

The Salter



**The Quarterly Newsletter of the
Sea Run Brook Trout Coalition**

In This Issue:

Autumn Greetings!	1
Will Sea Run Brook Trout Reappear?	2
Fish Stocking and the Effects on Brook Trout	7
Tack Factory Dam Removal	13
Carmans River Temperature Monitoring	15
Death of the Santuit	16
Patagonia Interns	20
Issue 4	Fall 2015

Greetings!

In this issue of *The Salter*, we are once again jam-packed with doings and news of the SRBTC's activities. Warren Winders has graced us with three excellent articles on the sea-run brook trout streams of Cape Cod. Read about Andrew Whiteley's research on anadromy on New England coastal streams. We also report on SRBTC's effort to document the thermal impairments caused by a small impoundment on Long Island's best coastal brook trout stream, the Carmans River. And finally, Geof Day, our new Executive Director, reports on working with Patagonia on Cape Cod and Downeast Maine. Since the autumn season is coming to a close, please remember that it's a beautiful opportunity to take the time to explore coastal brook trout streams of the Northeast. While fall is often associated with the end of the season and death, it is the colorful leaves of autumn that herald the beginning of the brook trout spawn, and of life itself. If you have the chance, please be careful around redds as the trout should be on them—and please do spend some time checking out these streams and enjoy the natural beauty that can be found there!

2015 is nearly over so please renew your membership to the Sea Run Brook Trout Coalition!

You can renew your membership via our website at <http://www.searunbrookie.org/membership> Also, please consider donating to help support our efforts to protect, restore, and study sea-run brook trout. Your donations are critical to supporting SRBTC and since we are a 501(c)(3) non-profit, they are tax deductible!

Will Sea Run Brook Trout Reappear After Dam Removal in New England Coastal Streams?

**by Andrew R. Whiteley, Assistant Prof., Dept. of Environmental Conservation
University of Massachusetts - Amherst**

Sea-run brook trout were formerly common in coastal New England streams but have declined dramatically. Conservation efforts are now underway to restore sea-run brook trout populations. These efforts include coastal stream and estuary habitat improvement and analysis of spatial habitat in the streams where migratory individuals still occur. Another option is dam removal in coastal streams. But will this bring back the larger ocean-going fish? To think about this question, we need to understand phenotypic plasticity.

Coastal brook trout populations that contain both migratory (sea-run) and resident individuals exhibit so-called partial migration. Migratory tendency within a population of a species that exhibits partial migration is a complex trait subject to both genetic (nature) and environmental (nurture) influences. The formal word for the way the environment shapes a trait like this is phenotypic plasticity. Phenotypically plastic traits are sensitive to the environment. Two individuals that are genetically identical but exposed to different environments could have very different values of a trait that is plastic.

If we remove dams in streams that contain upstream populations of purely resident brook trout, will we see sea-run fish again (assuming there was a sea-run population before the dam was constructed)? And if so, how long will this take? We don't currently know the answer to this, but we can look to some studies of related species to form hypotheses. Work on brown trout (*Salmo trutta*) in Europe, in particular, has demonstrated that environmental factors play a prominent role in determining the rate of adoption of resident or migratory life histories within a population. For example, one field-based study transplanted fish from a largely resident section of a stream to a habitat that supported the adoption of ocean migration (Olsson et al. 2006). Within one year the transplanted fish showed a greater tendency to migrate to the ocean. These researchers also performed a complementary laboratory study where they manipulated the environment (in this case food availability) and were able to successfully control the amount of migration observed. Other similar studies on brown trout found similar results (Olsson and Greenberg 2004; Wysujack et al. 2009). The underlying mechanism for these results has to do with a complex combination of fish densities, food availability, and the payoff for undergoing risky migrations. The important point is that, at least in brown trout, migration tendency appears to be phenotypically plastic.

Work in eastern Canada with brook trout in large river systems near the ocean suggests that the environment plays a large role in inducing migration in brook trout as well. In coastal New England, ideally we will perform similar experiments to those done with brown trout. In the absence of this kind of work, the brown trout work suggests that sea-run brook trout should reappear quickly after dam removal. This trait is likely to be highly environmentally sensitive (phenotypically plastic) in coastal populations. It seems unlikely that the ability to migrate will be lost in above-dam populations because there is not much evidence for a cost to maintain phenotypic plasticity. If we restore access to the ocean, and therefore restore the huge benefit of migration to a rich food source, we would hopefully see migration within a few years. This could be very good news for those of us who would love to see more sea-run brook trout following the exciting trend for dam removal in coastal New England.

To dig into this further, see:

Olsson, I. C., and L. A. Greenberg. 2004. *Partial migration in a landlocked brown trout population*. *Journal of Fish Biology* 65(1):106-121.

Olsson, I. C., L. A. Greenberg, E. Bergman, and K. Wysujack. 2006. *Environmentally induced migration: the importance of food*. *Ecology Letters* 9(6):645-651.

Wysujack, K., L. A. Greenberg, E. Bergman, and I. C. Olsson. 2009. *The role of the environment in partial migration: food availability affects the adoption of a migratory tactic in brown trout *Salmo trutta**. *Ecology of Freshwater Fish* 18(1):52-59.

The Ghost Trout of Fresh Brook: A Race to Save the Remnants of America's First Sport Fishery

by Warren Winders, SRBTC

Farmhouse Log, April 2, 1893 – Frank W. Benson – The Sporting Art of Frank Benson

“All drove to Fresh Brook, South Wellfleet to try for Trout. Tied the horse and fished downstream to the Railroad [bridge]. In the pool above the track F. W. B. [Frank W. Benson] caught a half pounder, then another half pounder then a one pounder. The others arrived and we caught from the pool 13 more fine Trout... The 15 fish weighed 17 pounds after they were brought home and washed.”

From Paul Greenburg’s book *Four Fish: His explanation of David Pauley’s concept of “shifting baselines” as it applies to fish abundance.*

“The idea of shifting baselines is this: Every generation has its own, specific expectations of what 'normal' is for nature, a baseline. One generation has one baseline for abundance while the next has a reduced version and the next reduced even more, and so on and so on until expectations of abundance are pathetically low.”

Wellfleet, Massachusetts, June 2007: We are chasing salters. The green pickup truck is bouncing down a sandy power line road in the town of Wellfleet on lower Cape Cod. Southeast District Fisheries Biologist, Steve Hurley, is at the wheel. Michael Hopper and I are seat-belted in beside him. Stashed in the back of the pickup are the Division’s backpack electrofishing equipment, measuring board, rubber gloves, five-gallon buckets, a cooler and three sets of waders. We are looking for Fresh Brook - a spring fed coastal stream that, according to MDFW records, provided fair fishing for native salter brook trout as recently as 1955. Of one thing we are certain—this will not be a déjà vu of Frank Benson’s experience. Instead, we’re hoping that we can locate a few surviving descendents of the brook trout that Benson and his friends caught in 1893. As we bounce toward Fresh Brook, each of us is mulling the question: Are we chasing salters, or ghosts?

A couple of months prior to this survey, Michael Hopper had convinced Steve Hurley that Fresh Brook might still have brook trout in its headwaters. Mike had grown up in Wellfleet during the

1970's and 80's and had first heard about the trout in Fresh Brook from an elderly fisherman from whom he had bought a shellfish grant. This past winter, a friend of Michael's reported seeing fish darting about in a dead-water in the upper section of the brook. Hurley had sampled the brook in 1991 and hadn't found any trout, but he admitted that he could have missed them. Steve has a small list of streams where he has found trout on his second search. In each instance, these are very small populations of brook trout barely clinging to survival.

