

2010 REPORT OF THE ACTIVITY OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES AQUATIC RESOURCE MITIGATION FUND PROGRAM

I. INTRODUCTION

The New Hampshire Department of Environmental Services (DES) Aquatic Resource Mitigation (ARM) Fund has been created as one of several compensatory mitigation options available to applicants for impacts to wetlands and other aquatic resources. This mitigation option is available for use after avoidance and minimization of impacts to these aquatic resources has been achieved. The ARM Fund seeks “no net loss” of aquatic resource acreage and functions using a watershed approach. See Appendix A for the Hydrologic Unit Code 8 (HUC 8) display of the watersheds that is used for collection of funds.

The purpose of this report is to advise the public and federal agencies of the status of the ARM Fund and to address items referenced in the DES regulations, Env-Wt 807.19. This report summarizes the achievements made by the mitigation program over the 2010 calendar year and specifically outlines the following:

- a. Calendar year 2010 improvements to DES mitigation program;
- b. Summary of wetland loss and funds received in each of the HUC 8 watersheds; and
- c. Grants distributed in 2010.

II. IMPROVEMENTS TO NHDES MITIGATION PROGRAM IN 2010

In its fourth year of operation, the ARM Fund has had the busiest year of its operation. With the enactment of the law in 2006, a large number of the watersheds received their first payments in 2007. As required by the DES administrative rules, the funds in a watershed shall be distributed two years following receipt of a first payment. Therefore, six watersheds achieved this timeframe and were advertised in late 2009 with deadlines for proposals ending in early 2010. The Site Selection Committee held a total of 17 meetings and conferences as a group and often met in smaller sub-committees tasked with specific issues. On December 21, the committee held a planning session to discuss program improvements and to develop measures to increase efficiency. As a result, the committee will be working with the DES program coordinator to draft rule revisions to incorporate the adoption of stream mitigation criteria and consider several changes to the application process. In addition, the committee will be involved in the development of the program for compliance to the Federal Mitigation Rule and will participate in the completion of a New Hampshire In-Lieu Fee Program Instrument.

It should be noted, during the 2009 legislative session, Senate Bill 65 was entered into legislation to expand the use of the payment option for wetland impact projects. The amendment eliminated the one acre impact threshold for the law to allow any project to provide payment in-lieu of other forms of mitigation. SB 65 also established the opportunity for stream related impacts to provide payments into the fund and involved an increase in the in-lieu fee payment. From its inception, the ARM Fund program operates with one coordinator that is funded by an administrative charge on every in-lieu fee payment. A review of the budget for the program noted a shortfall for the position. In an attempt to provide a remedy Senate Bill 65 also included provisions to increase the administrative fee for payments. At the end of the 2009 session, the administrative increase was sent to committee for further study. As a result of numerous meetings and hearings, the bill was reassigned as House Bill 681 and was passed. The final bill text is found in Appendix B and involves a temporary increase in the percentage of the administrative assessment related to aquatic resource compensatory mitigation that may be used to support one additional program staff. The change became effective July 1, 2010 and includes a sunset clause for review in July, 2012 where it may return to the 5 percent. The mitigation program does not foresee staff additions in the coming year.

III. WETLAND LOSS AND CONTRIBUTIONS RECEIVED

During the 2010 calendar year, **nine** projects used the payment option as mitigation for permitted wetland impacts. The **nine** permitted projects resulted in **15.91 acres** of wetland loss. For these wetland impacts, the fund accumulated contributions totaling **\$2,012,687.96**. The impacts, contributions, and functions and values impacted by projects that generated funds in calendar year 2010 are shown below. The carryover amounts and totals for the 10 watersheds that have had deposits since 2007 are also noted, with the proposed release dates.

ARM FUND REVENUES, IMPACTS AND FUNCTION AND VALUES LOST DURING CALENDAR YEAR 2010

WINNIPESAUKEE RIVER WATERSHED Awards to two projects issued July 2010 Funds expended \$53,000

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTIONS/ VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
Alton, 2010-1261/2010- 1419	1.13	Limited overall, sediment/toxicant retention	\$157,802.50	\$7,890.12	10/21/2010
Carryover			\$100,777.16		
CURRENT TOTAL FOR WATERSHED	1.13		\$258,579.66		

UPPER ANDROSCOGGIN RIVER WATERSHED – Release October 2010

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTIONS/ VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
Dummer, 2009- 1872/ 2009-2154	0.26	Wildlife habitat, sediment/toxicant retention	\$26,241.10	\$4,467.58	3/18/2010
Carryover	0.61		\$60,105.29		
CURRENT TOTAL FOR WATERSHED	0.87		\$86,346.39		

UPPER CONNECTICUT RIVER WATERSHED

Award issued to one project in June 2010

Funds expended \$148,000

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTIONS/ VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
CURRENT TOTAL FOR WATERSHED			\$0		

**CONNECTICUT RIVER – ASHUELOT RIVER – VERNON DAM
TO MILLERS RIVER WATERSHED**

Awards to 2 projects issued October 2010

Funds expended \$183,000

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTIONS/ VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
Keene, 2009- 2330/ 2009-2547	0.33	Wildlife habitat	\$47,383.25	\$2,369.16	3/16/2010
CURRENT TOTAL FOR WATERSHED			\$0		

SACO RIVER WATERSHED – Release April 2012

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTIONS/ VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
Ossipee, 2010- 215/ 2010-517	0.38	Floodflow alteration, sediment/toxicant retention, nutrient removal	\$46,223.29	\$2,311.16	4/5/2010
CURRENT TOTAL FOR WATERSHED	0.38		\$46,223.29		

SALMON FALLS RIVER – PISCATQUA RIVER WATERSHED
Awards issued to eight projects in December 2010
Funds expended \$1,546,510

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTION/VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
Rochester/Dover, 2009-2922	8.0	Groundwater recharge/discharge , flood-flow alteration, nutrient removal/retention, wildlife habitat	\$1,176,494.40	\$58,824.72	3/5/2010
Durham, 2005-556/ 2005-1863	0.41	Wildlife habitat	\$55,561.01	\$2778.05	7/6/2010
Carryover					
CURRENT TOTAL FOR WATERSHED			\$49,490.00		

CT RIVER to WHITE RIVER to BELLOWS FALLS
Release October 2012

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTIONS/VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
Lebanon, 2009-2853/ 2010-128	2.65	Moderate wildlife habitat, sediment/toxicant retention	\$71,250.00	\$3,750.00	10/12/2010
Enfield, 2010-1525/ 2010-1320	2.64	Fish and wildlife habitat, recreation, shoreline stabilization, sediment/toxicant retention	\$322,892.89	\$16,144.50	10/1/2010
CURRENT TOTAL FOR WATERSHED	5.29		\$394,142.89		

PEMIGEWASSETT RIVER WATERSHED
Award issued to one project in December 2010
Funds expended \$113,500

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTIONS/ VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
Carryover			\$26,542.02		
CURRENT TOTAL FOR WATERSHED			\$26,542.02		

CONNECTICUT RIVER from JOHNS RIVER TO WAITS RIVER
Awards issued to two projects in June 2010
Funds expended \$133,500

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTIONS/ VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
Carryover			\$55,141.89		
CURRENT TOTAL FOR WATERSHED			\$55,141.89		

MERRIMACK RIVER WATERSHED

PERMIT LOCATION, DES/CORPS FILE #	IMPACTS (in acres)	FUNCTIONS/ VALUES LOST	FUND REVENUE	DES ADMIN FEE	DATE PERMIT ISSUED
Hooksett, 2010- 1370/	0.11	Groundwater Rechg/Dischg, Sedimnt/shorline stabilization	\$10,304.23	\$490.68	8/31/2010
Carryover			\$83,331.13		
CURRENT TOTAL FOR WATERSHED	0.11		\$93,635.36		

Nine additional projects determined eligible for payment into the ARM Fund are noted below. These **nine** projects have the potential of an additional **\$2,323,415.43** to be paid into the Fund.

**POTENTIAL ARM FUND REVENUES, IMPACTS AND
FUNCTION AND VALUES LOST IN CALENDAR YEAR 2010**

PROJECT TOWN	HUC 8 WATERSHED	IMPACTS	FUNCTIONS AND VALUES LOST	POTENTIAL REVENUES
Newbury/Goshen	CT to White to Bellows Falls	0.51	Limited wildlife habitat	\$74,180.62
Hooksett	Merrimack River	0.11	Groundwater Rechg/Dischg, Sediment/shorline stabilization	\$73,331.58
Epsom	Merrimack River	0.53	Wildlife habitat, groundwater discharge/recharge	\$67,614.86
Berlin	Upper Androscoggin	0.65	Previously disturbed site with limited functions	\$9,813.55
Nashua	Merrimack River	11.63	Wildlife habitat, groundwater recharge/discharge, flood storage, storm water retention	\$1,925,154.83
Berlin/Milan	Upper CT (88%) and Upper Androscoggin (12%)	1.10	Wildlife habitat, production export, nutrient removal, sediment retention	\$123,971.08
Rochester	Salmon Falls – Piscataqua River	2.13	Wildlife habitat, groundwater discharge/recharge	\$33,337.35
Hanover	CT-Waits to White River	0.06	Limited fisheries impact	\$8,597.53
Concord	Merrimack River	0.04	Wildlife habitat – vernal pool habitat	\$7,414.03
TOTALS FOR POTENTIAL PAYMENTS		16.76		\$2,323,415.43

IV.ARM FUND AWARDS

For 2010, the 6 watershed releases amounted to a total gain of **2,643.4 acres of preservation, 6.81 acres wetland restoration, 78.85 acres wetland enhancement, and 1,500 linear feet of stream restoration** from the expenditure of **\$2,177,510.00**. For the 15 project awards, a total of **\$6,573,928.00** of funds was leveraged for the completion of these projects. The projects awarded funds and the credits gained from the associated payment amounts are noted according to each watershed below.

2010 ARM FUND AWARDS

UPPER CT RIVER WATERSHED AWARDS - 6/2010			
Impacted area	ILF Funds Paid In	Name of ARM Fund Award, Location, Applicant	Mitigation Achieved and Fund Allocation
65,527 sf/ 1.50 ac	\$156,159.59	1. Potter Farm Land Protection and Wetland Restoration, Northumberland by TNC	326 ac pres; 3.7 ac enhancement through reforestation; 10.4 ac enhancement through supplemental plantings (\$148,000 paid by Fund)
TOTAL IMPACT: 1.50 acres			TOTAL NET GAIN: 326 ac preservation; 14.1 ac enhancement CORPS CREDITS: 8.43 pres; 0.53 enhancement(reforest); 1.04 enhancement (supplemental) TOTAL DISBURSED: \$148,000.00

CT RIVER FROM JOHNS TO WAITS RIVER WATERSHED AWARDS - 6/2010			
Impacted area	ILF Funds Paid In	Name of ARM Fund Award, Location, Applicant	Mitigation Achieved and Fund Allocation
133,256 sf/ 3.06 ac	\$198,175.54	1. Ammonoosuc River Floodplain Preservation & Restoration, Lisbon by ACT	47 ac preservation (\$133,500 paid by Fund)
TOTAL IMPACT: 3.06 acres			TOTAL NET GAIN: 47 ac Preservation CORPS CREDITS: 3.13 pres TOTAL DISBURSED: \$133,500.00

WINNIPESAUKEE RIVER WATERSHED AWARDS - 7/2010

Impacted area	ILF Funds Paid In	Name ARM Fund Award, Location, Applicant	Mitigation Achieved and Fund Allocation
47,335 sf/ 1.09 ac	\$161,466.73	1. Tioga River Wildlife & Conservation Area, Belmont, NH by the Town of Belmont & Stoney Ridge Environmental	25 ac enhancement from Rhamnus sp eradication (\$30,000 from Fund)
		2. Coffin Brook Road Floodplain Connectivity Improvement, Alton by the Alton Highway Dept. and Stoney Ridge Environmental	Installation of 10 culverts to enhance 30 acres of wetlands (\$23,000 from Fund)
TOTAL IMPACT: 1.09 acres			TOTAL NET GAIN: 55 ac Enhancement CORPS CREDITS: 2.55 enhancement; TOTAL DISBURSED: \$53,000.00

CT RIVER TO ASHUELOT RIVER FROM VERNON DAM WATERSHED AWARDS - 10/2010

Impacted area	ILF Funds Paid In	Name of ARM Fund Award, Location, Applicant	Mitigation Achieved and Fund Allocation
69,300 sf/ 1.59 ac	\$192,785.61	1. Brown Farm Wetland Protection and Enhancement Project, Swanzey by TNC	3 ac wetland edge/buffer enhancement; 144 ac preservation (\$94,533 from Fund)
		2. Colony Project, Chesterfield by Monadnock Conservancy/Chesterfield Con Com	300 ac wetland preservation (\$83,467 from Fund)
TOTAL IMPACT: 1.59 acres			TOTAL NET GAIN: 444 ac preservation; 3 ac enhancement CORPS CREDITS: 13.95 pres; TOTAL DISBURSED: \$183,000.00

PEMIGEWASSET RIVER WATERSHED AWARDS - 12/14/10				
Impacted area	ILF Funds Paid In		Name of ARM Fund Award, Location, Applicant	Mitigation Achieved and Fund Allocation
60,820 sf/ 1.4 ac	\$140,042.02		1. Strolling Woods Project, Franklin by NH Lakes Association and landowner	230.4 ac preservation; 0.6 ac wetland restoration (\$113,500.00 from Fund)
TOTAL IMPACT: 1.4 acres				TOTAL NET GAIN: 230.4 ac preservation; 0.6 ac restoration CORPS CREDITS: 2.32 pres; 0.3 restoration TOTAL DISBURSED: \$113,500.00
SALMON FALLS TO PISCATAQUA RIVER WATERSHED AWARDS - 12/14/10				
Impacted area	ILF Funds Paid In		Name of ARM Fund Award, Location, Applicant	Mitigation Achieved and Fund Allocation
484,375 sf/ 11.12 ac	\$1,596,432.90		1. Sprucewood Forest, Durham by Trust for Public Lands	176 ac preservation (\$500,000.00 from Fund)
			2. Evans Mountain, Strafford by Town of Strafford/Bear-Paw Regional Greenways/Blue Hill Foundation	1,015 ac preservation; 3,400 sq ft of wetland restoration (\$367,750.00 from Fund)
			3. Exeter River Water Quality Improvements and Buffer Preservation, Brentwood by Brentwood Conservation Commission	16 ac preservation; 0.3 ac enhancement; (\$78,468 from Fund)
			4. Carl Siemon Family Charitable Trust – Jones Brook Property, Milton by Fish & Game Department	366.1 ac preservation (\$29,300.00 from Fund)
			5. Upper Oyster River Channel & Fish Passage Restoration, Barrington by Piscataqua Region Estuaries Partnership	Culvert removal to improve approx. 4 miles of perennial stream passage; 18 ac preservation (\$100,000.00 from Fund)
			6. Odiorne Point State Park Maritime Cobble Beach and Coastal Salt Pond Marsh Restoration Project, Rye by RCCD	3.8 ac restoration; 6.45 ac enhancement (\$43,000 from Fund)

Impacted area	ILF Funds Paid In	Name of ARM Fund Award, Location, Applicant	Mitigation Achieved and Fund Allocation
		7. Berry Brook Watershed Restoration through Stream Restoration, Buffer Development, and LID Retrofits, Dover by UNH Stormwater Center/City of Dover	5 ac preservation; 1.83 ac wetland restoration; 1,500 linear ft of stream restoration; buffer enhancement (\$400,000.00 from Fund)
		8. River Road Marsh Restoration, New Castle by New Castle Conservation Commission/RCCD	0.5 ac restoration (\$27,993 from Fund)
TOTAL IMPACT: 11.12 acres			TOTAL NET GAIN: 1,596 ac preservation; 6.21 ac restoration; 6.75 enhancement; 1,500 lin ft stream restoration CORPS CREDITS: TOTAL DISBURSED: \$1,546,510.00

V . DISBURSAL OF WATERSHED FUNDS IN 2010

The DES ARM Fund was established by law in August, 2006 as a mitigation option for certain projects not able to provide other forms of mitigation. The ARM Fund Site Selection Committee was set up to provide a mechanism for reviewing, evaluating, and selecting wetland restoration, upland preservation, wetland creation, and other aquatic resource improvement proposals. The Committee is composed of representatives from the following organizations: DES, Department of Economic Development NH Heritage Bureau, NH Fish and Game Department, Office of Energy and Planning, NH Association of Natural Resource Scientists, NH Association of Conservation Commissions, The Nature Conservancy and the Society for the Protection of NH Forests. According to the law, the projects determined to be appropriate for receipt of ARM Fund monies are subject to approval by the US Army Corps of Engineers, New England District (ACE) and the NH Wetlands Council.

The committee is charged with identifying proposals to be funded by selecting high priority projects that most effectively compensate for the loss of functions and values in the watershed. The council is charged with approving disbursements of the ARM Fund based on recommendations provided by the committee per RSA 482-A:29.

In the fall of 2009, DES announced the availability of ARM funds accrued in the following three watersheds: Upper Connecticut River, Connecticut River from Johns to Waits River, and the Winnepesaukee River watersheds. Three additional watersheds were advertised for release in 2010. The permitted projects that contributed funds can be found in Attachment C for each watershed. The following summaries outline the 6 watershed releases, applications received, and awards granted.

Upper Connecticut River Watershed

On September 28, 2009 DES announced the availability of \$148,000 with a deadline for proposal submittal of March 26, 2010 for the watershed. The funds came from two permitted projects located in the towns of Pittsburg and Colebrook (See Attachment C). These permitted projects impacted the following functions: wildlife habitat, groundwater discharge and recharge, flood storage and sediment/toxicant retention. Four applications were received in response to the solicitation.

