

## FishPass Monthly Update



Dear partners:

On behalf of the FishPass team, I am pleased to provide an update from February-March 2025. Please distribute the update as you see fit.

NOTE: A time-lapse camera is capturing FishPass construction progress. Check it out [here](#).

### *Construction:*

- Construction of FishPass continues to progress in 2025. Over the past month, site preparation for the new arc-labyrinth weir was completed and initial concrete pours and reinforcement steel placement have started (**Figure 1**). Portions of the existing dam, located within the sheet pile cofferdam were demolished to permit grading of the downstream portion of the new nature-like bypass channel. The arc-labyrinth and low-flow weirs are anticipated to be completed within the next two months, at which time the remainder of the existing dam inside the cofferdam will be demolished. Vibration and settlement at nearby properties continue to be monitored and no thresholds have been exceeded.



**Figure 1.** Image capture from the FishPass time-lapse camera: March 27, 2025 showing the initial concrete pours for the arc-labyrinth weir (right side of image) and partial demolition of the existing dam (left side of image).

### *Research:*

- March 2025 – FishPass team members installed a horizontal submerged screen weir (HSSW) at the MI DNR Traverse City Salmon Weir (**Figure 2**). The HSSW is positioned 2 feet off the river bottom at the Salmon Weir and is not anticipated to impede river navigation or block free movement of fish. A study was initiated to assess the effectiveness of the HSSW

to capture sea lamprey migrating into the Boardman/Ottaway River. The HSSW is anticipated to be in-place through June 2025.



**Figure 2.** Horizontal submerged screen weir (HSSW) installed at the MI DNR Traverse City Salmon Weir on 18 March 2025. The HSSW is designed to capture a portion of sea lamprey migrating along the bottom of the river while allowing other fish to swim past. If successful, the HSSW could help researchers assess sorting technologies at FishPass.

- David Benoit, Daniel Zielinski, Reid Swanson, and Andrew Muir (GLFC), Donald Jackson (University of Toronto), Robert McLaughlin (University of Guelph), Theodore Castro-Santos (USGS-Conte), R. Andrew Goodwin (USACE-ERDC), and Thomas Pratt (DFO) recently published a research article in *Fish and Fisheries* entitled *Designing sortable guilds for multispecies selective fish passage*. The paper explores the guild structure of 220 Great Lakes freshwater fish species based on morphological, phenological, physiological, and behavioral attributes associated with fish passage and movement. Five distinct guilds were identified, as well as the attributes most important for defining these groupings: maximum total length, trophic level, relative eye size, spawning temperature, spawning season, presence/absence of ampullary electroreceptors, and the presence/absence of hearing specializations. The approaches outlined in this work can be generalized to enhance selective fish passage in aquatic ecosystems worldwide. The article is freely available at <https://doi.org/10.1111/faf.12888>.
- Jonathan Gregory and Jesse Eickholt (Central Michigan University), Scott Miehl (USGS), and Daniel Zielinski (GLFC) published a research article in *Sensors* entitled *A real-time fish detection system for partially dewatered fish to support selective fish passage*. This research presents a case study of a novel application that utilizes deep machine learning to detect partially dewatered fish exiting an Archimedes Screw Fish Lift (ASFL). A machine learning model was trained on images of partially dewatered fish volitionally passing through an ASFL. Then, this model was integrated with a network video recorder to monitor video from the ASFL. Additional models were also trained using images from a similar fish scanning

device to test the feasibility of this approach for fish classification. Open source software and edge computing design principles were employed to ensure that the system is capable of fast data processing. The findings from this research demonstrate that such a system integrated with an ASFL can support real-time fish detection. The article is freely available at <https://doi.org/10.3390/s25041022>.

- March 2025 – The FishPass Advisory Board met in Traverse City to discuss construction progress, research coordination, commissioning research plans, and progress updates from ongoing research and assessment activities.
- March 2025 – The GLFC is pleased to welcome Abbie Carstens as the new FishPass Fishery Technician. Abbie is a graduate of Western Michigan University and will assist with the operation of the HSSW (pictured above) as well as support FishPass assessment activities through summer 2025.

