement, or acknowledgement of the difficulties others have and continue to face. Attendees felt closer together after the experience.

A Breakout Session was organized to give space for attendees to discuss challenges facing members, past members, and those individuals the Chapter has not yet reached, in attending AFS-OC events or becoming members of the Chapter. It was a very productive session covering:

1) What are the barriers to AFS-OC membership/attendance?

Attendees identified a number of barriers, with the most evident being financial as a result of limited financial support from employers, but also importantly a strain on personal funds, both of which are more evident for equity deserving groups. While regulars of the AFS-OC AGM may be shocked by this, attendees also highlighted intimidation or not feeling as though there is a place in the Chapter as a likely barrier for new members. A glaring gap between established professionals and students was identified, it is clear that support for early career professionals (particularly with children) is needed.

D&I — cont.**2) Who is missing from AFS-OC?**

The discussion of those missing from the AFS-OC table not only identified key equity deserving groups missing, but also the recent absence of conservation authorities and government was noted. A downturn in the attendance of consultants was also identified as a key concern, as previous in person events were typically frequented by consultants, with regular hands-on or case study presentations being given.

3) What resources can AFS-OC provide for members?

Attendees listed several resources to be asked of the parent AFS society, as well as the North Central Division (NCD). Shortly before the AGM, the subcommittee was contacted by the NCD to gather data on active Justice, Equity, Diversity, Inclusion (JEDI) initiatives in the Chapters in both Canada and the USA, and how the NCD could better support these in the future. The subcommittee is looking forward to discussions with NCD and parent society to infuse the Chapter with more resources. A key request, apart from funding, was training opportunities for anti-racism and supporting equity deserving groups in fisheries.

Building on this session, the subcommittee drafted a post-AGM survey to be sent out to past and present members of AFS-OC to gather more information on demographics, barriers, and ways to support JEDI initiatives. It was also intended to be sent to targeted equity deserving groups, however it has been discussed that these groups are often asked for the same information continuously, unnecessarily adding to their burden. The survey was generalized from “AFS-OC AGM and events” to a more broad “professional fisheries conferences and events”, with data collected to be shared with any interested societies seeking this information. The survey will be open for the summer, if you have not yet filled it in, please click the link below. Post AGM - Professional Events Feedback Survey <https://forms.gle/sKRQHmqNSzwmbaqE7>



Finally, the subcommittee acknowledges this learning and sharing can be difficult for many people, so a fun, engaging space was created to allow interaction between attendees and thoughtful reflections. A photo booth was filled with fun aquatic décor, D&I signs, and silly hats to alleviate some emotional weight of these serious discussions.

The subcommittee is actively organizing more learning opportunities, so keep an eye out!

D&I Subcommittee

Redside Dace ESA Letter

February 10, 2024

To the Membership of the American Fisheries Society - Ontario Chapter,

On December 20, 2023, the Ministry of the Environment, Conservation and Parks (MECP) announced proposed regulatory changes under the Endangered Species Act (ESA) to 'improve implementation of the species at risk program'. Amongst the proposed changes targeting several endangered species, including Lake Chubsucker, was the following related to Redside Dace:

- Amend Ontario Regulation 832/21 to shorten the timeframe from 20 to 10 years such that any part of a stream that was used by Redside Dace at any time during the previous 10 years would be considered to be 'occupied' habitat.
- Change how 'recovery' habitat is determined so that recovery habitat is focused on:
 - Streams or other watercourses directly adjacent to occupied habitat; and
 - Areas that are currently suitable to carry out its life processes.

