

Wild Trout

HATCHERY TROUT

Can We Have It Both Ways?

BY ANDREW SCHAFERMEYER

Yes. Despite the natural challenges facing New Hampshire's wild brook trout, the little squaretails can fare quite well in some streams. Fish and Game is looking into making the most of these fisheries by creating wild trout management areas.



“Sparkling Headwaters – Brook Trout” by Mark Susinno,
Courtesy of the artist and Wild Wings Inc.,
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Allow me to create an angling scenario. I understand that we’re in the middle of winter, but imagine a spring day watching a brook wind its way through New Hampshire’s White Mountains. As a warm breeze blows the black flies off of his hat, an old man casts a short fly line back and forth, making sure to keep it out of sight from whatever fish lies below and also keeping his small, dry fly out of the alders behind him.

Many years of experience and a little luck allow his fly to land exactly where he wants it and, almost immediately, it disappears into a small dimple created by a rising trout. After a few leaps and a run upstream then downstream, the fish tires

and finds itself in the old man’s hand.

As he gingerly removes the fly from a beautifully colored 6-inch brook trout, he rolls it over, studies it, and subconsciously asks himself a common question: “Is it a native or a stockie?” Here’s a rough translation: “Was this fish born in this piece of water or raised in a hatchery and placed here?”

Without wasting time, the man releases the fish and all that can be heard is the rippling water and a whooshing fly line. Although his question was not pondered very long for fear of wasting valuable fishing time, it is a complex one, which branches into many concerns about the management of New Hampshire’s fisheries.

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Indeed, it seems that a separation has been created among New Hampshire's angling public. One voice says that a wild fishery is more natural, while another says that hatchery-raised fish create fishing opportunities where they otherwise would not exist.

The first voice counters that hatchery-supplemented fisheries bring an artificial element into a fishing experience and, when overlapped, may threaten wild populations. The second voice says that wild trout fisheries exist in such limited habitats that, outside of aquaculture or no harvest, fish can not become numerous or grow large.

The New Hampshire Fish and Game Department, which has been raising and stocking hatchery-reared trout since the 1800s, is acutely aware of the two voices.

In the six years that I've been working with fisheries management programs in New Hampshire, I've had the chance to be involved in both sides of the issue. As a hatchery technician, I worked days (and many nights) on end ensuring that fish were raised and kept healthy until they could be stocked. Each fish that was

Sometimes you can tell the difference between wild brook trout and brook trout raised in hatcheries.

Hatchery trout may have worn fins and a bit duller color.

But advances in aquaculture techniques are making it harder to tell them apart.

unloaded from a stocking truck into a public waterbody was a representation of our goals as fish culturists. The trout were beautiful, healthy, and placed to add satisfaction to an angler's experience. It was proud, satisfying work.

Recently, my job has shifted and I find myself participating in new areas of study. Population assessments, habitat quantification, and restoration efforts are just a few examples. I've studied wild brook trout populations and marveled at their beauty and resilience. They are our state fish and a perfect symbol of a truly wild New Hampshire.

THOUGHTS ON WILD TROUT

In 1996, the Department conducted a survey to gather anglers' opinions on all sorts of fishing issues, including wild trout fisheries and stocking. Seventy-three percent of resident anglers and even more nonresident anglers supported managing selected waters for wild trout only. In the same survey, anglers were asked whether they support or oppose the Department in stocking catchable-size trout. Ninety-one percent of resident anglers support this practice (68 percent strongly support it), while only 4 percent oppose it.

Raising and stocking fish,

as well as researching and managing wild trout, are funded in part by the Federal Aid in

Sport Fish and Wildlife Restoration Program. Your purchases of fishing equipment and motorboat fuels make a difference to New Hampshire's fisheries.



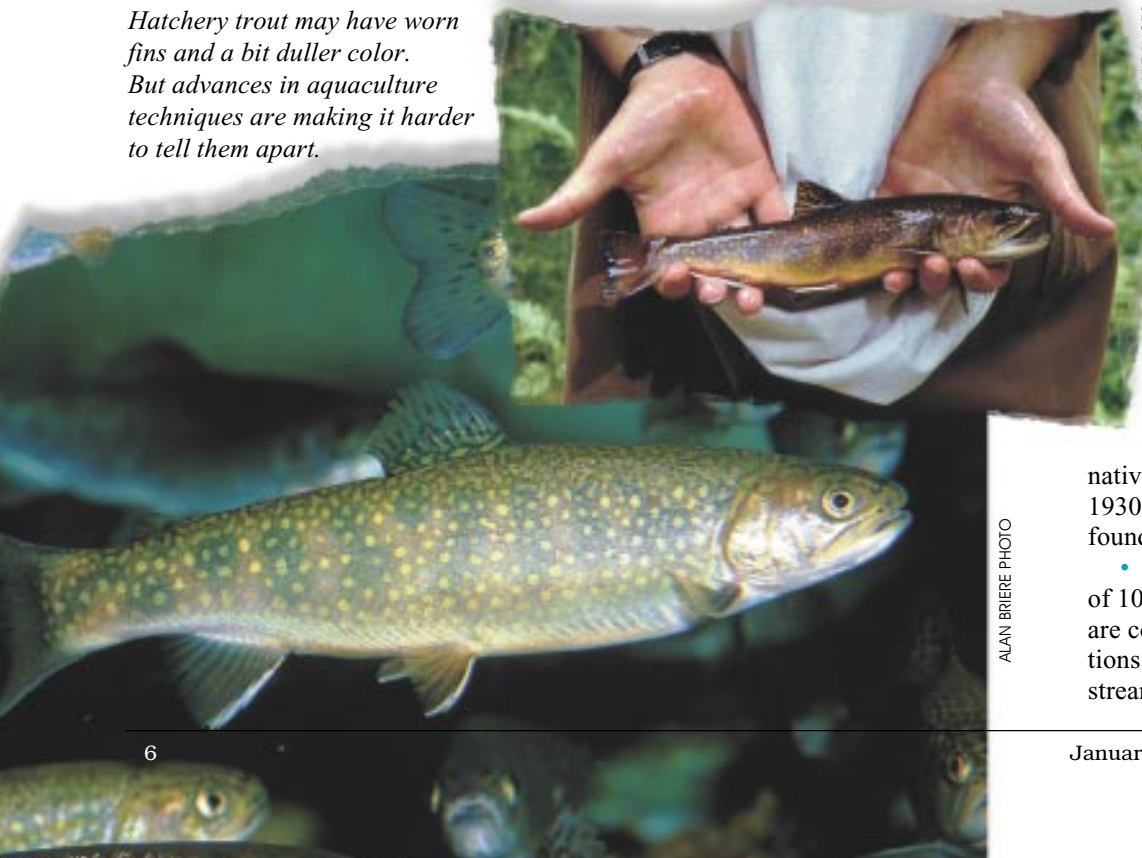
In a state like New Hampshire, there's room for both strategies: waters that are stocked, and other waters that supply their own home-grown brookies.

