

Bass Spawning Sanctuaries – Why They Are Needed

In an effort “to increase bass populations” and “to protect bass while they are protecting their young and are especially vulnerable to angling”, the Ontario Ministry of Natural Resources (OMNR) established a closed season for black bass over 50 years ago. That regulation was designed to prevent disturbance/removal of male bass while guarding their offspring. Angling for other species during this closed period is permitted, however, which, unfortunately, allows for both the accidental hooking and the illegal, targeted hooking of guardian males. As a result, not a single bass is actually protected by this ineffective regulation.

In any population a substantial level of pre-season angling of nesting males results in recruitment overfishing, a situation in which the level of successful reproduction is depressed to the point where the number of newly produced juveniles drops below what is needed to replace the aging parts of the adult population. A prolonged period of recruitment overfishing results in fewer and fewer adults. As that situation develops, the bass in that population begin to mature at younger ages (and smaller sizes). In addition, during this pre-season angling, the largest and most aggressive guardian males in the population are hooked more readily than the rest of the males, resulting in lowering their reproductive success. As a result, recruitment overfishing driven by angling nesting males also produces populations of bass that are smaller and more difficult to angle...and that natural selection phenomenon is happening in bass lakes across North America.

How do we reverse those changes? ...by allowing bass to reproduce under their historically natural environment (i.e., prior to the arrival of human anglers). BUT, can we do that without closing the fishery, as has happened to the cod fishery off Newfoundland and the walleye fishery in Lake Skugog (<https://lindsayadvocate.ca/whats-going-on-with-lake-scugogs-walleye/>)? One novel approach is to use Bass Spawning Sanctuaries (BSSs), areas of a lake where fishing for ALL species is prohibited throughout the spawning and parental care periods (i.e., the first week in July for most lakes). By putting a strategically chosen 10-20% of a lake's shoreline into such BSSs, the OMNR could protect 30-60% of the lake's bass reproduction. Not only would that serve as a reservoir for producing more juveniles to spread across the lake, mitigating the reductions in abundance and size by averting maturation at earlier ages, but it would also reverse current natural selection that is moving a population toward less aggressive behavior.

The COVID pandemic provided evidence that such an approach could in fact accomplish that desired result, and so currently the OMNR has permitted the Fisheries Conservation Foundation together with researchers from Carleton University to test the impact of BSSs in two local lakes, Opinicon and Charleston. Preliminary results have been extraordinarily positive; reproductive success inside the BSSs have been 4-5 times larger than outside the BSSs. Our next steps are to work with a diverse array of stakeholders (e.g., lake associations, anglers, guides, lodges, angling groups, angling and conservation NGOs, etc.) to expand this program into a number of other lakes in the region. To facilitate such an expansion, we are in the process of forming a Coalition for Innovative Fisheries Conservation (CIFIC) that will help design and implement BSSs. We invite

lakes in the region to join this group. To start that process, contact David Philipp at the Fisheries Conservation Foundation: dpphilipp@fishconserve.org.

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