FishPass Monthly Update

Dear partners, stakeholders, and rightsholders:

On behalf of the FishPass team, I am pleased to provide an update for the first quarter of 2023. Please distribute the update as you see fit.

Engineering Design / Construction:

- Construction remains on hold pending results of the ongoing legal process.

Research/Assessment:

- March 2023 – The FishPass Advisory Board met to discuss research coordination, data management, commissioning research plans, and progress updates from ongoing research and assessment activities.

- March 2023 – GLFC staff installed four bucket traps throughout the Lower Boardman/Ottaway River to monitor early season migrations of sea lamprey into the river. To date, no sea lamprey has been captured in the traps but as the run commences, we hope to determine where and how to effectively deploy the traps.

- 23 March 2023 – Staff from the GLFC and the University of Windsor installed eleven additional acoustic receivers between Boardman Lake and the Brown Bridge Quiet Area to increase monitoring of Longnose Suckers and Common White Suckers that were acoustically tagged in 2022 and remain upstream of the Union Street Dam (Figure 1). The receivers are "listening" devices that "hear" tagged fish and provide location information. This work is part of the *Energy and Nutrient Dynamics* project which is aimed at understanding energy and nutrient connectivity between the river, bay, and Lake Michigan proper and how this connectivity influences fishery production in the Boardman River. We encourage the Boardman/Ottaway user community not to disturb the research equipment. A photo of a river receiver deployment is provided below (Figure 2).

- 27 March 2023 – Staff from the U.S. Geological Survey began a two-year study, *Spatio-temporal drift patters of larval fish in the Boardman/Ottaway River* (Figure 3). The goal of the study is to address the current knowledge gap on the composition and timing of downstream fish embryo and larval drift in the Boardman/Ottaway River. Sampling will be conducted at six sites (Figure 4) at varying frequency throughout the year but will generally include brief soaking of drift nets (<1 hr) where the collected embryos and larvae will be counted and identified. The specific objectives of this project are to (1) determine the taxonomic composition of fish embryo and larval drift; (2) quantify the magnitude of temporal and spatial drift patterns; (3) determine the development, size structure, and condition of drifting larvae; and (4) identify sample site variables including flow velocity, water temperature, dissolved oxygen, conductivity, pH, turbidity, and river discharge that

relate to observed patterns of drift. This 2-year intensive survey will generate recommended methodology necessary to maximize the cost-efficiency of sampling early life stages of fishes during the research and operational phases of FishPass.

