



Bring Back the Salmon

The BBTS program

Atlantic Salmon arrived in Lake Ontario 12,000 years ago, and were one of the top pelagic predators in the lake. Historically, 40 tributaries supported large runs, and these fish were an important source of food. However, pressure from this fishery, plus serious environmental degradation, dam building, and ecological change, led to their extirpation (local extinction) from Lake Ontario in 1898. Lake Ontario Atlantic Salmon were one of the first populations in Canada to be decimated by human activities.

The goal of the Bring Back the Salmon (BBTS) program, otherwise known as the Lake Ontario Atlantic Salmon Restoration Program (LOASRP), is to restore naturally-produced, self-sustaining populations of Atlantic Salmon to levels supporting recreational fisheries in the lake and selected tributaries, and to also provide recreational fisheries where appropriate through stocking.

Established in 2006, BBTS is co-lead by the Ontario Federation of Anglers and Hunters (OFAH) and the Ontario Ministry of Natural Resources and Forestry (OMNRF). BBTS is sponsored by Ontario Power Generation with support from TD Friends of the Environment, Fleming College, and more than 40 other government, community, and private organizations.

The BBTS program is organized around a four-part restoration strategy: 1) fish production; 2) habitat and water quality enhancements; 3) research and assessment; and 4) outreach and education.



BBTS was recognized by the 2018 Durham Environmental Advisory Committee with the Dr. J. Murray Speirs Award, which commends the work of individuals, groups or organizations whose efforts have helped to restore and/or steward the natural environment. Above: OFAH staff Kathryn Peiman and Peter Davis accept the award.



Education and outreach

Classroom hatcheries funded by an Ontario Trillium Foundation Grant

We received a three-year \$307,300 Ontario Trillium Foundation Grow Grant to support and grow the classroom hatchery program. This allowed us to hire Ben Teskey as the new Educator, and he will develop curriculum-linked lesson plans, and educational and technical support videos. These lesson plans and videos will also be freely available on our website once completed.

We are also adding 30 classroom hatcheries over 3 years, benefiting 1,500 new students. The Atlantic Salmon classroom hatchery program involves students raising 100 eggs from January to May and then releasing the young fish in rivers targeted for restoration of this native species.

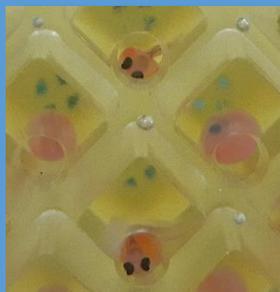
An agency of the Government of Ontario, the Ontario Trillium Foundation (OTF) is one of Canada's largest granting foundations. With a budget of over \$136 million, OTF awards grants to some 1,000 projects every year to build healthy and vibrant Ontario communities.



Above: OTF representative Rudy Sankovic joins Ben with a student releasing their fry. Left: The former Minister of the Environment, Conservation and Parks, Rod Phillips, releases classroom hatchery fry.



Are you a grade 4 or 6 teacher in the Durham region that is passionate about local stewardship? Please contact Ben (ben_teskey@ofah.org) if you're interested in joining the program!



Above left: Atlantic Salmon eggs and hatched alevin. Above right: Fry in classroom tank. Right: Students from St. Catherine Catholic Elementary School receive their eggs. Bottom: Fry ready for release.



Research and assessment

Fish counter technology

In 2016, the OMNRF installed a Vaki Riverwatcher fish counter at the Corbett Dam fishway in the Ganaraska River, Port Hope; it has been fully operational since 2017. In September 2018, the OMNRF installed a second Vaki fish counter at the Streetsville Dam fishway in the Credit River, Mississauga; it is fully operational for 2019. These counters allow us to assess the migration of all species of fish during spring, summer and fall by recording an infrared silhouette and a video of each individual passing through. From this information we can determine species, sex, length, and presence of fin clips, and we can monitor timing of fish passage even in turbid water conditions.

On July 27, 2018, the first returning Atlantic Salmon adult from our 2016 yearling stocking of the Ganaraska River swam through the fish counter. In total, 23 adult Atlantic Salmon passed the Ganaraska camera in 2018, with the full cohort expected to migrate in 2019. All Atlantic Salmon yearlings stocked in the Ganaraska River have adipose fin clips, so we know these returning adults are the result of those stocking events. On May 25, 2019, the first adult Atlantic Salmon of the year was seen passing through the Credit River counter.

The video counter is funded and operated by OMNRF to support Lake Ontario's diverse salmon and trout fisheries and provides valuable information on Atlantic Salmon numbers and timing. Watch the fish migrate at www.riverwatcherdaily.is/rivers.