Through a series of emails we had agreed to meet at the Cape Cod National Seashore parking lot where we would leave our cars and join Steve in the four-wheel drive state truck. From the lot we'd head out over some woods roads and a power line right-of-way in search of Fresh Brook.

And so this is how it happens that, on this perfectly clear bluebird June morning, we are bouncing through the pitch pine forest of the Cape Cod National Seashore in pursuit of salter brook trout.

After driving along a power line for some distance, Steve parked the state truck at the top of the stream's valley and we unloaded the battery-powered backpack electrofisher along with a measuring board, rubber gloves and nets. From where we unloaded the truck, we could see that the bicycle trail was somehow backing up the brook, creating a long impoundment that seemed to fill the narrow valley.

To say that Michael is interested in salters is an understatement; actually, he's obsessed. And, he's far from being alone with his obsession. Because of their beauty and their unique life history, salter brook trout have been the obsession of a long line of anglers, many of them famous. When we summon up names of the obsessed, Daniel Webster comes to mind, along with Grover Cleveland, Robert B. Roosevelt and Theodore Lyman III.

Like many of those who today share a passion for salters, Michael is an avid angler and an amateur historian. He has spent long hours in libraries and online searching for historical references to salters, the sea going members of the brook trout tribe. Moreover, as a long time supporter of Trout Unlimited, and a founder of the Sea Run Brook Trout Coalition, Michael is committed to conserving and restoring the eastern brook trout.

What Michael and a small group of researchers have uncovered is the largely untold story of America's first sport fishery. The scope and fecundity of the Massachusetts sea-run brook trout fishery in the 18th and 19th centuries is mind boggling when viewed from the present day. Old journals and news clippings report brook trout weighing up to five pounds. Catches were measured by the bushel basket. On Cape Cod and in coastal southeastern Massachusetts, it appears that streams that did not support brook trout were in the minority. Well into the 19th century, wealthy anglers and famous political figures journeyed to Massachusetts to catch salter brook trout in much the same way one might travel to fish for trout in Montana today.

How the Massachusetts salter fishery was lost is best left for another time. Obviously, the industrial age and the dams that it required for power played a role, as did agriculture, and the well intended but mistaken belief that trout hatcheries could somehow replace lost habitat and natural reproduction.

As we hiked along the pitch pine and scrub oak shaded rim of the valley where Fresh Brook once flowed, we were haunted by Benson's description of catching brook trout. From the top of the valley wall we could see that the entire headwater of the stream, from the old rail line (that is now a bike trail) to where the first feeder springs seep out of a hillside to give birth to the stream, was flooded. By bushwhacking down from an ancient earthen path, long ago named The Kings Highway, we

arrived sweating and thorn-lashed at the first flowing water. The water didn't flow for long before it was swallowed by the impoundment. Steve Hurley's electrofishing only served to sound the death knell that we sensed was coming when we viewed the flooded valley from its rim. In places, we could feel what had been the hard bottom of a stream channel that had become buried beneath two feet of silt. A few elvers and a small largemouth bass were stunned by the electric current passing through the water, but no trout. Looking at his thermometer, Michael tersely commented that the short flowage entering the dead water was 62 degrees, trout water. But the trout were finished. Their spawning gravel was smothered. Their access to and from the sea had been blocked. The sun-dappled riffles and pools where they once finned - the gold vermiculations of their backs matching the pale gravel of the stream bed - were flooded. There were only the ghosts of these trout now, and they weighed heavily on us as we wended our way out of the valley of Fresh Brook.

As happens all too often, Fresh Brook is a tragedy that could have easily been avoided. The trout of Fresh Brook, unlike the trout of countless other salter streams, had died from carelessness. It was not the profit motive of mill dams or cranberry bogs that killed them, it was simply disregard. There was good trout fishing in nearby ponds, ponds like Gull Pond, Big Cliff, and Great Pond. The state raised thousands of trout in their hatcheries that they used to fill the ponds with big browns, rainbows and brookies. Apparently, a few wild, one-pound salters in a tiny coastal stream had little value.

We don't know who made the decision to impound Fresh Brook, and at this point I guess it doesn't really matter. In fact, I don't want to know. It may have happened because somebody wanted better duck hunting, or because they thought that the pond created more wetlands biodiversity. Whatever the reason, Fresh Brook just boils down to another case of humans trying to alter the natural world to match their self-interest motivated idea of how things should be.

Revisiting the concept of a sliding baseline: If, as anglers, we are willing to accept the product of hatcheries to offset the ongoing exponential degradation of our ecosystems, then we deserve what we end up with. But, how will that ultimately affect our children, and their children? Is this mess of ruined watersheds and dying wild fisheries what we want to pass on? There is a reason why the trout of Fresh Brook survived millennia of climate change in their spring seep of a stream at the edge of the sea. They were superbly adaptable, but, sadly, they couldn't adapt to us.

A few weeks after Fresh Brook, Michael accompanied TU member Charles Devens along with MDFW fisheries biologist, John Sheedy, on a survey of Saw Mill Brook, a small North Shore salter stream flowing through the town of Manchester, Massachusetts. Sheedy had surveyed Saw Mill Brook in 2001 and found that the stream harbored a vital population of native brook trout. Charles Devens' interest in Saw Mill Brook began as a boy when he had often fished the stream, catching fat brook trout of eleven or twelve inches. Devens wanted to see how his trout stream had fared over time.

What they found when they surveyed Saw Mill Brook was discouraging. One very short section of the brook supported a few small trout. In less than a decade, malls and other recent development had surrounded the brook. A spring that had once fed into the brook had disappeared. Runoff from road crossings and parking lots had increased the turbidity of the stream and warmed the water beyond the 70-degree threshold for brook trout. Within a couple of weeks of the ill-fated Fresh Brook survey, Michael was witness to the demise of yet another salter stream.

The news, however, is far from all bad. While the surveys of Fresh Brook and Saw Mill Brook serve as vivid illustrations of how native brook trout populations are lost, they also give us a greater

appreciation of our streams that still support brook trout. It often seems miraculous to me, living as I do in Massachusetts, the third most densely populated state in the country, that we even have wild brook trout living in any of our coastal streams. Yet brook trout are proving to be a surprisingly resilient species. In two historic salter streams where we have been able to launch significant restoration projects, brook trout populations have rebounded in response to the restored habitat.

The first, and most notable, example of what is possible for wild brook trout in Massachusetts is the Quashnet River in the town of Mashpee on Cape Cod. The Quashnet River restoration was begun almost forty years ago by a partnership of the Massachusetts Division of Fisheries and Wildlife and Trout Unlimited. Joseph Bergin, the regional fisheries biologist at the time, contacted the local TU chapter (at the time Cape Cod was still part of the Southeastern Mass. Chapter of TU) to see if they were interested in restoring the Quashnet for the purpose of creating a sea-run brown trout fishery. As a result of decades of cranberry farming along its banks, the Quashnet was deemed too warm for brook trout.

The result of thousands of hours of TU work on the Quashnet took people by surprise, with the possible exception of TU member and Quashnet project leader Francis Smith. Smith had always been a champion of brook trout, and believed from the beginning that brook trout were the trout that belonged in the Quashnet. By 1990 it was obvious that the brook trout population was on the rise. All of the hard work was paying off, not with the originally anticipated brown trout fishery, but with a rebounding native brook trout population. The key was the restoration of the stream.