The stated purpose of these regulatory changes are "to focus habitat protections on areas most likely to support Redside Dace survival and recovery". However, the AFS-OC is concerned that the proposed changes are only being considered to accomplish the stated goal of "reducing costs and time savings for proponents, including businesses, municipalities and individuals", and will be detrimental to this already imperiled species. For instance, the change from 20 to 10 years to determine 'occupied' status will take away protections from 13 of 44 subcatchments, a ~30% reduction. As such, we are submitting questions and comments (pages 2 and 3) to the MECP through the Environmental Registry of Ontario. In order for these questions and comments to have the greatest impact, we encourage our members to do the following:

1. Visit <https://ero.ontario.ca/notice/019-8016> and review the proposed regulatory changes under the ESA (ERO # 019-8016).
2. Submit questions or comments before February 20, 2024. If you do not have time to craft your own, consider submitting or adapting the questions on pages 2 and 3.
3. Include solutions in your comments that provide either reasonable alternatives to the proposed changes or ways to improve the proposed changes.

Over the past few years, we have witnessed the erosion of protections for Ontario's water and land, highlighted by Bill 23, the increased use of Minister's Zoning Orders, and most recently, by the (rescinded) changes to the Greenbelt. The AFS-OC is staunchly opposed to this trend, and we will continue to express our concern about regulatory changes that put our environment at risk. What we need is support from our community that shares our frustration, which is why we call upon the membership to comment on the changes to the ESA by February 20, 2024.

Sincerely,

Andre-Marcel Baril, MSc, Vice President AFS-OC, and Erik Tuononen, MSc, President AFS-OC

Redside Dace Letter — *cont.*

Questions and considerations for Redside Dace – ESA changes January 2024

- What are the factors driving the need for this change?
- Given that there are many watersheds that will be impacted by the proposed changes, how will MECP staff be directed to deal with records that are older than 10 years in terms of occupancy?
- For reaches where occupancy is considered older than 10 years, how will MECP update occupancy across the species range considering the following:
 - Limited monitoring occurs specifically for species at risk, including Redside Dace, due to limited resources as well as recent changes to the Conservation Authorities Act. Conservation Authorities are now restricted to Category 1 services (unless identified under an MOU with regional and municipal entities), thereby limiting the amount of watershed-based or targeted sampling for species at risk and therefore their ability to conduct regular local monitoring, resulting in outdated records and observations for occupied and recovery habitat.
 - When the resources are available to sample Redside Dace, targeted sampling is no longer an activity that can be registered under the provincial *Endangered Species Act, 2007*. Instead, a *17(2)(b)* permit is required with minister approval. Acquiring this permit may result in significant delays thereby impacting sampling efficiency and project timelines. Additionally, we know that, in 2023, some of these permit applications for Redside Dace monitoring were denied with no reason given. How will MECP address the increased need for these permits plus the short timelines required for their issuance?
 - What level of sampling will be required to confirm occupancy? Successful sampling for this species depends heavily on methodology, seasonality, and gear types. In addition, multiple sampling events over years may be required to confirm occupancy due to the rarity of this species.
 - The established 20-year occupancy limit was based on a North American standard established by NatureServe. Science based protocols/definitions should be used and should incorporate species specific sampling over an extended period before occupancy can be confirmed (e.g., occupancy definition for Jefferson Salamander). How was the new 10-year occupancy limit determined?
 - Will eDNA now be accepted as a means of confirming occupancy? How will the use of eDNA be incorporated to confirm the presence of the species in occupied/recovery habitat? As with physical sampling, a specific protocol with repeatable eDNA collection should be required to confidently confirm occupancy.

Redside Dace Letter — *cont.*

- For recovery habitat, what criteria will be used to determine whether a stream or watercourse is “directly adjacent” to occupied habitat? How will restoration opportunities, overall benefit projects, barrier removals, etc., influence/impact these criteria?
- For recovery habitat, what scientific criteria will be used to determine whether a reach is “currently suitable” to carry out the species life processes? What scientific monitoring or assessments will be used to determine this and who will conduct this work?
- How does the change to the act uphold and protect First Nations treaties and rights?
- Redside Dace reaches and watersheds currently mapped as occupied or recovery habitat are consistent with mapping of Critical Habitat in the federal Recovery Strategy and Action Plan. Given the protections afforded to the species under the federal *Species at Risk Act*, how will MECP address inconsistencies in occupied and recovery habitat due to differences in the identification of these habitats between the two acts?
- Is there any consideration for using keystone species for Redside Dace (e.g. Creek Chub or other *Nocomis* species) as part of habitat, and not just the physical habitat (geomorphic units) of a stream or directly adjacent riparian areas?
- If this is meant to ‘focus’ on best ensuring persistence of Redside Dace populations/habitats, will there be assessments to determine which locations are critical, and concurrent amendments to have Redside Dace strongholds legally established (i.e., surrounding land protected from development)?

