PROTECT, RESTORE, RECONNECT, SUSTAIN

The Eastern Brook Trout Newsletter: North Eastern Division

A partnership between
Trout Unlimited And the
Eastern Brook Trout Joint Venture,
Together with all who value
Brook Trout And its Habitat

Calendar Event:
TU's Northeast Regional Meeting –
May 3rd at Doyle Conservation Center
Leominster, Massachusetts.

For information and to register go to the TU web site.

Contents:

Connecticut by James Belden – BTB chair

In CT we are gathering information on Brook Trout projects by chapters across the state. This is difficult to define as many of our projects generally focus on habitat improvement and often, due to marginal temperatures, tend to benefit wild brown trout due to their greater presence in CT streams. That said we are looking to verify the presence of significant populations of brook trout which tend to be in our smallest first, second and third order streams.

In March we are meeting with CT DEP Inland Fisheries Director Bill Hyatt to discuss the development of their Brook Trout Plan. Along with that our efforts for a statewide buffer bill called the Riverfront Protection Act and land acquisition efforts such as the Tankerhoosen property are activities we can work on with the State and other stakeholders to protect the habitat brook trout need.

The Candlewood Valley Chapter has, through the EBTJV, been awarded a grant for over $10,000 related to work for restoration and ongoing water quality analysis and

assessment on Deep Brook and its brook trout. A multi-faceted approach of watershed restoration and protection is being employed along with Town, State and Federal agencies. This will dovetail into ongoing projects also being funded by grants from NRCS, NFWF, CVTU and several local partners. A Class 1 Wild Trout management Area, Deep Brook's brook trout are in serious trouble from development, water withdrawal and recent weather events making it a classic study of saving native trout in an increasingly populated area.

Additionally several projects and grants are under consideration for funding which either improve habitat or protect significant lands that brook trout depend upon. They include several under the GE Natural Resource Damages process for the Housatonic River, such as The Naugatuck-Pomperaug Chapter project on Jack's Brook, which has a lively brook trout population and runs through land trust property allowing for long term protection. Also among them are restoration on the Salmon Kill, a Housatonic tributary with brook trout, and purchase of property along the Halfway River in Newtown as Open Space.

MAINE by Dave Bowie

RAPID RIVER: Severe threats to Maine's world-class brook trout fishery on the Rapid River continue to be uppermost in the minds of our fishery managers. Biologists will continue this year to look for ways to protect the young-of-the-year natives from becoming snack-food for the hungry bass that have forged into their fast-water habitat. Last year, Maine Inland Fisheries and Wildlife biologists worked closely with cooperative dam-owners (Florida Power and Light) to try "high water shock therapy". These heavy bursts of water when spaced properly seemed to move the bass away from the limited brookie nursery areas just enough to give the trout some time to grow. We were lucky to have a wet summer with plenty of water to play with flows in 2007 but managers are hoping to get more bursts solidified for further use and study. They are also considering removing more bass from their beds during June spawning.

DEPOT BROOK (Wells): The Depot Brook project has taken a giant positive swing since the last write up. The town of Wells has actually started buying future "downtown" properties and has begun to remove existing structures to create their planned "New England Town". Since the Sebago Chapter, The Well's Reserve and local game warden Tim Spahr have clearly illustrated the importance of a WILD brook trout stream running through the town, we are all now working to assure that the new plans consider building green and friendly for both fish and the environment.

Sebago TU is still funding the project along with NOAA. It has attracted the interest of some very well known architects in the hopes of being involved with one of the first "Green Streets" projects on the east coast. Tim Spahr and The Wells Reserve - with funding from Sebago TU - are creating a small environmentally-friendly consulting office in southern Maine that will eventually fund itself. The goal is to provide sound ideas for considering the environment when developing or rebuilding our towns and neighborhoods.

New York: by John Braico, NYTU BTB chair

Following recent planning meetings with James Daley (DEC Coldwater Fisheries Unit Leader) and Douglas Sheppard (DEC Bureau of Habitat: Lakes & Rivers Unit), John Braico (NY TU Brook Trout Coordinator) reports on excellent progress in key areas.