The committee and DES visited the sites and on May 26 the committee convened to evaluate and rank the applications. All four projects are summarized as follows with a site map of the awarded project found in Attachment D. The committee recommended full funding of The Potter Farm Land Protection and Wetlands Restoration project. The committee noted that the selected project provides the greatest potential to replace or protect specific wetland functions and values lost by the impacts in the Upper Connecticut River HUC 8 watershed. Committee findings for the decisions are also noted below.

1. Project Proponent: The Nature Conservancy

Project Title: The Potter Farm Land Protection and Wetland Restoration, Northumberland

This project proposes to protect and restore floodplain forests, maintain agricultural land uses, and protect uplands and rivershore connectivity. The project includes permanent land protection of 326 acres of land which is an entire ridgeline-to-rivershore swath. These uplands are part of TNC's "Kilkenny Matrix Forest Block", comprising 119,600 acres of unfragmented forest area that represents one of TNC's top priorities for forest conservation. This forest area also corresponds with the NH Wildlife Action Plan unfragmented forest blocks. The Potter Farm, located on Route 3 in Northumberland, is adjacent to more than 350 acres of WAP-modeled floodplain forest habitat. Multiple additional patches of intact floodplain forest occur throughout Maidstone Bends, making this area one of the most productive river reaches for this wetland type.

The project will maintain natural meander patterns while enhancing riparian buffer vegetation in the existing low terrace fields over the long term, and restoring and enhancing floodplain forest vegetation in the short-term. The ARM proposal includes a request to develop and implement a pilot restoration on the 75 acres of low terrace field comprised of 16 acres of wetlands and 59 acres of hayfield. The primary restoration goal at Potter Farm is the protection and enhancement of floodplain forest wetlands. The restoration activities proposed within the pilot phase focuses on restoring or enhancing floodplain forest vegetation. A total of 33 acres of wetlands have been identified for restoration through the short and long-term project goals. All plans include maintaining current hayfield management on the majority of current field acreage.

The Potter Farm property also includes 251 acres of upland south and east of Route 3 and extends to the ridgeline of Cape Horn, abutting the northern extent of Cape Horn State Forest. Goals include upland habitat protection, agricultural management, and upland connectivity with Cape Horn State Forest.

Grant amount requested:	\$148,000
Amount of matching funds secured:	\$233,702
Total project costs:	\$381,702

Committee Findings:

- A. The Potter Farm project proposes a combination of restoration and protection of floodplain forest communities which are noted as unique and important in the region. A site conservation plan for the Maidstone Bends was completed in 2008 that highlighted priority floodplain forests on both sides of the River, including to the Potter Farm fields.
- B. The project goals meet the intent of the ARM Fund program specifically wetland restoration, upland habitat protection adjacent to high value wetlands, agricultural management on the majority of productive farm floodplain soils, and connectivity with existing conservation lands.
- C. The project far exceeds the compensation requirement for this watershed by the long-term wetland restoration of 33 acres of low terrace field, and protecting the 326 acre property, resulting in the

connectivity of uplands with Cape Horn State Forest. In addition, the parcel is part of TNC's "Kilkenny Matrix Forest Block," comprising 119,600 acres of unfragmented forest area that represents a top priority for forest conservation.

- D. There is a diversity of aquatic habitats, floodplain systems, and documented Natural Heritage exemplary natural communities which will be permanently protected through a conservation easement.
- E. Key functions to be provided by this project include ecological integrity, wildlife and fish habitat, sediment trapping, nutrient attenuation, and noteworthiness for its connection to and proposed protection of the NH State Designated Connecticut River.
- F. There are multiple Natural Heritage records in the uplands of Potter Farm as well as river based occurrences of rare and exemplary natural communities.
- G. The floodplain forests to be restored and protected are an ecosystem type recognized as one of the priority habitats in the New Hampshire Wildlife Action Plan. Approximately half of the lower terrace is ranked as a top-ranked, Tier 1 habitat while the remaining half is identified as Tier 2.
- H. The project offers the best opportunity for restoration of the functions lost in the watershed from the projects that generated the funds and additional functions important in the Upper Connecticut River watershed.

2. Project Proponent: New Hampshire Lakes Association, Lake Conservation Corps Program:

Project Title: Restoring the Shore for Community and Habitat Enhancement, Colebrook

NH LAKES, through the Lake Conservation Corps, proposes to employ local youth and a teacher to construct and showcase storm water and water quality best management practices on 2,380 linear feet of river frontage. The parcel is owned by the town and the proposed restoration focuses primarily on reducing the amount of sediment from erosion along the bank of the river. This parcel serves as the source of the town of Colebrook drinking water supply. The shoreline and 50-foot waterfront buffer zone along most of the frontage is partially devoid of natural vegetation with bare, compacted soils and sandy areas which do not provide for significant wildlife habitat or storm water infiltration. The area is zoned commercial and one existing building is in relatively close proximity to the river. Over a three year span, the LCC program plans to construct vegetated buffers and swales, rain gardens and other storm water management and water quality BMP's that are designed to slow down and infiltrate surface water into the ground within disturbed/degraded areas.

Grant amount requested:	\$82,138
Amount of matching funds proposed:	\$47,749
Total project costs:	\$129,887

Committee Findings:

- A. The project is proposed within an existing disturbed river bank area along the Connecticut River. The area to be improved varies in width with a very limited buffer area on the central portion of the project.
- B. The parcels to receive stormwater and water quality management practices are part of the Colebrook Development Corp. and will remain zoned as commercial.
- C. No additional area is proposed to be protected and there is the potential for future construction on the lots.
- D. The project proposes enhancement to riverine habitat that provides some but not all of the functions that were lost due to the projects that paid into the ARM Fund.

3. Project Proponent: Jefferson Conservation Commission

Project Title: Stag Hollow Brook Restoration Project, Jefferson

The town of Jefferson Conservation Commission seeks funds to restore channel stability and ecological function to a 1,500 linear foot reach of a severely degraded portion of Stag Hollow Brook. Natural channel design principles are proposed to improve aquatic organism connectivity, habitat, and water quality.

During a large flow in summer 2002, the channel of Stag Hollow Brook along Route 115 was abandoned. Floodwaters broke through a berm along the west bank and a large gravel deposit was formed where the flow spread out over the adjacent field. Current flow is wide and shallow with no well-defined banks. The open field through which the wide and shallow channel now passes leads to warm water temperatures that also impacts the downstream Israel River. Poor channel definition also limits the physical habitat complexity along the channel with limited pool development and substrate particle size distribution. The project proposes to divert most of the flow into the side channel west of the existing channel. Without restoration, flow is likely to remain in the currently active channel where habitat and water quality degradation are likely to persist for several years if not decades.

Grant amount requested:	\$105,000
Amount of matching funds proposed:	\$43,000
Amount of matching funds secured:	\$157,800 (potential in 2011, DES 319 grant funds)
Total project costs:	\$306,000

Committee Findings:

- A. A defined channel may eventually develop along the entire length of the new channel that could be enhanced naturally by limiting activities on the site and in the wetland areas that are attempting to naturally reestablish.
- B. A well developed stable channel configuration will evolve slowly and is showing evidence of stabilizing at the time of the site visit.
- C. The project has potential to be funded by DES s319 grant funds which may be a more appropriate funding source.
- D. Long-term protection measures on the work site and surrounding uplands would be necessary and this was not included in the proposal or budget.
- E. The proposal is limited in terms of replacing the functions lost from the projects that paid into the fund.

4. Project Proponent: Town of Northumberland

Project Title: Northumberland Cemetery Riverbank Stabilization, Northumberland

This project proposes to stop erosion of the riverbank that borders the town cemetery in order to stop the chance of human remains from falling into the river. The plan is to strategically place engineered log jams and steel pilings along parts of the river and bank at the “low flow” line, fill behind them to assist with the anchorage and plant fast growing trees with both deep and surface root systems.

The breaching of the old Wyoming Dam three miles downstream of the cemetery in the early 1970s accelerated the erosion and slumping of this approximately 700-foot section of riverbank. As a result of a fluvial geomorphology assessment performed in 2004 along 85 miles of the northern Connecticut River and also part of a study done in 2005 by the Connecticut River Joint Commission, the suggestion of engineered log jams to stabilize the bank at the Northumberland Cemetery was presented. Site surveying will be done to create a base map and for hydraulic modeling, data will be drafted to create 2-foot topography and cross sections. There will be modeling done to determine changes in water surface elevations, spacing and size of logjams as well as an assessment performed of material properties and potential mass failure risk. A project engineer will review data, design drawings and specifications, perform a stability analysis, and communicate such with local officials.

Grant amount requested:	\$160,295.28
Amount of matching funds proposed:	\$72,149.39
Total project costs:	\$232,444.67

Committee Findings:

- A. The use of engineered log jams in this location requires construction of a road to access the work area which may cause greater bank destabilization and failure due to the steepness and height of

- the bank.
- B. The use of engineered log jams is experimental and whether they are an appropriate solution in this area is questionable.
 - C. There is a limited natural wooded buffer at this location and no opportunity to increase the buffer for habitat improvement due to the existing cemetery.
 - D. The proposal is limited in terms of replacing the functions lost from the projects that paid into the fund.
 - E. The project may be supported by funds available through a program provided by the Army Corps of Engineers, at <http://www.nae.usace.army.mil/p services/shore14.htm>

Connecticut River from Johns to Waits River Watershed

On September 28, 2009 DES announced the availability of \$157,000 with a deadline for proposal submittal of March 26, 2010 for the watershed. The funds came from six permitted projects located in the towns of Bethlehem, Dalton, Jefferson, Littleton and Whitefield (See Attachment C). These permitted projects impacted the following functions: wildlife habitat and groundwater discharge. Three applications were received in response to the solicitation.

The committee and DES visited the sites and on May 26 the committee convened to evaluate and rank the applications. The two projects are summarized as follows with a site map for the awarded project found in Attachment D. The Committee recommended partial funding of \$103,000.00 for the Ammonoosuc River Floodplain and Riparian Buffer Preservation and Restoration project. The committee noted that the selected project provides the greatest potential to replace or protect specific wetland functions and values lost by the impacts in the Connecticut River from Johns to Waits River HUC 8 watershed.

In addition, the committee recommended partial funding of \$54,000.00 for the Tuttle Brook Habitat Restoration project. The committee noted the funds are contingent on the town providing a protected buffer of 100 feet on both sides of Tuttle Brook. This buffer will protect approximately 2,500 linear feet of the brook on the town property. DES shall communicate the details of the award with the NH Chapter of Trout Unlimited following approval by the Army Corps and Wetland Council. If the chapter is unable to secure additional funding to complete the financing of the project within six months of the award, an additional \$30,500 shall be provided to ACT for additional site efforts and completion of remaining tasks. The findings for the decisions are also noted below.

1. Project Proponent: Ammonoosuc Conservation Trust (ACT)

Project Title: Ammonoosuc River Floodplain and Riparian Buffer Preservation and Restoration Project, Lisbon

The 47-acre commercially zoned site has 4,200 linear feet of shoreline on the Order 4 Ammonoosuc River, a lower perennial stream with a cobbled/gravel channel bottom with bedrock present near the northern sharp bend in the river. Nearly the entire site is within the floodplain of the Ammonoosuc River and most of it floods regularly. It is located within the highest yielding and deepest aquifer in the Ammonoosuc River Valley. The site is also located upstream of two municipal water supplies at Lisbon and Woodsville. This river valley has experienced a significant increase of development over the years. This parcel's wide, flat conditions and its being conveniently located along Route 302 makes the site very desirable for developers of large and small-scale commercial sites. The rate of development in the Ammonoosuc River Valley and the increase in impermeable surfaces has been notable, particularly around Exit 42 in Littleton, which has seen big box stores such as Wal-Mart, Shaw's, Lowe's, and The Home Depot constructed in the floodplains of the Ammonoosuc.

The site is approximately 350 feet wide at its narrowest point and approximately 1,000 feet wide. Past excavation of the site occurred for the rebuilding of the Route 302 bridge and the railroad underpass. More recent flood flows have created a new channel section which is permanently to semi-permanently flooded. High velocities as recent as late January 2010 have caused erosion potholes, some of which are saturated. A

four-acre island created by the new channel is a mixed forested floodplain and is ranked by NH Fish & Game's Wildlife Action plan as a highest ranked habitat in the biological region by ecological condition. The majority of the site (over 85 percent) is low floodplain and had alluvial soils before excavation. The remaining site was low terrace outwash soils abutting the railroad fill slope. The floodplain currently supports a sparsely vegetated herbaceous and shrub community of pioneer species including goldenrod, willow, cherry, and grey birch. The southern end, primarily along the rail trail on the old railroad bed, is dominated by white pine and poplar. Excavated areas that have been scoured have resulted in small, semi-permanently flooded wetlands that are fed by shallow groundwater. The most recent scouring has eliminated much of the woody vegetation in these areas.

ACT proposes to purchase, fee simple, for permanent conservation and restoration, one of the most damaged, high-visibility floodplains of the Ammonoosuc River. The project will then survey, map, inventory, evaluate resources, provide temporary erosion control and begin restoring the riparian buffer as funds permit, and prepare a long-term management and restoration plan. The long-term goal is restoration of the land as a forested floodplain and restoration of the river channel to a healthy, aquatic habitat. The requested funds will allow ACT to begin the conservation and preliminary restoration tasks with the anticipation of future funding to accomplish long-term goals.

Grant amount requested:	\$152,000
Amount of matching funds proposed:	\$0
Total project costs:	\$152,000

Committee Findings:

- A. The project provides the most similar functions to what was lost in the watershed through the projects that generated the funds.
- B. The site is within the most productive and transmissive aquifer in the Ammonoosuc River Valley.
- C. The parcel is zoned commercial and is in a highly desirable location for potential development with easy access to the major roadway, NH Route 302.
- D. The site has over 4,200 linear feet of shoreline on the Ammonoosuc River which is a cold water fishery, stocked with trout, and is part of the Atlantic Salmon Restoration program with annual salmon stocking.
- E. The purchase of the 47 acre parcel for permanent conservation will allow the Ammonoosuc Conservation Trust to review the opportunity for floodplain forest restoration and pursue long-term goals for site stabilization.
- F. As noted in the application, the budget includes items needed to begin the conservation and restoration process with the understanding that future funding will be needed to accomplish the long-term project goals.
- G. The site has great potential for the development of a stable, floodplain system over time that may include restoration of important natural exemplary communities.

2. Project Proponent: Ammonoosuc Chapter of Trout Unlimited

Project Title: Tuttle Brook Habitat Restoration Project, Carroll

This project proposes to remove an existing undersized culvert that blocks fish passage within Tuttle Brook in Carroll and replace with a bridge that will meet the new stream crossing rules and span the entire channel and banks and allow both aquatic and riparian connectivity. The new bridge abutments, wing walls and footings will be installed and channel reconstructed to appropriate grades and locations. Natural flexible materials will be incorporated into the design of the wing walls and interface of channel and abutments. A riparian shelf will be created to allow dry passage of non-aquatic wildlife under the bridge.

This site was identified as a top priority for culvert replacement in a 2005 fish passage barrier study. The undersized culvert lies within an aquifer and a wellhead protection area. Habitat and aquatic connectivity will benefit a documented population of Atlantic salmon to access an outstanding resource water and thousands of acres of land conserved by the White Mountain National Forest. The project is intended to restore aquatic connectivity to 1.8 miles of perennial channel upstream of the existing culvert and facilitate riparian-

related access to wildlife habitat. The segment of Tuttle Brook on the town property is approximately 2,500 linear feet. The proposal includes providing a deed restriction for a 100 foot buffer on both sides of the brook which will protect 12 acres from clear cutting, development, structures, and excavation.

Grant amount requested:	\$111,000
Amount of matching funds proposed:	\$13,000
Total project costs:	\$124,000

Committee Findings:

- A. The proposed replacement of the existing perched culvert that is a fish passage barrier has immediate restoration opportunity by improving 1.8 miles of aquatic connectivity of perennial stream and facilitates riparian related access to wildlife.
- B. Much of the riparian habitat lies within the unfragmented forest land of the White Mountain National Forest.
- C. The project is located on a town-owned parcel that will continue to be used as a sand pit and for outdoor recreation purposes including snowmobiling.
- D. The town agrees to place a deed restriction on approximately 2,500 linear feet for a buffer of 100 feet of both sides of Tuttle Brook to extend upstream and downstream from the project to protect it from future development. The buffer will protect 12 acres along the entirety of the property and will prohibit clear cutting, development, structures and excavation.

3. Project Proponent: NH LAKES Lake Conservation Corps Program

Project Title: 14 landowners on Partridge Lake, Littleton

Fourteen shoreline properties have been identified by the Partridge Lake Property Owners Association as being in need of restoration primarily to reduce the amount of non-point source runoff that pollutes the lake. Partridge Lake is listed as an impaired waterbody by DES for cyanobacteria and low dissolved oxygen which can be attributed to non-point source pollution from the watershed. NH LAKES is proposing to implement its Lake Conservation Corps (LCC) Program in the Partridge Lake Watershed on 14 properties over a three-year period to reduce the amount of non-point source pollution that flows into the lake from the watershed. BMP installations, such as vegetated buffers and swale and rain gardens, will be constructed so that they connect to other vegetated areas on the landscape to provide connectivity of natural areas for enhanced wildlife habitat.

Grant amount requested:	\$85,884
Amount of matching funds proposed:	\$21,155
Total project costs:	\$107,039

Committee Findings:

- A. The project proposes water quality related improvements through a partnership that could have positive implications for future environmental advocates.
- B. The proposal is limited due to the work being proposed on non-contiguous shoreline parcels with relatively minimal restoration of groundwater discharge or wildlife habitat functions.
- C. The proximity of homes, roadways, and water related structures limits the amount of improvement that can be made at each of the 14 sites.
- D. There are very limited long term assurances that the property owners will maintain the shoreline improvements over time.