The first salter stream to benefit from the success of the Quashnet work was Red Brook, a historic sea-run brook trout stream flowing through the towns of Plymouth, Wareham and Bourne before emptying into the saltwater of Buttermilk Bay.

The salter brook trout of Red Brook owe their survival to several generations of the Lyman family who acquired 638 acres along Red Brook and then—inspired by the success of the TU work on the Quashnet—deeded their stream over to a management partnership formed by TU, The Trustees of Reservations, and the Mass. Div. of Fisheries and Wildlife. After thousands of hours of TU grassroots volunteer labor to restore habit and raise funds, and the removal of four dams by a broad coalition of state and federal agencies and private donors, along with TU and other nonprofits, Red Brook's salter brook trout are thriving once more. In fact, Red Brook's salters are doing so well that they are now the subject of tagging studies being conducted by a collaboration of USGS, Mass Div. of Fisheries and Wildlife and the University of Massachusetts. So far, the studies indicate that part of Red Brook's trout population makes use of Buttermilk Bay during the fall and winter months, and may even move out to the Cape Cod Canal and Buzzards Bay.

Just as significantly, the Quashnet is providing another “first” for salter restoration in Massachusetts by supplying the replacement brood stock for another historic salter stream. In 2008, Steve Hurley took 19 mature, PIT-tagged, Quashnet brook trout and placed them in the nearby Childs River. Even though the conditions needed for brook trout survival still exist in the Childs, the Childs' brook trout had mysteriously disappeared during the previous decade. Hurley hoped that the Quashnet trout would stay in the Childs long enough to spawn, and they did. The following year Steve Hurley was able to place PIT tags in over 100 Childs River young of the year brook trout, and the Childs is on its way to once again becoming a salter brook trout stream. This method of restoring brook trout to suitable streams has come to be known as the “nearest neighbor” method of reintroduction.

The successes of Red Brook and the Quashnet, coupled with a growing understanding that the future

health of marine fisheries hinges on the restoration of diadromous fish populations, is bringing about a surge in permit applications for dam removals and restorations along the coast of Massachusetts. Unfortunately, these efforts are often met with hostility by people who view the abandoned mill dams, impoundments and cranberry bogs as having historic and scenic value. Many people protest the removal of dilapidated dams even after the state declares the dam a hazard and the dam owner wants the dam removed to reduce their liability.

In these situations, the challenge that we are facing is David Pauley's "shifting baseline." It is possible to travel across much of New England and never come across a stream that *hasn't* been altered by human activity. Most people in the northeast have never seen a pristine river or stream. And restoration is, after all, about returning ecosystems, as nearly as possible, to a pristine state. For many people in Massachusetts, a native trout stream in pristine condition, with its biotic abundance – brook trout and a diverse array of other fluvial species - is hard to imagine because they've lived their lives unaware that it ever existed.

By teaching people the history of salter brook trout and their role as America's first sport fish, and by exposing people to streams like Red Brook and the Quashnet River, we help roll back Pauley's baseline. Our restored salter streams are a glimpse at a past abundance that has been too long forgotten, a vivid reminder of what has been lost. Hopefully, from that glimpse of a better time, people will come to a clear understanding of the damage that has been done to our watersheds, and will begin to support more restorations.

As for Frank Benson's Fresh Brook in Wellfleet, Michael Hopper and Steve Hurley tell me that a plan for the brook's restoration is being developed. There is much that still has to be done, but Steve Hurley tells me that he's already looking for a "nearest neighbor" salter stream from which to repopulate Fresh Brook. The race has begun.

Fish Stocking and the Effects on Native Brook Trout

by Doug Swesty, SRBTC

Much has been written, here in *The Salter*, and in other venues, about the negative effects of dams on anadromous brook trout. Similarly, numerous articles have discussed the issue of how our coastal streams and their fisheries are impacted by water quality and climate change. But are dams, water quality, and climate change the only significant issues facing anadromous fisheries? In recent years there has been a slowly growing awareness among environmentalists and anglers about the effects and questionable ethics of stocking trout, particularly non-native trout, in coldwater ecosystems that contain self-sustaining populations of native fish. The issue is highly polarizing and one that is rapidly becoming more divisive.

The proponents of stocking, including many individual anglers, angling clubs, and business owners who profit from the business that plentiful sport-fisheries attract, would argue in many cases that if it were not for stocked fish recreational trout fisheries would be unable to withstand the fishing pressure put on them by the angling public. Opponents of stocking argue that the practice has adverse effects on both native fisheries and the environment, and that stocking should only be used in cases where restoration of a fishery is necessary, e.g. restoration of Atlantic salmon runs. However, until relatively recently little has been written that would educate the public, including both the angling public and the broader tax-paying public, about what science has to say on the issue.

The Science

The fact that the introduction of hatchery-raised salmonids could have negative impacts on wild trout fisheries is not really a surprise to fisheries scientists. A substantial body of peer-reviewed scientific research has been published over many decades that unequivocally documents the adverse impacts of stocking hatchery-raised fish into waters with self-sustaining native fisheries. These negative effects can include predation on native fishes, competition for food resources, displacement of fish from prime habitat, habitat alteration, and genetic effects that alter the adaptive fitness of native fish populations. Nor are the effects of non-native salmonid introductions limited to effects on native fisheries; the introduction of non-native salmonid species has been shown to have negative effects on wide a variety of biota including aquatic invertebrates and amphibians.

In the case of the effects of stocking hatchery fish on top of native brook trout populations in eastern and midwestern North America, the research on the consequences of stocking go back nearly a half-century to the work of O.L. Nyman, published in 1970. In this pioneering work, Nyman studied the ecological interactions of brown trout (*Salmo trutta*) and brook trout (*Salvelinus fontinalis*) in a stream in southeastern Newfoundland. Nyman found that where brown and brook trout were sympatric (where they coexist) that *“brook trout were found in the least favorable niches in the pools or in areas of shallow rapids. No sea-run brook trout were encountered...”*. Subsequent peer-reviewed studies including those of Fausch and White (1981), Waters (1983), DeWald and Wilzbach (1992), Wagner et al. (2013), McKenna et al. (2013) and other too numerous to list here, have all found not only displacement of native brook trout, but a variety of negative effects from the presence of brown trout in brook trout waters. Similarly, negative effects of invasive rainbow trout on native brook trout populations have been described in studies by King (1937), Larson and Moore (1985), Moore and Larson (1989), and others. In fact, there has been no research that shows anything but adverse consequences to native brook trout when non-native salmonids are stocked on top of wild brook trout populations.

It is worth noting that in cases where brook trout have been introduced outside of their aboriginal range, similar adverse effects on native salmonids have been noted. The threat of invasive brook trout to various subspecies of cutthroat trout in western North America has been widely described, but less well known are studies in Japan and Sweden that have detailed negative consequences of invasive brook trout on native salmonid species in Japan and Europe. The simple lesson here is that we should not interfere with nature by introducing non-native species into ecosystems.