> Inventory of remote sub watersheds in the Adirondacks & the Tug Hill Plateau areas (DEC Regions 5 & 6) has been precluded by inaccessibility to electro-fishing, as well as by time & manpower constraints. Consequently, an aggregate of nearly10,000 square miles of sub watersheds were labeled as "unknown" and "qualitative presence" in the Status & Threats Report. As a practical alternative, DEC and TU recently decided to have TU volunteers proceed this spring with angling & visual sampling to simply confirm "absence" or "presence" of Brook Trout in all streams within these subwatersheds. Standardized protocols will be utilized by TU volunteers from multiple Chapters working in close coordination with DEC to "fill in the holes" on the status report as quickly as possible this year. Elsewhere in NY, Daley reported that the Catskills (Region 4) had 600 small streams surveyed by electro fishing, with the balance of the subwatersheds to be tackled this year. Likewise, the central state area (DEC Region 7) will also be proceeding with electro fishing surveys to establish brook trout status. TU volunteers have been invited & eagerly await participation in all phases of this inventory work in all participating regions.
>
> Assessment of barriers to fish passage has shifted to high priority in NY, as Doug Sheppard indicated that recent plans call for a broad statewide first pass field inventory to be implemented ASAP. A final standardized protocol should be available by April 1 for NGOs to use. TU chapters across the state are expected to be very active participants.

As an added plum, Long Island TU chapters working closely with DEC over the past several years, report successful reestablishment of a self reproducing population of brook trout in densely populated Nassau County. (See John Fisher's feature article on this remarkable feat)!

Last but not least, TU chapters across NY have been actively supporting impressive numbers of Trout in the Classroom projects -- now using brook trout rearing to introduce the EBTJV message to the next generation of environmental stewards. Check out one of the premier TIC programs' live video of thriving brookies by pasting the following into your browser. http://queensburyschool.org/Schools/MS/Teacher/Hubert/events.htm

Mass /Rhode Island by Mark Hattman,

Squannatissit Trout Unlimited Chapter- Brook Trout initiative

The Nissitissit River arises in New Hampshire, and enters Massachusetts in Pepperell, Massachusetts, where it discharges into the Nashua River. The Nissitissit, along with the Squannacook River to the south and Unquety Brook to the east, are among only a handful of trout streams in northeastern Massachusetts that are within a short drive from Boston.

The tributary headwaters of the Nissitissit in New Hampshire and Massachusetts contain native brook trout. Lands adjacent to the main stem of the Nissitissit are well protected by the Nissitissit Wildlife Management area and several parcels of conservation land. Increasing development pressures within the basin, however, have increasingly fragmented the larger blocks of forest in the watershed along the tributaries. The cumulative effects of increased development such as runoff from impervious surfaces, changes in water quality from suburban land-use, and increased ground-water withdrawals, threaten the quality of the Nissitissit River and its tributaries.

The Squannatissit chapter of Trout Unlimited has long been active in protecting and advocating for the River. In the early 1990's, the Chapter was instrumental in the designation of the Henry Colombo area, a reach of the river that extends from the New Hampshire border to the Prescott St. Bridge in Pepperell, as a Fly-fishing only – Catch and Release area; and Chapter members have long been active in the Nashua River Watershed Association volunteer monitoring program and the UMASS Acid Rain Monitoring Program.

As part of the Trout Unlimited Brook Trout Initiative, the Squannatissit chapter is currently conducting an assessment of the Nissitissit River and its tributaries to identify areas where restoration or protection efforts would most help protect the native brook trout populations. This assessment includes a reconnaissance survey of tributaries to identify reaches with native brook trout, a temperature survey of the Nissitissit and its tributaries, and an assessment of the connectivity of the tributaries to the mainstem.

Chapter members have begun an assessment of reaches and habitats of the Nissitissit and its tributaries that support native brook trout. To date, this effort has focused on Sucker Brook and Gulf Brook and Nissitissit River in the Henry Columbo area. Activities include:

- Stream reconnaissance - walking streams, including snowshoe hikes in the winter, to become familiar with tributaries and to identify areas of potential seeps.
- Temperature measurements - using probes and data loggers to identify springs and seeps and record temperatures.
- Snorkeling and diving – to assess habitat and identify springs and seeps in main stem.
- Fish sampling - the Massachusetts Division of Fish and Wildlife has conducted fish community surveys at Gulf, Sucker, Stewart, and Mine Brooks, and plans to resample the brooks in October.