It was ultimately determined that the Trout Unlimited, Tuttle Brook Project could not secure additional funds so the award was declined.

Winnepesaukee River Watershed

On September 28, 2009 DES announced the availability of \$153,000 with a deadline for proposal submittal of April 30, 2010 for the watershed. The funds came from two permitted projects located in the towns of Tilton and Moultonborough (See Attachment C). These permitted projects impacted the following functions: wildlife habitat, floodflow alteration, and sediment/toxicant retention. Five applications were received in response to the solicitation.

The committee and DES visited the sites and on June 16 the committee convened to evaluate and rank the applications. All five projects are summarized as follows with a location map for each of the awarded projects found in Attachment D.

The committee recommends partial funding of \$100,000 to the Forest Society for the Birch Ridge project in New Durham. The committee noted that the selected project provides the greatest potential to replace or protect specific wetland functions and values lost by the impacts in the Winnepesaukee River watershed. The parcel has been under threat of development throughout the past years and it has the potential to connect existing conservation lands.

The committee recommends partial funding of \$30,000.00 to the town of Belmont for the Tioga Wildlife and Conservation project. The committee noted the funds are contingent on the town providing a conservation easement on the parcel for long-term protection. The committee requests confirmation from the Town within 3 months from the Wetland Council approval that they can secure a permanent easement on the property. If the town is unable to secure long-term protection of the parcel, the \$30,000.00 shall be provided to the Forest Society for completion of the Birch Ridge conservation/restoration project.

In addition, the committee recommends partial funding of \$23,000 to the town of Alton for the purchase of the 10 floodplain culverts as a portion of project costs. The Committee requests confirmation from the town within three months from the Wetland Council approval that they can secure additional funding. If the Town is unable to secure additional funding to complete the project, the \$23,000 will also revert to the Birch Ridge project. The committee findings for the decisions are also noted below.

1. Project Proponent: Society for the Protection of New Hampshire Forests
Project Title: Birch Ridge Project, New Durham

The Forest Society proposes to purchase a conservation easement on 1,860 acres of land above the south shore of Merrymeeting Lake. The project will protect 552 acres of 300 foot upland buffer around the wetlands and over two miles of stream frontage on both banks of five perennial streams. This will expand the permanently protected portion of the 7,000 acre forest block in which the property is located, which itself lies in a 53,000 acre aggregated forest block as identified in the New Hampshire Fish & Game Wildlife Action Plan (WAP). In addition, 287 acres of land are mapped as Tier 1, 311 acres of Tier 2, and 1,118 acres of Tier 3 WAP habitats.

The project includes six parcels which drain into both the Winnepesaukee River watershed and the Salmon Falls River watershed. There exist a total of 18 wetland restoration sites associated with perennial or intermittent streams that drain into Coldrain Pond or Merrymeeting Lake with the total amount of restoration of approximately 12,500 sq.ft. Eleven of the restoration sites are within the Winnepesaukee River watershed. The preservation parcels are located within the Laconia Water Works source water protection area and contain roughly 15 acres of a gravel aquifer with high transmissivity estimated up to 1,000 sq.ft. per day. An inventory performed by an experienced botanist has noted exemplary natural communities located within the parcel. The project provides a link within a 7,000 acre forested block, bordered by NHF&G lands and the Woodward Conservation Easement, ultimately protecting holdings on the Merrymeeting River and on Coldrain Pond.

This project will complete the 100 percent protection of Coldrain Pond. Moose Mountains Regional Greenways identified Coldrain Pond as a conservation priority. The project falls within area studied by the NH Coastal Program's Coastal Conservation Plan. The 1,860 acres includes approximately 125 acres of wetlands and 31 vernal pools resulting in the protection of 11 percent of the entire Merrymeeting Lake watershed, including over 1,600 acres of erodible soils. The Forest Society is applying for ARM funds from this watershed account and the Salmon Falls watershed account.

Grant amount requested:	\$153,000
Amount of matching funds proposed:	\$242,000
Total project costs:	\$850,000

Committee Findings:

- A. The project provides the most similar functions to what was lost in the watershed through the projects that generated the funds.
- B. The applicant has submitted this proposal with a request for funds from the Salmon Falls-Piscataqua River watershed as the parcel is located in both watersheds. The committee cannot comment on the merits of the proposal in the other watershed as the application deadline and review has not been completed.
- C. The protection of this parcel will expand the permanently protected portion of a 7,000 acre forest block which lies in a 53,000 acre aggregated forest block, both identified in the WAP.
- D. The parcel is zoned commercial and is in a highly desirable location for potential development with easy access to major roadways. The conservation easement will protect 11 percent of the entire Merrymeeting Lake watershed.
- E. The parcel was proposed for a 220-unit subdivision that has been submitted to the New Durham Planning Board.
- F. The site has over two miles of frontage on both banks of five perennial streams and is directly above the shoreline of the Merrymeeting Lake which is a cold water fishery, stocked with trout, and is part of the Atlantic Salmon Restoration program with annual salmon stocking.
- G. As noted in the application, the budget includes items needed to fund conservation and restoration efforts with the understanding that future funding will be needed to accomplish the overall project goals.
- H. The conservation easement will limit use of the property to forestry, agriculture, non-commercial outdoor recreation/education, and habitat improvement practices.
- I. Wetland restoration opportunities within the Salmon Falls watershed will be evaluated as part of the Salmon Falls funding round and ranked along with all other applications submitted during that funding round.

2. Project Proponent: Town of Belmont, Stoney Ridge Environmental

Project Title: Tioga River Wildlife & Conservation Area

The goal of the project is to, as nearly as possible eradicate the current infestation of Glossy Buckthorn on the Tioga River Wildlife and Conservation Area. The town owned parcel is 188 acres in size with a significant portion of the Tioga River flowing through the parcel near the confluence with the Winnepesaukee River.

The most significant threat of the invasion is to Wetland #18, one of the highest ranking wetlands in Belmont. A conservation easement for permanent protection of the property is being worked on by the Conservation Commission with Five Rivers Conservation Trust. The two year project proposes removal of buckthorn in the first year and planting native scrub-shrub wetland mix. In the second year, they propose to return to remove remnant sprouts. After the second year, the Conservation Commission will monitor the site annually and remove any sprouts that have persisted.

The entire site is underlain by a significant stratified drift aquifer that supplies drinking water to Belmont, Northfield and Tilton. The property contains WAP Highest Ranked Wildlife Habitat by Ecological

Condition. The site is in close vicinity to documented locations of bald eagle and wood turtle.

Grant amount requested:	\$31,060.00
Amount of matching funds proposed:	\$4,600.00
Total project costs:	\$35,660.00

Committee Findings:

- A. The current infestation of Glossy Buckthorn on this previously disturbed parcel provides the threat of converting the site to a monoculture and begins to encroach on one of the highest ranking wetlands in Belmont.
- B. The invasive species is currently located on the edges of Wetland 18, which has been evaluated and determined to have the highest score for ecological integrity. Invasions by glossy buckthorn have been shown to cause reductions in plant diversity and alteration of natural communities.
- C. Eradication of the Glossy Buckthorn from the uplands will increase the likelihood of keeping the functions of the extensive high functioning wetlands on the parcel intact.
- D. The project is located on a town-owned parcel that is under consideration for permanent protection through a conservation easement to be held by the Five Rivers Conservation Trust.
- E. The funding requires the town to complete the easement transaction to insure long-term protection and monitoring of the efforts to control the invasive Glossy Buckthorn. Monitoring information provided to the committee will be useful for determining whether future requests for invasive species management is a valuable use of ARM funds.

3. Project Proponent: Town of Alton Highway Department/Stoney Ridge Environmental

Project Title: Coffin Brook Road Floodplain Connectivity Improvement Project

Coffin Brook Road is approximately 2.4 miles long and crosses a huge expanse of wetlands as it travels from Route 140 southeast to Stockbridge Corner Road and Route 28. The existing bridge is 24 feet wide by 8 feet in height. The Coffin Brook Wetland Complex is vast and measures approximately 76 acres.

The town of Alton proposes installation of 10 floodplain culverts to improve aquatic passage and improve safety. Currently, in storm events the road floods causing vehicle passage problems. Coffin Brook fragments approximately 500 linear feet of the larger Coffin Brook wetland complex on the northwestern side of the bridge. Installation of a series of floodplain culverts in a specific area of the floodplain will restore hydrologic connectivity of the floodplain and prevent flooding into the road surface by allowing flow during storm events. Installation of 10 45" wide by 29" high elliptical culverts will greatly improve passage in the floodplain. The site has potential for Blanding's turtles.

Grant amount requested:	\$105,967.12
Amount of matching funds proposed:	\$35,707.00
Total project costs:	\$141,674.12

Committee Findings:

- A. The project proposes to restore floodplain continuity, improve aquatic passage and wildlife habitat, encourage natural cycling of nutrient attenuation and sediment toxicant retention, stabilize and maintain the stream bank and will serve to increase public safety.
- B. Approximately 400 linear feet of the road in this portion of the crossing floods during storm events involving 2" or more of rain with 2 to nearly 3 feet of water causing the town to periodically shut the road down.
- C. The existing bridge of Coffin Brook is adequately sized however, adequate planning and design did not accommodate the floodplain.
- D. The town has completed a hydraulic analysis of the crossing location, has completed studies of the surrounding floodplain ecosystem and has considered alternative methods of accomplishing habitat improvement and safety goals.
- E. The project provides restoration of a large riverine floodplain that is in close proximity to existing conservation lands both in and downstream of the wetland. Future development in this area is

limited due to the vast expanse of the scrub/shrub floodplain wetland system that is over 76 acres in size.

4. Project Proponent: NH Lakes – Conservation Corp Program

Project Title: Lake Waukegan, Meredith

NH LAKES is proposing to implement its Lake Conservation Corps (LCC) Program in the Lake Waukegan Watershed on 10 properties over a three-year period to reduce the amount of non-point source pollution that flows into the lake from the watershed. Their work will include implementing nonpoint source pollution control measures on properties located within the Shoreland Protection Zone. The amount of phosphorus loading to the lake from the watershed will be reduced which will help reduce the amount of cyanobacteria blooms and oxygen depletion in Lake Waukegan. Lake Waukegan is the public drinking water supply for the town of Meredith.

Grant amount requested:	\$77,392
Amount of matching funds secured:	\$18,048
Total project costs:	\$95,439

Committee Findings:

- A. The project proposes water quality related improvements through construction of stormwater and water quality best management practices on 10 private properties located within the 250 foot shoreland zone to Lake Waukegan.
- B. The functions to be improved by this shoreland proposal are limited and are not very similar to what was lost in the watershed through the projects that generated the funds.
- C. The proposal is fairly limited in the area of proposed vegetated buffers and swales due to existing homes, roadway and shorefront structures.
- D. The project provides limited assurances that the improvements will be maintained by the various landowners over time.

5. Project Proponent: Belknap County Conservation District

Project Title: A Watershed Approach to Sedimentation and Soil Erosion on Gunstock Brook

Gunstock Brook accounts for the majority of the land area of the Sanders Bay subwatershed in the Winnepesaukee River watershed. The watershed has a long history of erosion and flooding issues. Three sites are addressed in the proposal submitted by the Belknap County Conservation District. This area has been identified in the Lake Winnepesaukee Watershed Management Plan as requiring restoration.

The goal of this project is to address soil erosion, sedimentation, and impaired wildlife/aquatic habitat at selected sites within the Gunstock Brook watershed. The immediate action plan is to stabilize the upper reaches of the brook, including an area of severe stream bank erosion adjacent to a NHDOT bridge to significantly reduce sediment loadings to Gunstock Brook. Multiple agencies are being consulted for assistance.

The majority of the requested ARM funds focus on the middle section of the watershed with the upper and lower sections potentially funded through the Natural Resource Conservation Service Farm Bill Program. The restoration work is proposed on the Wright Property and involves a 26' x 7' culvert that through storm events, has scoured a 40' hole that extends upstream 100' and is in need of stabilization. Removal of an island of material in front of the culvert is needed as well as rip rap at the abutment is proposed.

Grant amount requested:	\$83,100.00
Amount of matching funds proposed:	\$174,200.00
Total project costs:	\$257,300.00

Committee Findings:

- A. The proposal to install rock riprap at the existing roadway crossing is limited in terms of replacing the functions lost from the projects that paid into the fund.
- B. Long-term protection measures along Gunstock Brook are not proposed which would serve to preserve the various stabilization and habitat improvement efforts.
- C. The project has potential to be funded by alternative sources such as DES s319 grant funds which may be a more appropriate funding source.

Unfortunately the owner of the Birch Ridge Project in New Durham decided to no longer negotiate the conservation easement with the Forest Society so the award was declined.

Connecticut River to Ashuelot River from Vernons Dam to Millers River

On January 13, 2010, DES announced the availability of \$183,000 with a deadline for proposal submittal of September 1, 2010 for the watershed. The funds came from three permitted projects located in the towns of Keene and Washington (See Attachment C). These permitted projects impacted the following functions: wildlife and fish habitat, floodflow alteration, groundwater recharge and discharge, sediment/toxicant retention, and shoreline stabilization. Two applications were received in response to the solicitation.

The committee and department visited the sites and on September 21 the committee convened to evaluate and rank the applications. Both projects are summarized as follows with a location map for each of the awarded projects found in Attachment D. The committee recommends full funding of \$94,533 for the Brown Farm project with the potential of an additional \$5,000.00 as contingency funds for increased costs to complete the easement. The committee noted that the selected project provides the greatest potential to replace or protect specific wetland functions and values lost by the impacts in the HUC 8 watershed.

In addition, the committee recommends partial funding of \$83,467.00 for the Colony Project. The committee noted the funds are contingent on the conservation easement providing up to a 250 foot no-cut buffer on both sides of California Brook based on final agreed upon timber management plan. DES shall communicate the details of the award with TNC following approval by the Army Corps and Wetland Council. If TNC is unable to incorporate the buffer or secure additional funding to complete the financing of the project within six months of the award, the funds shall remain in the watershed account and be applied to the next grant opportunity. The committee findings for the decisions are also noted below.

1. Project Proponent: The Nature Conservancy (TNC)

Project Title: Brown Farm Wetland Protection and Enhancement Project, Swanzey

The project proposes to protect 145 acres with a conservation easement and implement restoration/enhancement of floodplain forests, maintaining agricultural land uses, and enhancing rivershore buffers and wetlands. This section of the river has both active river meanders and point bars, essential for the creation and maintenance of floodplain wetlands. The site has two or more meander bends, making this one of the few opportunities for long-term floodplain conservation for the southern Ashuelot River main stem. The site includes approximately 1.3 miles of property frontage adjacent to the Ashuelot River.

A component of the project will include retiring a 2 acre field and planting floodplain vegetation, planting additional areas with native floodplain wetland vegetation, enhancing buffers along river bank and wetland edges, and mapping and controlling invasive species in all wetlands on the property. Activities proposed will not alter soil or topography of the site. Mechanical control and monitoring will be primary method for invasive species management.

Nearly the entire acreage of Brown Farm is mapped as Tier 2 by the NH Fish & Game Department

Wildlife Action Plan (WAP). Other WAP features include eight mapped polygons comprising a portion of 49 acres of marsh extending along the river, old river channels, sloughs, and floodplain wetlands. The site is surrounded on three sides by WAP Floodplain Complex patches, part of more than 2,600 acres of floodplain along the main stem Ashuelot River extending north to Keene and south into Winchester. Protection of the site supports goals and mission in the Ashuelot River Corridor Management Plan (ARLAC 2006). Once the Swanzy Woolen Mill Dam is removed, the Brown Farm will be part of a free-flowing 27 mile reach of the Ashuelot River. Protection of the Brown Farm contributes to the protection of both sides of the Ashuelot River for approximately 0.3 miles of river frontage where the parcel is adjacent to a conservation parcel owned by the town on the other side of the River.

Approximately 50 acres of Brown Farm on the east side of Homestead Ave. is under discussion for protection. The area extends up and over the southwestern ridge and foothills of Mount Caesar, and includes the headwaters of Indian Brook, a tributary of the Ashuelot. While not part of the proposal, this would provide an intact ridge-to-river area that connects to a WAP forest block exceeding 1,800 acres.

Grant amount requested:	\$94,533
Amount of matching funds proposed:	\$17,388
Total project costs:	\$111,921

Committee Findings:

- A. The project provides similar functions to what was lost in the watershed through the projects that generated the funds.
- B. The site is within areas identified as critical for floodplain forest protection and restoration.
- C. Protection of this site supports goals and mission in the Ashuelot River Corridor Management Plan (ARLAC 2006), the guiding document of the Advisory Committee responsible for maintaining the state designation of the Ashuelot River.
- D. Restoration activities will enhance or restore floodplain forest wetlands and connectivity, while also enhancing or maintaining current ecological integrity through allowing for natural river migration and sediment dynamics over the long term, improving and widening buffers, and controlling invasive species in all wetlands on the property.
- E. The site has over 1.3 miles of shoreline on the Ashuelot River and includes the following benefits:
 - a. A total of a 50 foot buffer along entire river-frontage = 8.4 acres
 - b. 50' buffer within previously mapped Habitat Areas = 6.5 acres
 - i. Northern Habitat Area = 1.2 acres
 - ii. Central Habitat Area = 2.6 acres
 - iii. Southern Habitat Area = 2.7 acres. This buffer extends around the curve in the river corresponding to the backwater around the river island. These calculations assume improving vegetation structure for buffers within each Habitat Area.
 - c. Additional 50' buffer areas NOT within current Habitat Areas = 1.9 acres
 - i. Northern shoreline = 1.3 acres
 - ii. Shoreline between Northern and Central HA = 0.4 acres
 - iii. Shoreline between Central and Southern HA = 0.1 acres
 - iv. Southernmost shoreline = 0.1 acres
- F. The property provides connectivity between protected lands and aquatic resources along the Ashuelot River.

