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Produced by the Community Stream Steward Program; a multi-partner initiative focused on community stream stewardship development & practices

Trout Habitat Enhancement



Courtesy of P.N.N.L.

Trout Tidbits

Trout are coldwater fish species, meaning they require cold water temperatures (10°C to 20°C) with plenty of oxygen in order to live and reproduce. They are members of the *Salmonid* family, which also includes salmon & char.

There are three main species of trout found throughout Ontario's coldwater lakes and rivers:

Brook Trout (*Salvelinus fontinalis*)

Average length: 25-30 cm (10-12 in.)

Distinguishing features: white leading edge on the lower fins, accented by a black line.

Brown Trout (*Salmo Trutta*)

Average length: 40 cm (16 in.)

Distinguishing features: the only salmonid with orange on its adipose fin as a juvenile (small fin located on back)

Rainbow Trout (*Oncorhynchus mykiss*)

Average length: 30-46 cm (12-18 in.)

Distinguishing features: numerous small black spots on body & pink lateral stripe

Habitat Features

Trout have very specific and diverse habitat requirements throughout their life cycles, especially brook trout which depend on coldwater groundwater upwellings for survival.

Trout, like all other living animals, require habitat that will provide food, protection and suitable conditions to produce and rear offspring. In a productive trout stream, you will expect to find most of the following characteristics:

- ✓ Meandering stream channel with well defined pools and riffle sections.
- ✓ Undercut banks on the outside bends with sufficient vegetation to prevent erosion and bank failure.
- ✓ Healthy streamside vegetation, providing the shade necessary to keep water temperatures optimum for trout habitat
- ✓ Large woody debris to provide cover from predators and shade to help keep water temperatures cool.
- ✓ An assortment of stream bed materials (sand, gravel, cobble)

Unfortunately, very few streams have survived unchanged over the course of time. Many streams and rivers have been negatively impacted thereby reducing or eliminating trout populations. The good news is that degraded streams can often be restored both easily and inexpensively, allowing trout populations to re-establish once again.

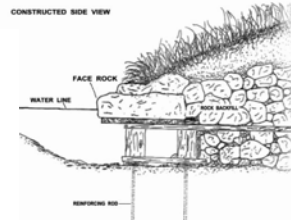
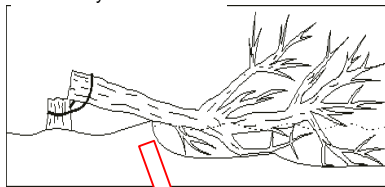
Options

There are several options available to provide trout with cover, greater feeding opportunities, and appropriate spawning and rearing habitat in streams where little or no natural in-stream cover remains. Here are just a few...

LUNKERS

Constructed inexpensively from hardwood or cedar planks, LUNKERS are imbedded in the stream bank, usually on the outside of a bend and are intended to mimic undercut banks. They provide excellent cover for fish and can last 5-10 years depending on the stream and materials used.

Courtesy of MDNR



Courtesy of LWCD

Submerged Brush Shelters

An uprooted cedar tree is all that is needed to provide excellent cover and feeding opportunities for young trout. Also referred to as sweepers, submerged brush shelters are a natural and inexpensive habitat improvement that greatly enhances protection for young fish and provides an additional substrate for invertebrates, which trout regularly feed upon.

For More Information...

For assistance evaluating trout habitat conditions, designing and building habitat structures, funding availability or any other information related to coldwater streams, contact:

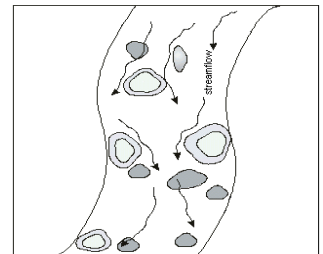
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The Stream Steward 4 ~ Trout Habitat

Large Woody Debris

Large woody debris can be introduced to watercourses that have lost much of the surrounding woody vegetation to logging or development. Large woody debris located within a stream attracts both young and adult fish by creating surface turbulence and overhead cover. Anchored to the stream bank/bottom using anchor pins or aircraft wire, it is best used in moderately sized watercourses (5-20 m width) that do not experience large seasonal variations in flow or ice accumulations in the winter or spring.



Courtesy of MDNR

In-Stream Boulder Placement

In-stream boulders are a natural component of stream channels. Boulders create the turbulence in streams necessary to expose the optimum streambed material required for both reproduction and aquatic invertebrate abundance. Boulders are usually placed in the centre of the stream channel either individually or in a staggered pattern. Limestone, granite and other hard rocks are recommended as they are durable and will weather better than softer rocks such as sandstone.

Ask before you Act!

Not all habitat improvement techniques are appropriate and beneficial for all streams and rivers. Always seek professional guidance before attempting any in-stream work to ensure that you are not inadvertently causing a negative impact on your stream or river.

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