

It's Cool to be Cold: the Importance of Coldwater Streams

*It's not nice when someone gives you the cold shoulder or a cold stare,
but when it comes to streams, it's cool to be cold!*

What are coldwater streams?

Coldwater streams are fed by groundwater and they remain cold all year. These streams often flow during dry periods because they are not dependent upon precipitation or other surface water. Coldwater streams are generally less than 68°F. Healthy coldwater streams have native vegetation along their stream banks, fast flowing waters, and habitats such as riffles, pools and runs.

Why are coldwater streams important?

Coldwater streams are important regulators within a watershed. They improve water quality and biodiversity by reducing excess sediment and nutrients from traveling downstream. Coldwater streams are a hub of biodiversity. They support insects such as mayflies, caddisflies and stoneflies. Insects can indicate water quality and are a source of food for fish!



Stonefly © EcoSpark

Many fish species in the Grand River Watershed, such as lake whitefish, brook trout, chinook salmon and mottled sculpins, require coldwater streams to live and reproduce.



Mottled sculpin © Troutnut.com



Brook trout - US Fish & Wildlife Service

Threats to coldwater streams:

There are several threats to the health of coldwater streams including:

Urbanization: Increased development causes erosion, sedimentation, and an expansion of impervious surfaces. Together, these can contribute to a rise in stream temperatures.

Climate Change: Water temperature is affected by air temperature. Warmer air results in warmer water. Increased heavy rainfall events will increase warm surface runoff entering streams.

Commercial use: The use of groundwater for commercial purposes (e.g. municipal, golf courses, and bottled water) reduces the amount available to recharge coldwater streams.

How can we protect coldwater streams?

- Increase the vegetation in riparian areas (stream banks) to decrease the amount of warm surface runoff and sediment that enters streams.
- Reduce non-point source pollutants entering streams.
- Educate others on the importance of coldwater streams.

*Adapted with permission from the Ontario Nature Blog written by Joyce Chau on February 18, 2018.
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