Fish Focus: **IOWA DARTER** (*Etheostoma exile*)

By
**Siobhan
Ewert**



Etheo: to strain; **stoma**=mouth. It is likely that the biologist responsible for naming this intended for the name to be *Heterostoma*, which means different mouths.

Exile, exilis: slender, referring to the shape of the body.

The Iowa Darter can survive in a variety of different water temperatures and habitats and is therefore one of the most widespread darters in all of Canada. It can be easily misidentified with other darters (such as the Rainbow Darter, and River Darter).

Did you know? The Iowa Darter is one of the host species for the Northern Riffleshell (*Epioblasma torulosa rangiana*), an endangered freshwater mussel in Ontario.

Features: The Iowa Darter is an elongate darter, with a round snout and has a tear-drop type line underneath the eye. The back and sides of the body are olive/brown with the back having around 8 saddles. The sides of the Iowa Darter have 9-14 dark blotches or mottling that does not reach the ventral surface of the body. Spawning males are very colourful with blue, green, yellow, and red colouration on the body and fins.

Habitat: The Iowa Darter can be found in many different habitats, in the bottoms of lakes and streams with clear waters, rooted aquatic vegetation and organic to sand substrates. Preferred water temperature range is between 12-25°C.

Reproduction: The Iowa Darter starts to spawn in the spring when water temperatures reach 12°C or more. The adults will move into shallower waters, and males will establish territorial areas in woody debris or roots, below undercut banks. The female will enter the males territory, the pair will vibrate, then sperm and eggs are released. Eggs attach to the bottom and are left unguarded.

Diet: They feed on benthic invertebrates, molluscs and small crustaceans.



From the Lab

Members of the Mandrak Lab, University of Toronto Scarborough, dissecting Flathead Catfish (*Pylodictis olivaris*) to extract the otoliths, pectoral spines, and stomach contents.



Book Review



By Graham Forbes

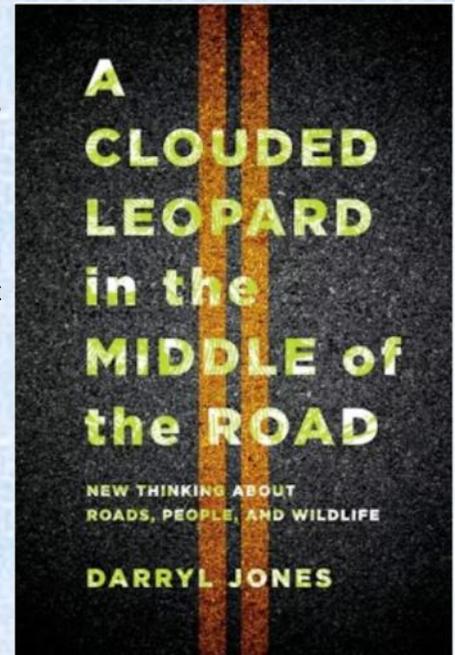
A Clouded Leopard in the Middle of the Road: New Thinking about Roads, People, and Wildlife. By Darryl Jones. 2022. Cornell University Press. 272 pages, Paper 10.99 CAD, E-book.

