



# SALTER QUEST

BY MARK TAYLOR



*Steve Dewick of the Merrymeeting Bay chapter fishes at the lower end of a small stream near Freeport, Maine.*



*The Lyman family and their guests commemorated trophy trout from Red Brook with wooden cutouts. Some of the cutouts date the early 1900s.*

**I**N NEW ENGLAND AND ALONG THE NORTHEAST COAST, SEA-RUN BROOK TROUT, OR "SALTERS," ARE LARGELY OVERLOOKED AS ANGLERS TEND TO BE SMITTEN BY GLAMOROUS SPECIES SUCH AS ATLANTIC SALMON, STRIPED BASS AND TROPHY INLAND BROOK TROUT.

But the pretty fish haven't always been relatively anonymous, garnering plenty of attention from high-profile fishermen in the 1800s, including American statesman Daniel Webster, who legend has it pulled a 14 ½-pound salter from a Long Island stream in 1821.

While parts of the tale of Webster's "world record brook trout" may be apocryphal, some of those 19th century salters were of trophy size, best measured in pounds instead of inches.

But the fisheries declined in the wake of industrialization and damming, and as demand for property for residences along the picturesque coast grew.

"These fish like expensive real estate," said Merrymeeting Bay chapter member Randy Clark, a volunteer in the salter restoration program.

Cranberry farming also had an impact in areas as flooding bogs degraded critical habitat.

"The bogs went in everywhere," said Warren Winders, of the Massachusetts/Rhode Island TU Council and a long-time salter advocate. "It was a way for people to survive. You can't blame them."

As salter brook trout populations declined, anglers shifted their focus elsewhere.

"Anglers who had money to fish moved away to where the big fish were," Winders said.

With the loss of salters we were losing more than just fishing opportunities: we were losing one of our most fascinating coldwater fish. Salters spawn in freshwater and show variable degrees of migration to saltwater. Some fish move between the stream and the ocean frequently, while others may never leave

their home brooks. Thanks to efforts led by Steve Hurley of the Massachusetts Department of Fish and Game, we're just starting to understand the complexity and benefits of these movements. Hurley's survey work found individual brook trout growing as much as four inches in single winter living in the salt, and brook trout spawning in lower parts of streams as they are being flooded with salt water on high tides. The ability to be able to seamlessly move between fresh and saltwater had been known as an advantage for escaping harsh conditions in either environment, but the diversity of salter behavior in terms both growth and reproduction has only recently been discovered.

With salter populations depleted and the attention of many anglers focused elsewhere, salter brook trout entered into a period of relative anonymity, off the radar of most state agencies and conservation organizations. That began to change, however, in the 1970s, when TU's Cape Cod Chapter started working to recover salters on Cape Cod's Quashnet River and Red Brook.

Because much of the Quashnet's watershed was protected by public ownership, the stream provided an excellent opportunity for restoration work. With

Surveys showed a 400 percent increase in salter numbers over a 20-year span.

Nearby, spring-fed Red Brook flows through the 210-acre Lyman Reserve and a 420-acre state-owned wildlife management area, on land donated by the Lyman family.

Since the land was donated, TU has helped spearhead significant restoration work, such as dam removals and the addition of woody cover on the stream. One survey found a nearly seven-fold increase in trout numbers from 1997 to 2008.

Through its faith, hard work and persistence the TU Cape Cod Chapter had

monitoring and scientific assessment. Not far away from the Quashnet, near Westport, Mass., TU's MA-RI Council is part of a coalition working to protect Angeline Brook by acquiring and protecting 102 acres that includes 1.7 miles of high-quality coastal stream habitat.

The removal of the Tack Factory Dam on Third Herring Brook in Massachusetts in late 2016 opened up more than eight miles of stream habitat that had been blocked for more than 300 years. TU has been a funder for that project since the effort originated and will be monitoring the impact, includ-



Salters take advantage of diverse food sources and can grow large, such as this 16-inch fish from a Massachusetts coastal stream.