Top: The fish counter and steel frame are being lowered into the fishway. The grate in front will be removed when the unit is in place. Bottom: Adult Atlantic Salmon moving through the Ganaraska fish counter. Insert: Its silhouette clearly shows the lack of an adipose fin.

Angler diaries

We are in the second year of a project to help document the location of adult Atlantic Salmon in Lake Ontario tributaries. Volunteer anglers record fishing effort and are given a scientific permit to collect a small tissue sample from any Atlantic Salmon caught. This provides us with critical information on the stocking strain and age of each fish, enabling us to refine our fish production methods.



Have you seen or caught an Atlantic Salmon?

Citizen scientists give us valuable information on where these fish are hanging out! Let us know when and where you saw the fish by contacting info@bringbackthesalmon.ca. Location information remains confidential.



Fish production and stocking

Stocking update

We continue to stock Atlantic Salmon into three restoration streams: Credit River, Duffins Creek, and Cobourg Creek. The Ganaraska River receives adipose-clipped yearlings with the program's new focus on creating a recreational put-grow-take fishery in this river. In 2018, we stocked ~890,000 spring fry, fall fingerlings, and spring yearlings into these tributaries. For 2019, our spring yearling and spring fry stocking resulted in ~377,000 fish released.

Our Atlantic Salmon are from the LaHave River (Nova Scotia) and Sebago Lake (Maine) strains. We no longer culture the Lac St. Jean (Quebec) strain.

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. For tips on species identification and proper catch-and-release techniques, visit www.bringbackthesalmon.ca.



Bag stocking utilizes volunteers carrying oxygen-filled bags of fish along the stream and releasing them at designated stations. A big thank you to our 80+ volunteers who came out to help stock fry this spring!



Bigger fish

The weight of spring fry has increased from an average of 2.8g in recent years to 4g in 2018 and 5.8g in 2019. This larger size should improve survival in the streams.

Adult broodstock

In December 2018, ~300 surplus broodstock were stocked in Lake Ontario at Oakville and St Catherines. In April 2019, ~900 surplus broodstock were stocked in Lake Ontario at Cobourg and Newcastle. These fish will provide additional recreational fishing opportunities, and angler reports of their tag number will provide information on movement.



Water quality and habitat enhancement

TD funds tree plantings

Thanks to support from the TD Tree Days and TD Friends of the Environment Foundation, the BBTS habitat team is tackling 12 coldwater stream habitat restoration projects this year on three tributaries: Duffins Creek, Humber River, and Bronte Creek. Projects are native tree and shrub plantings and bank stabilization. The projects benefit multiple fish species by restoring the streams to cold-water norms by increasing cover and decreasing sediment run-off.



Four of the BBTS projects are TD Tree Day planting events, which are TD's flagship volunteer and urban greening program providing TD employees, their families, friends, and community, the opportunity to volunteer and help build healthy, vibrant communities by caring for their local environment. These projects are scheduled for September and October - stay tuned to our website and social media for updates.



Clean streams

During Earth Week we held two clean-up days in community parks, both funded by Ontario Power Generation (OPG). On April 24, students from St. Elizabeth Seton Catholic School came to Brock Ridge Community Park on Duffins Creek, assisted by staff from Toronto and Region Conservation Authority. On April 23, students from St. Michael Catholic Elementary School and St. Joseph Catholic School came to Cobourg Conservation Area on Cobourg Brook, a partnership with Ganaraska Region Conservation Authority. Thanks to both students and staff for their time helping make these shared spaces clean for people and wildlife to enjoy.



Did you know? In 2018, we completed 14 restoration projects with the help of 950 volunteers who contributed 1,960 hours to plant over 4,100 trees and shrubs. Since 2006, we have completed over 230 projects and planted over 96,500 trees and shrubs.



Water quality and habitat enhancement

Albion Hills Conservation Area

The OFAH and Toronto and Region Conservation Authority (TRCA) have wrapped up a major project at Albion Hills Conservation Area. Led by TRCA, the project started in 2014 with the removal of a 50-year old dam that opened up almost 20 km of stream in the Humber River watershed along Centreville Creek and removed thermal (warming) effects on the creek. To support this project and other habitat work at Albion Hills, the OFAH secured \$200,000 from the federal Recreational Fisheries Conservation Partnerships Program and over \$55,000 from TD FEF, while TRCA secured \$1 million. Now that this thermal and migration barrier has been removed, we are using Albion Hills CA as a release location for our classroom hatchery fry.



Albion Hills CA in 2014



Albion Hills CA in 2018

Stay updated!

Stay connected with Bring Back the Salmon. Hear about updates and current information by following us on Facebook, Twitter, and Instagram (@ontariosalmon).



An Atlantic Salmon fry, likely from a classroom hatchery release, spotted at Greenwood Conservation Area in early July.