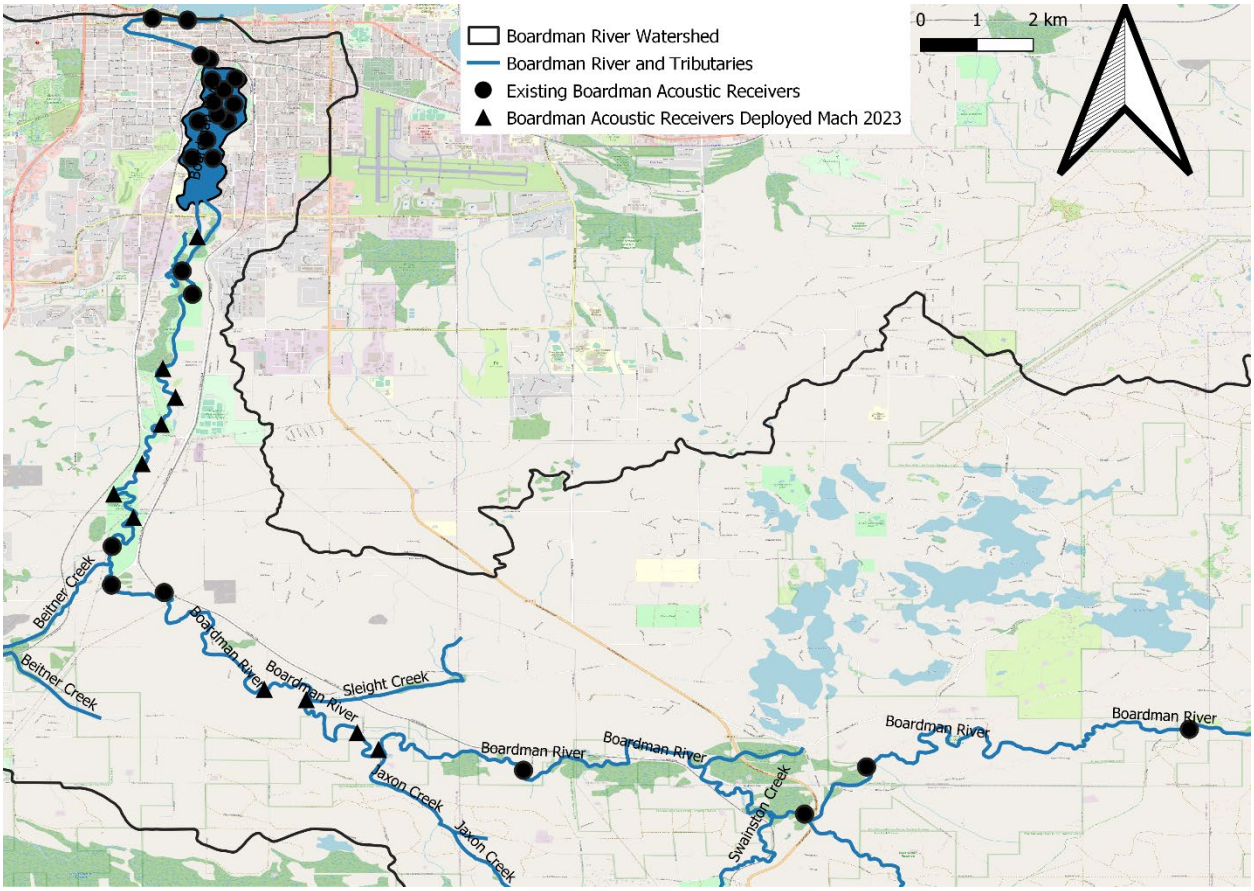

Figure 1. Existing (circles) and newly deployed (triangle) acoustic receivers in the Boardman/Ottaway River and Lake in support of the Energy and Nutrient Dynamics Project.

