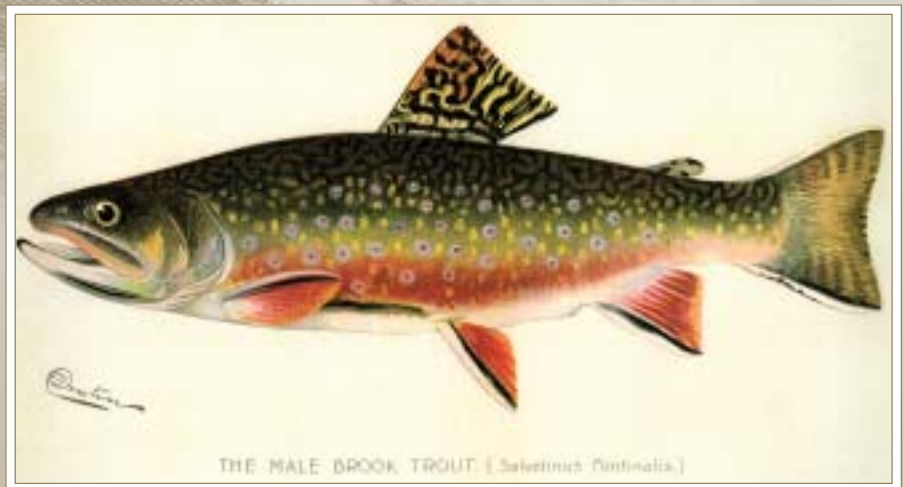


New Hampshire's Native Fish

By Jack Noon

Adapted from "Native Fish and Virgin Forests," the first chapter of *Fishing in New Hampshire: A History*.



The brook trout is a true New Hampshire native. Many believe that the "speckled beauties" followed the glaciers' retreat north at the end of the last Ice Age. Classic fish prints in this article are by Sherman F. Denton from the turn of the 19th century, courtesy of Dr. Robert Averill collection. See more Denton prints online at www.moosecountry.com.

Editor's note:

Jack Noon has spent the last 25 years getting sidetracked. It all started when the Sutton writer began researching a few scenes for a novel set along the Connecticut River in the 1760s. He needed to show what the salmon and shad fishing scene was like around Walpole and Bellows Falls, Vt. The first distraction was about how largemouth and smallmouth bass came to be introduced to New Hampshire in the 1800s; that resulted in his book, "The Bassing of New Hampshire." The second sidetrack is a comprehensive overview entitled, "Fishing in New Hampshire: A History," to be published this fall by Moose Country Press.

Look for more fishing history articles by Jack Noon in upcoming issues of Wildlife Journal.

FISH HAVEN'T ALWAYS been in New Hampshire. It is indisputable that while the last glacier was here, there were no fish whatever living within the current borders of the state. The fish available to the Abenakis and to the first European settlers had managed to migrate in, survive and reproduce over the millennia as the landscape changed from barren, glaciated wasteland into tundra and then eventually into forest.

When the first white settlers arrived in the Piscataqua region in the 1620s, the native fish found within the borders of what would later become New Hampshire fell into two groups of roughly equal significance: those which spent parts of their lives in salt

or brackish water and migrated either inland up rivers to spawn (anadromous fish) or, in the case of the silver eel, downriver and out to sea (catadromous); and those which spent their entire lives in fresh water.

The migratory fish in the Piscataqua watershed included striped bass and enormous Atlantic sturgeon, and in New Hampshire's portion of the Merrimack River both of these species were reported in the eighteenth century as far up as Amoskeag Falls in Manchester. There, Matthew Patten recorded in his journal catching a (small) 6-foot 2-inch sturgeon on July 6, 1761, that weighed 94 pounds and a bass on June 12, 1766, which he traded for a salmon. Atlantic salmon,

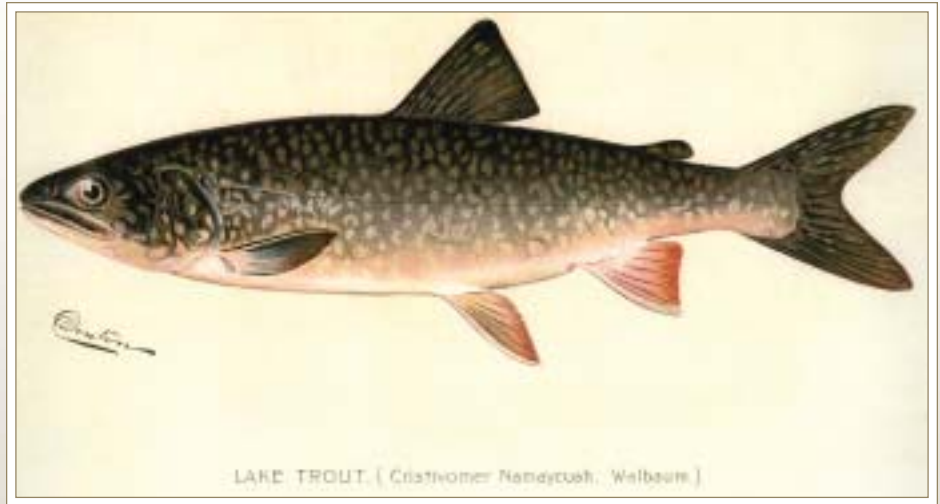
shad, lampreys, alewives, blueback herring and silver eels complete the list of species that split their time between fresh water and salt water.