The undeniable fact is that the negative impacts of non-native salmonid introductions on native salmonids are widely recognized by the fisheries science community. For this reason, a widely cited paper by C.C. Krueger and B. May (1992) entitled Ecological and Genetic Effects of Salmonid Introductions in North America concludes *“Continued stocking of non-native salmonid s should cease where viable native salmonid populations exists.”*

The Turmoil

Despite the fact that the negative effects of non-native salmonid introductions were widely known to the community of fisheries scientists, the negatives were relatively unknown to much of the angling and fisheries conservation communities. That widespread ignorance began to change in 2011 when the Trout Unlimited (TU) National Leadership Council passed a resolution preventing TU Councils or Chapters from participating in the stocking of non-native hatchery trout on top of native trout populations. At the time this resolution was passed, I was the President of my local TU Chapter and I

found that this resolution was not well received by many of my local Chapter's members. The simple fact was that most of the members did not believe that the stocking of hatchery trout caused any harm to native trout populations. I have since come to learn that this belief is widely held among TU members and the wider angling community. But the adoption of this policy should not have been a surprise to TU members. TU's Salmonid Policy has long required Chapters and Councils to oppose stocking. However, the Salmonid Policy was widely ignored by TU chapters, with no incentive from the TU National leadership to see it actualized at the chapter level.

Similarly, there has been substantial turmoil within TU about the enactment of this no-stocking policy. Not only do many TU members refuse to accept the scientific basis for the policy, there have been significant problems created by some TU Chapters that have simply refused to comply with the policy. The non-profit Protect Rhode Island Brook Trout (PRIBT) has commented on their website (www.protecttribrooktrout.org) about the problems they have had with TU Chapter 225 both ignoring the stocking policy and opposing the establishment of a Wild Trout Management Area for brook trout on the Wood River in Rhode Island. It is truly unfortunate when advocates for wild fisheries find themselves in a position of opposing the actions of an organization such as TU.

Sadly, this sort of opposition by angling groups is not an isolated incident. Earlier this year, while fishing on Big Spring (a Pennsylvania stream once noted for the large wild brook trout it held) I had the opportunity to speak with a Waterways Conservation Officer from the PA Fish & Boat Commission (PAFBC) about the possible eradication of non-native rainbow trout from Big Spring. He informed me that a proposal by the PAFBC to designate the stream as a Class A wild brook trout fishery and to prioritize the management of Big Spring for native brook trout, by eradicating invasive rainbow trout, was widely opposed by local angling groups including members of the local TU Chapter. This wasn't the only such issue with Pennsylvania. An article in the January 18, 2015 Pittsburgh Post-Gazette, entitled "*Class A Fray: Anglers, commissioners debate stocking over native trout, protecting clean waters from industrial impacts,*" also reported on a mixed reaction by the angling public to a plan by the PAFBC to designate sections of ten streams as Class A Wild Trout Streams. Designating these streams as Class A waters would prohibit stocking due to the presence of self-sustaining wild trout populations in those waterways. Pennsylvania currently has hundreds of designated Class A trout streams which are, by all measures, a success in fisheries management. But apparently a substantial community of anglers are unsatisfied and would prefer to catch hatchery trout, as opposed to wild trout, in those streams.

The turmoil about stocking, and hatcheries that provide the fish to stock, has recently increased in response to the recent (4/10/2015) publication by the New York Times of an Op-Ed piece, entitled "*The Cost of Trout Fishing*" by Doug Thompson, author of *The Quest for the Golden Trout* (positively reviewed here in the Winter 2014 issue of *The Salter*). Professor Thompson's carefully researched and fact-checked Op-Ed piece (which can be seen on his website <http://dougthompson.weebly.com>) pointed out the environmental damage caused by government fish stocking efforts. The reaction to this piece from some quarters was surprising. In a response, published in American Angler, Prof. Gary Grossman, author of the "*Ask Dr. Trout*" column published in American Angler, surprisingly criticized the piece claiming that fisheries management agencies do not stock in waters where wild trout are present. A similar claim was made in a response crafted by the American Fisheries Society. Both of these doubtful claims represent either a willful intent to deceive or, more likely, an ignorance of actual stocking practices as carried out by many fisheries management agencies.

The Actions of Fisheries Management Agencies

There are states, and individual fisheries management districts within states, that have adopted progressive native trout management policies that refrain from stocking where native brook trout are present. For example, in Southeastern Massachusetts a decision was made to halt stocking on native brook trout streams such as Red Brook. This has resulted in the rebirth of a robust sea-run brook trout fishery. Similar decisions to halt stocking have often been fraught with controversy, with angling groups claiming that such cessations will cause a decline in the quality of the fishery. Such was the case in 1974 when the state of Montana decided, based on the pioneering work of fisheries biologist E. R. “Dick” Vincent, to halt stocking on waters where self-sustaining trout populations were present. Yet the benefits of cessation of stocking in Montana's waters are now widely recognized. For example, in an interview published in *Montana Outdoors* (May-June 2004), Vincent states “*in the upper Gallatin above Big Sky, trout numbers went from about 450 wild fish per mile to 2,500 once stocking ended.*” Dramatic increases were also seen in the wild brook trout populations in SE Massachusetts streams after the cessation of stocking.

Montana and Massachusetts are not the only states that have worked to implement reform of stocking policies. Pennsylvania has adopted a “Resource First” management goal that prioritizes protection of natural resources ahead of acceding to the wishes of recreational user communities. However, putting this into effect by protecting native brook trout populations has proved to be more controversial than perhaps the PAFBC anticipated.

Other fisheries management agencies have become even more progressive in their management policies for native fisheries. In Shenandoah National Park, the National Park Service (NPS) has not only implemented non-native salmonid eradication efforts aimed at protecting and restoring brook trout fisheries. They have also implemented mandatory catch & kill regulations preventing anglers from releasing any brown trout caught back into any park stream. Similar non-native salmonid eradication efforts have



A Carmans River brook trout that has managed to survive despite having to compete with stocked non-native brown and rainbow trout. Photo courtesy of John Field.

been implemented in the brook trout streams of Great Smoky Mountains National Park. The reason for this management strategy is the science-driven National Park Service policy that mandates that the

displacement of native species by exotic species be prevented if possible. It is worth noting that this policy can have different outcomes in different locations. On August 24, 2015, the NPS implemented a brook trout eradication effort on Soda Butte Creek within Yellowstone National Park in order to protect the native Yellowstone cutthroat trout (an effort I quite happily wrote a letter of support of!) In this case the Yellowstone cutthroat is endangered by the presence of invasive brook trout stocked in the upper reaches of Soda Butte Creek outside the Park, which have gradually encroached further downstream as well. The NPS has also taken the bold step of implementing a mandatory catch & kill regulation for brook trout and other non-native salmonids within the entirety of the Lamar and Yellowstone River watersheds within Yellowstone. This decision was also highly criticized by many anglers, but fortunately the NPS decided to go forward with the plan.

Unfortunately, not all fisheries management agencies are as progressive as the NPS or the natural resource management agencies of Montana and Massachusetts. In Rhode Island, PRIBT has been fighting a battle with the state Division of Fish and Wildlife (DF&W) to bring a halt to the stocking of hatchery fish over the wild brook trout population of the Wood River. In my home state, New York, the Department of Environmental Conservation (DEC) stocks the coastal Carmans and Swan Rivers, both of which have self-sustaining wild brook trout populations, with non-native trout. The same is true in many streams within the Adirondacks which are stocked with hatchery brook trout even though they have self-sustaining wild brook trout populations. One can only hope that continued science-based pressure on agencies such as the RI DF&W and NY DEC will eventually lead to sound management strategies for our wild brook trout streams.

A Revolution in the Making?

