



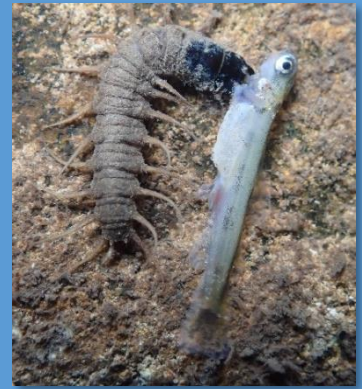
## Bring Back the Salmon

### BBTS tidbits



Jeff Dickie captured this amazing photo of an Atlantic Salmon jumping at a Humber River weir.

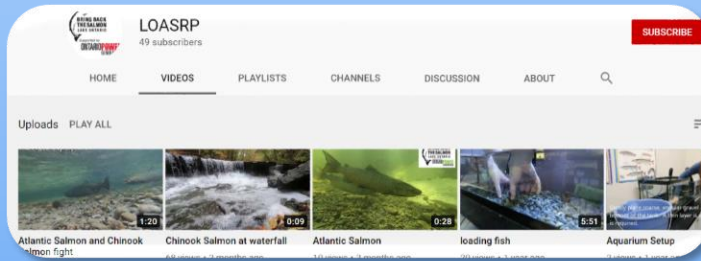
This macroinvertebrate (Order Megaloptera: dobsonflies) captured an Atlantic Salmon fry. Dobsonfly larvae, also known as hellgrammites, are top invertebrate predators, and can live up to five years.



Art throwback from a classroom hatchery participant.



BBTS has a YouTube channel! Watch our educational videos and underwater footage of fishes in our restoration streams: <https://www.youtube.com/user/LOASRP>



Stay connected with Bring Back the Salmon by following us @ontariosalmon.



# Education and outreach

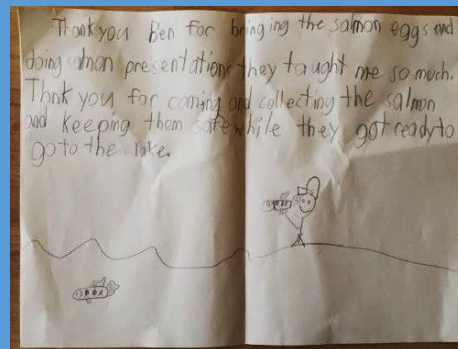
## Classroom hatchery program goes virtual

Due to concerns for health and school access restrictions caused by COVID-19, we will run our classroom hatchery program virtually this year. The program will have two hatchery tanks set up at the OFAH Mario Cortellucci Hunting and Fishing Heritage Centre. Here we will run 30-minute video sessions for 15 weeks with presentations related to the biology, ecology, and history of Atlantic Salmon. The students will observe the fish develop from eyed eggs to fry and teachers can schedule a live question and answer session with our biologists.

This program offers excellent educational opportunities connected to fish biology, natural and cultural history, habitats, ecosystems, and environmental stewardship. In May we will go on a virtual field trip to release the fish in a local restoration stream. Teachers will be supplied with curriculum-linked lesson plans about Atlantic Salmon to use throughout the year. We will cover more of the natural history, science, and human impact components than we can during our regular program. We hope to return to our regular program in 2022. Visit <http://www.bringbackthesalmon.ca/classroom-hatchery-program/> to download lesson plans and watch our videos.



## New classes



An Ontario Trillium Foundation (OTF) Grow Grant has made it possible for us to add 10 new classes to our program this year from Durham, Northumberland, and Peterborough regions. A total of 30 new classes have been added over the past 3 years through the generous support from OTF. The new classes will participate virtually this year and will join the regular program post COVID-19.



**The virtual program is available to any grade from any location! For more information on the virtual program please contact Ben (ben\_teskey@ofah.org).**



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# Research and assessment

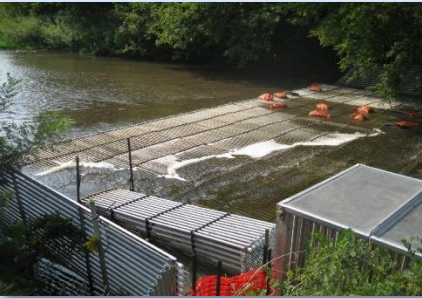
## Adult assessment

The two Vaki Riverwatcher fish counters (Corbett's Dam on the Ganaraska River, and Streetsville Dam on the Credit River) were installed later than usual in 2020 due to COVID-19 restrictions, but should have captured the full Atlantic Salmon migration season.

Staff also used underwater cameras and walked sections of Cobourg Creek to document adult numbers and behaviour. Redd digging and spawning were seen in November in prime spawning habitat.

We also had reports of adults in Bowmanville Creek, Shelter Valley, Oshawa Creek, and Wilmot Creek, all non-stocked locations.

Check out our YouTube channel for videos of fish behaviour, redd building, and spawning. Watch videos of the fish migrating through the fishways at [www.riverwatcherdaily.is/rivers](http://www.riverwatcherdaily.is/rivers).



**Throwback:** Did you know that we used a resistance board weir (pictured to the left) in Duffins Creek from 2013-2015 to count the number of returning adults? This temporary structure blocked fish and directed them to a holding cage where they could be counted and released.



Simon Amyotte

Thank you to all the anglers who submitted reports of their Atlantic Salmon catches. These give us important information on timing and location. Remember to practice proper catch-and-release techniques like pictured here – keep fish wet!