2. Project Proponent: Monadnock Conservancy

Project Title: Colony Property, Chesterfield

The Monadnock Conservancy proposes to acquire a conservation easement on 300.9 acres of land with 32 acres of wetlands, seven acres of source water protection area, approximately 8,000 feet of streams, and eight vernal pools. The goal is to protect the property from future development and maintain the unique characteristics of the property in its present scenic and open space condition. Forestry and/or agricultural

management activities will be allowed. This parcel is part of a much larger effort of the conservancy to protect conservation lands in the “California Brook Natural Area,” which includes 9,000 acres of undeveloped forestland and wetlands connecting West Hill in Keene with Pisgah State Park.

The parcel contains 279 acres of Tier 1 habitat and 17 acres of Tier 2 habitat. Project protects habitat for wildlife species of concern: great blue heron, northern goshawk, and red-shouldered hawk. There is an active heron rookery with other species documented such as wood turtle, bobcat, blue-spotted and Jefferson salamanders. The parcel is within the Core Area and Supporting Landscapes of the Quabbin-to-Cardigan partnership. In addition, this area is within the Pisgah matrix forest block, which was identified through TNC’s eco-regional planning as an outstanding opportunity to conserve large unfragmented forest ecosystems. The wetland system associated with the Colony property has been identified among the highest ranked wetlands (top 10) in Chesterfield. This ranking was a result of a town-wide comparative evaluation of wetlands.

An area near Prouty and California Roads that has been used as a gathering spot will be restored through planting a buffer to the shoreline. In addition, the conservancy and Conservation Commission are proposing to install gates at the end of the roads to reduce access.

The permanent protection of the Colony property will protect a greenway of 9,000 acres, one of the largest unfragmented stretches of habitat remaining in southwestern New Hampshire, identified as a priority for conservation by 3 municipalities. The conservancy is leading the effort to establish a contiguous band of conservation land and it currently holds easements on nearly 1,200 acres within the California Brook Natural Area. The Colony parcel is adjacent to existing Monadnock Conservancy easements. The current funding arrangement is for the conservancy to sell the land to Forecastle Timber as part of a working forest or the Conservancy may consider ultimately owning the land.

Grant amount requested:	\$132,900
Amount of matching funds proposed:	\$172,487.25
Total project costs:	\$305,387.25

Committee Findings:

- A. The project proposes to protect 300 acres of land which includes 32 acres of wetlands, 7 acres of source water protection area, approximately 8,000 linear feet of streams, an active heron rookery, and 8 high value vernal pools.
- B. The site includes a variety of Natural Communities and Systems and the conservation of the parcel will protect diverse habitat for plant and animal species.
- C. Protection of the parcel is part of a much larger effort by the Conservancy to protect a greenway of conservation lands in the “California Brook Natural Area” that includes 9,000 acres of undeveloped forestland connecting West Hill in Keene and Swanzey with Pisgah State Park in Chesterfield.
- D. The ARM Fund Site Selection Committee scores considered incorporating the increased buffer due to the overall integrity of the system. Without the buffer, the scores for the project would be much reduced.
- E. Due to steep slopes surrounding the California Brook channel and wetlands, a 250’ buffer is suggested to eliminate the potential impacts primarily from commercial forestry practices which could adversely affect habitat and water quality functions.
- F. A no-cut buffer surrounding the vernal pools will be incorporated into the forestry management plan which shall be prepared and approved by the DES Wetlands Bureau.

Pemigewasset River Watershed

On January 13, 2010, DES announced the availability of \$140,000 with a deadline for proposal submittal of September 1, 2010 for the watershed. The funds came from four permitted projects located in the towns of Lincoln and Woodstock (See Attachment C). These permitted projects impacted the following functions: wildlife and fish habitat, groundwater recharge and discharge, and sediment/toxicant retention. Two applications were received in response to the solicitation.

The committee and DES visited the sites on October 26. On November 3 the committee convened to evaluate and rank the applications. Both projects are summarized as follows with a location map for the awarded project found in Attachment D. The committee recommended partial funding of \$103,500 for the Strolling Woods project. The funding is contingent on finalizing the conservation easement on the 15 acre parcel. Conveyance of the funds shall occur at or near the time of the closing of the easement. The committee noted the project was the highest ranked project that provides restoration of wetlands, water quality improvements to Webster Lake, and long term preservation of a parcel that will adjoin a 226 acre parcel recently funded from the NRCS Wetland Reserve Program. The partial funding includes all of the components that can be funded by the ARM Fund program and \$10,000.00 to be held in reserve as contingency funds for project costs that may be subject to change. The final budget will be reviewed and approved by DES not to exceed \$113,500.00. If the NH Lakes is unable to secure additional funding to complete the financing of the project, the funds shall remain in the watershed account and be applied to the next grant opportunity.

The committee recommends no funding for the Baker River Restoration Project. The proposal received a low score based on the ARM Fund scoring criteria thus resulting in a lower overall rank. For the project to be improved, more documentation of the natural resource benefits of each of the project components needs to be provided for the committee to completely understand the ecological value. In addition, the portions of the application such as the floodplain reconnection are not the most immediate in the current planning but may have the most value in terms of floodplain restoration. This piece of the project does not have abutter permission which should be sought for a complete application. The committee findings for the decisions are also noted below.

1. Project Proponent: The NH Lakes Association and landowner Todd Workman
Project Title: Strolling Woods Property, Franklin

The 231-acre Strolling Woods property lies along the northwest edge of Webster Lake in Franklin. Roughly square in shape, it extends northwesterly from Webster Lake for approximately one mile and includes almost 40 percent of the watershed of a perennial stream that feeds directly into Webster Lake. In 2006, the Strolling Woods property was approved for a condominium subdivision. The former owners were unable to obtain funding to develop the property. Three years later, Mr. Todd Workman forgave the debt in exchange for the title to five tracts of land that comprise most of the current property. Beginning in November 2009, Mr. Workman began developing a conservation strategy for the property and contacted virtually all state and private conservation interests in order to secure a reasonable option for his investment. In early 2010, after a series of property assessments, site walks, and negotiations with various organizations and agencies, he successfully applied to the Wetlands Reserve Program (WRP) for the purchase of a conservation easement for most of his property. This application represents the second phase of the protection efforts at Strolling Woods. This phase is primarily comprised of four parts as follows:

- 1) Wetland restoration – involving the removal of approximately 0.6 acres (25,300 sq.ft.) of fill associated with an internal gravel drive and the aforementioned tourist cabins. A total of 625 feet of an existing gravel drive will be removed, allowing a series of natural groundwater seepages to flow without interruption into a basin red maple/scrub-shrub swamp. A fill pile of invasive plants will be safely removed.
- 2) Design and installation of a new gravel drive to access a proposed community septic system.
- 3) Design and installation of a new stormwater management system along Lakeshore Drive.
- 4) Secure a conservation easement for the final 15 acre in-holding along the primary upland buffer to the unnamed perennial stream described above.

The 15 acres to be protected by this grant will adjoin a 226 acre conservation parcel protected through WRP funds. These projects will result in a 1,700 acre area that protects 95 percent of the northwest watershed above Webster Lake. There are other conservation lands in close proximity to this property. Nearly 1,000 acres of land at the Blakely Hoar Trust Bird Preserve are protected and the abutting 450 acre Sinclair

property has an easement pending.

Grant amount requested:	\$138,000
Amount of matching funds proposed:	\$420,172
Total project costs:	\$558,172

Committee Findings:

- A. The project provides similar functions to what was lost in the watershed through the projects that generated the funds.
- B. The protection of this site supports goals and mission of the Aquatic Resource Mitigation Fund program, the NRCS Wetland Reserve Program, City of Franklin, NH Department of Transportation, and was the highest scoring application for this funding round.
- C. Restoration activities will enhance or restore wetlands through allowing for natural sediment retention over the long term, provide improvements through buffers, and controlling invasive species in all wetlands on the property.
- D. The property provides connectivity between protected lands and aquatic resources within the Webster Lake watershed, will provide water quality improvements to Webster Lake, and insure a significant protected buffer to a stream that drains directly to Webster Lake.
- E. The completion of this project provides the potential for additional benefits to Webster Lake through adjacent land protection efforts.

2. Project Proponent: Town of Warren

Project Title: Baker River Restoration Project, Phase 1, Warren

The Baker River Restoration Project proposes implementation of geomorphic-based river restoration in an extremely unstable area where there are sections of braided channel and hundreds of feet of active bank erosion that threatens adjacent properties, buildings, infrastructure, and bridges. This instability has impaired water quality through introduction of excessive sediment and adding the Baker River to the impaired waters list. The culverts to be installed will assist in energy disbursement and the loss of particles upstream of the bridge.

The town has been working to restore the Baker River in town of over 10 years. Over many years, the town has secured funds to conduct studies and perform work. The design portion of the project is being funded through DES 319 Watershed Grant funds. This application entails additional work adjacent to the Bixby Lane Bridge. No information has been provided noting existing or proposed long-term protection measures.

Proposed work extends approximately 1 ½ miles upstream from the Bixby Lane Bridge with constructing overflow culverts adjacent to the bridge. Bank stabilization is proposed, work will also open up floodway access into adjacent forested wetlands. Vegetated plantings and soil stabilization on the open gravel deposits will take place to allow thermal protection to the river.

Grant amount requested:	\$140,000
Amount of matching funds proposed:	\$50,000
Total project costs:	\$400,000

Committee Findings:

- A. This portion of the river has endured past channelization measures that have lead to the problems noted. The channelization involved straightening and dredging of the river and construction of dikes in the 1940's which has contributed to accelerated bank erosion following conversion of floodplain forests to agricultural land.
- B. The project has multiple components with the main focus of constructing overflow culverts adjacent to Bixby Lane Bridge to protect the infrastructure.
- C. A primary ecological goal of the project is to dredge material from one area near state property to open up floodway access into the adjacent forested area. Permission for this work has not been coordinated with the Department of Transportation. The result would be restoration of floodplain forest, a component recognized by the ARM Fund goals.

- D. Stream restoration efforts may include vegetated plantings and soil stabilization on open gravel deposits but this is not clearly indicated in the application documents.

Salmon Falls – Piscataqua River Watershed

On April 4, 2010, DES announced the availability of \$1,596,000 with a deadline for proposal submittal of September 30, 2010 for the watershed. The funds came from nine permitted projects located in the towns of Dover, Durham, Hampton, Lee, Portsmouth, Rochester, Rye, Seabrook and Stratham (See Attachment C). These permitted projects impacted the following functions: wildlife and fish habitat, groundwater recharge and discharge, and sediment/toxicant retention. Eleven applications were received in response to the solicitation.

The committee and DES visited the sites on November 9 and 10. On November 18 the committee convened to evaluate and rank the applications. All of the projects are summarized as follows with a location map for each of the awarded projects found in Attachment D. The committee recommends full funding of projects 1 through 4, and project 8. The committee noted that the five selected projects provide the greatest potential to replace or protect specific wetland functions and values lost by the impacts in the Salmon Falls – Piscataqua River HUC 8 watershed. Where project scores were comparable, preference was given to projects that provide the longer-term, more beneficial protection. In addition, project 8 satisfies the goal to replace and/or protect coastal wetland resources that were impacted due to two tidal projects.

The committee also recommends partial funding for three additional projects as noted below:

- 1) \$400,000 for the Berry Brook Watershed Restoration through Stream Restoration, Buffer Development and LID Retrofits Project in Dover. The goals of the proposed project for restoring and reconnecting this stream section is valuable to wetland and stream resources, water quality, and important diadromous fish species. The potential wetland/floodplain forest restoration at the city water works parcel will be achieved as part of this partial funding.
- 2) \$100,000 for the Upper Oyster River Channel and Fish Passage Restoration Project in Barrington. This project is located within a high priority stream on an impacted reach of the Oyster River. The result of the crossing replacement will restore fish passage for state endangered species and other important aquatic life. The funds are contingent on the applicant to work closely with the Homeowner's Association and the town of Barrington to complete the funding requirements and develop a worthwhile conservation easement parcel to protect the restoration work for the long-term.
- 3) \$43,000 for the Odiorne State Park Maritime Cobble Beach and Coastal Salt Pond Marsh Restoration Project in Rye. The 10 year monitoring plan shall be completed with yearly reports provided to DES and the Army Corps of Engineers to track the success of these control measures.

The Committee findings for the decisions are also noted below.

1. Project Proponent: Trust for Public Lands

Project Title: Sprucewood Forest; Durham

The primary goal of this project is to permanently conserve 176 acres of wildlife habitat comprised of 142 ac of uplands, 34.04 ac of wetlands, 0.9 ac of floodplain forest, diverse wildlife habitat and natural communities and frontage on the Oyster River. The property is currently owned by a developer with plans to build 210 student housing units as Phase I of a large development that includes construction of a bridge over the Oyster River and over 12,000 feet of new roads. The proposal includes the town of Durham working with the Southeast Land Trust of New Hampshire to develop a conservation easement on the property after they have assumed ownership.

A significant portion of the subject property is contained within the 2,690 ac Oyster River Conservation Focus Area identified in the NH Coastal Plan. This section of the Oyster River is designated as a

Special Significant Stream Reach, and is noted as important in the town of Durham Master Plan, CELCP Plan, State Comprehensive Outdoor Recreation Plan, PREP's Plan, and as an Open Space Institute's Focus area. New Hampshire WAP classifies 171.1 ac of the property as Tier 1, and 3.5 ac as Tier 3 with various critical habitats for species of conservation concern. This is a keystone property connecting over 2,200 acres of existing conservation land, including the isolated 36 ac Spruce Hole Bog Conservation Area and other protected lands owned by UNH, the town and private land trusts. If conserved, the subject property would significantly enhance the ability of wildlife to move across this densely populated area. A component of the project includes wetland restoration to improve stream passage. Located less than 4 miles from where the Oyster River flows into Great Bay, protecting the property will help maintain the rich aquatic ecosystem that characterizes the Great Bay estuary. The Great Bay area, with its tidal and freshwater wetland systems, is the most important waterfowl breeding, migrating, and wintering area in the state. The Oyster River serves as the primary drinking water supply for the town of Durham and UNH.

Grant amount requested:	\$500,000
Amount of matching funds proposed:	\$500,000
Amount of other funding sources:	\$4,751,400
Total project costs:	\$5,751,400

Committee Findings:

- A. The project provides similar functions to what was lost in the watershed through the projects that generated the funds.
- B. The protection of this site supports goals and mission of the Aquatic Resource Mitigation Fund program, and was the highest scoring application for this funding round.
- C. Restoration activities will enhance or restore wetlands through improving a perennial stream crossing near its confluence with the Oyster River.
- D. NHWAP classifies 171.1 ac of the property as Tier 1, and 3.5 ac as Tier 3 with various critical habitats for species of conservation concern.
- E. The property provides connectivity between protected lands and aquatic resources within the watershed. Spruce Hole Bog Conservation Area, an area designated as a National Natural Landmark abuts this parcel as well as lands owned by the University of New Hampshire, town of Durham, and several parcels held by private land trusts.
- F. The purchase of this parcel will provide protection to a key parcel associated with the Oyster River that has an imminent threat of development.
- G. The Oyster River serves as the primary drinking water supply for the town of Durham and UNH. Protecting this parcel will help buffer both the current Oyster River reservoir and future water source (Spruce Hole Bog) and help ensure high water quality now and in the future.

2. Project Proponent: Town of Strafford with assistance from Blue Hill Foundation and Bear-Paw Regional Greenways

Project Title: Evans Mountain; Strafford

The primary goal of the project is to permanently protect the natural resources on the 1,015-acre Evans Mountain property in Strafford. This parcel is part of a 6,000-acre unfragmented forest that includes headwater streams of Bow Lake and the Nippo Brook/Isinglass River in the Salmon Falls - Piscataqua River watershed and the Big River in the Merrimack River watershed, as well as 67 acres of wetlands. This project will permanently conserve the natural resources on the Evans Mountain property by combining fee ownership by the town of Strafford and the Blue Hills Foundation with a conservation easement(s) held by Bear-Paw Regional Greenways. The area will be managed according to a professionally prepared Stewardship Plan required by the conservation easement(s). The plan will address the protection of species of conservation concern, wetland restoration and water quality protection, wildlife habitat and forest management, ecological reserve areas, and recreational/educational uses.

More than 980 acres of the property are ranked as either "highest ranked in the state" or "highest ranked in the biological region" in the 2010 Wildlife Action Plan. An exemplary natural system and two

exemplary natural communities were identified by Dan Sperduto of Sperduto Ecological Services. The property is used for multiple recreational uses and includes the summit of the mountain with views overlooking Bow Lake to the south and of Mount Washington to the north. The unfragmented forest block that includes the Evans Mountain property is one of the largest remaining parcels in southeastern New Hampshire, more than 6,000 acres in extent. This block directly abuts another 16,000-acre block just to the north of NH Route 126, which is the largest unfragmented block remaining in this region of the state. Large, unfragmented forest ecosystems like this offer vital support to the region's biodiversity and provide resiliency against climate change. Wildlife such as moose, bobcat, and bear depend on these large areas of habitat to survive and some bird species, including goshawk and veery, depend on the forest interior habitats provided by sites such as this to breed.

This project includes a wetland restoration and aquatic resource improvement component which proposes to restore 7 sites covering 3,400 square feet impacted by road building and other activities associated with heavy resource extraction by prior owners. These restoration activities would not only have a favorable impact on the wetlands immediately affected but would also enhance the ecological integrity of the entire protected property.