It is unfortunate that the leadership of Trout Unlimited, at the national level, has not stepped up to begin to confront fisheries management agencies on the issue of stocking on top of native fish populations. Even though TU's Salmonid Policy requires local chapters to oppose stocking over wild salmonid populations, the national leadership does nothing to enforce this policy or promote it. The stocking policy that TU implemented was forced grudgingly onto TU by the TU National Leadership Council and the leadership has failed to take advantage of what educators call a "teachable moment." TU could have published an article in its quarterly magazine *Trout* to educate its nearly 150,000 members about the solid science behind the newly established stocking policy. Doing so could have helped win the hearts and minds of trout anglers and brought many converts firmly into the fold of the conservation biology movement. But instead the TU leadership has chosen to play ostrich and hide its head in the sand, and only grudgingly acknowledge its own policies when forced to do so.

It is not an accident that groups such as SRBTC and PRIBT, which are joining the fight to protect native fish populations, are becoming more prevalent. In the vacuum created by TU's lack of initiative, other organizations, with the goals of protecting native fisheries, have arisen. On the West coast, the Pacific Rivers Council has successfully litigated against the California Department of Fish and Wildlife (CDFW) in order to protect native fish populations by forcing reform of stocking policies. This has coerced the CDFW to undertake an environmental impact study of the effects of its stocking policies. In the state of Washington, the Wild Fish Conservancy Northwest (WFCNW) has participated in similar litigation to protect the wild fisheries of the Elwha River by asking the Court to halt release of hatchery fish into the Elwha. WFCNW has also demanded that the National Oceanic and Atmospheric Administration (NOAA) produce an environmental impact study to assess the effects of hatcheries on wild steelhead and salmon within Puget Sound. Could it be that litigation is required to force environmental impact studies on the effects of stocking hatchery trout over native brook trout here on the East Coast? Perhaps time will answer that question. But there is no doubt that

a growing number of environmentalists (many of whom happen to be anglers) have become aware of the scientific evidence about the adverse effects of stocking hatchery-raised fish and are starting to demand change. They are also forming organizations that are dedicated to affecting that change. Hopefully these organizations can unite to help rewild our native fisheries into a sustainable future.

Bibliography

DeWald, L., and Wilzback, M.A., *Interactions between native Brook Trout and hatchery Brown Trout: Effects on habitat use, feeding, and growth.*, Transactions of the American Fisheries Soc. 121:287–296 (1992)

Fausch, K. D., and White, R.J., *Competition Between Brook Trout (*Salvelinus fontinalis*) and Brown Trout (*Salmo trutta*) for Positions in a Michigan Stream*, Canadian J. Fisheries & Aquatic Sci. 38:1220-1227 (1981)

King, W., *Notes on the Distribution of Native Speckled and Rainbow Trout in the Streams of Great Smoky Mountains National Park*, J. of Tennessee Academy of Sci., 4:351-361 (1937)

Krueger, C.C., and May, B., *Ecological and Genetic Effects of Salmonid Introductions in North America*, Canadian J. Fisheries & Aquatic Sci. 48:1-12. (1991)

Larson, G.L. and Moore, S.E., *Encroachment of Exotic Rainbow Trout into Stream Populations of Native Brook Trout in the Southern Appalachian Mountains*, Transactions American Fisheries Soc., 114:195-203 (1985)

McKenna Jr., J. E., Slattery, M.T., and Clifford., K.M., *Broad-Scale Patterns of Brook Trout Responses to Introduced Brown Trout in New York*, North American J. of Fisheries Management, 33:1221-1235 (2013)

Moore, S.E. and Larson, G.L., *Native Brook Trout Restoration Program in Great Smoky Mountains National Park*, in Wild Trout IV: Proceedings of the Symposium, Yellowstone National Park, ed. Richardson, F., et al. (1989)

Nyman, O.L., *Ecological Interaction of Brown Trout, *Salmo trutta* L., and Brook Trout, *Salvelinus fontinalis* (Mitchill), in a Stream*, Canadian Field Naturalist, 84:343-350 (1970)

Thompson, D., *The Quest for the Golden Trout: Environmental Loss and America's Iconic Fish*, UPNE, ISBN-13: 978-1611683196 (2013)

Wagner, T., Deweber, J.T., Detar, J., and Sweka, J. A., *Landscape-Scale Evaluation of Asymmetric Interactions between Brown Trout and Brook Trout Using Two-Species Occupancy Models*, Transactions American Fisheries Soc., 142:353-361 (2013)

Waters, T. F., *Replacement of Brook Trout by Brown Trout over 15 Years in a Minnesota Stream: Production and Abundance*, Transactions American Fisheries Soc., 112(2A):137-146 (1983)

Tack Factory Dam – Ready To Go

by Warren Winders, SRBTC



Tack Factory Dam

After years of fundraising, public hearings, and with over \$100,000 spent on design, engineering and permitting, Tack Factory Dam is now ready to be removed. Only one obstacle remains other than the dam itself – sufficient funds to actually remove the dam

Every spring – as they have done for more than 100 years – river herring, lamprey eels, American eels and salter brook trout swim up Third Herring Brook, a tributary of the North River on the South Shore of Massachusetts, until they run up against the ancient and impassable dam that obstructs Third Herring Brook not far above tidewater. And every fall rainbow smelt move up Third Herring to spawn in this stream, where they were once known to travel the stream’s entire length to the cold headwater spring that is its birthplace, only to encounter the impassable wall of Tack Factory Dam. This is all about to change for the better once the money is in place to pay for the physical removal of the dam.



Mill Pond Dam after deconstruction

For a decade now, the North and South Rivers Watershed Association, led by Samantha Woods, has been working with a wide range of partners to restore connectivity to Third Herring Brook. Last year NSRWA worked with the Hanover YMCA, Massachusetts Division of Ecological Restoration and the towns of Norwell and Hanover to open up the Mill Pond Dam upstream on Third Herring Brook from Tack Factory Dam.

With the demolition of Tack Factory Dam, over 8.5 miles of Third Herring and its tributaries will be made accessible to diadromous fish. Pockets of wild brook trout, isolated by the dams on Third Herring for more than a century, will benefit from the restored connectivity of Third Herring's waters, marking a return of their ability to access the tidal flows of the North River and resume the anadromous life history of salter brook trout.

The partnership working to take out Tack Factory Dam, in addition to the NSRWA, includes the dam's owner, the Cardinal Cushing Center, along with Trout Unlimited, NOAA, The Greater Boston Chapter of Trout Unlimited, Massachusetts Div. of Ecological Restoration, and the Sea Run Brook Trout Coalition. All that is needed to get funding for the deconstruction of Tack Factory Dam is an amount big enough to match potential funding from grants. This is not a great amount of money, and with some help from friends, the Third Herring restoration partnership hopes to see work begin on the dam's removal by summer of next year.

Temperature Monitoring on the Carmans River

by Doug Swesty, SRBTC

In May 2015, SRBTC began a joint effort with Defend H2O, a Long Island non-profit focused on water quality issues, to monitor the thermal effects of a man-made impoundment, Lower Yaphank Lake, on the Carmans River. The Carmans River, famous for the 14 pound. Sea-run brook trout caught by Sen. Daniel Webster in the early 1800s, continues to support a population of wild brook trout despite numerous threats to water quality. The reaches of the Carmans River upstream and downstream of the impoundment are designated by the State of New York as Trout Waters, a designation that affords additional protections to this waterway under the Clean Water Act.

