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LIVING

Fall's final colour

Just as the natural world seems to be shutting down for winter, our native trout species are busy renewing life with the promise of a new generation

OUR CHANGING SEASONS
Drew Monkman

As the last of the fall colour drains from the landscape and distant hills turn grey, a lesser-known colour spectacle is gearing up right now in some of our lakes and streams. Unlike the display of the fall leaves, the colour show put on by spawning brook trout is one that few of us ever see. How unfortunate that is. The lower flanks of the male trout glow with a red-orange blush in the fall, offering one of nature's last colour spectacles of the year.

In late September, male brook trout, or speckled trout if you prefer, begin to acquire a deep orange to purple-red underside that distinguishes them during the spawning season. An elegant black border on the underside separates the white belly from the rich flank colour. The orange and red pigments are acquired from the bodies of certain crustaceans on which the trout prey. During the summer these pigments are stored in the muscles, giving the flesh its distinctive pink colour. In the fall, these same pigments move from the muscle to the skin in males. In females, however, the pigments migrate to the ovaries and eventually to the eggs.

The bright pigmentation plays a different role, depending on the sex of the fish. As in the case of birds, bright colour most likely serves to make the male more attractive to the female, as well as being an indication of overall health and suitability as a mate. In females, however, the pigment appears to confer special qualities to the eggs. Trout and salmon eggs with the deepest orange or red colour have long been known to survive the best and to produce the healthiest fry. Some evidence suggests that deeply coloured eggs can withstand low oxygen conditions better than pale eggs. This is vitally important since the eggs are covered in silt and gravel for at least four months before hatching.

Nick Pujic, Canadian Fly Fisher Magazine

In the fall, the already beautiful colours of this brook trout will greatly intensify as it prepares to spawn.

Fall also brings about changes in the fishes' behaviour. Not only do the trout become voracious feeders, but, as the water's surface layer cools, they move in closer to shore to feed. During the summer, the shallow waters encourage more plant growth which in turn means more insects and minnows. In the fall, when cooler water temperatures allow trout to live in the shallows, they feast on the benefits of the summer food production.

In stream habitats, large numbers of trout begin migrating upstream towards spawning beds in the fall. They can sometimes be seen stopping to sun themselves over submerged rocks or logs.

Brook trout spawn any time from October to late November. They usually choose gravel-bottomed sites in the shallow headwaters of streams but will also lay their eggs along lake shorelines. This species, however, has very exacting needs. For successful spawning, there must be an upwelling of spring water under the spawning beds. The spring water, which is warmed by geothermal heat from the earth, keeps the eggs at a warmer temperature during the winter months. Without this warming effect, successful development would not be possible. This water also flushes away waste products from the nest and provides fresh oxygen. Because there are relatively few areas that offer the characteristics the trout require, those spawning areas that do exist are used for many years at a time.

Spawning activity takes place during the day in water that is often only about 30 centimetres deep. Using her tail fin, the female sweeps out a shallow depression in the gravel, in which she lays her eggs. This is called a redd. After the eggs are fertilized by a closely following male, she stirs up the sand and gravel in such a way as to cover the eggs and protect them from would-be predators.

If you are fortunate enough to know of a location where brook trout spawn, you may be able to observe first-hand the mating spectacle. Caught up in the urge to reproduce, the fish often seem oblivious to human presence. As they mill about in the shallow water, you should be able to catch glimpses of the dazzling red-orange flanks of the male. Every once and a while he will turn and catch the sunlight at just the right angle. Polaroid sunglasses and a bright, sunny sky make the viewing even better.

Brook trout tend to spawn in the headwaters of stream systems. The headwaters provide critical nursery habitat for vulnerable baby trout. These shallow, upper tributaries, are not occupied by adults — who would eat the fry — during the summer. As you can well imagine, brook trout "hotspots" are among the most carefully guarded secrets in the fishing world. This is because the fish are highly prized and somewhat rare when compared to other species.

Brook trout can still be found in the Peterborough area, although the fish tend to be fairly small. Some local creeks and rivers include Cavan Creek (also called Cavanville and Trout Creek in places) upstream from the village of Cavan, Fleetwood Creek (west of Bethany) and the upper reaches of Baxter Creek, Jackson Creek and the Ouse River. However, the species only becomes common further north. Algonquin Park has a healthy brook trout population that attracts large numbers of anglers every year. The Big East River is particularly popular.

Newborn trout emerge from spawning beds in early spring, and live in the shallow waters near the shore. In streams, the young fish form feeding territories and defend them against other young trout. In lakes, they spread out from spawning areas along the lakeshore in search of areas that have seeps or inflowing streams. The seeps and streams provide the slightly warmer water that the young require to survive.

Lake trout, too, spawn in the fall. They are actually the first species off the mark. Lake trout prefer to spawn along shorelines with exposed areas of rock rubble. They do not require gravel beds with spring seepage, as brook trout do. Spawning activity takes place solely at night, when water temperatures are between 10 C and 12 C. The depth of the water can range anywhere from one to three metres. A two-kilogram female will release about 3,500 eggs, which are fertilized by the male. The eggs then drift down into crevices on the rocky bottom, where they remain until hatching in late winter or early spring. The same individual trout often return year after year to same spawning beds.

It's ironic that just as the natural world seems to be shutting down for winter, both of our native trout species are busy renewing life with the promise of a new generation.

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