Several cold springs and seeps have been identified in some reaches of Gulf Brook, Sucker Brook, and the Nissitissit that potentially could be used by brook trout to

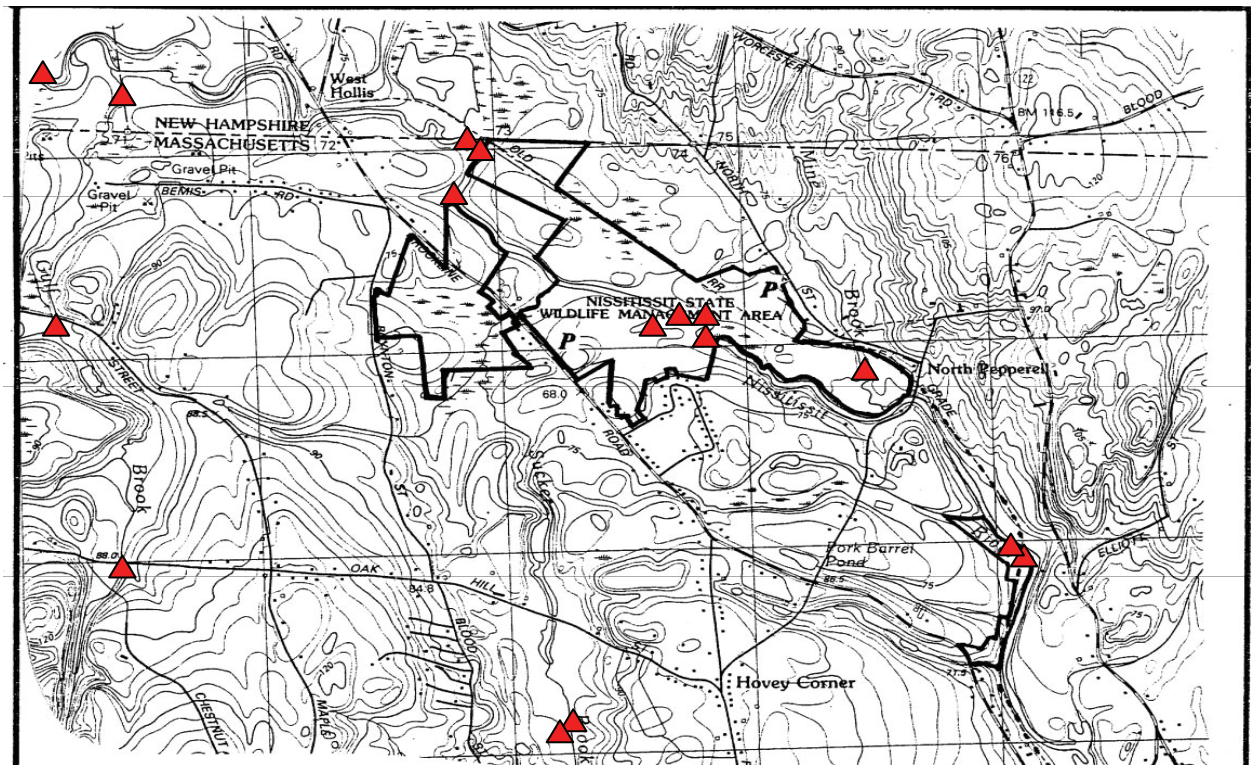
survive during warm periods in summer. A few of these were in areas where trout have been observed during warm weather in previous years. Native Brook trout were identified in both Sucker and Gulf Brooks.

A total of 21 temperature data loggers have been placed in the river and its tributaries as part of the temperature survey. These data loggers, which collect data hourly, will be in place though most of the summer (end of June through September). Ten of the data loggers will remain in place to collect temperature data throughout the year. In addition, stream flow data and air temperature data are being obtained from the U.S. Geological Survey. A list of sites where temperature is being recorded is given in Table 1. Data collection sites include 8 sites on the main stem Nissitissit; 8 sites on tributary streams (Mine Brook, Sucker Brook, Beaver Brook, Gulf Brook, and Rocky Pond Brook); and 5 sites in springs and seeps. Four of the sites on the main stem are established in pairs to identify temperature differences between riffles and adjacent deep pools. A map of the sites is given in figure 3.