Reproduced under the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/). This review was originally published as: Forbes, G. 2023. "A Clouded Leopard in the Middle of the Road: New Thinking about Roads, People, and Wildlife" by Darryl Jones, 2022 [book review]. *The Canadian Field Naturalist* 137(1):382153-154. DOI: <https://doi.org/10.22621/cfn.v137i1.3317>

The rather evocative title of this book (especially if you happen to like Clouded Leopards) refers to the time the author and his students observed this secretive jungle cat standing in the middle of a logging road in Borneo. To see a Clouded Leopard is a rare event, and to see one out in the open is rarer still. But, of relevance to the book, Darryl Jones notes that by the next year the same site had become a major highway, and the likelihood of a Clouded Leopard successfully crossing the new, busy road, or even surviving in the proceeding development, was doubtful. This anecdote captures the dual threats of transportation networks. Logging (or dirt or resource) roads, common in many regions and particularly in Canada, represent the threat of overharvesting, either legally or illegally, whereas paved highways represent the additional threat of direct mortality, commonly referred to as roadkill. More vehicles can travel at faster speeds on paved roads, and with ever-increasing human density and the concurrent footprint, roads are becoming a significant conservation issue for many wildlife species.

A Clouded Leopard in the Middle of the Road summarizes the problems of roads. These

include increased annual levels of animal mortality (e.g., 14 million birds in Canada, 365 million mammals in the United States, and 5 million frogs in Australia [p. 20]); the creation of barriers to movement; and vibration, dust, and noise that can affect mammals and breeding birds. Two of seven chapters present a history of mitigation efforts. In particular, the book recounts the early days of engineering for human safety but also wildlife movement, when large and expensive initiatives in the 1980s and 1990s erected extensive fencing bisected by wildlife underpasses and overpasses. Jones also discusses research and monitoring by Parks Canada along a 60-km stretch of the Trans-Canada Highway in Banff National Park. A proposal to twin the national highway in Banff—an iconic Canadian place known for Grizzly Bear, Elk, and Bighorn Sheep—warranted a solution to the problem of roadkill and barriers to wildlife movement. As a result, few places in the world have a better understanding than Banff of the impacts of vehicles and roads on wildlife, and how to mitigate these impacts. In later chapters, Jones explores more recent approaches, such as canopy crossings and glider poles, and the value of innovative signage (i.e., the number of dead



animals to date), educating drivers, and working with municipal governments. Much work appears underway in Australia, particularly with canopy crossings, which are networks of ropes and bridges that allow arboreal species like Koalas to safely cross a road by walking along ropes high above the cars. In treeless spaces, glider poles are a line of spaced structures, like telephone poles, that permit Sugar Gliders and similar species in Australia to cross roads and the adjacent rights-of-way.

Jones is a professor in urban ecology at Griffith University, Queensland, Australia, who works mainly on urban birds and road ecology—a term that broadly relates to the impact of roads on wildlife. He has been involved in numerous mitigation initiatives, notably the assessment of canopy overpasses. In this book, Jones combines the experiences gained from mitigation projects, researchers, and managers in

Book Review — cont..

locations including Mongolia, North America, Brazil, and Australia to promote the idea of road ecology and show how planners, road engineers, and the public can achieve success. *A Clouded Leopard in the Middle of the Road* is not a technical product containing specifics on how wide a highway underpass for wildlife should be or, for example, where and how to erect a rope bridge. Instead, by providing numerous

