NORTHEAST REGIONAL CONSERVATION NEEDS GRANT 2013 PROGRESS REPORT

Quarter: (circle one) (2013 1st) 2013 2nd 2013 3rd 2013 4th

Grant Number and Title: RCN 2011-06 Aquatic Habitat Map Guidance

Grant Receipt/Organization: The Nature Conservancy

Grant Project Leader: Mark Anderson

Were planned goals/objectives achieved last quarter? Yes

Regional Conservation Need Addressed: Science translation of existing products. In this case the Northeast Aquatic Habitat classification

Progress Achieved: (For each Goal/Objective, list Planned and Actual Accomplishments
During the last quarter, we focused on further review of methods of classification simplifications, population of a mock-up report page, and initial data collection of biological information from states.

Summary of Progress: (Provide a paragraph describing progress, work to come, and timelines)
Goal 1 Finalize the simplification system and approve the report format: In our November 2012 steering committee call, we agreed to use a classification simplification framework based loosely on the NY Freshwater Blueprint. There was wide support for the NY Freshwater Blueprint model, and modifications to the NY system centered primarily on maintaining a cold temperature class and an acidic type. The group agreed our regional simplified classification would use size, gradient, geology, temperature, and tidal classes, but the above 5 variables will not be concatenated or used together to define every habitat type. For example, headwaters and creeks will be split using size, gradient, geology and temperature, while larger rivers will only be split by gradient and temperature. Tidal habitats will only be split by 2-3 size classes. To implement this classification, we will also need to map a tidal class which was not included in the original classification. On our January 18, 2013 steering committee call, we reviewed implementation of the simplified classification by studying maps of the variables and tables of # of stream and river types by state. The team approved the current simplification, and the only further feedback was to explore the creek vs. small river break point and consider whether creeks will be lumped with headwaters or with small rivers.

Goal 2. Apply the final simplified classification to the GIS data and begin overlaying with other data. Per the recommendation of the group, we experimented with a new 25mi break in the creek category and made a final decision on this issue. For linking species to habitats, many individuals on the steering committee agreed to send useful fish, mussel, and aquatic community classification data and reports to us. There appears to be a wealth of biological data available. The challenge will be in linking the species and communities directly to the regional stream and river types, but all team members agreed to review and edit the descriptions that TNC compiles and an initial linking TNC does. To date we have received aquatic community classifications to link to the regional classification from NH, VT, PA, MD, and NY. We have received or have been promised fish, mussel, and/or other aquatic biological sets from NY, VA, Alan Heriliy (USGS), and we have obtained Rushing Rivers Fish Sample data from a previous NEAFWA RCN for New England states + NJ. We have also begun

linking and QCing the link of our existing database of rare fish, mussels, crayfish, and freshwater snails from the state Natural Heritage Programs to the stream reaches.

Goal 3 Develop final examples of the habitat guide page for presentation at the April F&W conference. We completed populating a draft mock-up page for High Gradient Acidic Cold Headwaters and Creeks (see below) This was circulated among the steering committee for review.

Difficulties Encountered: None. The requested no-cost extension was received.

Activities Anticipated Next Quarter:

- Create maps of the final 58 stream types and create an Access Database for storing and organizing information
- Continue developing attributes on size, securement, associated wildlife and rare species, crosswalks to state names, photos, places to see the stream type, etc.
- Present example pages of the habitat guide page the April F&W conference, and make adjustments as necessary. Create more example pages and circulate them.
- Create diagrams and explanatory materials as needed.
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Expected End Date: Sept 30 2013

Costs:

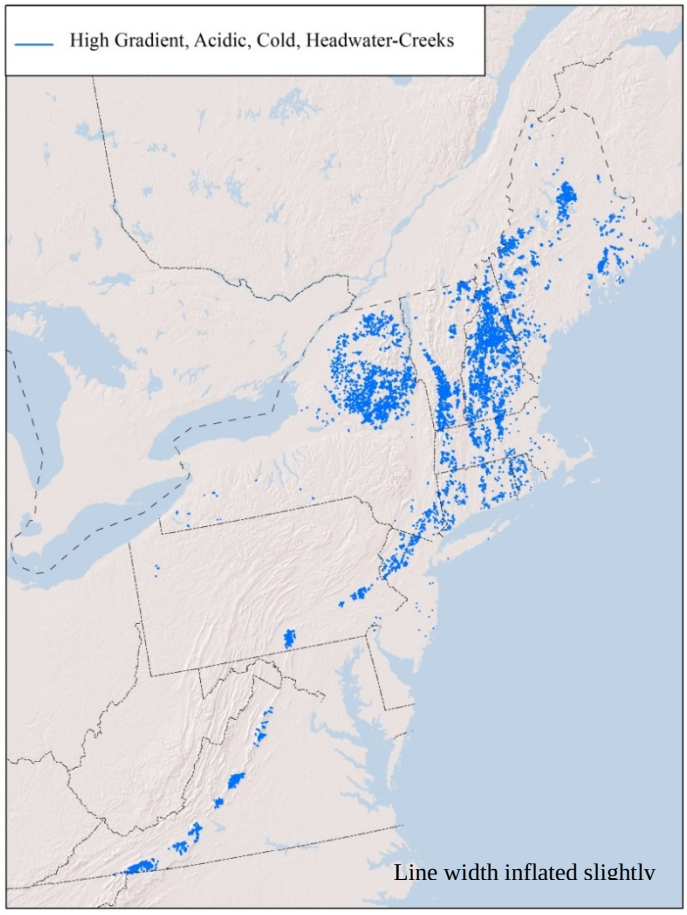
Amount of RCN Funds Expended to date: $2,564.50
Total Approved Budgeted RCN Funds: $18,167.86
Are you within the approved budget plan and categories? Yes

