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Fishwalking in the Whites

Do large trees grow large trout?

Tim Traver



JULY 9, 2012: THOREAU FALLS. ON A HOT DAY IN MID-JULY LAST SUMMER, the patter of rain on my trekking umbrella puts me to sleep in the Pemigewasset Wilderness. Are monsoons, thanks to global warming, coming to northern New England? This is day two of a planned extended fishing transect through the White Mountains. The last time I did such a thing, I was a kid working in the Appalachian Mountain Club's high huts back in the early 1970s. There I discovered, along with a love of the mountains, a love of trout fishing. While my hut compatriots were off setting ridge-running records or pursuing ill-advised night raids on other huts, I was in the valleys walking newly minted Wilderness areas looking for wild brook trout. Now, like a Rip van Winkle, I was back. What had changed?

Trout fishing may not contain the daring of a decent night raid, but traveling pool to pool upstream always took me to memorable places. I still remember those places and those fish. I recall in sharp relief a certain beaver pond found 40 years ago under The Horn of Mount Cabot and the wild orange-bellied brook trout I caught there; I can still see bright red spots on the sides of six brook trout in their high, granite-lined pool in Evans Notch. I remember a large male Ammonoosuc brook trout I caught and the cast I made at dusk to catch him (it has to be dead-on with a lie like that, and you have only a split second to hook your fish before the fly is swept downstream). I also remember those days of youthful fishing that didn't yield a fish and trips that ended in near-disaster—a canoe bent around a rock on the Androscoggin River at Errol, a fine new rod lost in a slip at Pontook Dam. Over the ensuing years, have these places and fish changed? Brook trout, the biologists tell us, are sensitive barometers of ecological change. We change too.

Can a fishing transect through old mountains and memory fish tell not only how a landscape has changed in 40 years, but also how we have? Can you count on memory fish, like old music, to be there when you aren't?

Sometimes changes on the land are painfully obvious—farms turned into housing developments, wetlands drained, that sort of thing. Change in a Wilderness area, even across 40 years, is usually less obvious, but not always.

YESTERDAY, ON DAY ONE OF MY FISHING TRANSECT, I WALKED UP THE East Branch of the Pemigewasset River in the upper reaches of the Merrimack

Fishing for your dinner is a sport of the past in remote White Mountain rivers. These sites remain full of "memory fish" for the author, who went looking for fish for three days last year. JERRY AND MARCY MONKMAN

watershed. I fished from daybreak to 10 A.M., beginning at a wide quiet place in the river near Franconia Brook Tentsite, a few miles above the Lincoln Woods trailhead, and saw no sign of fish. It had been the same the previous night. I had expected at least a rise or two: It was still early July and the water was cold. There just didn't seem to be any brook trout. What I did see everywhere was evidence of Tropical Storm Irene. Irene had come through the previous Labor Day and wrought havoc. I saw newly gouged and undercut banks, widened channels, gravel deltas well above stream banks, downed trees, new islands, washed out and closed trails, and bridges reduced to tangled cables. Was there a connection between the flash flood of Irene and the absence of fish, or was I just a really bad fisherman? Could Irene have flushed the brook trout downstream and into oblivion?

Floods, especially in these upland brooks, can wipe out brook trout populations, but they generally rebound, rapidly expanding back into available habitat. Annual trout mortality is naturally high in headland streams, but so is fecundity. Floods, in fact, can be beneficial to brook trout. They add tree trunks and tops and deepen pools and channels. Wood dams slow water down. Today, a primary prescription for damaged brook trout habitat is adding brush to streams. Organic matter attracts insects that trout eat and adds shade and needed nutrients to these nutrient-impooverished waters.