Grant amount requested:	\$367,750
Amount of matching funds proposed:	\$580,105
Total project costs:	\$947,855

Committee Findings:

- A. The 1,015 acre property is part of a 6,000 acre unfragmented forest that includes headwater streams as well as 67 acres of wetlands making this one of the largest land parcels to utilize ARM Funds in the overall protection and wetland restoration efforts.
- B. An exemplary natural community system and two exemplary natural communities are located on the parcel including a black gum-red maple basin swamp and a red spruce swamp. There are more than 980 acres of habitat that are highest ranked in the state or highest ranked in the biological region as noted in the NH Wildlife Action Plan making this an incredibly important block of land with significant habitat value.
- C. The parcel includes a mosaic of habitat types important in the region including rocky ledges and steep slopes, over 5 miles of headwater streams, and 32 productive vernal pools.
- D. The project has multiple components for restoration including retiring a steep section of roadway that includes restoring a wetland crossing that is valuable with a high likelihood of success.
- E. Stream restoration efforts include vegetated plantings and soil stabilization on open gravel deposits that were left disturbed and continue to erode into various drainages.
- F. The conservation area around Evans Mountain is recognized as a priority in the town of Strafford's Master Plan, Bear-Paw's Conservation Plan, the NH Wildlife Action Plan, and the Conservation Plan for New Hampshire's Coastal Watersheds.

3. Project Proponent : Brentwood Conservation Commission

Project Title: Exeter River Water Quality Improvements and Buffer Preservation; Brentwood

The proposed project has two primary goals: 1) to correct and prevent further water quality impairments to the Exeter River in the project area and; 2) to provide upland buffer and connectivity that, along with one additional parcel under negotiation, will provide a relatively unbroken protected riparian corridor extending from the project area downstream approximately 2 ½ miles east to the Brentwood town line. Correction and prevention of further water quality impairments include stormwater renovation, streambank stabilization, and buffer plantings.

Rowell Road-West is predominantly a dirt road that runs along the Exeter River. Existing sources of impairment to the river include lack of shading, stream bank erosion and damage, sediments running off the unpaved road, and sediment inputs from concentrated stormwater runoff at opposite ends of the unpaved road. The project includes supplemental buffer plantings and a five foot wide grassed filter along approximately 400 feet of the shoulder of Rowell Road. Engineered stabilization will be utilized to repair damaged portions of the

riverbank, including reconstruction of a car-top boat launch where recreational use provides continual disturbance, as well as an area where a large tree has uprooted the river bank at the shoulder of the road. Sediment loads entering from concentrated runoff will be treated by creating vegetated treatment swales, incorporating a gravel wetland, and by repairing culverts and associated erosion and other BMPs. Nutrient loads will be reduced using community outreach to reduce fertilizer use in this area.

A NH Heritage Bureau red maple floodplain forest is noted in the project area. The WAP notes the entire project area is mapped as Highest Ranked Habitat in the Biological Region. This project has passed the first round of DES High Quality Waters Grant applications.

Grant amount requested:	\$78,468
Amount of matching funds proposed:	\$50,420
Total project costs:	\$128,888

Committee Findings:

- A. The project proposes a comprehensive approach by combining restoration, water quality improvements, and land preservation activities which are the key components of the ARM Fund program.
- B. One primary goal of the project is the correction and prevention of further water quality impairments to the Exeter River by installing stormwater renovation features, streambank stabilization, and buffer plantings.
- C. The project expands on projects identified in the Exeter River Geomorphic Assessment and Watershed-Based Plan: Middle Exeter River (2010).
- D. The Exeter River is a NH Designated River, the project falls directly adjacent to Brentwood prime wetlands and the conservation parcel contains an exemplary red maple swamp community.
- E. The entire project area is mapped as Highest Ranked Habitat in the Biological Region by the NH Wildlife Action Plan and there is an exemplary red maple floodplain forest.

4. Project Proponent: NH Fish & Game Department

Project Title: Carl Siemon Family Charitable Trust (CSFCT) Jones Brook Property Conservation Easement Project; Milton

The New Hampshire Fish and Game Department (NHFG) are working with the Carl Siemon Family Charitable Trust (CSFCT) to protect more than 366.1 acres along the Jones Brook in Milton. The CSFCT is willing to donate the monetary value of the proposed conservation easement. In this proposal, NHFG is seeking \$29,300 to cover transaction costs and to permanently endow the stewardship of the easement. Transaction costs will include a partial survey, and an environmental hazards review. Permanent easement monitoring and stewardship will be done by the Conservation Land Stewardship Program at the Office of Energy and Planning.

The property has been identified in *The Land Conservation Plan for New Hampshire's Coastal Watersheds* as part of the 3500 acre Hart Brook/Mt. Teneriff Core Area which is a portion of a 69,800 acre aggregated forest-block. These areas have the greatest ecological and conservation significance for New Hampshire's coastal watershed. The protection of these lands along with the abutting protected lands will create a block of nearly 900 acres. Within 1300 feet of this block is another existing block of protected lands of more than 1733 acres. NH Wildlife Action Plan notes the parcel having 44.75 acres of Tier 1, Highest Ranked Wildlife Habitat by Ecological Condition in the State; 73.65 acres of WAP Tier 2, Highest Ranked in Biological Region; and 239.23 acres of WAP Supporting Landscape. Also on the property are remains of several historical stone and earthen structures including dams, raceways, and holding ponds located in wetlands and uplands. Scenic and recreational values include 8,632 feet of frontage on Jones Brook along the southern property line and 1450 feet entirely within the property. Current water resources maps indicate a large aquifer located immediately downstream of the property.

Grant amount requested:	\$29,300
Amount of matching funds proposed:	\$191,818

Total project costs:

\$221,118

Committee Findings:

- A. This proposal provides the unique opportunity to protect over 350 acres of land with limited funds to be used solely for transaction costs to complete a conservation easement on the parcel. An additional 8 acre lot will also be protected by transfer of ownership at the time of the conservation easement so the entire acreage may be managed as part of a much larger surrounding landscape.
- B. The project will permanently protect 1.9 miles of riparian frontage on Jones Brook and 41 vernal pools found on the property.
- C. The NH Wildlife Action Plan notes 44.75 acre of Highest Ranked Habitat, 73.65 acre of Highest Ranked in Biological Region, and 239.23 acres of Supporting Landscape Habitat that will be protected in perpetuity.
- D. This project places Milton one step closer in connecting extensive conservation lands in Milton to the 3,578 acres of the Moose Mountain Reservation and Jones Brook Wildlife Management Area located in Middleton, Brookfield and New Durham.

5. Project Proponent: Piscataqua Region Estuaries Partnership

Project Title : Upper Oyster River Channel & Fish Passage Restoration; Barrington

The proposed project involves replacing an inadequate culvert located on a private access road to the Emerald Acres Cooperative manufactured home community in Barrington. The existing stream crossing is an old undersized corrugated steel culvert that was washed out of the road during the 2006 Mothers Day Flood. The culvert was quickly placed back after the flood and secured with large riprap as part of an emergency repair. The culvert has a 1.5 foot drop from its outlet to the downstream pool, restricting aquatic organism passage for most of the year.

Removal of the old culvert will end the excessive deposition of stream sediments upstream of the road crossing and the excessive stream bank erosion and channel scour that is currently happening downstream of the road crossing. The position of this undersized culvert in the watershed is a problem for three species of conservation concern: the state endangered American brook lamprey, the eastern brook trout, and the American eel. Improving passage at this road crossing would benefit all three species. The population of American brook lamprey located approximately 0.25 miles downstream from the Emerald Drive crossing is vulnerable to the erosion and deposition of sediment caused by the undersized culvert at high flows. The perched culvert also prevents the potential expansion of the population into unoccupied habitat upstream of the crossing. The Oyster River watershed contains three known brook trout populations, with the greatest expanse of habitat (approximately 4 miles) upstream of the Emerald Drive crossing. In recognition of the Oyster River's exceptional characteristics it has been nominated in 2010 for inclusion in the state's River Management and Protection Program. An area of undeveloped land will be permanently protected as a part of this project and it directly adjoins the existing Samuel A. Tamposi Water Supply Reserve land. This parcel is part of a 1,528 acre block of existing permanent conservation land in the Creek Pond Marsh Conservation Focus Area identified in The Land Conservation Plan for New Hampshire's Coastal Watersheds. The Tamposi easement is held by the town of Barrington. This project proposes to permanently protect ±18 acres of undeveloped land that remains within the parcel owned by the Emerald Acres Cooperative.

Grant amount requested:	\$118,500
Amount of matching funds proposed:	\$101,250
Total project costs:	\$219,750

Committee Findings:

- A. This proposal will restore a high priority stream crossing with improvements to natural stream channel dynamics and function on an impacted reach of the Oyster River.
- B. The result of the crossing replacement will restore full fish passage to approximately 4 miles of upstream riverine habitat in the headwaters of the Oyster River and its tributary streams for the

- benefit of American Brook Lamprey (state endangered species), wild eastern brook trout, American eels, and other important aquatic life.
- C. The proposal includes protection of undeveloped land directly adjacent to the Oyster River and abuts a 1,528 acre parcel of existing conservation land.
- D. In recognition of the Oyster River's exceptional characteristics it has been nominated in 2010 for inclusion in the state's River Management and Protection Program and this project will improve passage and conditions favorable for this designation.
- E. The culvert replacement was identified based on a 2008 comprehensive assessment of all of the culverts in the Oyster River watershed led by PREP.

6. Project Proponent : Rockingham County Conservation District in partnership with Seacoast Science Center, Seacoast Parks & Recreation, and NH Coastal Program

Project Title: Odiorne Point State Park Maritime Cobble Beach and Coastal Salt Pond Marsh Restoration Project; Rye

The proposed restoration project is situated within Odiorne Point State Park, which comprises 334 acres and has some of New Hampshire's rarest native coastal ecosystems such as coastal pitch pine forest, dunes, and salt and barrier marshes. Within the park much of the land has been altered due to development of early settlements, a grand hotel, seasonal residences, and most extensively, Fort Dearborn, a WWII coastal artillery installation. The value and integrity of these historical and ecological resources are compromised by severe infestation of invasive plants. Each year invasive species take over more of the park and threaten the native flora. Invasive species have encroached upon, and in some cases, completely blocked existing trails. Not only have these natural habitats become degraded, but dense thickets of invasive plants have reduced opportunities for education, recreation, and wildlife viewing, and appreciation of aesthetics as well as historic features in the park.

This project aims to manage invasive plants in two of New Hampshire's most unique habitats: a maritime cobble beach and coastal salt pond marsh; with the intention of restoring wildlife habitat functioning. This project will support the control of invasives by mechanical and chemical methodologies. These two areas are home to two endangered, and two state listed threatened plant species. The intention is to work toward achieving ecologically self sustaining habitats to the greatest extent possible. Self sustaining habitats are achieved by limiting additional disturbance, eradicating local seed sources, and fostering competition from native species to exclude further establishment of invasives. The habitats targeted for restoration in this request for funding (maritime cobble dune, coastal salt pond marsh) were identified in the 2010 Odiorne Invasive Plant Management Plan as top ecological priority. A volunteer crew familiar with the conditions at the state park will continue to be utilized in all components of the project. This community supported restoration initiative has already generated thousands of volunteer hours through a partnership between the Seacoast Science Center and Timberland, Inc.

Grant amount requested:	\$57,875
Amount of matching funds proposed:	\$6,076
Total project costs:	\$63,951

Committee Findings:

- A. The proposal addresses management of invasive species in two of New Hampshire's most unique habitats: maritime cobble beach and coastal salt pond marsh which are both rare, natural communities.
- B. The ultimate goal is to restore wildlife habitat functions of these rare areas with a component of educational, recreational and aesthetic value built in to a long-term monitoring component.
- C. This project will provide protection from further degradation of wetland functions and values, including the permanent loss of rare species and habitat due to competition from invasive plants.
- D. The proposed project intends to work toward achieving ecologically self-sustaining habitats to the greatest extent possible.
- E. The habitats targeted for restoration were identified in the 2010 Odiorne Invasive Plant

Management Plan as top ecological priority and have a likelihood of success at the permanently protected state park.

- F. A 10 year monitoring plan is proposed with yearly reports to be provided to DES and the Corps.

7. Project Proponent: UNH Stormwater Center and the City of Dover

Project Title: Berry Brook Watershed Restoration through Stream Restoration, Buffer Development, and LID Retrofits; Dover

The proposed project will significantly restore and reconnect an urban stream, wetland complexes, and watershed through two efforts: 1) Wetland and stream restoration, removal of fish passage barriers, and buffer development, and 2) baseflow and water quality improvements. Funding for the baseflow and water quality improvements are being sought elsewhere and have been submitted for support. The proposed improvements are based on years of activity within the watershed with the project partners. The project will significantly restore 0.9 miles of a 1st order stream, create and protect 196,186 square feet of upland buffer, restore and create 246,903 square feet of wetlands, reconnect Berry Brook to the Cocheco River, restore/daylight/recreate 1960 feet of stream channel, remove 2 fish passage barriers, and provide significant treatment of 164 acres of watershed for diadromous fish and other aquatic species.

Although the NH Natural Heritage Bureau (NHB) and NHFGD have no specific fish data for Berry Brook, the Department does have fish data for much of the Cocheco River and other watersheds nearby. The Cocheco River Watershed is home to American eel, brown bullhead, bluegill, Common shiner, pumpkinseed sunfish, common white sucker, chain pickerel, fallfish, golden shiner, largemouth bass, longnose dace, rainbow trout (stocked), redbreasted sunfish, smallmouth bass and yellow perch. Of particular importance is the American eel, which is a Species of Greatest Conservation Need in the New Hampshire Wildlife Action Plan, and NHFGD and others have been actively working on restoring this and other species to watersheds in New Hampshire.

This proposal also seeks to establish 4.5 acres of upland buffer through the creation of a conservation easement at the headwaters. A drainage easement already exists through much of the area. The lands that comprise the Berry Brook headwaters are the largest contiguous undeveloped area within the watershed. Based on the important ecological functions provided by this reach of the brook, an additional level of land protection in the form of a conservation easement to be held by the city will be completed under this proposal. Existing drainage easements and city property will be used for the creation of the conservation easement. Where appropriate, the project will pursue amendments to the drainage easement that would incorporate buffer protection standards along the riparian corridor. A second easement area will be sought for the restored area at the confluence with the Cocheco River. This easement would abut the existing easement and the Cocheco River Conservation Area, and the Dover Community Trail. The Conservation Area and trail is located off 6th Street and crosses Berry Brook. The scenic trail is part of the city-wide Dover Community Trail. The trail follows the Cocheco River for approximately ½ mile, crossing open fields on a mowed path until it intersects with Whittier Street, where it currently ends. Small trails off the main trail enable visitors to explore the shoreline along the Cocheco River. The Cocheco River Conservation Area is also the site of the Dover Community Garden.

Grant amount requested:	\$534,546
Amount of matching funds proposed:	\$198,096
Total project costs:	\$732,642

Committee Findings:

- A. The proposed project aims to restore and reconnect a small highly urbanized 1st order stream and wetland complex to the Cocheco River and make this area available to important diadromous fish species.
- B. Berry Brook has been placed on the DES 2006 Section 303(d) list for Threatened or Impaired Waters, impaired through elevated nutrient loads and high bacteria concentrations.
- C. Removal of fish barriers and creating a geomorphically sound channel with accessible floodplain, will provide various riparian habitat types in this stream section.

- D. The project will provide stormwater infiltration and storage that will improve water quality. One area at the city water works property includes wetland /floodplain forest restoration to be incorporated into the design with a component of invasive species management.
- E. An upland buffer area will be protected through a conservation easement at the confluence of the Cocheco River which abuts an existing easement and the Cocheco River Conservation Area, and the Dover Community Trail.
- F. Through efforts of the project partners and UNH Cooperative Extension educators, an additional component important to the long-term success of the project incorporates working with landowners on recommendations to enhance buffers, planting native riparian species, and reducing detrimental additions to the stream area to augment the ability to improve water quality in the area.

8. Project Proponent: New Castle Conservation Commission

Project Title: River Road Marsh Restoration; New Castle

The goals of the proposed habitat restoration project include the following: Restore hydrologic functioning of seasonal stream; extend the existing culvert on the outlet side; excavate *Phragmites* rhizomes; complete invasive plant removal, invasive plant control, and enhance native habitat with appropriate native species (with volunteer assistance and NH certified herbicide applicator); and educate neighbors, residents, and others interested (may include staff and students at the adjacent school) on invasive species control, wetland buffers, and aquatic resource restoration techniques.

The wetlands at this site are Estuarine Intertidal Emergent Persistent; dominated by *Spartina patens*, and expected to have a high wildlife habitat, high floodflow alteration, high sediment retention and nutrient removal, high shoreline stabilization, good educational and aesthetic potential and good production export. The wetland between the Highest Observable Tide Line and westward (landward) is a small amount of Palustrine Shrub Swamp although it is currently dominated by *Phragmites australis*. The *Phragmites* was documented in the marsh and is estimated to cover an area of approximately 3,500 square feet at 80 percent cover. In reviewing the 1993 NRCS survey, no mention of *Phragmites* was listed, but did include cattails in the same area. The site is in walking distance to the community school which anticipates active involvement in restoration components, leading community planting efforts, and will be used in school curriculum. When restored, this wetland is expected to have high wildlife habitat, high sediment retention and nutrient removal, good educational and aesthetic potential and good production export. Stewardship and adaptive management will be provided, through a ten-year management agreement.