*Top: An Atlantic Salmon returning through the Credit River fishway camera on August 14, 2020. Bottom: An Atlantic Salmon moving through the Ganaraska River fishway counter on September 7, 2020.*

## New research

Larocque et al. (2020) compared diet and abundance of juvenile Atlantic Salmon to other fishes within stocked streams. Strong competition occurs when an abundant species has a similar diet. Only weak competition was found, as juvenile Brown Trout had similar diets but low abundance; Blacknose Dace, juvenile Rainbow Trout, and Rainbow Darter had somewhat similar diets but also had low abundance; and Brook Trout, Longnose Dace, Mottled and Slimy Sculpin, and Longnose Dace were more abundant but had dissimilar diets. Thus, competition with juvenile salmonids and adult minnows is not limiting the success of juvenile Atlantic Salmon.

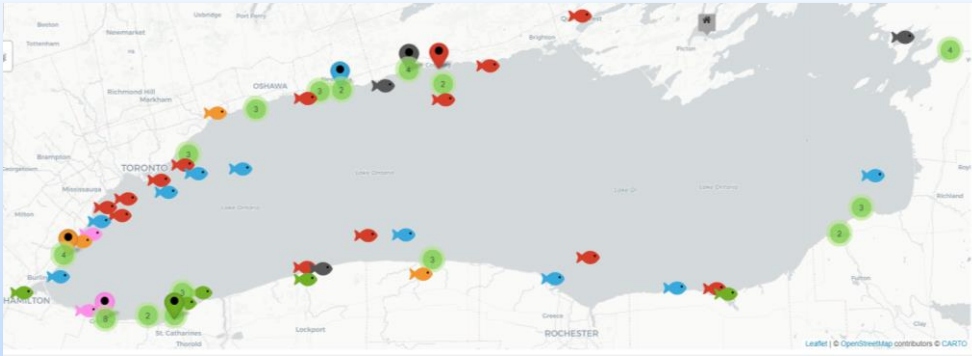


Paper available at: <https://doi.org/10.1139/cjfas-2020-0204>

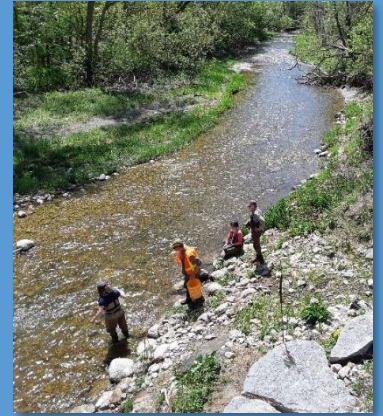
# Fish production and stocking

## Adult broodstock

MNR continues to stock surplus broodstock into Lake Ontario at Bronte Harbour, Port Dalhousie, Cobourg, Newcastle, Grimsby, and Port Hope since 2018. These fish have a floy tag inserted below the dorsal fin. The colour and number on the tag corresponds to release location. Of the 1915 fish tagged, 94 (4.9%) have been caught so far. In addition to providing additional recreational fishing opportunities, angler reports of these tag numbers will continue to provide information on movement. Check out <https://tinyurl.com/y3rctevg> for all the information.



Above: The fish icons indicate capture location, and their colour corresponds to stocking location (pins). Off the map, one fish tagged at Grimsby was captured at Lake St. Francis (east of Cornwall).



Throwback (above) to stocking Duffins Creek in 2018. We do not know whether we will be able to have volunteers this May to help stock spring fry, so stay tuned to our social media channels for updates.

## Stocking update

In 2020, we stocked 125,000 spring yearlings both upstream in our standard stocking locations, and at the mouths of the Credit and Ganaraska Rivers. River mouth stocking is used in several other jurisdictions and we anticipate seeing higher returns from this method in fall 2021 (3-year old adults) and fall 2022 (4-year old adults). We also stocked 368,500 spring fry and in the Credit River, Humber River, Wilmot Creek, and Duffins Creek, and 65,000 fall fingerlings in the Credit River and Duffins Creek.



A reminder that Atlantic Salmon are catch-and-release only in Fisheries Management Zones 16 and 17. Know your species ID and practice responsible angling. Visit [www.bringbackthesalmon.ca](http://www.bringbackthesalmon.ca) for more information.



# Water quality and habitat enhancement

## Tree plantings

Thanks to support from TD in 2020, the BBTS habitat team and partners tackled four coldwater stream reforestation restoration projects on Duffins Creek and Bronte Creek. A total of 462 native trees and shrubs were planted through the Friends of the Environment Foundation, while TD Tree Days funds were reallocated to public land on Duffins Creek, with 900 trees and shrubs planted by Toronto and Region Conservation Authority staff. These trees will increase forest cover, decrease stream temperature, and improve stream bank stabilization, benefitting many aquatic and terrestrial species by improving the health of the streams.



*Above: Land on Duffins Creek had 900 trees and shrubs planted.*

DFO also funded tree planting through their Habitat Stewardship Program for Aquatic Species At Risk for Silver Shiner habitat. In fall 2020, 835 trees were planted along Limestone Creek (a tributary of Bronte Creek) which supports Silver Shiner, Atlantic Salmon, and other coldwater species. Threats to these species include increased sedimentation and elevated water temperatures, which riparian plantings help reduce.



*Courtcliffe (bottom) and Riverview (top left) Parks on Bronte Creek and Transport Canada lands (top right) on Duffins Creek had trees and shrubs planted by OFAH and partner staff.*

