

BROOK TROUT LOVE

By SEAN LANDSMAN

The wondrous annual spectacle that very few of us ever witness



Like lustful men at an undergrad nightclub, three males try to out-macho each other for a chance at the pretty blonde leaning seductively against the bar.

As I sat perched atop a log watching the spawning brook trout below, I found myself conjuring up this mental image, finding it impossible not to humanize their behaviour.

As both a photographer and fisheries biologist, I find myself driven by the desire to showcase scenes and spectacles that very few are able to witness. Conservation of aquatic resources faces one particular challenge that terrestrial resources do not—people are generally disconnected from the out of sight-out of mind life below the water's surface. Short of giving the public wetsuits and snorkel masks, it becomes critical for photographers to bring underwater imagery to the public.

Brook trout (more properly named brook charr because

they're not actually trout) are the most sought-after recreational fish species in Atlantic Canada. When compared to some areas of the eastern United States, our brook trout populations are faring relatively well, but still not great.

Atlantic Canadian brook trout—and indeed all other fish species inhabiting the region's rivers, streams, ponds, and lakes—face multiple threats including river erosion and sedimentation, pesticide runoff, warming summer water temperatures, acid precipitation and habitat fragmentation.

Fortunately, brook trout seem to be a resilient species, and year after year they return predictably to their spawning grounds. Some don't have to travel far to do so, while others migrate in from estuarine waters. Unlike inland locales, coastal brook trout populations are often partially migratory. Those adults spend time in the food-rich waters of the near-

A wary female eyeballs the author's camera while three males (note the upward hooked lower jaw) posture with each other in the background.



Males initiate the courtship routine by persistently swimming circles around the female, tossing in an occasional body quiver to express their intents.

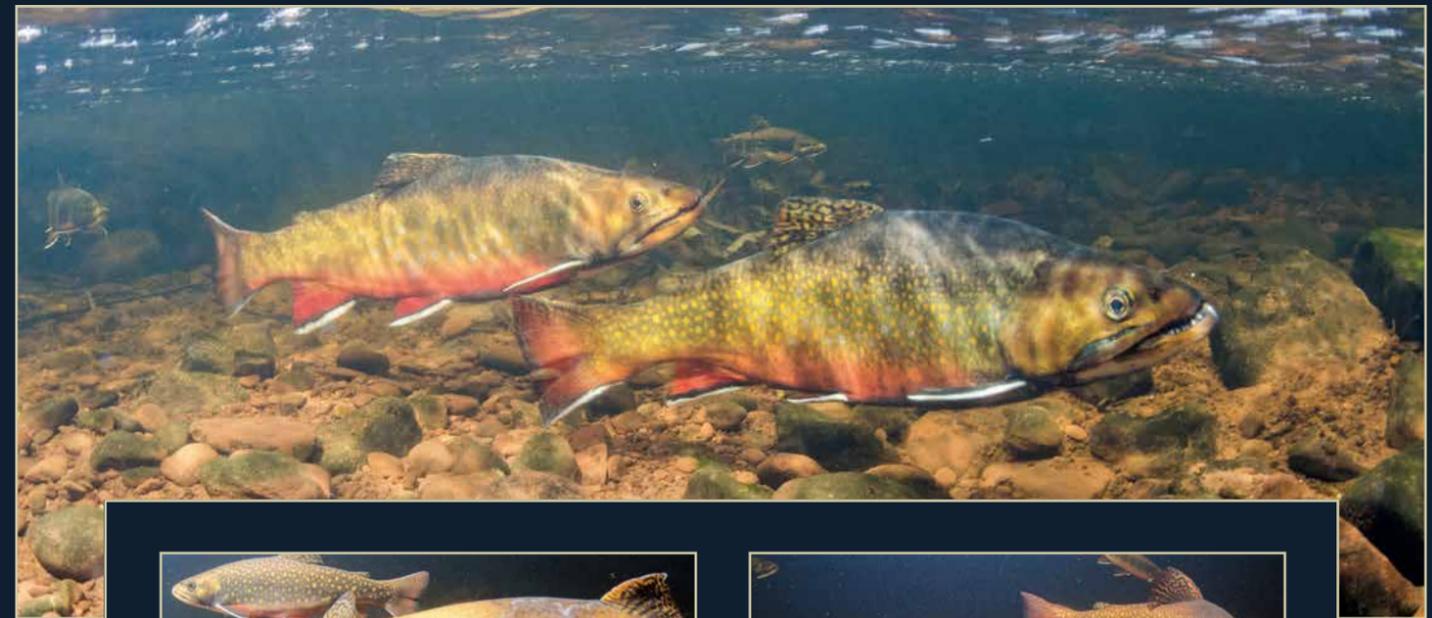
shore marine environment before re-entering fresh water to spawn. This behaviour, known as anadromy, results in these well-fed individuals often reaching tremendous size.

As water temperatures fall in late October and early November, brook trout begin staging (gathering) in deep pools as they prepare for the impending spawning season. Eventually, they will push upstream past log jams and rapids to reach the appropriate habitats that consist of loose, easy-to-move gravel.

Upon arrival at the spawning ground, females first begin excavating a nest in the rocky river bottom with their tails. The hen tips on her side and violently undulates her body while rapidly flicking her tail. From shore, the nests (redds) appear as bright, round or teardrop-shaped swaths of river bottom.

Competition for access to females is extremely high and necessitates fighting among males to determine who emerges as the lucky stud. Sometimes this is easily decided, based simply on size intimidation, but at times it is more complicated. To begin, males will posture like heavyweight boxers, slowly moving around each other with fins fully erect. If this posturing fails to reveal a winner, more drastic measures, such as full on bite-based attacks, are required.

When the male finally wins access to the female, he moves in to begin his courtship routine. Aggressiveness is replaced by (again, excuse the humanizing) apparent tenderness and sensitivity. Slow circling leads to gentle nudging, occasionally giving way to rapid quivering in an attempt to stimulate the spawning event.



Top: Two males swim upstream towards the spawning grounds. Left: Large sea-run brook trout (female, middle left) and male (front) stage near the edge of their redd in preparation for spawning. Right: A female brook trout sweeps away a depression in the river bottom to create her nest or "redd."



A female ready to spawn tips gently onto her side as a male guards her from an intruding male seen at the edge of the photo.

Waiting in the shadows, though, are the subordinate males. Spurned by the females and beaten by the dominant males, these little trout bide their time and wait for the spawning act to occur. When it does, they dash in to try to fertilize the eggs.

Sometimes they are successful when the dominant male is distracted by something else. But the hyper-aware, ever-vigilant winning suitor is more often than not wise to their ways. A quick nip at the intruder is usually enough to send the message, but particularly stubborn sneakers may require more force to ward them off.

Once the eggs are deposited, they are frequently vulnerable for a period of time before the female can bury them in the substrate. Any fly angler will tell you that a simple egg mimic is one of the best fly patterns to use when targeting spawning trout or salmon. These little cylindrical packets of energy are a favourite food source for many fish species, including spawning brook trout themselves.

To be able to walk along a stream in the late fall, peer carefully in the water, and witness some of these amazing scenes is pretty special. 🐟

A large male dips down into the shadow of a boulder to eat eggs. The mother of those eggs attacks in protest.



A small male circles back around to continue its courtship routine with a ready and willing female.



Above: Several sneaker males kick up silt as they try to spawn with a female while going undetected by the large, dominant male. Right: Three males posturing.