#### *Outreach:*

- 26 February 2025 – Andrew Muir provided a virtual project update to the Council of Lake Committees at their Upper Lakes Meeting held in Sault Ste Marie, On.
- 24 February 2025 – Dan Zielinski provided a project update during the Traverse City Commission work study session.
- 14 March 2025 – Dan Zielinski provided a project update to the Traverse City Downtown Development Authority (DDA).
- The GLFC is pleased to welcome Leah Bagdon McCallum as the new FishPass Public Affairs Specialist. Officially starting on 01 April 2025, Leah will serve as the primary point of contact for visitors, media, researchers, and community groups, facilitating engagement and education about FishPass. With a strong background in communications and outreach, she will lead tours, work with partners to develop educational materials, and coordinate public affairs efforts to enhance community understanding of the project's ecological and cultural significance. Additionally, Leah will play a key role in advancing an updated FishPass Outreach and Education Plan, which will emphasize proactive engagement with local schools, stakeholders, and the broader public. This initiative aims to foster greater awareness of invasive species management, river restoration, and the integration of Anishinaabek cultural perspectives into the FishPass experience.

#### *Upcoming:*

- On April 1, the Boardman/Ottaway River officially became one of 15 rivers to be engaged with [Dr. Karen Murchie/the Shedd Aquarium's](#) citizen science sucker (Catostomidae spp.) monitoring effort. Together with a group of volunteers from Adams Chapter Trout Unlimited, the Grand Traverse Band of Ottawa and Chippewa Indians, and Compass Montessori, we are looking to better understanding of how these critical fishes move throughout our rivers (**Figure 3**).





**Figure 3.** 7<sup>th</sup> and 8<sup>th</sup> graders from Compass Montessori, on day 1 of sucker monitoring in the Boardman/Ottaway River.

To learn more about local efforts contact [leah@glfc.org](mailto:leah@glfc.org). In the meantime, check out this [recent article](#) from our colleagues at MSU/Michigan SeaGrant about the sucker monitoring in the Grand Rapids area. It includes a [great video](#) featuring brook trout *Salvelinus fontinalis* feasting on sucker eggs. Sucker eggs, embryos, and larvae represent huge energetic contributions to the spring diet of several trout species, including brook trout.

- We are thrilled to offer public FishPass site tours! Guests will learn about the science and history behind FishPass and the latest on construction progress.

Walking tours will last about 45 minutes. Registration required: [here](#). Portions of the tour require stairs and uneven walking paths on gravel. Tour location and details to be provided after registering. Plan to dress for the weather. Any cancellations will be rescheduled and communicated via email.

#### *In the News:*

- FISHPASS UPDATE (Record Eagle, 11 February 2025): [https://www.record-eagle.com/news/fishpass-update/image\\_c4e857b4-e89e-11ef-8e0d-dfca2872f62f.html](https://www.record-eagle.com/news/fishpass-update/image_c4e857b4-e89e-11ef-8e0d-dfca2872f62f.html)
- FishPass project advances in Traverse City, phases 1 & 2 slated for 2026 completion (UpNorthLive, 25 February 2025): <https://upnorthlive.com/news/local/fishpass-project-advances-in-traverse-city-phases-1-2-slated-for-2026-completion>
- Lake trout recovery in Superior sign of lamprey removal success (GreatLakesNow, 25 February 2025): <https://www.greatlakesnow.org/2025/02/lake-trout-recovery-in-superior-sign-of-lamprey-removal-success/>
- Work Progresses on FishPass, Rotary Square (The Ticker, 26 February 2025): <https://www.traverseticker.com/news/work-progresses-on-fishpass-rotary-square/>
- FISHPASS PROGRESS (Record Eagle, 15 March 2025): [https://www.record-eagle.com/news/fishpass-progress/image\\_be990b56-00fe-11f0-8e2f-a30aba4572a5.html](https://www.record-eagle.com/news/fishpass-progress/image_be990b56-00fe-11f0-8e2f-a30aba4572a5.html)

- FishPass project progresses on schedule, reshaping Traverse City's Boardman River (UpNorthLive, 17, March 2025): <https://upnorthlive.com/news/local/fishpass-project-progresses-on-schedule-reshaping-traverse-citys-boardman-river>
- City to Take Closer Look at Fees, Policy for Boardman Tours (The Ticker, 02 April 2025): <https://www.traverseticker.com/news/city-to-take-closer-look-at-fees-policy-for-boardman-tours/>



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