Signature:

Date: April 29, 2013

High Gradient, Acidic, Cold, Headwaters and Creeks

High Gradient, Acidic, Cold, Headwater-Creeks



Description

This stream type is characterized by cascade and step-pool habitats where channels are narrowly confined. Bed materials often consist of bedrock, boulders, and cobbles. These cold high gradient water habitats have fast moving water and are often found at mid to high elevations. Low elevation and coastal variants are rare.

Similar Habitat Types

These systems often flow into moderate or low gradient cold headwaters and creeks as they transition from higher elevation steep headwaters into larger streams in more moderate gradient and lower elevation topography.

Ecological Setting

This system occurs in stream reaches with upstream watershed areas <38.61 sq.mi. (100 sq.km) in size. Gradients of these reaches are >= 2%. The geologic setting of the upstream watershed is acidic. The cold temperature in these systems means coldwater fish species likely represent >50% of the fish community composition and can utilize this habitat year-round.

State Distribution:
Total Miles: 6,349
43% Secured

	GAP1&2 Miles	GAP3 Miles	Total Miles Secured	Total Miles of Habitat	% of Total Miles Secured
CT	9	33	42	226	18
ME	174	149	323	980	33
MA	11	101	112	305	37
NH	234	503	737	1,666	44
NJ	25	13	39	159	24
NY	739	224	962	1,671	58
PA	5	63	68	180	38
RI	1	11	12	43	27
VT	92	190	283	657	43
VA	45	81	126	461	27
Total	1,335	1,368	2,703	6,349	43


Photo Credit : TNC Westfield River Water

Associated Wildlife

Fish: Brook trout; Brook trout with Slimy sculpin, Blacknose dace

Crustacea and Mollusca**:** Given the low ph and alkalinity, few crustacea and mollusca besides the Common crayfish (cambarus bartoni).

Macroinvertebrates: Dominance by macroinvertebrate shredders because of closed canopy. Species will be acid tolerant. Overall low species diversity.

Rare Species:

Fish: Potomac Sculpin, Redbelly Dace, Longnose Sucker

Crustacea and Mollusca**:** Brook Floater, Triangle Floater, White River Crawfish

Crosswalk to State Names:

Cold headwater acidic mountain stream (VT), Small Streams (MA), Upper Perennial (RI), Coldwater Stream (NY), Coldwater Stream (CT), Atlantic Basin Fish Coldwater Community (PA), Coldwater Stream (MD)

Places to Visit

Meshomasic State Forest (CT DEP)
Pachaug State Forest (CT DEP)
Shenipsit State Forest (CT DEP)
Baxter State Park (ME STP)
White Mountain National Forest (USFS)
Bigelow Preserve (ME STP)
Quabbin Reservoir (MA DCR)
October Mountain State Forest (MA DCR)
Beartown State Forest (MA DCR)
Nash Stream Forest (NH DRED)
Franconia Notch State Park (NH DRED)
Crawford Notch State Park (NH DRED)
Ringwood (NJ DEP)
Long Pond Iron Works (NJ DEP)
Allamuchy (NJ DEP)
West Canada Lake (NY DEC)
Ferris Lake (NY DEC)
Silver Lake (NY DEC)
Michaux State Forest (PA BF)
Carbaugh Run Natural Area (PA BF)
Pine Grove Furnace State Park (PA BSP)
Arcadia Management Area (RI DEM)
Cork Brook (RI WATSUP)
Wickaboxet Management Area (RI DEM)
Green Mountain National Forest (USFS)
Groton State Forest (VT FPR)
Coolidge State Forest (VT FPR)
George Washington and Jefferson National Forest (VA USFS)
Appalachian Trail Corridor (NPS)
Blue Ridge Parkway National Park (NPS)

Brook Trout

Photo Credit: Eric Engbretson, U.S. Fish and Wildl

[illegible], and some are anadromous. Diet typically includes smaller fish, crustaceans, and invertebrates. Brook trout geographic distribution is constrained by maximum temperatures, and populations are strongly dependent on interconnections between spawning habitats and foraging habitats. Due to poor land management, road development, and other human