One of the threats to the water quality in the River comes from the impoundment itself, an abandoned mill dam that dates from the early 1800's. At the present time the dam is unused for any practical purpose. This low-head dam, owned by Suffolk County, creates a shallow impoundment of a little more than 20 acres of surface area. The impoundment is infected with aquatic invasive plants and the Town of Brookhaven, which owns much of the bottom land in the impoundment (but not the dam), intends to dredge this impoundment in an ill-

conceived plan to improve it as a recreational area. This shallow impoundment acts as a large solar collector, heating the water, which is then discharged via the spillway back into the river. In May 2015, SRBTC placed temperature loggers into the river below the spillway and above the upstream end of the impoundment. The results of the first summer of monitoring are depicted in in the accompanying

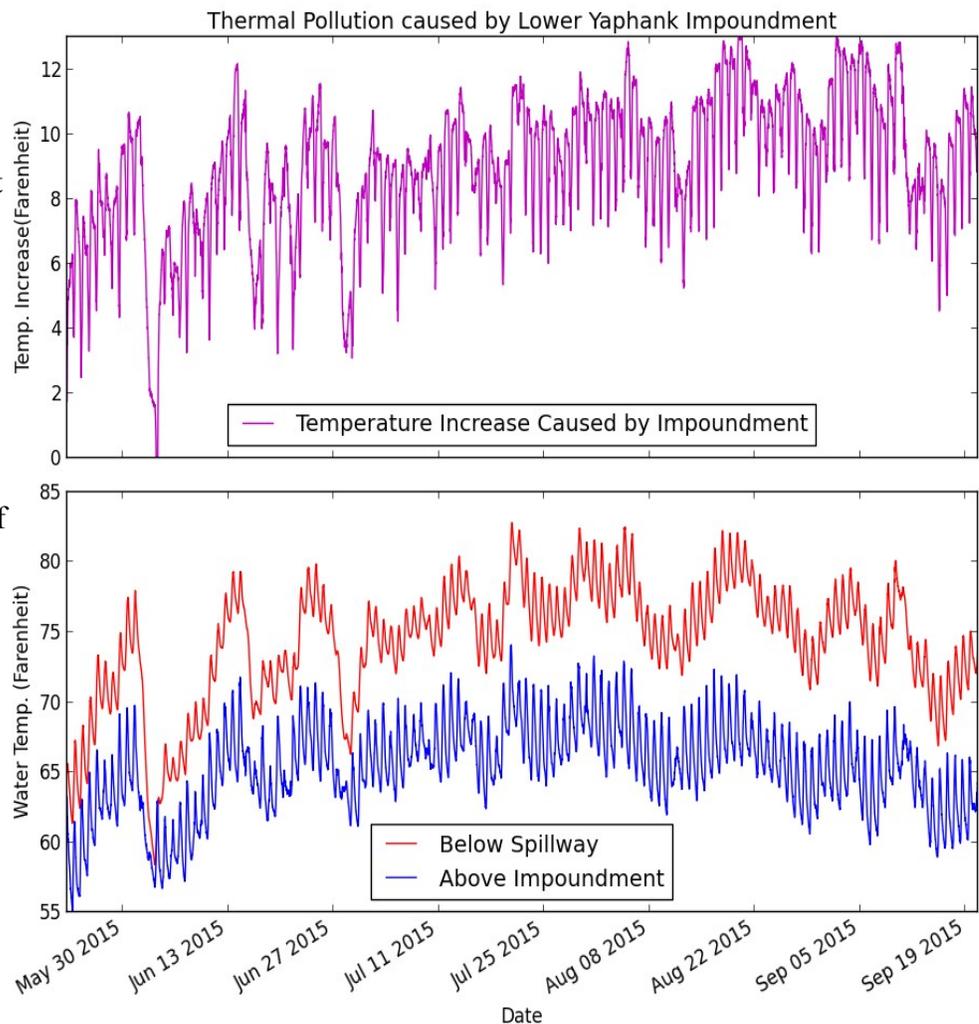


figure. The lower graph indicates the water temperatures above and below the impoundment while the upper graph indicates the amount of water heating caused by this impoundment. Our monitoring has clearly revealed that the presence of the impoundment raises the water temperature by as much as twelve degrees Fahrenheit in late summer. In fact, the temperature of the water discharged through the spillway at times exceeds 80 degrees Fahrenheit, a level that is deadly to native trout. Fortunately, the Carmans River is groundwater-fed and at some distance below the impoundment water temperatures return to levels that are tolerable to brook trout.

The Trout Waters designation that the State of NY has applied to the Carmans River places limits on thermal discharges into the Carmans River. One of the regulations places a limit of 70 degrees Fahrenheit onto any discharge of water into the river, while another limits any discharge between October 1st and May 31st to being no more than 50 degrees Fahrenheit. Our monitoring clearly reveals that the discharge from the Lower Lake spillway clearly exceeds these limits.

One might ask: Does water released through a spillway from an impoundment constitute a “discharge” under the Clean Water Act? This question seems to have been answered by the United States Supreme Court in a 2006 case (*S. D. Warren Paper Co. v. Maine Board of Environmental Protection*) where, in a unanimous decision, the Court ruled that water released from a dam does constitute a discharge under the Clean Water Act. This ruling was consistent with prior rulings by a number of lower courts.

Given this interpretation of what the word “discharge” means, and the NYS regulations for trout waters, what will our state and federal resource protection agencies do with this information? That remains to be seen, but SRBTC, in partnership with Defend H2O, will be using this information to advocate for Suffolk County NY to remove these impoundments.

How to Kill A Salter Stream

by Warren Winders, SRBTC

While our backs were turned, the Santuit River quietly died.

October 20, 2015

What should have been a joyous autumn day spent exploring a lovely trout stream with MDFW fisheries biologist Steve Hurley and interns from Patagonia's Boston store, was instead a postmortem examination of the Santuit River, due to the chilling realization that its salter brook trout appear to have been extirpated.

The Santuit River was one of only three salter streams of any significance remaining on Cape Cod, and until recently it was home to an abundant population of genetically-stream specific salter brook trout. According to Steve Hurley, although the Santuit River was always considered the third-best trout stream on the Cape, electrofishing revealed that the little Santuit produced big salters, perhaps some of the finest brook trout of all of the remaining salter streams.

During the late summer, Hurley, along with the US Geological Service, surveyed the Mashpee River and the Santuit at the request of the Mashpee Wampanoag Tribe for data on the local trout populations. While they found good numbers of brook trout in the Mashpee above Asher's Path, Hurley and his crew were stunned when they were unable to turn up any trout in the nearby Santuit River. In response to this unpleasant surprise, Hurley made plans to return to the Santuit River in late October, just prior to the brook trout spawning time in southeastern Massachusetts, a time when brook trout would have to be in the river.

When my friend Steve Cronin and I arrived at Sampson's Mill Road in Mashpee on a warm day in late October, we found Hurley and his interns measuring fish that they had captured while electrofishing the Santuit downstream of the road. The bucket containing their catch was full of mummichogs and eels with a few sticklebacks, but no trout.