But there's something else to consider in Irene. Today, climate scientists warn of the growing intensity of coastal storms, thanks to rising ocean temperatures. Bigger storms mean even more violent runoff. Wild trout also need cold water and disappear without it. Rising air temperatures warm average stream water temperatures. Global warming does not bode well for brook trout. But, irrespective of global warming, mountainous northern New England already owns an unfortunate relationship to flooding and intense runoff. In 1881, when "Ave" Henry began clear-cutting the Pemi's old-growth spruce and fir, he exposed its forest floor. The forest's soils dried out and began washing away. Several decades of fire didn't help. Nor did the rail and road building, the construction of sawmills, millponds, and dams. We still feel the effects, even though the forest has returned. I remember the dramatic washouts of Route 302 in Crawford Notch during the summer hurricane in 1971, and the floods of 1972 that drowned a girl in the Dry River. My Mizpah Spring Hut crew helped with that sad carry. The hurricane of 1938 knocked down millions of trees in the Whites, including most of what little remained of old-growth red spruce. And the 1927 floods rivaled Irene.

Hurricanes, spring runoff, and storms are natural; it's the intensity of the runoff that isn't.

Before the loss of old-growth forest ecosystems going back three centuries, the deep organic soils from thousands of years of deadfall and slow decomposition, and the shade and the humidity created by a canopy of giant red spruce had a profoundly moderating effect on forest microclimate and water flows. Writer George Perkins Marsh noted in the 1850s the connection between water flows and logging. In the upper reaches of the Pemi, circa 1876, guidebook writer Moses F. Sweetser writes of "a vast primeval forest . . . [whose] inner solitudes should be entered only under the guidance of experienced foresters; and traveling will be found very slow and arduous." It was a country where "trout increase and multiply almost undisturbed in the brooks and ponds." Long before storm waters hit streams, they'd percolated through feet of what writer Jack Noon, author of *Fishing in New Hampshire: A History* (Moose Country Press, 2003), describes as *sponge mats* of sphagnum moss, rotting wood, and duff. The presettlement forest floor filtered, buffered, and cooled water and provided a continuous water supply to rivers throughout New England. And that was good for native brook trout.

Maybe in *Wilderness*, we're traveling back in time as we move forward. How long will it take to return to old-growth ecosystem—to the humid, moss-covered forest floor with duff measured in feet, to gentler flows, cold water year-round, and larger fish?

AFTER A FEW HOURS OF A SOAKING WET SIESTA UNDER A SMALL UMBRELLA, I begin making my way to Thoreau Falls and an old fish memory. I first encountered eastern brook trout at the base of those falls in 1971. On a morning walk from Zealand Falls Hut down the Thoreau Falls Trail, I ran into a group of whiskered, sooty fellows on a fishing holiday. They had a bottle or two of Jack Daniel's, a fire, and a bacon-greasy frying pan in which they were frying fish with the enthusiasm of 10-year-old street urchins. They bragged they had caught 70 fish in a few days and invited me to a fish and whiskey brunch. It was an aromatic encounter, the perfume and sizzle of frying fish and the hot whiskey going down and almost back up. It all made for an interesting walk out the Thoreau Falls Trail that I do not much recall.

Looking back, it seems obvious that this type of fishing was headed for extinction. The friends had hauled in heavy cast iron frying pans, lawn chairs,

and canvas tents for their jamboree and camped down for a week of fishing, drinking, and camaraderie—the kind of gathering I admire, even today. But their fire pits were enormous and filled with charred tin cans. But in 1971, the Wilderness designation in the Pemi was only two years off, and Leave-No-Trace camping was in its development phase. Concentrated Use Areas would soon arrive, and catch-and-release fishing was catching on. Trout management was changing too. The singular focus on stocking streams with hatchery-raised brook, rainbow, and brown trout was beginning to give way to the concept of ecological restoration: air quality, water quality, habitat and wild brook trout, other native fish, and plant communities all wrapped together. Science-driven fisheries management and ecosystem thinking were worming their ways into our collective consciousness.