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chapter president Fran Smith leading the charge, significant work started in the 1980s.

Volunteers from the chapter, which earned TU's Golden Trout award in 1988, have invested more than 40,000 hours installing in-stream structures and planting as many as 5,000 trees and shrubs along the riparian corridor.

accomplished something remarkable: it had proven that it was possible to recover self-sustaining salter populations, and in doing so it inspired a new wave of salter conservation efforts.

In recent years, salter conservation efforts have focused on habitat protection, restoration, reintroduction,

ing the question of whether the stream's healthy population of resident brook trout will regain salter behavior now that access to the salt has been restored.

Salter conservation efforts have also experienced setbacks. The Santuit River is an example of the fragility of some of these populations. In 2015 it was confirmed that the river's salter brook

trout population has disappeared. This spring, 45 adult salters were translocated from the Mashpee River back into the Santuit. All of the fish were tagged and genetically sampled.

The discovery of two salters that had entered the stream—almost certainly from the Quashnet or Mashpee—and encouraging stream temperature and water quality prompted the effort. Preliminary results of the restoration should be available by 2019.

Based on the success of other reintroductions, we are hopeful for the Santuit.

Along with restoration and reintroduction efforts came increased attention on salter research. Since 2007, the Massachusetts Division of Fisheries and Wildlife has been tagging trout to study their movements.

The Sea Run Brook Trout Coalition has been a key funder and supporter of the tagging work.

“Science is a heavy investment for us,” said Geoffrey Day, the organization’s executive director. “But we feel it’s important.”

At several places in the stream moni-

toring stations record the movement of trout implanted with passive integrated transponder (PIT) tags.

Hurley frequently visits the sites to upload data.

Tracking movements will show how the trout use the system, including saltwater.

A tagging effort that used more complex GPS systems also showed how species that use the system interact.

“We had a tag end up in the Chesapeake Bay,” Winders said. “That trout obviously ended up in the belly of a striped bass.

“Their real role is not to entertain us,” he added. “It’s to be a part of a healthy ecosystem.”

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As we look toward the future of salter conservation, there are some encouraging signs. Salter reintroduction efforts on Cape Cod are showing indications of success, and surveys of streams in Maine are documenting



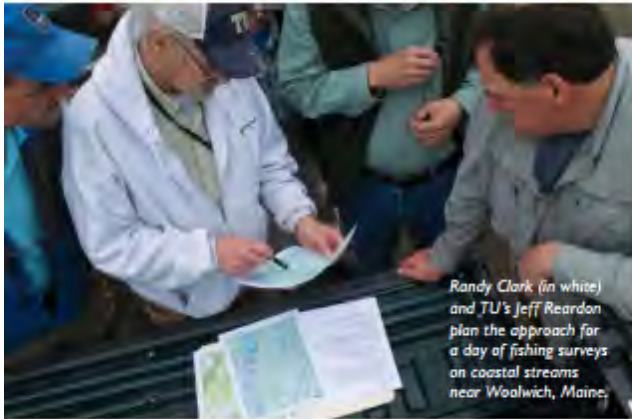
Volunteer Al Heath wades upstream while fishing a small stream near Woolwich, Maine.



Red Brook's salter brook trout display vibrant colors.



A interpretive sign at the mouth of Red Brook in Massachusetts describes some of the work that has gone into restoring the salter stream.



Randy Clark (in white) and TU's Jeff Reardon plan the approach for a day of fishing surveys on coastal streams near Woolwich, Maine.



A study spearheaded by Massachusetts fisheries biologist Steve Hurley is using a detection system to track movement of trout carrying passive integrated transponders.

previously unknown populations of salters.

In 2015, TU used state agency data to map out 457 historical coastal and anadromous brook trout streams from Long Island, N.Y., to Maine in the first range-wide assessment of salters.