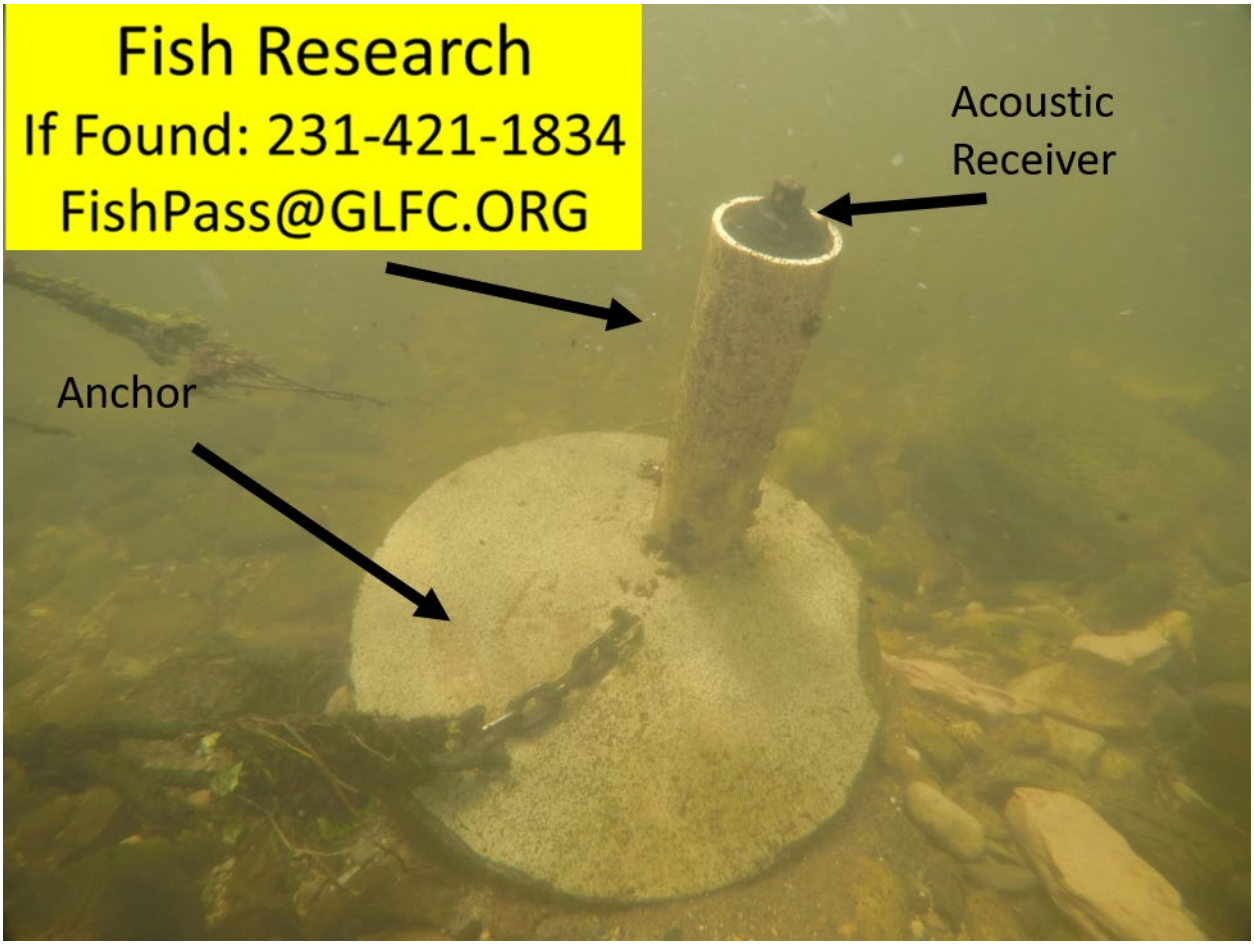

Figure 2. A river style anchor and acoustic receiver deployed in the Boardman/Ottaway River and the contact information attached to it. (Photo: Reid Swanson)

Figure 3. USGS staff members, Nakiah Dague and Matt Angelosanto, conducting larval fish sampling in the Boardman River. (Photo: Ed Roseman)