Natives and Imports

The coldwater native fish of the interior that are of interest to today's anglers included at least three species of char — brook trout, lake trout and Sunapee golden trout. Winnepesaukee held cusk and two kinds of whitefish. The warmwater species of pickerel, yellow perch, sunfish and horned pout were present in at least the southern New Hampshire portion of the Connecticut River, in the mainstem Merrimack River and up the Winnepesaukee River into Lake Winnepesaukee, in a few ponds of easy access near the rivers and probably in a number of freshwater ponds near the coast. Otherwise, waterfalls or cold water had kept them from moving further inland. Black bass, brown trout, rainbow trout, landlocked salmon, northern pike, walleyes, carp and many other species now found in New Hampshire were all 19th century imports.

From the time the white settlers arrived at the Piscataqua in the 1620s until the 1720s, when the Scotch-Irish settlers began fishing at Amoskeag Falls, information on the freshwater fisheries of what is now New Hampshire is sketchy at best. The mainland white settlements during most of that century consisted only of Portsmouth, Dover, Exeter and Hampton (all with different boundaries than today). The three or more varieties of char present and the pickerel, perch, sunfish, horned pout and other inland species had long since settled into the established patterns of their life cycles minimally affected by humans.

Christopher Levett, writing about his observations along the coast of Maine in 1623 or 1624, reported a bay by the mouth of a river where herring fishermen at the time had taken four sturgeon in their nets.



When European settlers arrived, native lake trout populations were in at least eight New Hampshire lakes. Their populations here suffered during the early 19th century when lake trout were speared through holes in the ice and sold to Boston markets.

Enormous Sturgeon

In 1634 William Wood published an account, *New England's Prospect*, that showed fishing by Englishmen for anadromous species already well underway and confirmed that barrels of preserved sturgeon — ten years after Levett's report — were being sent back across the Atlantic commercially:

"The sturgeons be all over the country, but the best catching of them is upon the shoals of Cape Cod and in the river of Merrimac, where much is taken, pickled, and brought for England. Some of these be 12, 14, 18 foot long. I set not down the price of fish there because it is so cheap. . ."

As 17th century Massachusetts river towns became well established, fishermen learned the most efficient ways to catch anadromous fish in their seasonal runs (the sturgeon in particular) because of the strong commercial value of a single fish. Shore-bound fishermen without the capital investment or inclination to go after codfish or mackerel might have heavily targeted sturgeon (and salmon too). The fish on their spawning runs were particularly vulnerable to overfishing with nets in the narrow confines of a river.

A Good Store of Trout

The last 17th century writer I will cite here is John Josselyn for a pair of

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books: *New England's Rarities Discovered*, published in 1672, and *An Account of Two Voyages to New-England*, published in 1674. Among Josselyn's reports for the New England region he claimed sturgeon 16 feet long and two men catching 10,000 alewives in two hours. He also wrote, "Trouts there be good store in every brook, ordinarily 2 and 20 inches."

Before inland commercial fishing began or dams hindered fish migrations or forerunners of the 19th century "fish culturists" began moving fish species into waters they hadn't swum into by themselves, the inland fish populations of New Hampshire held to the habits and numbers and life cycles of centuries. The six documented anadromous species ranged up the river systems in what must have been tremendous annual runs. Fishermen went after them with nets and spears then, and they probably never even considered using hooks and lines.

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Stripers and Salmon

The striped bass in the Merrimack that ascended as far as Amoskeag Falls at Manchester were probably in pursuit of spawning alewives. They would have ranged freely through the many branches of the Piscataqua system until they were blocked by impassable falls. On the Connecticut River they probably never got beyond Massachusetts or perhaps even out of Connecticut.

Atlantic salmon were the greatest travelers. Some of them in their spawning runs ascended the Connecticut for more than 380 miles into its uppermost reaches and were also reported in its Ammonoosuc tributary practically up to Crawford Notch. Where the Merrimack River begins (in Franklin) at the junction of the Pemigewasset River and Winnepesaukee River, salmon continued up the Pemigewasset, again to its furthest reaches. Salmon ascended many of the tributaries on both the Merrimack and the Connecticut wherever there were suitable gravel bottoms for spawning. In the Piscataqua watershed the salmon runs had given Salmon Falls River its name, but by about 1750 these runs had been killed probably by a combination of mill

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dams, overfishing and sawdust pollution.

A common size for spawning salmon in New Hampshire was in the range of 8 to 12 pounds. Salmon that were much larger than this average weren't spawning for a third or fourth time, but were in fact first-run spawners that for some reason had stayed at sea for up to four or five years longer than was usual and had kept eating year round. Spawning salmon in New England went on a virtual fast for about half a year while they were in fresh water. Before their next spawning, their feeding at sea let them recover lost weight. Some Connecticut River salmon were reported at weights of 35 to 40 pounds. So far the largest New Hampshire salmon I've found an account of was a 42-pound fish speared in the Merrimack River near Franklin.