The historical presence of brook trout varied across the states, with a high of 317 streams in Maine to a low of seven in Rhode Island.

Striking was the finding that the species' status in 201 streams was unknown.

Grants from the National Fish and Wildlife Foundation, the Maine Outdoor Heritage Fund and the Horizon Foundation are helping fund the Maine effort to survey at least 80 coastal streams where the status of brook trout is uncertain.

Since 2014 volunteers have been working their way through a list of coastal streams, fishing intensely in hopes of catching wild brook trout.

More than 130 coastal streams have been surveyed, with brook trout caught in nearly half of them, often at or below the head of tide.

"We know we have salter brook trout in many of our coastal streams, but they've never been formally surveyed," said Jeff Reardon, TU's Maine Brook Trout Project director. "These angler surveys are the first step to getting them documented so we can prioritize conservation work."

Catch information is passed on to the Maine Department of Inland Fisheries and Wildlife, which can then formally survey the stream. Beginning in 2016, Maine fisheries biologists conducted electrofishing surveys in sub-watersheds where brook trout were caught by volunteers, confirming brook trout in all 12 sub-watersheds surveyed.

Clark, of the Merrymeeting Bay chapter, has been involved since the outset, and was thrilled when he pulled

a 13-inch-long brook trout out of one of the first streams he sampled.

"It was so silver I knew there was no way it was a stocked fish," Clark recalled. And another salter stream was found.

That you could still discover populations of salter brook trout along the heavily populated Atlantic coast is a reminder of how little attention has been paid to these remarkable fish. Thankfully, that is changing. Through the efforts of TU, the Sea-Run Brook Trout Coalition, and standout agency biologists like Massachusetts' Steve Hurley, salter brook trout are back on the radar. Through decades of hard work started by TU in the 1970s, we know how to successfully restore habitat and reintroduce salters. Armed with this knowledge, along with new data on salter presence, we have new hope for bringing salters back to their former glory.

# NATE AND SOPHIE'S MIRACLE

Somehow along the Mekong River in western Laos, climate scientist Max Holmes was on a boat with 19 other river scientists from around the world when he got a curious text from his wife, Gabby. The words did not come through in the message, but a single photo could be seen on his phone. This was the photo.

Max wondered why he'd received the photo, becoming slightly obsessed. "It was killing me! What was the story? I was going crazy." He would have to wait a couple of days to finally have internet access and learn that 13 time zones away, while he was on the Mekong, his 10-year-old son Nate was on another river, Red Brook in Plymouth, Mass., catching a native sea-run brook trout on a unique hand-tied fly made by his sister, Sophie, age six. Weeks ago, with fly rods and waders, Max and Nate had begun their search for this rare fish, but they had been skunked. As the photo and its eventual backstory emerged, Max delighted in being out-fished by his own son.

It was an epic fish story, Hemingwayesque and full of drama in the telling. Nate, using a yellow Woolly Bugger he assumed would work, found that it just wasn't producing. At one point he saw a trout "explode" on his fly, "but of course it had to jump right over it, totally missing it," Nate explained, reliving the anguish.

Next he tried a Royal Coachman. Nothing. He changed flies repeatedly. Still nothing. As the sun was setting and the temperature dropping, Nate's mom, Gabby, said it was time to go home. At that point Sophie approached her brother and reminded him of some unfinished business. He had to keep his promise to her, which was one of the conditions for the afternoon fishing excursion.

The promise involved a fly later dubbed "Sophie's Pink Shrimp," and no amount of protest on Nate's part was going to get him out of using it. The alternative was leaving, and Gabby told

Nate that if he wanted to keep fishing, he knew what he needed to do.

Sophie has a nice assortment of flies she has tied in many different colors, but she made this particular specimen by recycling the pink plastic grass from an old Easter basket. Here it is, and what a beaut!