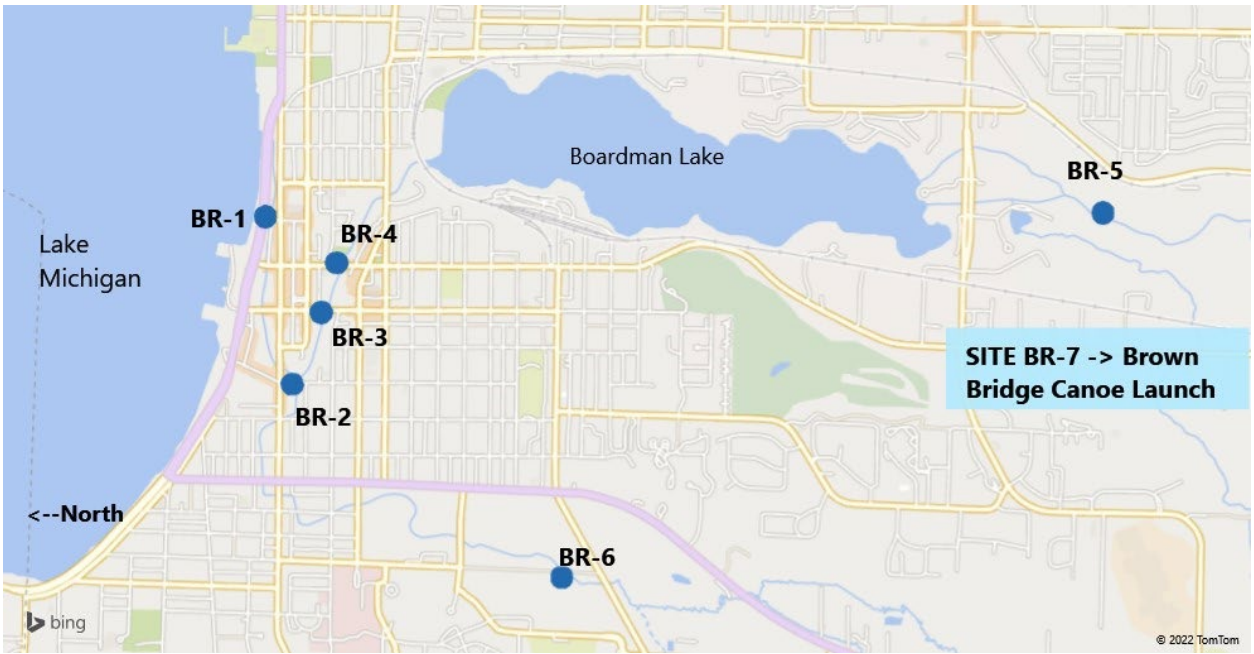

Figure 4. Larval fish sampling locations in the Boardman/Ottaway River and Kid's Creek.

Outreach:

- January 2023 – Reid Swanson presented "*Determining connectivity between the Boardman River, Grand Traverse Bay(s), and Lake Michigan proper in support of FishPass.*" at the Michigan Chapter of the American Fisheries meeting in Bellaire, MI.

Upcoming:

- April 2023 –FishPass Principal Engineer/Scientist, Dan Zielinski will be providing two talks about FishPass and selective connectivity through the Tipp of the Mitt Watershed District Ice Breaker Series webinar and FishTales Lecture Series. Both presentations are available live and are recorded for viewing:
  - Ice Breaker Series, 05 April @ 12:00 PM EST – https://www.youtube.com/watch?v=ZdvzXUtaHQs
  - FishTales Lecture, 12 April @ 7:00 PM CST – https://www.facebook.com/doorcountylibrary/videos/246564094409495
- An article authored by FishPass Principal Engineer/Scientist, Dan Zielinski, was recently awarded the Best Paper of 2021 by the scientific journal Fishes. The article titled "*Numeric simulation demonstrates that the upstream movement of invasive bigheaded carp can be blocked at sets of Mississippi River locks-and-dams using a combination of optimized spillway gate operations, lock deterrents, and carp removal*" is freely available at https://www.mdpi.com/journal/fishes/awards/1859.

In the News:

- Commissioners to discuss dam contract and potential recreation area expansion (UpNorthLive, 20 March 2023): https://upnorthlive.com/news/local/commissioners-to-discuss-dam-contract-and-potential-recreation-area-expansion
- City, GLFC ask court to quickly toss FishPass appeal (Record Eagle, 18 February 2023): https://www.record-eagle.com/news/local_news/city-glfc-ask-court-to-quickly-toss-fishpass-appeal/article_5f6a9c7e-ad4c-11ed-a8fc-bf3caddd7e53.html
- Fate of cutting-edge fishery research in Traverse City now in hands of Michigan Supreme Court (MLive, 12 January 2023): https://www.mlive.com/public-interest/2023/01/fate-of-cutting-edge-fishery-research-in-traverse-city-now-in-hands-of-michigan-supreme-court.html
- Legal battle over future of FishPass Project: https://upnorthlive.com/news/local/legal-battle-over-future-of-fishpass-project

Follow FishPass on Facebook to stay up-to-date on the latest news about the project.