Grant amount requested:	\$27,993
Amount of matching funds proposed:	\$27,242
Total project costs:	\$58,234

Committee Findings:

- A. The project promotes restoration of a tidal marsh that will restore similar functions that were impacted by the projects that generated the funds.
- B. This project will reestablish the ecological integrity of a degraded ecosystem and remove invasive species that dominate the native community composition and structure.
- C. New Castle is a small island community that could achieve complete eradication of *Phragmites* sp. if continued efforts such as this project are pursued.
- D. The project is in a highly visible location for local residents and is in close proximity to a community school that will be engaged in long-term monitoring and education activities related to this restoration project.
- E. The Rockingham County Conservation District has targeted this area for restoration to improve tidal flow and imperiled native vegetation with a broader goal to educate neighbors, residents, and other interested in aquatic resource restoration, wetland buffers, and invasive species control.
- F. Monitoring of the site success will be conducted for up to 10 years following completion of the

work and reports shall be provided to DES and the Army Corps.

9. Project Proponent: City of Rochester with assistance from NOAA and NH Coastal Program

Project Title: Gonic Dam Removal; Rochester

The Gonic Dam (GD) is categorized as a significant hazard by the DES Dam Bureau. The deficiencies associated with the dam include deterioration of concrete on the spillway/bedrock interface, crack on the crest and upstream face of the right spillway section, deterioration of the left spillway crest with exposed rebar and spalling, and deterioration at the stop log section, south gate and the old penstock. In response to these deleterious conditions, the impoundment has been maintained in a dewatered condition since 1984.

Phase 1 of this overall project is to remove the GD. Phase 2 of the project is to remove the Gonic Sawmill Dam (GSD) although this component is not included in this proposal. Ecological benefits will not be fully realized until the overall project (Gonic and Gonic Sawmill Dam(s) removal) is complete. As previously indicated, funding is requested to implement phase one of this project, which is the removal of the GD. Removal of the GD and GSD is expected to result in the restoration of 12.8 miles of free-flowing River for multiple purposes, including that of diadromous fish passage. Recent surveys have identified American eel above the GD. The GSD impoundment has 10,000 cubic yards of contaminated sediment, only some of which would become mobile upon removal of the GSD. The amount of sediments to be excavated still needs to be determined through consultation with regulatory agencies. Also, a sewer pipe that traverses the GSD impoundment requires additional survey and assessment. Design plans and technical specifications for the GSD cannot be developed until the two aforementioned issues are resolved; whereas the GD is ready for removal once final design plans and permits are completed. Hence the separate time lines and project phases.

The overall project (Gonic and Gonic Sawmill Dam(s) removal) will ultimately result in the conservation of an 8.3 acre upland parcel adjacent to aquatic resources. When the GSD is removed and liability issues resolved, the city of Rochester will take ownership of uplands adjacent to aquatic resources for nature trails and other passive recreation. The city is keenly interested in utilizing the GSD site as a recreational facility and adding public access accoutrements, allowing residents and visitors to more fully enjoy the area's natural resources.

Grant amount requested:	\$412,024
Amount of matching funds proposed:	\$108,647
Total project costs:	\$453,024

Committee Findings:

- A. The proposed removal of the Gonic Dam (GD) is part of a larger overall project to restore this reach of the Cocheco River. An important component of this effort is to also remove the Gonic Sawmill Dam (GSD) that is located 1,000 feet downstream and is in similar disrepair.
- B. The GSD has an estimated 10,000 cubic yards of contaminated sediment which could become mobile upon removal of the impoundment. Data collection on the amount to be excavated has not been determined or permitted by regulatory agencies. In addition, a sewer pipe traverses the GSD that requires additional assessment for removal. These two items have a separate time line and need to be resolved before the final plans for the GSD to be removed.
- C. Both dams sit upon a bedrock ledge that will remain if the dams are removed, and inspection by fisheries biologist indicate that fish passage at both dam sites will still remain unlikely upon the dams' removal.
- D. Funds requested in this project focus on the GD but include development of a contaminated sediment management plan for the GSD. This type of request will not result in restoration, enhancement, creation, and/or preservation. Based on the program operation and Corps guidance, the Aquatic Resource Mitigation Fund cannot help support funding projects that only involve planning components therefore these budget items would not qualify.
- E. The overall goals of the project have merit however, the timing issues, limitations in removing

the GSD, and limited fisheries benefit result in a low score for this project.

10. Project Proponent: Rye Beach Village District, Eel Pond Natural Resource Council

Project Title: Eel Pond Watershed Restoration Project; Rye

The project proposes two phases: 1. Develop a comprehensive Watershed Management Plan; and 2. Control of *Phragmites* and other aquatic vegetation. Future phases of the Restoration Master Plan would be funded by private donations generated by the Eel Pond Natural Resource Council and by future state and federal grant applications.

The *Phragmites* control strategy will involve manipulation of the site to eliminate dense stands that have become established in various areas of the pond. These dense stands are disrupting the recreational usage of the pond as well as its aquatic habitat value and aesthetic value. The control plan would involve increasing the mean growing season pond depth; shallow excavation to remove advanced organic matter, enhancement of the lower and upper woody canopy layers in the upland transitional zone, advancing canopy closure in the restored mixed woody and herbaceous emergent habitats, and limited biomass harvest of the *Phragmites*.

The NH Natural Heritage Bureau records state this natural community is uncommon in the state and only occurs primarily along dammed streams in the Seacoast region and south-central parts of the state. Eel Pond is home to two state listed avian species of concern: the Common Moorhen (*Gallinula chloropus*) and Least Bittern (*Ixobrychus exilis*) and one state listed endangered reptile, the Blanding's Turtle (*Emydoidea blandingii*). According to the NH Wildlife Action Plan, Eel Pond is among the highest ranked habitat in the state.

Grant amount requested:	\$112,250
Amount of matching funds proposed:	\$57,502
Total project costs:	\$169,752

Committee Findings:

- A. The proposed project requests funds to develop a watershed master plan and to implement measures to control *Phragmites* at the pond.
- B. The primary purpose of developing the management plan is to identify potential sources of nutrients and sediments within the watershed that are being discharged to the pond. No restoration, enhancement, creation, and/or preservation will result from this task.
- C. The surrounding landscape provides nutrient inputs that are causing degradation of the pond which may need to be remedied at the same time as implementing an invasive species control plan.
- D. Other aquatic vegetation also exists in Eel Pond that should be taken into account in the overall restoration plan.
- E. Based on the program operation and Corps guidance, the Aquatic Resources Mitigation Fund cannot help support the development of a Watershed Management Plan. Other sources of funding could be sought to focus on identifying sources and possible corrective measures to reduce sediments and nutrient inputs from the watershed.
- F. The consideration of funding invasive species control projects relies on the expectation of a high level of success and that the measures will be sustainable over time. The proposed effort does not adequately address these components or are at a level necessary for ARM Funds to be granted.

11. Project Proponent: Town of Wakefield

Project Title: Scribner Brook Restoration Project; Wakefield

This project proposes to remove an existing undersized and improperly installed 60-inch metal culvert that is contributing to the sedimentation of the "Scribner Brook" and impeding fish and wildlife passage within the riparian corridor. The existing culvert would be replaced with a larger, open-bottom or embedded closed-bottom structure with adequately-sized headwalls and wingwalls. In addition, stormwater drainage improvements along the roadway will be installed to trap winter sand and treat stormwater runoff. The new

structure would likely be a pre-cast concrete open-bottom culvert set on pre-cast concrete footings or an embedded pre-cast concrete closed-bottom culvert. It is also likely that pre-cast concrete headwalls and wingwalls would be used. Post-construction monitoring is expected to occur over the two years following construction.

The NH Fish and Game Wildlife Action Plan (WAP) identified the riparian corridor along the Scribner Brook upstream from Acton Ridge Road as a highest ranked habitat in the biological region. It appears this ranking is partly attributable to the largely unfragmented watershed. The WAP also identifies Great East Lake and portions of the Scribner Brook below Acton Ridge Road as a highest ranked habitat in New Hampshire. The project itself would take place within the town of Wakefield right-of-way. This project does not include the preservation of uplands adjacent to the project; however, by creating a stream crossing which can be passed by fish and other aquatic life, access to approximately three miles of stream channel and riparian buffers upstream will be restored. Immediately downstream from this crossing is an active railroad line with an existing culvert.

Grant amount requested:	\$248,048
Amount of matching funds proposed:	\$7,600
Total project costs:	\$245,648

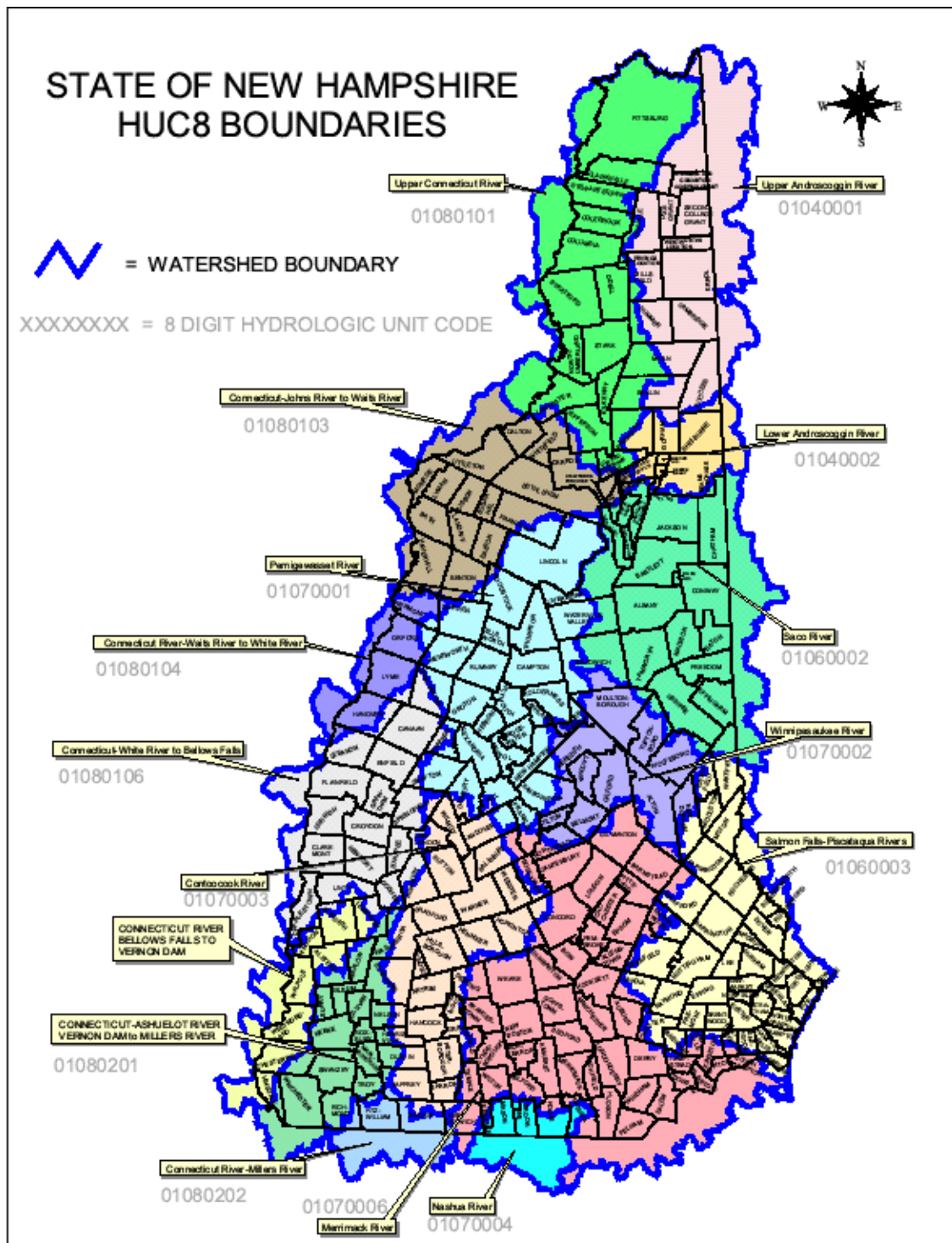
Committee Findings:

- A. The proposed project aims to remove an existing undersized and improperly installed culvert that is contributing to the sedimentation of Scribner Brook (Copp Brook) and impeding fish passage.
- B. The Brook flows into Great East Lake, which as been identified by DES as a waterbody at risk for increased phosphorus loading.
- C. The value of this project is to provide greater hydraulic capacity and reduce scouring forces downstream from the crossing. It is limited in its benefit to this particular crossing with no long-term protection measures along the Brook or in the vicinity to insure its sustainability thus scored low in the overall ARM Fund criteria.
- D. The overall restoration of the site is limited in that the culvert is immediately downstream of an extensive RR grade levee with an inadequately sized culvert that cannot be easily replaced.
- E. The Natural Heritage Bureau has no recorded occurrences for sensitive species near this project area.
- F. A review of the budget relative to the functions and values gained from the project contribute to the inability to fund this project.

VI. CONCLUSION

The above projects demonstrate that the ARM Fund has made significant progress toward accomplishing its goal of providing watershed-based mitigation for permitted impacts. DES recognizes the fund is in an advantageous position to bring significant mitigation projects to completion. The new Aquatic Resource Mitigation program offers a chance for municipalities to accomplish high priority local conservation goals; a mechanism for developers to proceed with projects once not viable because no compensatory wetland mitigation was practicable; and an opportunity for the state to accomplish projects with greater conservation value than can be achieved through conventional compensatory wetland mitigation. For additional information, please contact Ms. Lori L. Sommer at 603-217-4059 or Lori.Sommer@des.nh.gov.

APPENDIX A. STATE OF NEW HAMPSHIRE **HYDROLOGIC UNIT CODE 8 BOUNDARIES**



APPENDIX B
HB 681-FN – FINAL VERSION

HOUSE BILL 681-FN

AN ACT relative to assessments for aquatic resource compensatory mitigation.

SPONSORS: Rep. E. Merrick, Coos 2; Rep. T. Russell, Rock 13; Rep. S. Merrick, Coos 2; Rep. Sad, Ches 2; Sen. Reynolds, Dist 2

COMMITTEE: Resources, Recreation and Development

AMENDED ANALYSIS

This bill temporarily increases the percentage of certain administrative assessments related to aquatic resource compensatory mitigation.

Explanation: Matter added to current law appears in ***bold italics***.

Matter removed from current law appears [~~in brackets and struckthrough.~~]

Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

13Jan2010... 0005h

09-0345

06/01

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Ten

AN ACT relative to assessments for aquatic resource compensatory mitigation.

Be it Enacted by the Senate and House of Representatives in General Court convened:

16:1 Aquatic Resource Compensatory Mitigation; Fund Established. RSA 482-A:29, II is repealed and reenacted to read as follows:

II. A separate, non-lapsing account shall be established within the fund into which all administrative assessments collected under RSA 482-A:30, III and RSA 482-A:30-a, II shall be placed. Such account moneys shall only be used to support up to 2 full-time positions for administration of the fund and related projects. No other fund moneys shall be used for state personnel costs.

16:2 Payment for Freshwater and Tidal Wetlands Losses. Amend RSA 482-A:30, III to read as follows:

III. An administrative assessment which equals [~~5~~] **20** percent of the sum of paragraphs I and II.

16:3 Payment for Freshwater and Tidal Wetlands Losses. Amend RSA 482-A:30, III to read as follows:

III. An administrative assessment which equals [~~20~~] **5** percent of the sum of paragraphs I and II.

16:4 Payment for Stream or Shoreline Losses. Amend RSA 482-A:30-a, II to read as follows:

II. An administrative assessment equal to [~~5~~] **20** percent of the amount in paragraph I.

16:5 Payment for Stream or Shoreline Losses. Amend RSA 482-A:30-a, II to read as follows:

II. An administrative assessment equal to [~~20~~] **5** percent of the amount in paragraph I.

16:6 Rulemaking. Amend RSA 482-A:31, II to read as follows:

II. The method of calculating the amount of in lieu payments under RSA 482-A:30 and RSA 482-A:30-a which shall approximate the total cost of wetlands construction, stream and river construction, or such other mitigation actions as would have been required by the department and incurred by the applicant in the absence of making such payments. An administrative assessment of [~~5~~] **20** percent of the total cost shall be added as part of the calculation method.

16:7 Rulemaking. Amend RSA 482-A:31, II to read as follows:

II. The method of calculating the amount of in lieu payments under RSA 482-A:30 and RSA 482-A:30-a which shall approximate the total cost of wetlands construction, stream and river construction, or such other mitigation actions as would have been required by the department and incurred by the applicant in the absence of making such payments. An administrative assessment of [~~20~~] **5** percent of the total cost shall be added as part of the calculation method.

16:8 Report. Amend RSA 482-A:33 to read as follows:

482-A:33 Report. The department shall submit an annual report by October 1 beginning with fiscal year 2006, to the fiscal committee, the chairperson of the house resources, recreation and development committee, and the chairperson of the senate environment and wildlife committee summarizing all receipts and disbursements of the aquatic resource compensatory mitigation fund, including a description of all projects undertaken ***and the status of the administrative assessment account***. Each report shall be in such detail with sufficient information to be fully understood by the general court and the public. After submission to the general court, the report shall be available to the public.

16:9 Department Investigation. The department of environmental services shall investigate ways of compiling and providing information on known compensatory mitigation opportunities to applicants who need to compensate for unavoidable impacts by their proposed projects, as part of the wetlands permitting process. The department shall report on the results of this investigation on October 1, 2011 as part of its annual report under RSA 482-A:33.

16:10 Effective Date.

I. Sections 3, 5, and 7 of this act shall take effect July 1, 2012.

II. Section 1 shall take effect July 1, 2010 at 12:01 a.m.

III. The remainder of this act shall take effect July 1, 2010.

Approved: May 7, 2010

Effective Date: I. Sections 3, 5 and 7 shall take effect July 1, 2012.