Shad, Alewives and Eels

Shad ascended the Connecticut no further than Bellows Falls in Walpole and were reported in the Ashuelot River, a New Hampshire tributary. They also ran the full length of the Merrimack River and the Winnepesaukee River to spawn in Lake Winnepesaukee, as well as up some of

the Merrimack's lower tributaries to spawn in their source ponds. Similarly, they ran up some of the tributaries within the Piscataqua drainage to source ponds there.

Alewives ran up the Merrimack in huge numbers at least as far as Cohas Brook, just downriver from Amoskeag Falls, and spawned in Lake Massabesic. They were common in the Great Bay area of the Piscataqua drainage and would have spawned, like shad, in the source ponds of some of the tributaries. Alewives in their outward appearance so closely resemble their cousin blueback herring that modern fisheries biologists commonly lump the two fish together as "river herring."

Silver eels, New Hampshire's only catadromous species, were — and are — found nearly universally in the state's lakes and ponds (even up into the Connecticut Lakes), though only the females ventured very far into inland waters. At the end of their life cycle they descended rivers in the fall and with the males, who'd been living in brackish coastal waters, journeyed to the Sargasso Sea to spawn.

Brook Trout and Other Char

Except for brook trout, which could range freely through water-



Before dams blocked their passage to and from the sea, New Hampshire's spawning Atlantic salmon commonly weighed 8 to 12 pounds. There are early reports of some salmon in the Connecticut River weighing 35 to 40 pounds.

sheds, the distribution of native char in New Hampshire had been determined by the pattern of the glacier's retreat to the north and west. Drainage patterns for the meltwater kept shifting. The ice walls had been effective dams, which had impounded huge temporary lakes. For instance, what is now Newport reportedly lay 300 feet beneath the surface of one such lake. When the ice dams or walls of glacial till finally let go, char were left behind in remnant deep holes. If they could then find sufficient food, reproduce successfully, and withstand or avoid the onslaughts of later-arriving warmwater species into their waters, they were present as "native fish" when the first white settlers arrived.

Lake trout, by this scenario or another one, wound up as native to eight New Hampshire lakes: Winnepesaukee, Squam, Newfound, Winnisquam, Crystal Lake in Enfield, First Connecticut Lake, Second Connecticut Lake and South Pond in Stark. They seemed to have no problems whatever with the arrival of warmwater species.

The Sunapee golden trout and other rare char competed poorly with many other species and needed physical barriers such as impassable waterfalls to keep them physically isolated. Golden trout, in addition to being in Lake Sunapee, were also confirmed to be in Dan Hole Pond and were perhaps in Wachipauka Pond in Warren and Silver Lake in Madison. A separate rare char lived in Dublin Lake; another in Christine Lake in Stark. The golden trout and whatever other rare char were once in New Hampshire have long been gone from the state. All were crowded out by the introductions of other species into their home waters.

Brook trout were historically far more common in state waters than they are today. Many lakes and ponds that now hold bass and pickerel were originally brook trout waters, including Lake Sunapee and Lake Umbagog. In a common pattern, many of



The Sunapee or golden trout (a char) was also originally present in several other New Hampshire and Maine ponds. It disappeared from Sunapee around the middle of the 20th century and is now found only in Maine.

the smaller trout ponds were overfished, and then locals attempted to supplement the dwindling trout populations by introducing a new species, commonly pickerel, which in retrospect were credited with wiping out the trout.

Everything Changed

New Hampshire's native fish populations — both of migratory fish and of those in residence year round — had arrived as the glacier was retreating, had adapted themselves into annual cycles, and for many centuries had fared quite well under the light touch of the Abenakis. With the arrival of European settlers, however, came new patterns that would change everything. For commercial fishermen, unlike subsistence fishermen who could eat only so many fish in a year, no quantity of fish was ever enough. Overfishing for both salmon and striped bass before the Revolutionary War would be enough of a problem to draw legislative action, and the Boston market for New Hampshire lake trout speared through the ice would help devastate lake trout populations early in the 19th century.

Likewise, forests had begun to fall very early to supply masts, sawtimber, tanbark, barrel staves, clapboards and so forth and to provide the large clearings that agriculture with livestock required. Such widespread clearing to meet the needs of ever

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growing populations would continually diminish brook trout habitat by lowering summer water levels of brooks and by raising water temperatures. Water-powered mills needed dams, but those dams would completely block anadromous fish spawning runs by 1847.

In the 19th century, fish culture would be welcomed as the technological antidote to overfishing and blocked spawning runs. Railroads and steamships would allow the introductions of exotic fish species from across the continent and from across the Atlantic. Hence the fish culturists introduced fish species with little regard for what possible impacts they might have on native species and brought tremendous changes to fishing in New Hampshire. ■