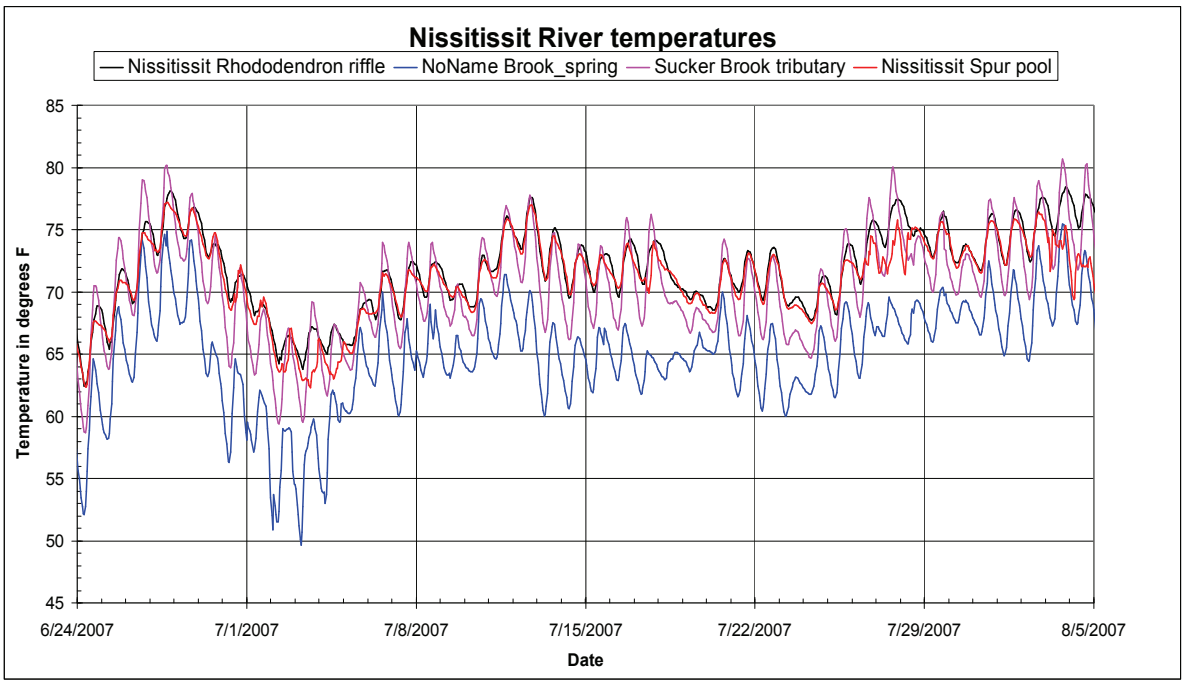
Table 1. Location of temperature data loggers in the Nissitissit River and its tributaries, summer 2007

Count	RIVER	CODE	DESCRIPTION	HABITAT
MAINSTEM				
1	NISSITISSIT	NMIL	Lower Nissitissit River at USGS gage	channel
2	NISSITISSIT	NRRP	Lower Nissitissit River - pool	pool
3	NISSITISSIT	NRRR	Lower Nissitissit River - riffle	riffle
4	NISSITISSIT	NSPU	Middle Nissitissit River at Columbo -pool	pool
5	NISSITISSIT	NRHO	Middle Nissitissit River at Columbo - riffle	riffle
6	NISSITISSIT	NLOG	Middle Nissitissit River at Columbo log jam	pool
7	NISSITISSIT	NCAM	Upper Nissitissit River at Campbell Meadows	channel
8	NISSITISSIT	NBRO	Upper Nissitissit River at Brookline	channel
TRIBUTARIES				
1	MINE	MBMO	Lower Mine Brook	channel
2	SUCKER	SPSA	Middle Sucker Brook	pool
3	SUCKER	SBMO	Lower Sucker Brook	pool
4	BEAVER	BBMO	Lower Beaver Brook	channel
5	GULF	GBMO	Lower Gulf Brook	channel
6	GULF	GBLA	Middle Gulf Brook	channel
7	GULF	GBCH	Upper Gulf Brook	channel
8	ROCKY	RBMO	Lower Rocky Brook	channel
SPRINGS				
1	NISSITISSIT	NGSP	Nissitissit River at Columbo – seep 1	spring
2	NISSITISSIT	NROO	Nissitissit river at Columbo - seep 2	spring
3	NONAME	NNSP	NoName spring	spring
4	SUCKER	SBSP	Sucker Brook spring	spring
5	BEAVER	BBSP	Beaver Brook spring	spring

Figure 1: Map of Nissitissit basin and its tributaries and temperature study sites:



Preliminary results from the data loggers indicate that ground-water discharge from springs is very important for cooling the river, and that discharge from some tributaries are warmer than the Nissitissit.