II. Section 1 shall take effect July 1, 2010 at 12:01 a.m.

III. Remainder shall take effect July 1, 2010.

APPENDIX C
CONTRIBUTIONS ACCORDING TO WATERSHED

UPPER CONNECTICUT RIVER WATERSHED ARM FUND PAYMENTS

PERMIT #	LOCATION -TOWN	PROJECT TYPE	COWARDIN CLASS	PRIMARY F/V's	OTHER ISSUES	WETLAND LOSS	PAYMENT AMOUNT	DEPOSIT DATE
2006-516	Pittsburg	After the fact subdivision on 245 acres	R4SB3, PFO1B,PFO1/SS1B, R3UB1,PFO1/EM1B	Wildlife habitat, Uniqueness as it drains to desig. CT River	Headwaters to Perry Brook	43,452	103,226.00	8/20/2007
2005-2313	Colebrook	DOT bridge replacement, roadway improvement	PEM1E, PSS1E, PFO1E, PFO4E, R3UB1H	Floodflow alteration, wildlife and fish habitat, flood storage, sed/nutrient filtering	Land preservation also part of mitigation	22,075	52,933.59	2/20/2009
TOTALS						65,527	156,159.59	

CONNECTICUT RIVER FROM JOHNS TO WAITS
RIVER WATERSHED ARM FUND PAYMENTS

PERMIT #	LOCATION - TOWN	PROJECT TYPE	COWARDIN CLASS	PRIMARY F/V's	OTHER ISSUES	WETLAND LOSS	PAYMENT AMOUNT	DEPOSIT DATE
2002-1856	Bethlehem	Subdiv with deed restrcts due to lawsuit.10 lots on 75 ac.	PFO1B, PSS1B	Wildlife habitat	Abuts 77 ac SPNHF land, high elevation 1080-1220'	14,800	14904.44	7/20/2007
2002-2529	Littleton	Subdiv with esmnt that could not be finalized.13 lots on 118 ac.	PFO1B	Wildlife habitat	Drains to Ammons River	11,898	29904.23	8/2/2007
2008-1529	Jefferson	Boardwalk in bog for USFWS	PFO4Ba, PSS3/EM1Ba	Wildlife habitat, recreation	Bog	210	503.51	3/24/2009
2008-1332	Dalton	Existing off-road rally car school and snowmobile trails	PSS1E, PEM1Bd, PEM1d, Perennial stream	Limited functions overall, general wildlife habitat		12,645	30357.77	4/13/2009

2008-1333	Whitefield	Airport Taxiway and aircraft reconstruction	PEM1(mowed areas near airstrip), PFO1, PSS1	Groundwater discharge and wildlife habitat		80,770	90,000	5/12/2009
2008-2762	Littleton	Expansion of Littleton hospital	PEM1B, PSS1B, PFO1/2/4/EM 1B	Groundwater recharge/dischARGE, Sed/Tox retention	Mitigation also includes restoration on site	12,933	32,506	3/27/2009
TOTALS						133,256	198175.54	

WINNIPESAUKEE RIVER WATERSHED ARM FUND PAYMENTS

PERMIT #	LOCATION-TOWN	PROJECT TYPE	COWARDIN CLASS	PRIMARY F/V's	OTHER ISSUES	WETLAND LOSS	PAYMENT AMOUNT	DEPOSIT DATE
2005-3055	Tilton	Commercial development Audi dealer	PSS, PFO	Limited overall; some sed/tox retention	Disturbed site surrounded by developmt	25,850	85,108.00	8/30/2007
2006-2266	Moultonboro	8 Lot subdivision on 60 acres	PFO1Y, R3SBFb, PSS1E	Floodflow alteration, Wildlife Hab, sed/tox ret		21,485	76358.73	12/5/2007
TOTALS						47,335	161,466.73	

CONNECTICUT RIVER FROM ASHUELOT RIVER TO VERNON DAM TO MILLERS RIVER WATERSHED ARM FUND PAYMENTS

PERMIT #	LOCATION-TOWN	PROJECT TYPE	COWARDIN CLASS	PRIMARY F/V's	OTHER ISSUES	WETLAND LOSS	PAYMENT AMOUNT	DEPOSIT DATE
2007-2703	Keene	Cheshire county Jail	PEM1B, PSS1B, PEM1E, PFO1B, PRO1Y, Int stream	Sed/tox ret, grndwtr rechg/dsch g, fldflow alt, limited wldf hab and shoreline stablzn	Gravel and mining over 50 years on site	36,990	113,033.10	4/30/2008

2008-690	Washington	After-the-fact fill for single family dwelling and driveway	PFO4B, R2OW	Wildlife habitat, flood control potential, sediment trapping, nutrient attenuation	Fill was placed over 30 years ago.	17,810	30000.00	11/20/2009
2009-2330	Keene	Construct new middle school	PFO1/4B	Wildlife habitat		14,500	49752.41	3/16/2010
TOTAL						69,300	192,785.51	

PEMIGEWASSET RIVER WATERSHED ARM FUND PAYMENTS

PERMIT #	LOCATION - TOWN	PROJECT TYPE	COWARDIN CLASS	PRIMARY F/V's	OTHER ISSUES	WETLAND LOSS	PAYMENT AMOUNT	DEPOSIT DATE
2007-881	Lincoln	78 unit Condo development on 30 ac.	R4SB3X, PSS1/EM1C, majority manmade	Groundwater recharge/discharge	Site prev utilized by paper mill for wood storage	12,437	30,122.14	2/27/2008
2007-145	Woodstock	Residential dev 33 lots on 63 ac.	PFO4/1B, R4SB2	Wildlife hab, limited sed/tox ret, uniq due to prox to Desig. River	Abuts WMNF, approx 500' from Pemi River	15,500	37,280.06	3/1/2008
2007-1538	Lincoln	34 room Inn, driveway, parking at Common Man	R4SB3d, PEM1/SS1 C,	Limited Groundwater recharge/dis; Sed/tox ret	Project is expansion of an existing restaurant	6,123	14,829.77	6/23/2008
2008-807	Lincoln	Redevelop mill site to resort/lodging facility	R4SB123x East Branch of Pemi River	Manmade/excavated channel with minimal function and value	Abandoned millhouse; Brownfield site; manmade waterway	26,760	64,812.14	4/20/2009
TOTALS						60,820	147,044.11	

SALMON FALLS – PISCATAQUA RIVER WATERSHED ARM FUND PAYMENTS

PERMIT #	LOCATION - TOWN	PROJECT TYPE	COWARDIN CLASS	PRIMARY F/V's	OTHER ISSUES	WETLAND LOSS	PAYMENT AMOUNT	DEPOSIT DATE
2008-590	Rye	DOT bridge replacement	E2EM1P	Fish & shellfish habitat; shoreline stab	Salt marsh impacts	2,000	14,216.22	7/28/2008

2007-2373	Stratham	New building and drive-way at existing choc factory	PSS/FO1E, PSS1E	Sed/tox removal, nutrient retention	Cumulative impacts over last five years	35,000	124,391.90	9/2/2008
2006-2733	Lee	Retail store and secondary service road				23,890	68,374.50	2/5/2009
2008-1264	Seabrook	Construction of municipal groundwater treatment facility	PEM, PSS	Groundwater recharge/discharge, floodflow alteration, nutrient removal/retention wildlife habitat	Previous agricultural use on property	16,094	57198.96	6/8/2009
2009-593	Durham	Multi-use bike path/side-walk at UNH.	PEM1E	Farmed and roadside swale areas of limited function and value	Some wetland creation is proposed.	16,094	14,654	8/19/2009
2009-937	Hampton	Improvements to I-95 and high speed tolling	PEM1E, POW/EM1F, PEM/SS1E	Roadside drainages provide sediment/tox retention	Mitigation includes impacts from a previous permit	24,001	95,766.77	10/7/2009
2008-2780	Portsmouth	PSNH dredge required by the US Coast Guard for oil vessels at Schiller Station	Tidal waters - deepwater dredge	Subtidal sediments		1,000	7980.00	8/19/2009
2009-2922	Rochester/Dover	NHDOT Spaulding Turnpike expansion project	PEM, PSS1E, PFO, roadside drainages	Groundwater recharge/discharge, floodflow alteration, nutrient removal/retention, wildlife habitat	Mitigation includes wetland creation, flood storage compensation, and land preservation	348,480	1235319.12	3/5/2010
2005-556	Durham	UNH Residence halls	PFO, PSS	Wildlife habitat		17,816	58339.06	7/6/2010
TOTAL						484,375	1,676,240.06	

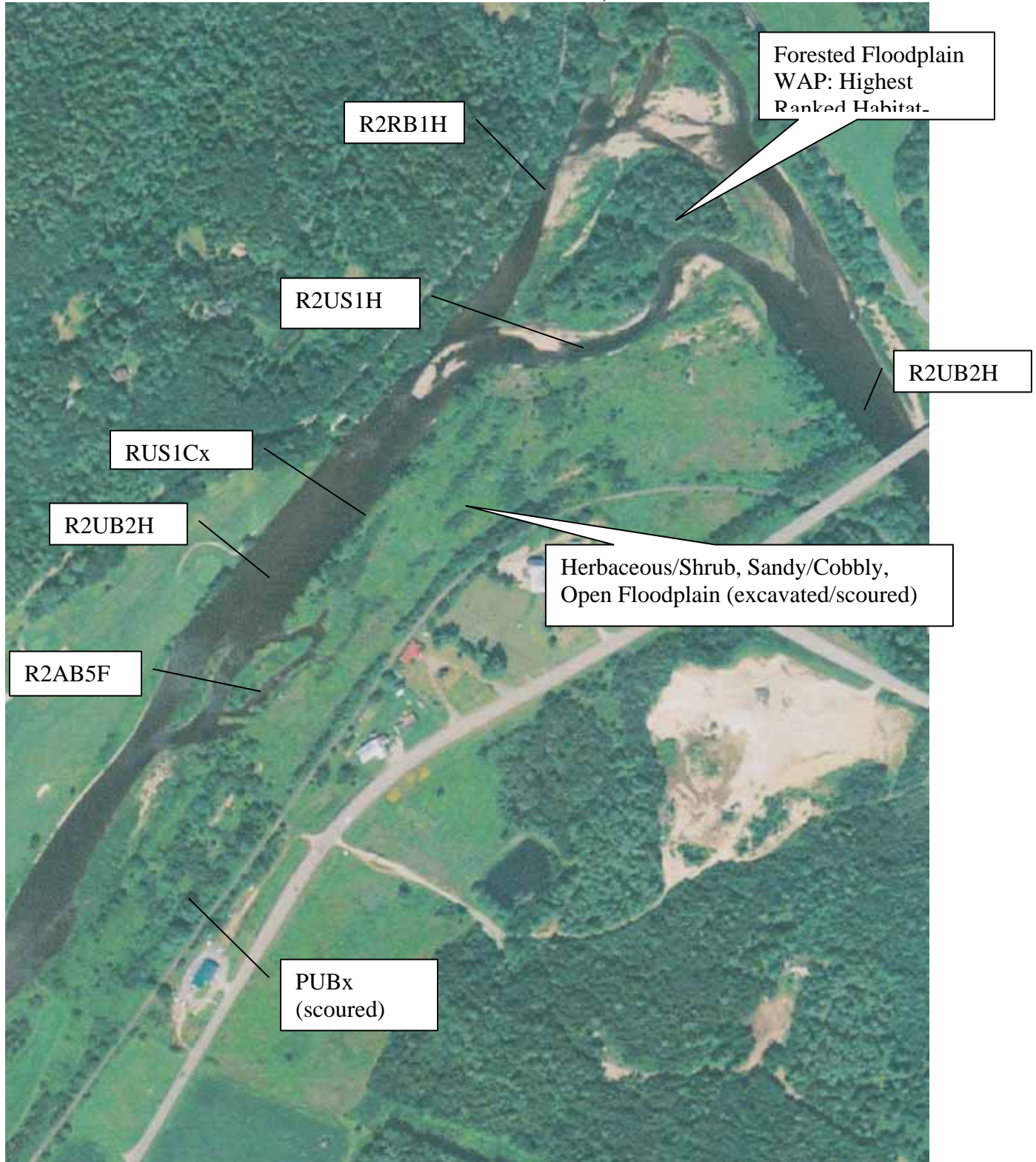
APPENDIX D.