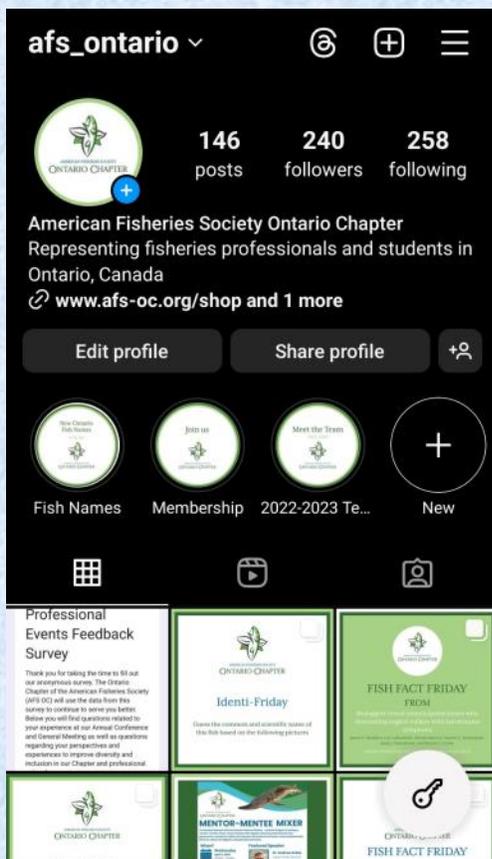
examples of ideas put into action, it is more of a call-to-arms for the conservation community to make roads less of a problem for wildlife. Some mitigation measures such as highway overpasses and underpasses—which cost tens of thousands of dollars—are only possible with considerable political will and financing. However, local communities working with transportation officials can apply some

of these success stories, such as rope bridges and narrow tunnels for snakes. This focus on small and diverse projects in cooperation with, rather than in conflict against development is the ‘new thinking’ referred to in the title.

Graham Forbes
Fredericton, NB, Canada

We're Social!

The Student Subunit and the main AFS-OC channel have merged their X and Instagram accounts. To keep the amazing posts by the Student Subunit, it was decided to delete the main accounts and re-brand the subunit accounts as the one and only AFS-OC social media channels. This means you will get even more people sharing cool information with you! If you have anything you'd like to have posted, contact us at student-communication@afs-oc.org or social-media@afs-oc.org.



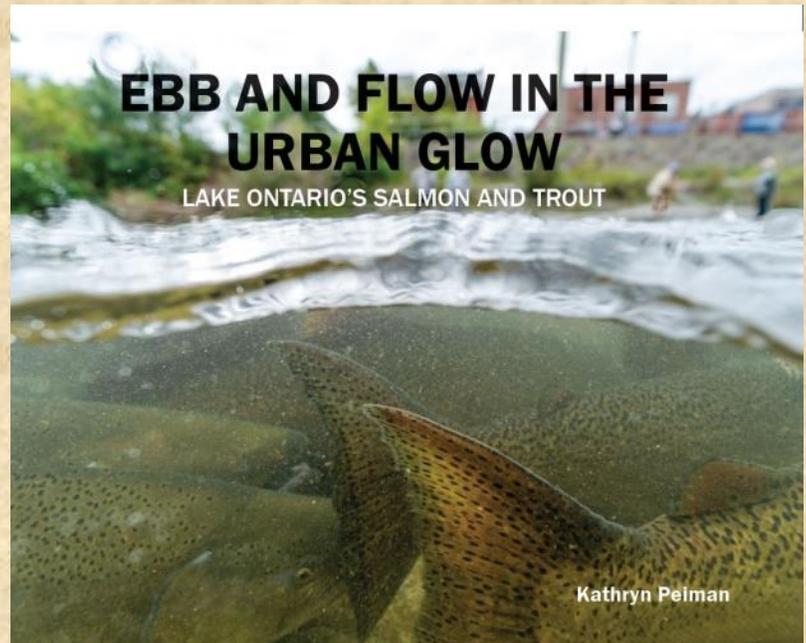
Books by Ontario Biologists



Ebb and Flow in the Urban Glow: Lake Ontario's Salmon and Trout by Kathryn Peiman

Available at: <https://nature-tidbits.square.site/product/ebb-and-flow-in-the-urban-glow-lake-ontario-s-salmon-and-trout/11>

This 9x11 inch, 100+ page coffee table style photo book shows the story of 6 species of salmon and trout that are in Lake Ontario and its tributaries: Chinook Salmon, Coho Salmon, Rainbow Trout/Steelhead, Brown Trout, Atlantic Salmon, and Brook Trout. By highlighting how these fish coexist with a large urban population of humans, I hope to raise awareness of their unique story and remind us that healthy watersheds are necessary for all life.