Although this assessment effort has just begun, it has already identified several areas for potential restoration efforts. These include:

- Two beaver deceiver culverts that do not have fish passage, located where two tributary streams, Gulf Brook and Beaver Brook, cross an abandoned railroad that parallels the Nissitissit River,
- Two newly replaced road culverts, Brookline Street over Sucker Brook, and East Street over Unquety Brook, where the culverts do not provide fish passage at low flows,
- Several old abandoned impoundments, on Sucker Brook and other tributaries, that interrupt connectivity between headwaters of tributary streams and the main stem Nissitissit River,
- Localized areas along Sucker Brook, Gulf Brook, and two unnamed tributaries to the Nissitissit where multiple crossing of tributaries by four-wheelers have extensively degraded stream banks and beds,
- New wells for public water supply or increased water-withdrawals from public water-supply wells at the Bemis well field.

The next steps are to plan how to involve other chapter members, to prioritize potential projects and activities, and to begin grant writing.

Download/install temperature data loggers (SEP/OCT)
Fish /Look for spawning brook trout (OCT/NOV)
Connectivity Survey (NOV/DEC)

Other activities could include:

Digital photographs
Reconnaissance/fish NH tributaries to Nissitissit (maybe with NH TU)
Set up a training with River ways, TNC, or UMASS, to learn to conduct connectivity surveys
Meetings with ConCom and MDFW to discuss restoration of stream banks to repair 4-wheeler damage at Sucker Brook and tributaries adjacent to Gilman's pool
Analysis of temperature and fish community data
Write grant proposal to bring in money to assist with restoration projects
Meet with town highway/Concom/Water Department to discuss beaver deceiver and culvert crossing issues, and water withdrawals concerns.
Begin learning process to determine steps for dam removal

A literature search identified that a number of reports and existing survey methods exist for documenting Stream Crossings in Massachusetts. These include:

University of Massachusetts River and Stream Continuity Project
Available online at:
http://www.streamcontinuity.org/

A field form for documenting stream crossings, the Massachusetts Crossings Field data form, along with several articles and a poster are also available from this site:
http://www.streamcontinuity.org/online_docs.htm

Singler, Amy, and Graber, Brian, 2005, Massachusetts Stream Crossings Handbook: Boston, Massachusetts Department of Fish and Game, River ways program.
Available online at:
http://www.mass.gov/dfwele/river/pdf/stream_crossings_handbook.pdf

River and Stream Continuity Partnership, 2006, Massachusetts River and Stream Crossing Standards,
Available online at:
http://www.nae.usace.army.mil/reg/MAStreamCrossingGuidelines.pdf

New Hampshire

by Adam Bronstein,
NHTU's new Back the Brookie Coordinator,
603.340.2277, adam.bronstein@gmail.com;

Adam is a *Conservation Scientist* at the Society for the Protection of New Hampshire Forests, as well as avid fly fisherman, backpacker, climber and photographer.

Back the Brookie/EBTJV pursuits:

-Interested in expanding and building conservation capacity in the state for Brook trout.
-Provide information and opportunities for TU members and the public to engage in more on-the-ground stream restoration and habitat protection for BT.
-In the process of forming sub committees.
-Support Fish and Game and the EBTJV to update presence/absence fish model at the stream catchment level.

Conservation:

Dead Diamond River Brook Trout Study:

Dianne Timmins is completing Brook Trout study write-up on the Dead Diamond…
Finding of Project Summary -This project studies the movement of Brook trout in the Dead Diamond watershed and seeks to explain the various reasons why.

-Trout moved greater than 40 miles within system. One fish moved over 52 Miles.
-Brookies sought thermal refuge in areas of upwelling with watershed system, fish headed into the Magalloway River when Dead Diamond became too warm. Surface temperatures reach above 74 degree F in August.
-Fish need the ability to seek thermal refuge by departing actual river system.
-Spawning was verified in the Dead and Magalloway. Depending on river conditions, the fish moved to different river systems to spawn.
-Winter habitat shared with Magalloway BT, Rapid BT and Dead Diamond BT in Lake Umbagog.
-Bass and Trout study in the Dead to document the extent of the Bass infiltrating into the system and any overlap.
-Connectivity in the watershed (all Brook trout watershed for that matter) must be left open to give fish the ability to seek thermal refuge in different river systems and for access to a variety of spawning grounds.
-DNA samples will be returned shortly to differentiate between different populations in the system.

