



Eastern Georgian Bay Stewardship Council

www.helpourfisheries.com

Media Update – 2010-09

Killbear Channel and Big Sound Lake Trout Egg Collection For Thiamine Analysis



**Volunteer David Sweetnam, assisting with lake trout netting
and sampling operations on the Big Sound, October 2010**

In partnership with the Ministry of Natural Resources and the Great Lakes Science Centre, the Eastern Georgian Bay Stewardship Council again conducted a lake trout egg collection this past fall on the waters of Killbear Channel and the Big Sound. A similar project was conducted in 2008.

The failure of newly hatched lake trout in Great Lakes waters to survive and grow has been linked to a lack of thiamine (Vitamin B1) in their system. This condition called thiamine deficiency syndrome (TDS), is believed to be caused by the presence of a

thiamine destroying enzyme – thiaminase. This enzyme is found in alewife and smelt and it is believed lake trout populations that feed heavily on these prey species are more susceptible to TDS.

The complexity, scope and seriousness of TDS has necessitated that natural resource agencies work together on an integrated research and monitoring program to better understand TDS and to propose and evaluate possible solutions. Lake trout eggs from all over the Great Lakes – including Parry Sound, are sent to the Great Lakes Science Centre in Ann Arbor, Michigan to monitor their levels of thiamine.

Live-capture trap nets are used to catch gravid (eggs running freely) females from which a small sample of 50 – 100 eggs are collected. All lake trout are released unharmed to continue with their natural spawning activities.

Results to date indicate Big Sound lake trout have thiamine levels lower than expected, but above the threshold level of 4nmol/g for healthy lake trout reproduction.

A secondary purpose of the project is the fortuitous opportunity to monitor the status of the lake trout spawning population – at one site in the Killbear Channel and the other in the Big Sound.

The more salient observations made between this survey and an identical one conducted in 2008 include:

- The catch rate was down considerably in 2010. This was probably due to multiple environmental factors that typically result in a high degree of variability in catch results.
- Size distribution of male lake trout – especially in the Killbear Channel has shifted towards smaller fish. This is largely attributable to good recruitment of one of more, young year classes coming into the spawning population.
- Lamprey wounding was up marginally in 2010, but the scarring rate was lower. This is partially attributable to the influx of young males into the spawning population that have had less exposure to lamprey predation and scarring.

The complete project summary report is available on the website of the Eastern Georgian Bay Stewardship Council at www.helpourfisheries.com; under the “Reports and Documents” tab.

Further information about thiamine deficiency syndrome (TDS) can be obtained on the website of the Great Lakes Science Centre at: <http://www.glsc.usgs.gov/>.