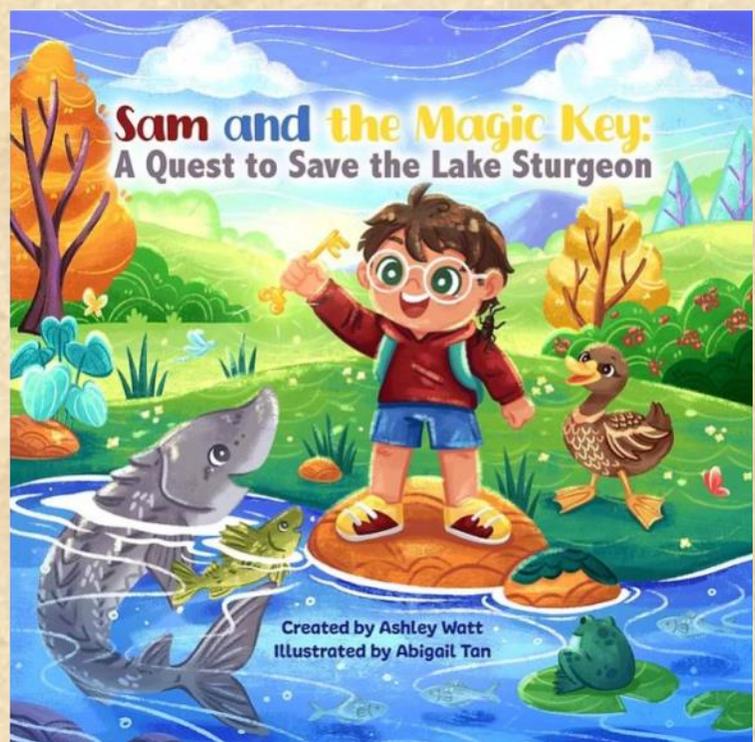


Sam and the Magic Key: A Quest to Save Lake Sturgeon by Ashley Watt

Available at: <https://www.streamsidestories.ca/>

Sam is a little boy who loves nature. Every day, he goes to the river that flows by his home and makes sketches of the aquatic animals he sees. One day, he meets a talking Lake Sturgeon that asks for his help. The Lake Sturgeon reveals that his family is the last of their kind thanks to water pollution and habitat loss. The Lake Sturgeon wants Sam to help him locate a magic key that can reverse the damage done to the river and bring back its beauty.

Will Sam be able to find the magic key? What other friends will he meet on his adventure? Join Sam as he embarks on an adventure of a lifetime, making new friends and saving the environment.



“On the Hook!”



‘We’re going to become fish’: how a ‘natural history fantasy’ found its way to the Baftas (British arts charity for films). The award-winning short film’s creators hope that casting a woman as a female salmon will help viewers connect with the fish, which was recently classed as ‘near threatened’ <https://www.theguardian.com/environment/2024/feb/15/wild-summon-bafta-saul-freed-karni-arieli>

Species:	Ganaraska River:
Rainbow Trout	5,847
Brown Trout	161
Atlantic Salmon	16
Coho Salmon	2,491
Chinook Salmon	28,295

Over 30,000 wild salmonids returned to the Ganaraska River in fall 2023 to spawn (source: MNR).

The Fisheries Podcast

A weekly podcast sharing stories of the amazing people and projects that make up the fisheries science profession.

Listen on:   

Interested in telling your fishy story? Contact The Fisheries Podcast for a chance to be a guest! <https://fisheriespodcast.podbean.com/>

The Narwhal

PHOTO: ESSAY

Wild fish spring to life in Lake Ontario, despite dams, pollution and hatchery competitors

The Narwhal published a story on Lake Ontario’s salmon and trout: <https://thenarwhal.ca/lake-ontario-fish-salmon-trout/>

Welcome to the NDC-AFS page. Most of the files have been migrated over from the old page, and we are working with technical committee chairs to upload new files. If you have any questions or comments, please let us know (information below).

Check out our neighbours! The North Central Division’s website is <https://ncd.fisheries.org/>.

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