

FishPass Monthly Update



Dear partners and stakeholders:

On behalf of the FishPass team, I am pleased to provide the November update. Please distribute the update as you see fit.

Engineering Design / Construction:

- 4 November 2020 – The USACE issued the Notice to Proceed to Spence Brothers Construction. The Notice to Proceed authorizes the contractor to proceed with work and establishes the date of commencement of work. The first steps of construction include permit applications, various submittals, and issuance of a construction schedule.

Research

- November 2020 – A team of researchers from Central Michigan University, U.S. Geological Survey (USGS), Whooshh Innovations, and the Great Lakes Fishery Commission (GLFC) published a paper in the ICES Journal of Marine Science evaluating the potential of a machine learning approach to identify fish species for sorting purposes using a high-speed camera array. The manuscript, titled *Advancements towards selective barrier passage by automatic species identification: applications of deep convolutional neural networks on images of dewatered fish*, is free to download here: <https://doi.org/10.1093/icesjms/fsaa150>
- 2 November 2020 – University of Wisconsin – Stevens Point graduate student Becki Gehri defended her thesis “*Genetic assessment of Boardman River fish populations before dam removal*”. Becky’s thesis was part of a project led by Dr. Wes Larson to: 1) examine genetic differences between fish populations separated by the Union Street Dam and 2) use environmental DNA (eDNA) to estimate the fish community in Boardman Lake. Two manuscripts describing the findings of the project have been submitted to peer-reviewed scientific journals. A summary of the project findings will be posted on the FishPass webpage in early 2021 and links to the manuscripts will be provided when available.

Assessment:

- 3 November 2020 – GLFC and Grand Traverse Band of Chippewa and Ottawa Indians (GTB) staff conducted the quarterly electrofishing index survey in the lower Boardman River (below Union St. Dam; Table 1).
- 5 & 11 November 2020 – GLFC and GTB staff conducted two additional electrofishing surveys in the lower Boardman River targeting lake trout *Salvelinus namaycush* and rainbow trout *Oncorhynchus mykiss* to implant acoustic transmitters. Across all three surveys the FishPass team implanted 40 transmitters in rainbow trout and 24 transmitters in lake trout (Table 2).

Table 1. Number of fish and average size of each species caught during the November 2020 FishPass quarterly electrofishing survey.

Species	# Caught	Average Length (in)	SD Length (in)	Average weight (lbs.)	SD weight (lbs.)
brown trout	6	14.1	2.5	1.4	0.8
coho salmon	5	20.4	1.9	NA	NA
common white sucker	1	7.7	NA	NA	NA
lake trout	13	26.9	3.3	6.5	2.5
Northern pike	1	28.4	NA	NA	NA
rainbow trout	47	20.4	6.6	7.5	2.9

Table 2. Summary of the number of acoustic transmitters implanted in fish captured in the lower Boardman River in November 2020.

Species	# Acoustic Tags	Average Length (in)	SD Length (in)	Average weight (lbs.)	SD weight (lbs.)
lake trout	24	27.2	3.0	6.9	2.4
rainbow trout	40	26.2	3.3	7.6	2.5

- 23 November 2020 – GLFC staff assisted Michigan Department of Natural Resources (MIDNR) and USGS staff to implant acoustic transmitters in 18 lake whitefish *Coregonus clupeaformis* captured on Good Harbor Reef.
- The acoustic transmitters implanted as part of FishPass assessment and the collaborative Spatial Ecology of Cisco and Lake Whitefish in Grand Traverse Bay ([GTCOR](#)) project are detected across a growing number of acoustic receivers deployed in the Grand Traverse region and across the Great Lakes as part of the Great Lakes Acoustic Telemetry Observation System ([GLATOS](#)). One of the benefits of the GLATOS network is the ability for researchers to use all receiver sites managed by various projects for the mutual benefit of individual project goals. As regards FishPass, the acoustic fish tracking array will be used to further the study of fish movement patterns into and within the Boardman River.
- November 2020 – GLFC intern and recent Northwestern Michigan College (NMC) Freshwater Studies graduate Sheyenne Nagy finished her time in the GLFC internship program. Sheyenne continues to pursue a Bachelors Degree in Freshwater Studies and Sustainability from Western Michigan University. The GLFC thanks Sheyenne for her time and effort.
- The Great Lakes Fishery Commission is seeking a new intern from the NMC Freshwater Studies program to start in Spring 2021. Details can be found on the GLFC [website](#) and FishPass Facebook [page](#).

Events:

- 18 November 2020 – Dr. Dan Zielinski shared a virtual presentation on FishPass for Leadership Grand Traverse – Natural Resources Day.

In the News:

- Spence Brothers Construction Lands \$19.3 FishPass Contract Among National Competition (Traverse City Business News, 1 December 2020): <https://www.tcbusinessnews.com/spence-brothers-construction-lands-19-3-fishpass-contract-among-national-competition/>
- Opinion: On the FishPass project on the Boardman/ Ottaway River (Record Eagle, 27 November 2020): https://www.record-eagle.com/opinion/opinion-on-the-fishpass-project-on-the-boardman-ottaway-river/article_ae4b8dac-2e5b-11eb-bbb8-5b3ce4ea70de.html
- Watershed Moment for Fish Passageway in Traverse City (US News, 1 Nov 2020): <https://www.usnews.com/news/best-states/michigan/articles/2020-11-01/watershed-moment-for-fish-passageway-in-traverse-city>
- Traverse City breaks ground on \$19 million river restoration project (Interlochen Public Radio, 27 October 2020): <https://www.interlochenpublicradio.org/post/traverse-city-breaks-ground-19-million-river-restoration-project>



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