The fire rings and whiskey at Thoreau Falls are gone, but the trout are still here. I don polarized sunglasses and begin moving between pools. Fishwalking doesn't always mean catching. If the sun is just right—over your shoulder or overhead—our streams open up as clear and transparent as new glass and you can watch brook trout moving about, hanging suspended in the eddies behind rocks, busy being the fish they are. I can report that handsome little brook trout *Salvelinus fontinalis*, which are really char rather than trout, with their dark, mottled green and black backs, and red-spotted sides and bright red caudal fins, still live under Thoreau Falls and that they are of a size similar to what I ate in 1971. Tiny.

Have brook trout always been so small in these parts? Historical accounts point to much larger fish in this river and elsewhere throughout the White Mountains. In Lucy Crawford's *The History of the White Mountains* (White Hills, 1846), her husband Ethan observed in 1844,

Parties [returning from horseback expeditions up Mount Washington] often stopped by the way and fished for trout. These in the old times were plenty and of large size, but in this day having so many fishing for them, they do not have time to grow very large before they are called for and the probable amount of trout caught from one year to the another in the Amanoosuc [sic] and the Saco Rivers is six to seven hundred weight. The average weight is from 4–8 ounces. . . . There have been some caught here 40 years ago that would weigh 4–5 pounds and many large ones now are found in the vicinity and in several directions.

Noon cited numerous early records of much larger brook trout throughout New England, including John Josselyn's assessment from 1674 “that in

New England there were brook trout in good store in every brook, ordinarily 2 and 20 inches.” A 22-inch brook trout is a very large brook trout by today’s standards. It’s a three-pounder anyway.

Noon also found records of 10- to 12-pound brook trout in the Rangeley Lakes and great numbers of large spawning brook trout in outlet streams. These fish would be speared, netted, pickled, and smoked into extinction by eighteenth- and nineteenth-century fishermen. Today, trout scientists working to restore brook trout habitat in the Nash Stream watershed, using electroshocking, consistently find populations where trout run from 5 to 10 inches in highland streams. Water flows and nutrient regimes that could support much larger fish in backcountry streams just don’t exist here. My soils professor in graduate school, a trout fisherman (and Mets fan who liked to intone that “it’s not over ’til it’s over” about the 1986 World Series against the Red Sox—and to my chagrin, he was right) had a theory that the large brook trout found in the eighteenth century were like coal, a product of deep time and prehistory. Once mined, it wasn’t coming back.

On the question of large brook trout high up in the White Mountain watersheds, Noon made a compelling connection between lamprey eels and these headwater streams. Before dams blocked their passage, enormous schools of sea-run lamprey made their way into the upper reaches of the Pemi, Connecticut, and Saco rivers, spawned, and died. Their carcasses would have littered streambeds and provided valuable and plentiful sources of essential nutrients to these ecosystems that its granitic bedrock couldn’t provide. Noon cited research on the relationships between Alaskan salmon, grizzly bears, and the travels of isotopic nitrogen to anchor his theory. Today, some larger brook trout can be caught in places such as the Dartmouth College Second Grant’s Dead Diamond River, Maine’s Rapid River, large, remote ponds and larger lakes, but the vast brook trout protein resource available to early settlers is long gone. By the 1930s, hatchery fish reinforced the fisherman’s recreational experience in most White Mountain streams.

Did the virgin spruce forests of the Pemi, with their deep soils, deadfall dams, and large trees grow large fish? It seems possible. But even without the promise of big fish, such luminaries as Joe Dodge loved trout fishing. One of the first stories of Joe I ever heard was his uncanny ability to dodge fish cops in the happy pursuit of catching more than his legal limit of trout.

JULY 9, 2012: ETHAN POND. THE CARETAKER AT ETHAN POND CAMPSITE plays a banjo and sings lusty songs he composed himself: Girlfriend’s gone!

sitting on a chair/drinking whiskey/it ain't fair, it ain't fair. Plink-a-plink-plunka-plunk. Through the early evening, the shelter fills with a group of young Afghan War vets walking the Appalachian Trail end-to-end together. The vets are raising money for the Wounded Warrior Project and for the families of friends they'd lost. I can't think of a more worthy group or a better reason to be out walking the AT.