Santuit River fish shocking

After returning the captured fish to the river, we put on rubber gloves and grabbed nets and followed Hurley with his backpack electrofisher, heading upstream - north toward Route 28. This was my first visit to the Santuit, and I was pleasantly impressed by its similarity to the nearby Mashpee River. Like the Mashpee, the Santuit meanders through a narrow, steep sided valley shaded by the massive beech trees growing along the valley's flanks. In sharp contrast to these wooded riparian valleys of the Mashpee and Santuit are streams like the Quashnet River, the Coonemessett River, and Red Brook where anything resembling valley walls were long ago stripped of trees and flattened to make cranberry bogs, while the river channels themselves were straightened and reduced to irrigation ditches.

I wish that I could say that we found trout, but we didn't. A few small bass, one white perch, some eels and an angry crayfish were all that we had to show for our efforts. After shocking undercut banks and the margins of numerous spring seeps, Hurley stopped just short of Route 28 and conceded to the harsh evidence that the salter brook trout of the Santuit River are gone, reducing the Santuit to just another name added to the long, bitter list of extirpated salter streams.

On our way downstream to our vehicles at Sampson's Mill Road, we talked about what might have happened to the Santuit's brook trout. We had observed several conditions along the stream that may have contributed to the brook trout's demise. The most obvious threat was the Willow Bend development and its golf course. The Massachusetts Department of Environmental Protection was

fully aware, as far back as the 1990s, that the development's water withdrawals could adversely impact the Santuit and its trout, yet as recently as early October Willow Bend was advertising in the Boston Globe that new houses were being built that featured between 3 and 5 bathrooms.



The Santuit in its valley

Another adverse impact to the Santuit's trout is the loss of woody debris along the stream's banks and in its channel. When Hurley had electrofished the Santuit with Brendan Annett back in 2003 to acquire samples for genetic research on salters that Annett was doing for a thesis, the Santuit was both full of trout and full of wood. While the downed trees had made electrofishing difficult, Hurley said that they made excellent habitat for the stream's trout by providing lots of overhead cover and deep scour holes throughout the stream's channel. Meanwhile, it was plain to see that the Santuit that we were wading in on this fall day had, since 2003, been deliberately cleared of all of its wood. The stump ends of saw cut-trees could be seen all along the river. The stream channel itself was exposed and featureless, and except for undercuts in the stream bends, there was very little cover for the stream's fish. Looking at the cleared stream, left wide open to the sun, Steve Hurley shook his head saying only that, "Chainsaws and trout streams don't mix well."

We also discussed the problems with Santuit Pond, the starting point for the Santuit River. Over development and the excess phosphate and nitrogen flowing from septic systems had reduced Santuit Pond to an algae-choked, unswimmable and anoxic environmental disaster. Following an order from

the Federal EPA, the state spent millions on repairing the dam and the fishway where the pond exits into the river. Devices (Solar Bees) were also installed to control the algae, yet, little or no consideration was given to the native salter brook trout that had lived in the sun-dappled little stream running south to Popponeset Bay.

On our way home, Steve Cronin and I talked about what needs to be done to protect salter brook trout and reverse the trend of extirpation that we continue to see even in this “environmentally enlightened” age.



Illegal stream clearing on the Santuit

We agreed that a stream monitoring program, like that used at Red Brook, might have detected early signs of the Santuit River’s declining water quality. At Red Brook and Bread and Cheese Brook in Westport,

TU volunteers have deployed temperature loggers along the length of these streams to detect and record any increases in water temperature. By deploying the loggers downstream from roads, cranberry bogs and dams, a record of when – and to what extent – those man made structures heat the water has been created. Loggers are also placed near groundwater upwellings and spring-fed tributaries to monitor them for any changes to the streams that might be related to water withdrawals from private and municipal wells.

Meanwhile on Martha’s Vineyard, Sea Run Brook Trout Coalition has deployed temperature loggers below dams on Mill Brook, a salter stream that was written about by Nelson Bryant, the former outdoor columnist for the New York Times. The purpose of the Mill Brook project is to educate the public about the summer time thermal pollution (heating) caused by dams, and how that impacts brook trout.

Temperature loggers actually do more than record temperature every 15 minutes; they also keep people returning to the stream at regular intervals so that they can witness any changes taking place. At Red Brook and Bread and Cheese, the volunteers downloading temperature data from loggers also use digital cameras to make a visual record of the stream. At Red Brook this visual record of the stream and its changes goes back almost twenty years.

If the Santuit River had been the focus of a temperature logging project similar to those being carried out on Red Brook, Bread and Cheese Brook and Mill Brook, its unique lineage of salter brook trout

might have been saved. Salters gave America its first sport fishery, and their reliance on and adaptation to the rich habitats found at the nexus of fresh and salt water systems pre-dates, by millennia, our own often misguided adaptations of those ecologically rich confluences. These small, coldwater brook trout streams with their connection to salt marshes, estuaries and bays are the defining features of our region, yet people drive along Route 28 on Cape Cod, on their way to the beach or a golf course, and never notice the shining little rivers full of life that run beneath the road.

And above all else, the beautiful little Santuit leaves us with a sorry lesson – it died quietly while our backs were turned. We have only ourselves to blame.

There is small hill near the Santuit River called Trout Mound. According to Mashpee Wampanoag legend, a great trout shaped the river by forcing its way inland and, in so doing, cleared the way for herring to reach the pond. The Great Trout is buried at Trout Mound.

Patagonia Intern Program and Tools Conference

by Geof Day, Executive Director



Justin Fleming, Roman DePaz, Katie Tizzle O'Donnell, Warren Winders and Steve Hurley

patagonia

Patagonia has really come through for sea-run brook trout this year. In addition to awarding SRBTC a significant grant to support Steve Hurley's work down in Southeastern MA, SRBTC was also awarded two other significant gifts. Roman DePaz, Environmental Internship Coordinator at Patagonia Boston, awarded hundreds of hours of internship support to help with field work. Patagonia also supported SRBTC's next steps through their Tools for Grassroots Activists conference at Falling Leaf Lake, California where SRBTC learned about fundraising, lobbying, effective use of social media and more, and got to meet environmental leaders and activists from all over the world, including most senior executives of Patagonia, including founder Yvon Choinard.

Patagonia's internship program put over 10 staffers from the Boston store to work for a total of 320 hours. Interns and other volunteers worked with MA DF&W's Steve Hurley, and Downeast Salmon Federation's Dwayne Shaw. On the Cape they were put to work assisting in mapping streams, helping out with electrofishing on Red Brook, the Quashnet, and as you've read above, the Santuit. Interns also helped out on a macro-invertebrate study and helped Steve visit a few streams that had not been previously shocked, finding additional populations of wild brook trout in small coastal access streams on the Cape. We also spent a day touring Century Bogs at the headwaters to Red Brook, observing the progress as AD Makepeace decommissions the cranberry bogs they've operated in the area, preparing it to be restored back to native scrub oak and pine.



Justin Fleming on Red Brook

Patagonia volunteers working shifts of four days became very familiar with The Trustees's Lyman Reserve, which generously provided lodging. If you haven't yet been there, you can see a gorgeous photo essay by Small Stream Reflection's Alan Petrucci (see short notes below for links) who just happened to turn up one morning while we were there with the interns.

Also that day, photographer, writer and SRBTC supporter Christophe Perez was there shooting pictures for an upcoming magazine article, and volunteer Justin Fleming, down from NH for the day, got a few brookies for Christophe.

Patagonia interns also made a trip to East Machias, Maine to work with SRBTC Partner Downeast Salmon Federation.