"I did not want to use a hook with pink on it," Nate explained, "because... you know... (eye roll, head drop)... but,

whatever!" So he gritted his teeth and tied it on. It was "a pretty bad knot, because I wasn't really trying." He knew it could never work. So he just cast it out there with a heavy sigh, let it sink, and looked at his mom as if to say, you made me do this, come on!

Immediately Nate felt a tug, imagining he'd hit a snag. But he quickly realized he had a fish on. He reeled it in and saw that it was perhaps nine to 10 inches long,



*Nate Holmes coddles a Red Brook salter he caught on a fly tied by his sister, Sophie.*

# ON RED BROOK

BY LORI DAY

"probably more on the nine side." But size doesn't matter. What did matter was that he'd landed a prized trout—a native species historically caught by Daniel Webster and several U.S. presidents, among other famous anglers. Once thought to have disappeared from these waters, there it was on the end of Nate's line, thanks in part to his sister! After releasing the salter from the hook on Sophie's Pink Shrimp, Nate held it briefly for a picture before releasing it back into Red Brook, and Gabby texted the trophy photo to Max, along with a few words that didn't survive the long digital journey.

Gabby, a nurse with a PhD in biology/marine ecology, backfilled the story for me, and gave it the kind of context any parent can appreciate. "Nate was—how do I put this?—whining a bit about daddy traveling, saying he couldn't fish when his dad was away, and that it's terrible when he's gone." So she told Nate that if he had a good week and did what he was supposed to do, she'd pick him up from school early one day to go fishing. "It was a sweet little bribe that worked!" she joked.

At first Sophie wasn't sure she wanted to go along that day, but she decided she'd like to draw the scenery while Nate was fishing. However, not one to miss an opportunity to gain some advantage on her older brother, she said she would only go if Nate would fish with one of her flies. "Of course Nate agreed! He made every promise under the sun." Gabby laughed. When he caught the trout on his sister's fly, he was utterly shocked. "I think we have a video of that," Gabby said. "Of the utter shock."

Fishing is something these siblings can do without fighting and without involving electronics. Tying flies is a craft Sophie loves, and Nate enjoys it too. The packaged craft kits from toy stores are "for little kids," according to Nate. Gabby explained that he'd been so into arts & crafts when he was young, but now

that he's older, it is seen as uncool. Tying flies is an activity both Holmes children enjoy, together. The positive response they receive from more experienced anglers makes them feel proud and respected. That's a win.

"So it's a craft, and it lets them do something different than their peers, but it's something bigger as well," Gabby



Sophie's Pink Shrimp

mused. "It has sparked so much interest in Nate that he's now reading books about the history of fly tying and fly fishing." In fact, in Gabby's eyes, fishing is also like an art project, as well as a sport and a conservation experience. The kids often sketch fish and new ideas for flies. These hobbies unify their indoor and outdoor free time, and captivate their imaginations even when the weather keeps them inside.

"We like to think that we make a conscious effort to teach the kids about the environment, but I think much of our teaching comes from wanting to better understand things ourselves and sharing



that learning simultaneously with the kids," said Gabby. "It is amazing how these guys can come up with great questions that beg going out in nature and figuring out the answer together."

For Max, "the best part of the salter story is that I was on the other side of the world, so it wasn't me who was running the show this time. It was Gabby's initiative, which was so cool. I like that a lot!" As a side note, Max emphasized that for Nate, fly fishing is educational. Even if he's partially motivated to miss a little school, Nate makes a good point when he says that figuring out where

the fish might be and how to tie a fly to match what they are eating is a genuine educational experience.

Who can argue with that? Let's make reconnecting kids with the natural world a part of their education. It's the part that will best ensure the future protection of our environment and stream habitats, so that salters and other endangered fish are still there for Nate and Sophie's children. They can't imagine it any other way. 🐟

*Lori Day is an educational psychologist and writer, and the spouse of Geoffrey Day, Executive Director of the Sea Run Brook Trout Coalition in Massachusetts.*