At dusk, we walk down to the pond and watch fingerling brook trout jumping clear out of the water after caddis flies by the outlet brook. These



Officials allow only catch-and-release fishing in Ethan Pond, which they have stopped stocking. Leaping fingerlings at dusk proved that the natural population is reproducing.

JERRY AND MARCY MONKMAN

leaping fingerlings probably reproduced naturally. Ethan Pond is the site of an experiment in wild trout production. It's catch and release only and the state is no longer stocking it. Can this pond sustain a naturally reproducing population of brook trout today? It certainly did in Ethan Allen Crawford's time, though the Crawfords weren't dealing with such modern environmental maladies as acid rain.

In 1830, Crawford wrote,

This summer I guided several parties to the Pond [Ethan Pond]. The first time I went there, we caught in a short time about 70 salmon trout; they differed a little from our common river trout, as they had a redder appearance and taste and flavor was delicious. On the bank of the pond we struck up a fire and after dressing a sufficient number of them, we cooked them in a real hunter style. I cut a stick with three prongs to it, and put the trout on these prongs in the form of a gridiron and I broiled them over the fire; then I would cut pieces of raw pork and broil them in the same way and lay them over the trout and that would give them the same relish. . . . I always enjoyed these and similar feasts in the woods, as in such ways I suppose our forefathers lived when they first came and settled this country.

The Ethan Pond fish Ethan Allen Crawford referred to as salmon trout are in fact brook trout. He also notices slight differences in appearance between those and his "common river trout"—which, of course, are also brook trout. Isolated populations of brook trout exhibit a broad range of genetic diversity in the White Mountains. It wouldn't have taken long for Crawford, at that catch rate of 70 in one trip, to empty the pond of fish.

Fast forward to 1946, when New Hampshire began aerially stocking remote ponds using fixed-wing aircraft. According to John Viar, in charge of stocking programs in the White Mountain region, the original pilot was a World War II Liberator bomber pilot—and a good thing. It was challenging terrain. Choppers replaced airplanes in 1974. Before 1946, it's likely that stockers used a backpack tank at Ethan Pond. Before the advent of aircraft stocking, intrepid fishermen stocked places such as Ethan, Carter, and Spaulding ponds by packing up living trout fry in several gallons of water on their backs.

Fish culture is an old art first practiced widely by the ancient Chinese. The Romans with Lucullus and his salmon ponds by the sea learned from the Chinese. The French fish culturalist Joseph Remy may have been the first who stocked depleted rivers; he did it in the 1840s. By the 1860s, New Hampshire



Fish stockers started with backpack tanks. After World War II, trained bomber pilots started dropping fingerling trout from small planes. Above, a pilot pours fish into the holding tank before a flight. NEW HAMPSHIRE FISH AND GAME DEPARTMENT

officially practiced it. In 1868, according to the fish commissioner's report to the legislature, fish were raised in six state-run hatcheries. Although the main enterprise was raising Atlantic salmon for the depleted waters of the Merrimack, Connecticut, and Piscataqua rivers, New Hampshire hatcheries were growing nearly 2 million fingerling brook trout, along with an assortment of other experimental introductions including German red trout, ling cod, and char. Rainbow trout, shipped by railcar from the McCloud River in California, arrived in New Hampshire in 1878, and brown trout from Germany were introduced to White Mountain waters in 1887.

I am disappointed by the no-kill regulation at Ethan Pond. I would like to fix a trout in the Ethan Allen Crawford manner here. And, someday, maybe I will. It seems to me that with the incredibly light fishing pressure these ponds face today, a pack-rod fishermen ought to be able to do that. But today, catch-and-release trout fishing has caught on as the way to amend the excesses of the past and protect fisheries still in recovery. It's an appropriate tool in many, not all, cases.