Catch and Release

Here are some excerpts from Geof Day's Facebook Update:

SRBTC was in Maine recently to follow up on research that we began up there two springs ago. Working with many partners, we are quantitatively tracking sea-run trout's use of salt water habitat. We'll have an update on that soon, as we met with Dr. Michael Kinnison of UMaine-Orono on our way out of town.

Our job as volunteers was to help out with DSF's salmon restoration effort. DSF's hatchery raised about 250,000 salmon this year and each tiny fish had to be marked by clipping its adipose fin. This is done so if you catch a salmon marked in such a way, you'll know that this effort is successful.

Normally, SRBTC is not a huge fan of hatcheries, but in this case, since about a century of attempted salmon restoration under the federal government has basically failed, the innovative efforts of DSF should truly be applauded and studied. SRBTC was there to cheer them on and help out however we could. This unique effort, adapted from successful restoration efforts on the River Tyne, Scotland,

deserves support from coast to coast.

For more information on DSF, check out their website here – <http://www.mainesalmonrivers.org>

In addition to working to clip salmon fins (a large crew can get maybe 10,000 done in a day) I was hoping that our interns could also assist in stocking, so they could see where these fish might someday return after their journey out to Greenland and back, but perfect stocking weather and donated trucks arrived just as we were leaving. Helping out with this special stocking will have to wait for another year.



Beaverdam Stream Dam Removal Site

Dwayne Shaw (DSF's Executive Director) also took us into the field to check out a recent dam removal site up in Baileyville. It was a gorgeous day, the haddock chowder at the Fox Hill General store was superb, and the dam had been removed just about a week ago. Nine-plus inches of rain just days before had washed away some of the fabric and planting that had been put into place, so we had a bit of work to do. Dwayne says this is one of the few places on the east coast

where all original species are intact – that would include sea-run brook trout, Atlantic salmon, blueback and alewife herring, rainbow smelt, American eel, shad, native American sucker, lamprey and many others.

All week long we also got to visit many fishing spots, hearing about where there are plentiful brook trout, we learned more secrets about the sea-run brookies, which can be found in virtually any river up there including the Pleasant, Naraguagus, Englishmens and Chandler Rivers, as well as the Dennys and many others.

One of the things you'll experience is how Mainers will tell you where to go fishing – but it is up to you to figure out if they are pulling your leg or not.

We spent quite a bit of time talking and planning about future trips with hopes that we again attract sea-run brook trout fishermen to come up to fish the area and do some hands-on learning about fisheries conservation work as we did in the spring of 2014.

The Patagonia guys got excited whenever we crossed a stream, spied a lake, canoed to an island, or explored another dirt road – and camping there in a DSF cabin beside the Machias River was so "awesome," I expect that Patagonia interns may be still visiting this spot a century from now.

I hear they saw the Aurora Borealis over a flat calm river late that last night while I was crashed out in the bunk. The night before, we were serenaded by a large and moving coyote pack as the stars that glimmered overhead were reflected in that restless and perfectly flat river.

It is hard to imagine that “spectacular” can be made even more so – but I am sure that this is true.

As we left, we got to visit yet another one of DSF's hatchery facilities, this one on the Pleasant River, where we got to hear of DSF's additional work to restore the smelt population (and fishery) as well as to learn more about the intricacies of hatchery management and dam removal. And of course, we learned about additional cabins maintained by DSF that are available for camping, fishing, hiking, whatever – all year ‘round.

So if you want to visit, DSF has cabins available. All they expect is you leave the place better than you found it, and maybe give DSF a donation for use. We spent a few hours splitting and stacking wood for whoever might be visiting next. Our donation was the marking several thousand salmon that, come spring in three to five years, we hope will turn up in just that river, and for many beyond that.

Leaving was extra sweet. The weather had been crystal clear and perfect, the colors were just beginning to turn, the drive home was gorgeous and it was hard saying goodbye.



Short Updates on *The Salter*

Now a few short notes on items you may find of interest:

- Cape Cod Times front page featured “Limited Trout” 11/19/2015 covering the disappearance of trout in the Santuit – their online version includes an excellent summary by Steve Hurley. see it here: <http://www.capecodtimes.com/article/20151119/NEWS/151119387>
- In our previous issue of the *The Salter* we reviewed Doug Thompson's wonderful book *The Quest for the Golden Trout*. Since then a number of other reviewers have also praised this work, which critiques the stocking of hatchery-raised trout into our streams, as well as the questionable work that has often been done in the name of stream restoration. Since that time Doug Thompson published an Op-Ed piece in the NY Times in April of this year discussing the issue of stocking hatchery trout into coldwater streams. Not surprisingly, the American Fisheries Society (AFS), which has a hatcheries division, was not among Doug's fans. The AFS self-published a misleading and off-point rebuttal to the NY Times piece. You can find the rebuttal, along with Doug's comments on it, on Doug's website at <http://dougthompson.weebly.com/trout-fishing-blog>
- We've often written of one of Cape Cod's finest sea-run brook trout streams, Red Brook, here in *The Salter*. We are not alone! The anonymous blogger at *Small Stream Reflections* (see it at <http://smallstreamreflections.blogspot.com/>) recently published a piece about a recent fishing trip to Red Brook. What makes this notable was that the piece was mentioned by Fox News host Tucker Carlson on Fox's *The Five* show, which airs daily at 5:00PM. It seems that Mr. Carlson is a fisherman, and is somewhat of a fan of Small Stream Reflections. We highly recommend that you check out the blog for it's lovely photos of Red Brook, if for not other reasons.
- SRBTC is now offering a new item for sale: a limited edition print of a painting, by international angling artist Flick Ford, of a sea-run brook trout from Red Brook. See the last page of this issue of *The Salter* for more information about this opportunity! Funds from the sale of this work go towards helping us accomplish our mission. Collectors please note that prints with numbers matching your Prosek print can be made available on special request.
- Prudy Burt, Martha's Vineyard reports: “Boards were removed this spring from a small dam just above head of tide on the Tiasquam River to allow the successful passage of river herring, white perch, american eel and eastern brook trout. Please click to read the accompanying [Martha's Vineyard Times article by Matthew Pelikan](#) and [editorial by Nelson Sigelman](#) on this small but significant event. Extra special thanks to Michael Chelminski of Maine for providing some extra temperature loggers to collect more data there.

Sea Run Brook Trout Coalition Contact Info

Want to find out more about SRBTC? Please feel free to contact President Michael Hopper at (860)-596-4055 (Home number). Also check us out on Facebook at <https://www.facebook.com/srbtc.org> or visit our website at <http://www.searunbrookie.org>



Order a signed, limited edition Flick Ford print of a salter brook trout. All proceeds benefit the SRBTC! Available, framed or unframed, through the SRBTC website at <http://www.searunbrookie.org>

Join the Sea Run Brook Trout Coalition!

Please join us in our effort to protect and restore sea run brook trout! We are a federally recognized 501(c)(3) charitable organization and your contributions are tax deductible to the maximum extent allowed by law. Your membership fee of \$35/year helps us to continue to carry out restoration projects, advocacy, public education and outreach, and scientific research on sea-run brook trout throughout the NE United States. You can join online through our website at <http://www.searunbrookie.org> or, if you prefer, you may simply send us a check, made out to **Sea Run Brook Trout Coalition Corp.**, to our postal address:

Sea Run Brook Trout Corp.

P.O. Box 1024

Newburyport MA 01950

All of our members receive our free, *available to members only* newsletter, *The Salter*, which will keep you abreast of our doings and other matters relevant to sea-run brook trout.