Forest Society to Conserve Five Miles of Upper Connecticut River Frontage:

RENOWNED FISHING AND FORESTLAND ALONG NATIONAL SCENIC BYWAY--GATEWAY TO THE CONNECTICUT LAKES REGION AND PITTSBURG

2,100 Acres Would Be Largest Forest Society Reservation in the North Country

Concord, N.H., Sept. 17, 2007—The Society for the Protection of New Hampshire Forests hopes to permanently conserve 2,100 acres on the upper reaches of the Connecticut River in Clarksville that features five miles of pristine river frontage and extensive views from U.S. Route 3, a designated National Scenic Byway. The stretch of river included in this project is highly valued by fly fishermen in particular. Located just south of Lake Francis and the fly-fishing only "Trophy Stretch" of the Connecticut, this part of the upper Connecticut River watershed contains the highest percentage of documented high-quality intact wild brook trout habitat in the state, according to the Eastern Brook Trout Joint Venture.
For more information visit www.forestsociety.org

Field trip scheduled the weekend of May 17th to visit the property and wet a line.

Continuing Stream Restoration on Nash…
Jim McCartney will be continuing stream restoration on Nash stream this spring. Work includes culvert removal, channel restoration and the introduction of woody debris into the stream channels.

EBTJV Model Verification
NH Fish and Game will continue their on-the-ground stream assessment for the presence/absence of Brook trout throughout the state and update the EBTJV model from predicated to known status.

Volunteer Opportunities

- Pit tagging individual BT in Nash stream to monitor movement. (Summer, ongoing)
- Radio telemetry in Nash to study the overlap of wild and hatchery fish and their habitat (Mid May)
- Radio telemetry on the Dead Diamond both BT and Bass (end of May through mid June)

To get on the NH volunteer mailing list, please send a request email to Adam adam.bronstein@gmail.com and dates will be forwarded when opportunities arise.

Conservation Easements can be Modeled to Protect Eastern Brook Trout

By Dave Magnon, Chair, NH TU Council

In recent months CELEBRATIONS, INC., the development division of the Walt Disney Company, has purchased the renowned Mount Washington Hotel and Resort with the intention of building nearly 1400 upscale condominiums and residences. Located in our acclaimed "Great North Woods" the existing golf courses and Bretton Woods Ski Area will be expanded and updated.

Dartmouth Brook, a tributary of the Ammonoosuc River (designated as "Wild and Scenic") and its riparian zone is home to spawning wild brook trout and a multitude of other precious northland wildlife. Working in partnership with the local Carroll Conservation Commission, the NH TU Council, NH Fish and Game, NH Department of Environmental Services/Wetlands Bureau and the US Fish and Wildlife Service, the developer has generously offered to create and donate a fifty-six (56) + acre tract as a conservation easement. This parcel preserves a contiguous wildlife corridor connecting to the White Mountain National Forest and protects the trout stream.

Since such mechanisms require setting up a rather intricate process and program to monitor and enforce their provisions, Paul Doscher, our northern New England Grassroots Trustee is working with the Ammonoosuc Conservation Trust, a well-established land trust to hold the easement and steward the property. The cooperation of all these partners, working with a large and powerful muti-national developer is a milestone for coldwater fisheries preservation. Furthermore, it illustrates the positive results attainable with diligent and persistent attention.

NH Holds CSI Meeting

Last fall, Matt Carpenter of the NH Fish & Game Department, organized a Collaborative Focus meeting in Concord, NH. The key purpose was to collect and utilize GIS science data from the major conservation groups in the state as a means of identifying and evaluating critical watersheds and stream reaches that are important for fisheries. As an outgrowth of the EBTJV this project offers an opportunity for TU's Conservation Success Index to be incorporated into brook trout conservation efforts. Organizations represented were NH F&G's coldwater biologists and technicians, the Department of Environmental Services, the Society for the Protection of New Hampshire Forests, The Nature Conservancy, the Trust for Public Lands, the NH Audubon Society and the Umbagog National Wildlife Refuge. Each group offered maps of their focus areas to be synthesized into an overlay system to facilitate effective partnership efforts. TU's contribution was created by national staff fisheries biologist Nat Gillespie.