JULY 10, 2012: SHOAL POND. HEADING TO SHOAL POND AND MOUNT Carrigain, I think of today's wars and of the war I narrowly avoided. Instead of fighting in the jungles of Vietnam, I had the luxury of kicking around in the mountains during my late teens and early twenties. It was just my cohorts'

luck, and we have been lucky in the arena of warfare ever since. The draft ended the year I became eligible. Around that time, I caught my first brook trout—a 10-inch hatchery trout at Shoal Pond—graduated from high school, and went to college. The Vietnam War era was a confusing one. To a lot of us, college felt . . . the word we used then was *irrelevant*, and by spring semester, I teetered on the verge of quitting to join a religious cult and move to India. The night I shaved my head and decided to surrender to my bliss, a trout fishing friend, Bob Vanderbeek, came into my dorm room and asked if he could have my L.L. Bean spin/fly pack rod since I certainly wouldn't be casting from an ashram in Calcutta. *No*, I said. *You can't*. And maybe that's why I never left for a life of mantra chanting and yoga in India, because of the memory of that 10-inch brook trout at Shoal Pond. We think we hook the fish, but it's the fish that hook us.

Shoal Pond today looks nothing like it looked in my memory from 1972. Forty years ago, we camped on its dry shores under hemlock fir. Now I find growing there a healthy bog plant community that includes the largest specimens of the carnivorous pitcher plant *Sarracenia purpurea* I've ever seen. Shoal Pond is *wildernessing*—turning itself into another country with the help of beaver and the shaggy growth of wilderness coming up around it. This gives me hope. In the absence of timber harvest and wildfire (no guarantee), the entire upland bench in that part of the Pemi is becoming a saturated, beaver- and moose-friendly Nowhere. I suspect it's good brook trout country, too.

WHAT IS GOOD BROOK TROUT COUNTRY? IT'S COUNTRY WITH RELIABLE supplies of clean, cold water. Brook trout need water where average July temperatures stay below 68 degrees. They can withstand warmer water for short durations only. A warming climate, even by a few degrees, is a major problem for trout.

To consider the impacts global warming might have on brook trout, particularly in areas within brook trout range where temperatures are already on the edge, scientists are experimenting with paired water and air temperature recorders. These devices measure proximate water and air temperatures over time to determine the relationship between the two. The short-term data do not show great cause for concern, but brook trout are a long-term consideration.

Good brook trout country has landscape connectivity. North of the Pemi, Nash Stream habitat restoration work includes reconnecting stream sections

cut off from each other by logging roads. Culverts were rarely designed with fish movements in mind, and over time, drops developed that prevented trout from moving upstream. Larger, newly designed culverts remedy that problem, so wild trout increasingly have the run of their old geography. Restoration often involves doing basic reengineering so nature can do the rest. Trout move back in when pools, food, escape, and spawning areas are accessible. Over time, as the old forest returns, streams that currently dry out during the warm season will continue to run high and cold. Where wild trout flourish, it's likely that the entire suite of ecosystem services associated with trout flourish, too.

JULY 11, 2012: MOUNT CARRIGAIN. I HAVE NEARED THE END OF THE FIRST leg of my trout transect and not caught a single trout. This is unfortunate. On the other hand, fishing is never just about catching, unless you depend on it for food. Just seeing the possibilities is a large part of fishing. And at least I have seen fish and remembered a few.

My intent has been from the start to visit the watersheds of each of the four great systems that arise in the White Mountains. But today, instead of pursuing the fishing transect up and over Nancy Ponds, and into the Saco watershed, I decide to climb Carrigain and camp on top for the night. The mountain is calling. Besides, access to the Dry River is shut down, thanks to Tropical Storm Irene.