Any population of organisms born and grown in a natural ecosystem over time will, through evolution and natural selection, be the choice organism for that environment. They will be the best fit with many parameters of a specific habitat and may be better adapted to deal with environmental changes.

Some anglers are concerned that when hatchery fish are stocked and enter a wild population, they wreak havoc on an otherwise balanced system. If you compare wild trout and hatchery fish, one of the first things to look at is competition for things such as food and territory, especially if these resources are scarce. Another concern with hatchery fish is that they may reproduce with wild fish and create a genetically weaker offspring.

Fish and Game has been studying the state's wild or native trout populations since the 1930s. Some things biologists have found are:

- Streams with wild trout densities of 10 to 13 pounds or more per acre are considered pretty good populations in our state. In comparison, streams in central New York produce



KEN SPRANKLE PHOTO

ALAN BRIERE PHOTO

average densities of 187 pounds of wild trout per acre.

- Naturally reproducing trout have fairly low survival rates. One study reported that the maximum survival rate of wild brook trout to age 1 was 82 percent, while survival to age 2 was only 6 percent, and less than 1 percent to age 3.
- Low survival rates may account for their small size classes in New Hampshire. In the Department's "Fishing for the Future" statewide stream inventory, 14 percent of the wild brook trout sampled were 6 or more inches long. And a wild brook trout wouldn't reach 6 inches until it was two or three years old. Other factors affecting their growth and survival include relatively poor nutrients in our soils and streams, low fertility and little food abundance.

FILLING NATURE'S GAPS

Add to this the anglers' demand and desire to fish for trout – any trout – and the picture gets a little more complicated.

New Hampshire has certain bodies of water where trout can't reproduce at a rate that will sustain their populations through the fishing pressure that they receive. Spawning habitat may be limited or nonexistent. What may have been a healthy and numerous trout population 10 years ago could today be depleted because of increased pressure on an already limited resource.

Even more severe is a waterbody that can't support a fish through its complete life cycle. Usually because of high summer water temperatures and the decreased oxygen levels that result, certain waters create a period when fish die. Because of both these conditions, stocking hatchery fish is the only way to create a trout fishery in many waters.

An additional concern seems to be an aesthetic one. Many anglers claim they can distinguish hatchery fish from their wild counterparts just by looking at them. Fin erosion, dull external color, and tasteless filets



Biologists use electrofishing equipment to survey fish populations in this wild trout stream in southern New Hampshire.

seem to be common clues. In reality, advances in most aquacultural techniques, such as nutritional parameters and disease control, have all but eliminated these misconceptions.

WILD TROUT MANAGEMENT AREAS

New Hampshire's trout anglers are a diverse group with interests lying in both types of fisheries. Fortunately, we have enough waterbodies, varying conditions, and cooperative participants, that decisions about trout management can be flexible.

Both goals can be accomplished. Many coldwater fisheries that are upheld through stocking can continue. Fishing opportunities will be created that allow people to catch fish where they normally wouldn't otherwise be able.

To meet interest in wild trout fisheries, the New Hampshire Fish and Game

Department is looking into establishing certain areas for managing wild brook trout that won't be sustained or supplemented with hatchery-reared fish. The goal is to provide fishing opportunities that don't require hatchery assistance.

The first step is identifying these populations and areas and recognizing the elements that sustain them. Important factors include water temperature, dissolved oxygen levels, pH, sufficient food resources, and access to gravel that's the right size for spawning and incubating eggs.

One or more of these wild trout management areas may be located in each area of the state. They may consist of one or more streams and have special harvest regulations, possibly catch and release only and some gear restrictions.

The Department has identified about two dozen streams in several major watersheds that are candidates

for wild trout management areas. Some of those streams are currently stocked; if so, stocking there would stop under this strategy.

If the assessments go smoothly and as planned, the first wild trout management areas could be ready as early as the 2002 fishing season.

We'll keep you posted on the developments of this concept.

In the meantime, keep thinking about the guy at the start of this story, casting his dry fly towards that rising wild trout. It could be you. ■

Andrew Schafermeyer is a former fish culturist at the Warren Fish Hatchery and is now a biological technician at the Department's Region 1 office in Lancaster.




LINDA MACKAY PHOTO

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