Carrigain was the first big mountain I ever climbed. I was 10 and an enrollee in summer camp, 1964. My brother's freak fishing accident put me on Carrigain, and for that I will be forever grateful. He had somehow managed to embed a spine from a bluefish dorsal fin deep into his elbow. Minor surgery extracted it. He couldn't go to camp then, and I was sent instead. Carrigain that year was pure magic. We found a hare's nest full of baby leverets, watched a family of spruce grouse, crossed Signal Ridge in high winds, drank water from the old warden's cabin well, and arrived at Desolation Shelter in the dark and rain. I had experienced nothing in my ten years of life that vaguely registered as similar. The images have stayed with me.

On top of Carrigain, there are no fish save the dream variety. It's a good place to sleep and dream, a place of clouds, storms, and May snow, even in this time of global warming. A place for a meeting with the wordless gods of cloudy obscurity.

NEXT FALL I'M GOING TO FIND MY WAY to Nancy Ponds, where rumor has it I'll find brook trout. I'll check out the patch of the old-growth spruce there. What will the fishing be like 300 years hence when these valleys are clothed again in old-growth red spruce? Will that old growth have grown larger trout?

Dropping down into Crawford Notch, I'll walk up Dry River. Up a mile or two, I'll find a rock and, as did a hippie I once met on the Wild River, I'll sit on it and fish with worms for a few days. From there, I'll bushwhack up a side stream crossing the Montalban Ridge into the Rocky Branch of the Saco. I'll walk south looking for the best pools. A few should confirm what I already know: Small brook trout live there, perfect for trout sushi.

From Rocky Branch up and over the Rocky Branch Ridge, it's a few miles into Jackson and the Wildcat River, a federally designed Wild & Scenic River. I'll fish it up to Carter Notch and then fish Carter Pond, a favorite spot for a

long line of North Country hiking anglers *in the know*. The New Hampshire Fish and Game Department has been stocking Carter Pond with fingerling brook trout, officially, since the 1990s (285 fingerlings weighing a total of 2 pounds in 2011). Private citizens have been stocking it, unofficially, since long before that. In backcountry ponds, they stock a Kennebago strain of brook trout known for its wild qualities. These fish subsist on thin mountain fare (perhaps leeches) but still manage to grow to about twelve inches. So if you catch a few you might coax the hut crew into baking a trout almondine.

From Carter, I'll head east. There's a new Wilderness there, and beyond it, brooks and streams, ponds and lakes clear to the Maine border and well beyond. The likes of Cold River and Kezar Lake, each full of memory fish, enough for a lifetime. I'll hit the border and just keep going until the fly box is empty.



The New Hampshire Fish and Game Department stocks some remote ponds with fingerling trout, using helicopters. The biologists prefer the Kennebago strain of trout, above, because they are less domesticated than other varieties. NEW HAMPSHIRE FISH AND GAME DEPARTMENT

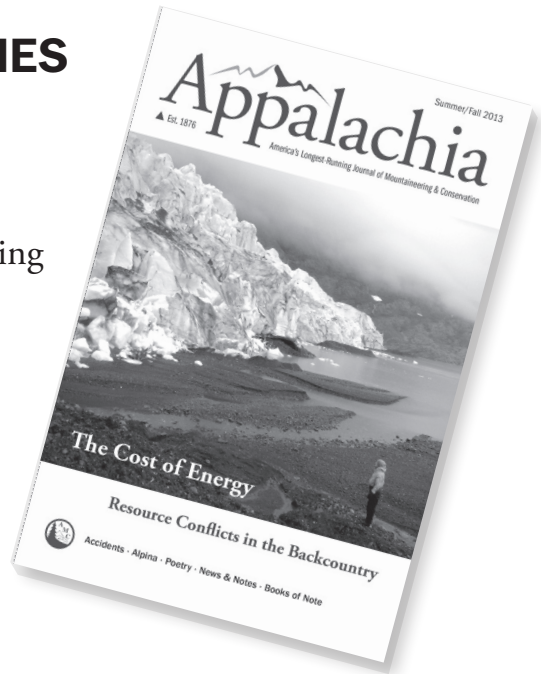
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