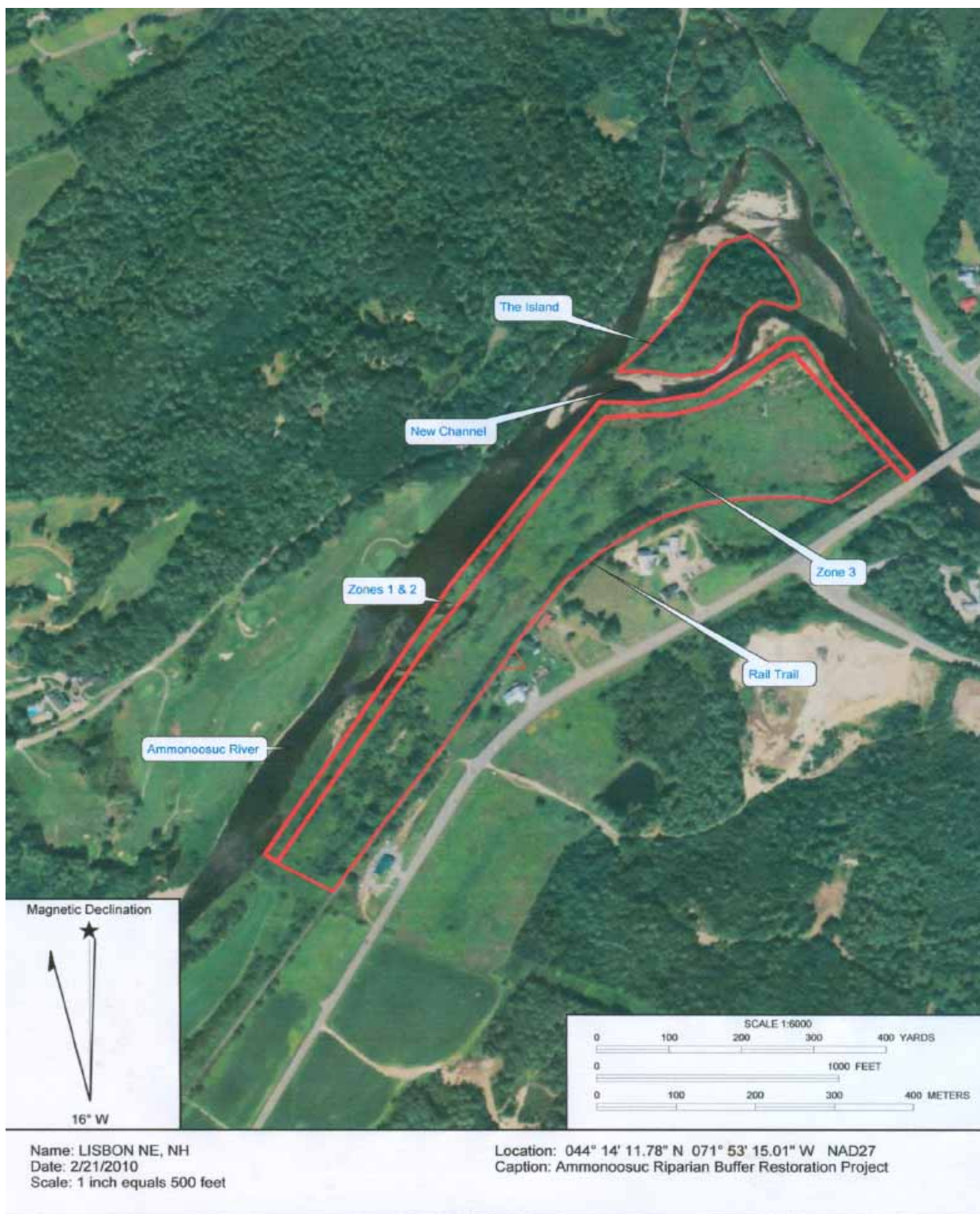
PARCEL LOCATION MAPS FOR ARM FUND PROJECT AWARDS

POTTER FARM, NORTHUMBERLAND PROJECT

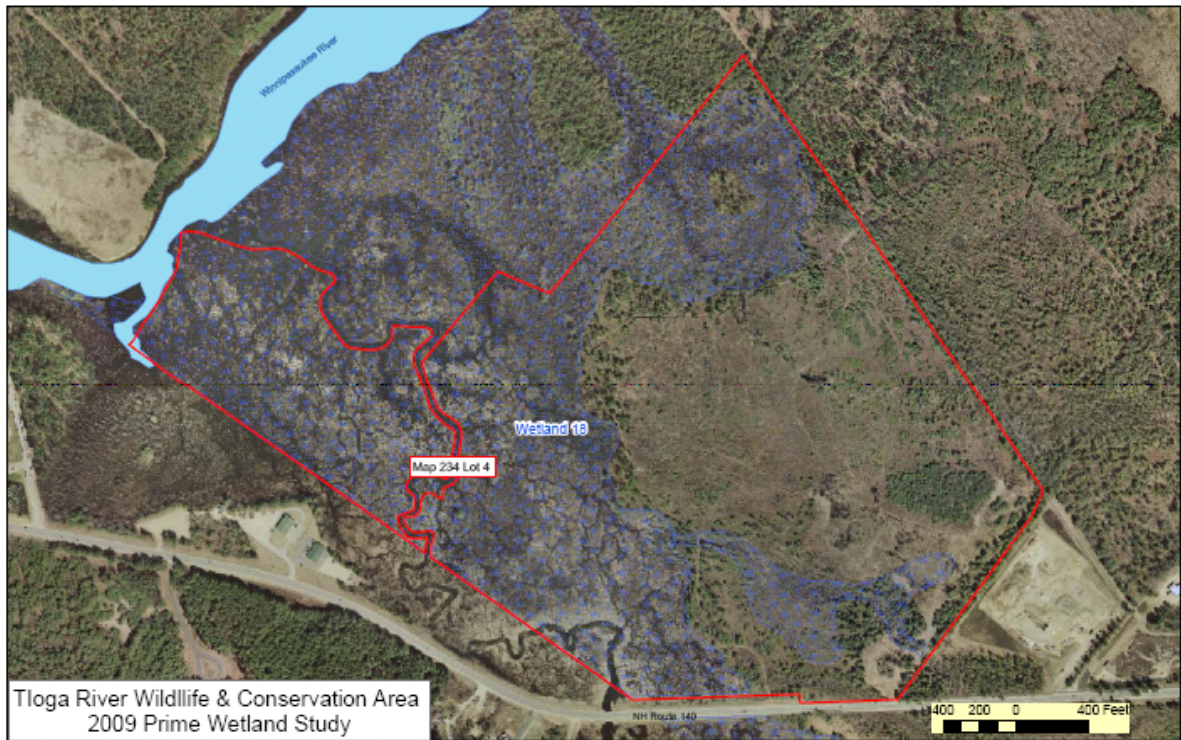


**AMMONOOSUC RIVER FLOODPLAIN AND RIPARIAN BUFFER PRESERVATION
AND RESTORATION PROJECT, LISBON**





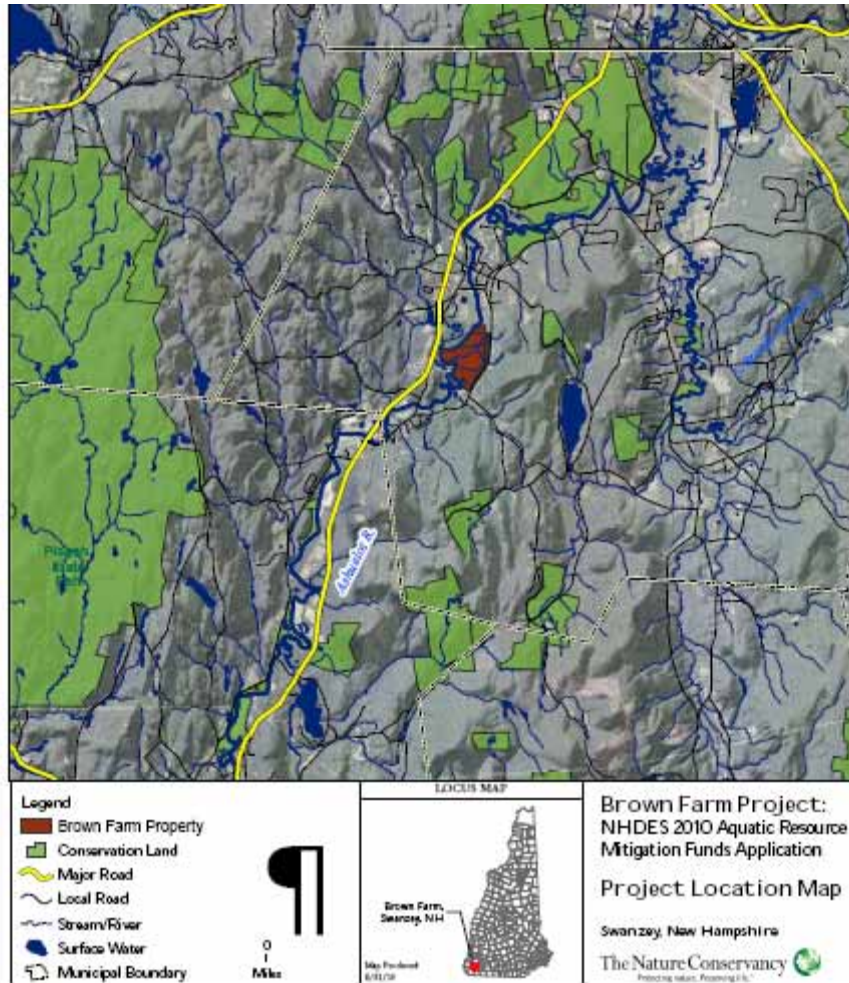
TIOGA RIVER WILDLIFE & CONSERVATION AREA, BELMONT

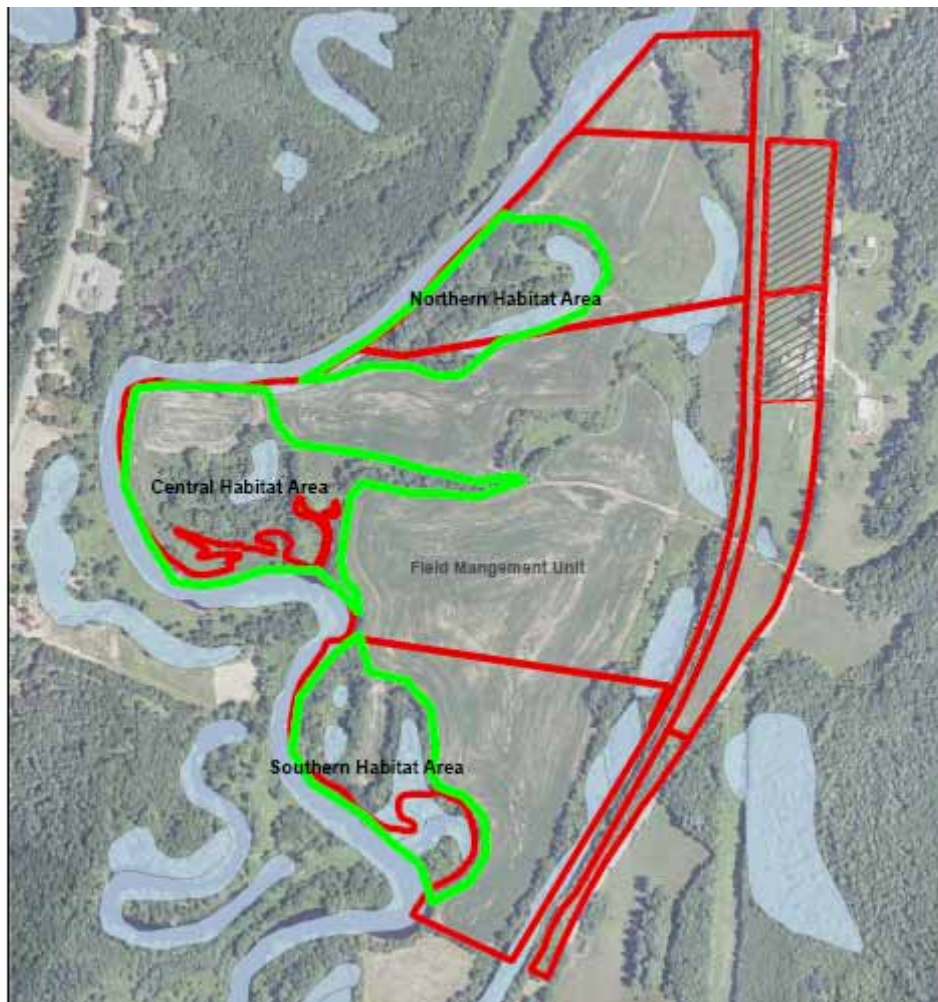


**COFFIN BROOK FLOODPLAIN CONNECTIVITY
IMPROVEMENT PROJECT, ALTON**

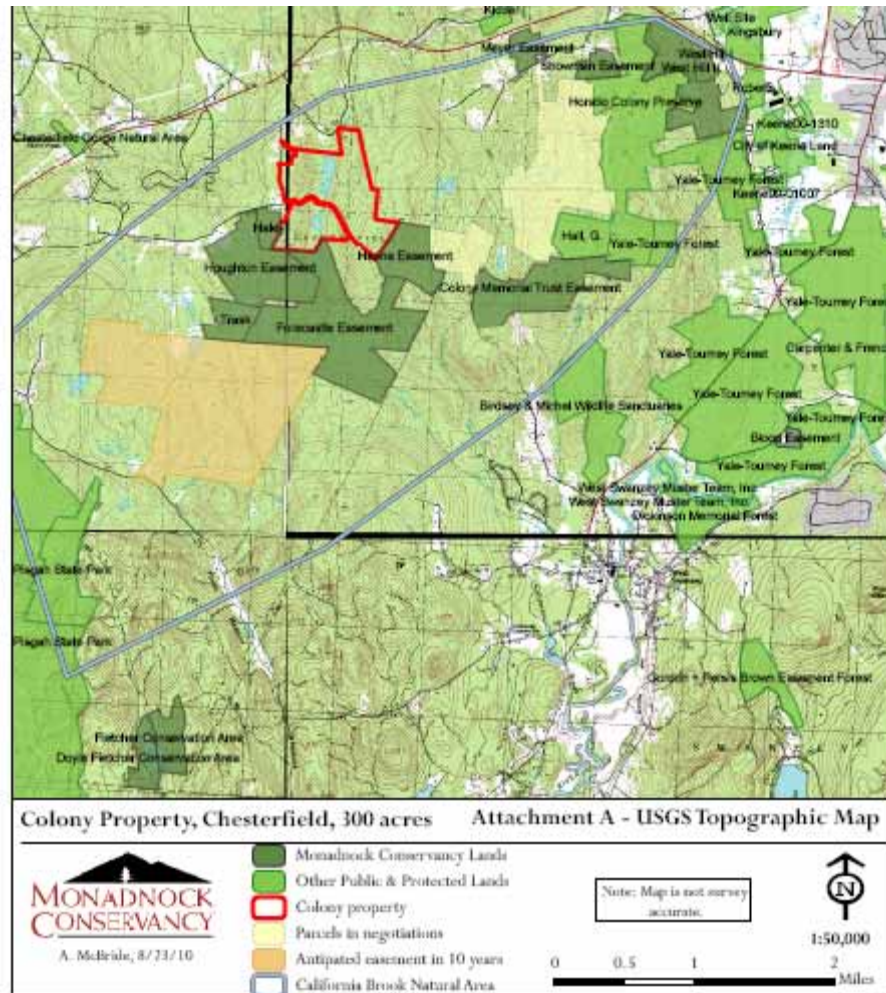


BROWN FARM, SWANZEY





COLONY PROJECT, CHESTERFIELD





1. View of northerly wetland from south end looking north



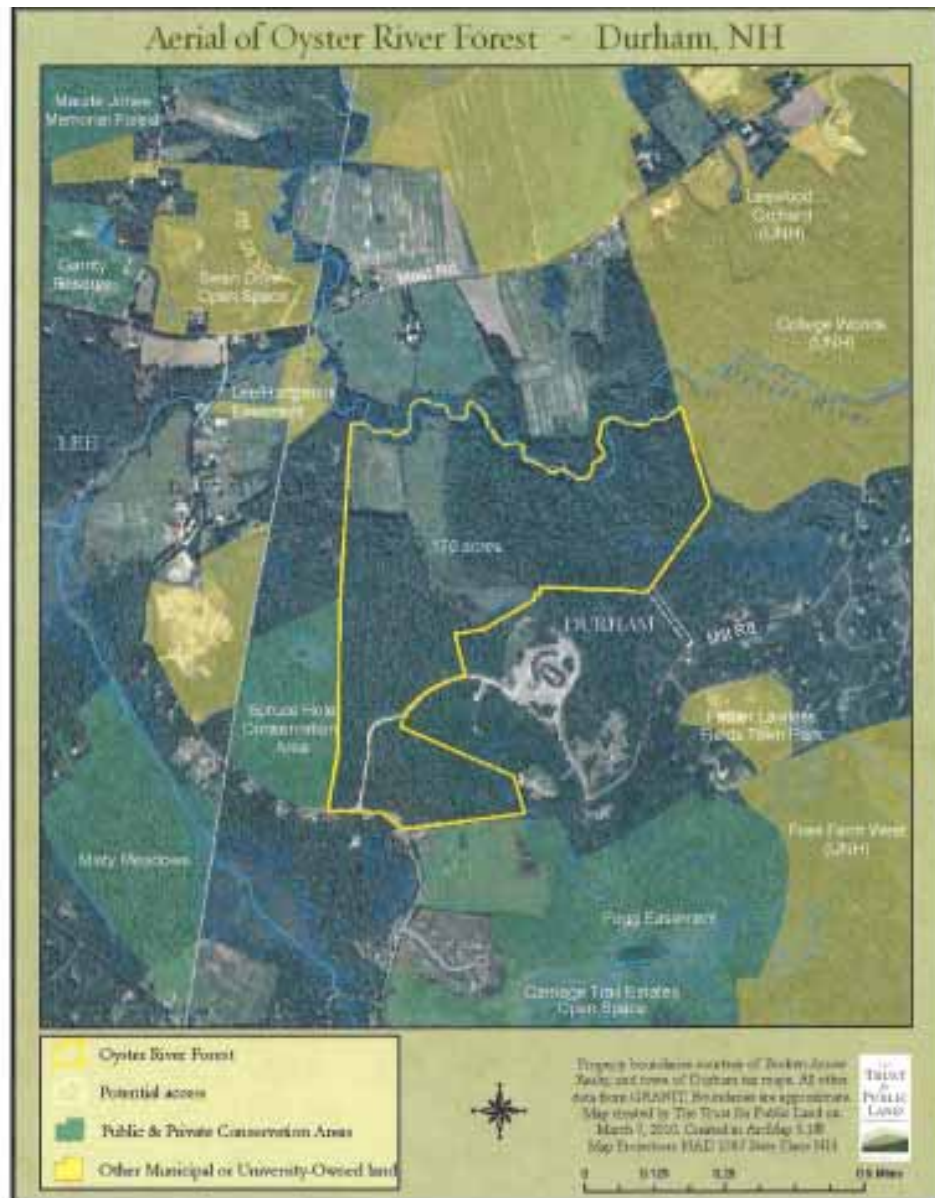
2. Standing at northern end of northerly wetland looking south

STROLLING WOODS PROPERTY, FRANKLIN



Aerial view of Strolling Woods Property

SPRUCEWOOD FOREST, DURHAM



EVANS MOUNTAIN, STRAFFORD



EXETER RIVER WATER QUALITY IMPROVEMENTS

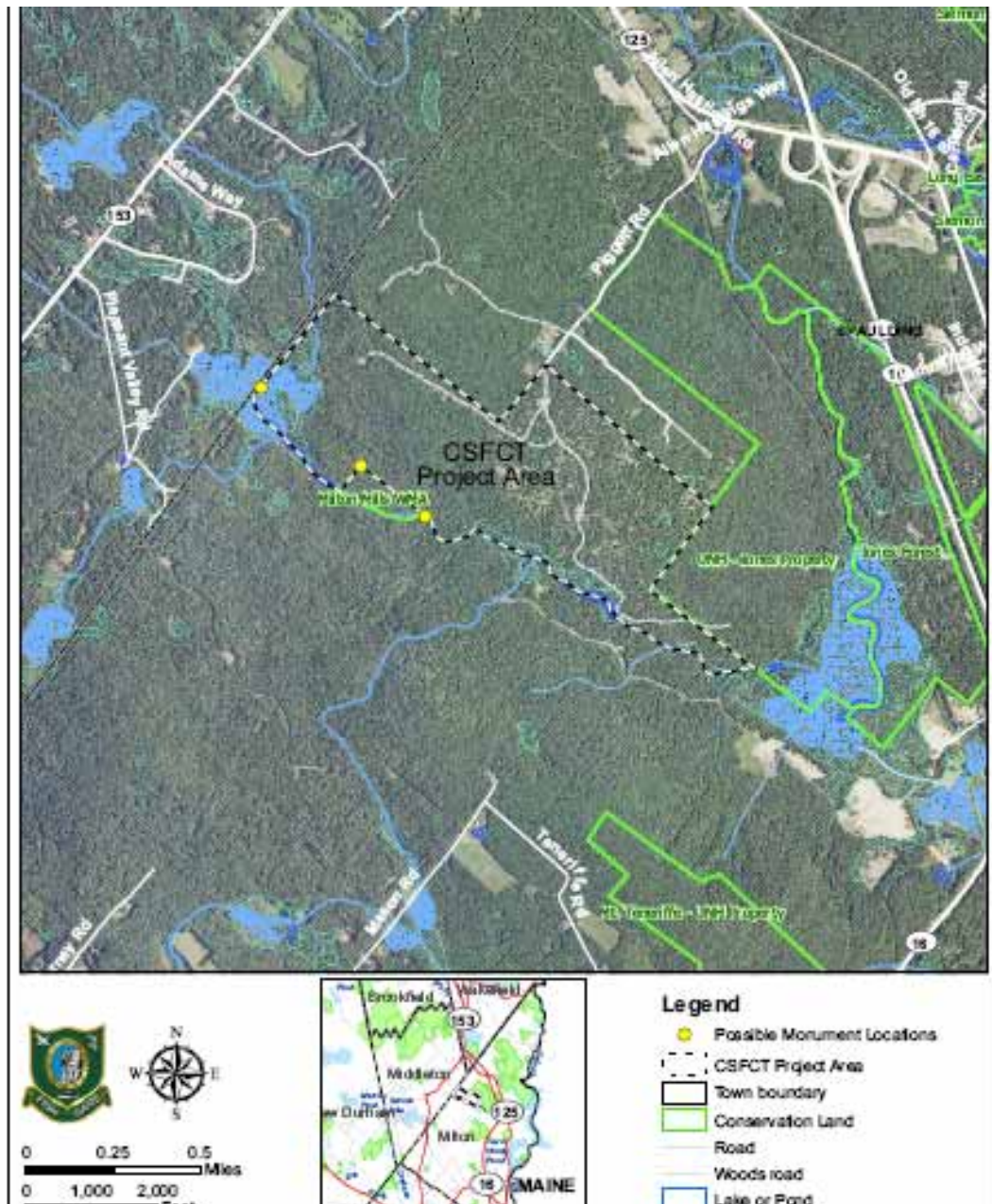


AND

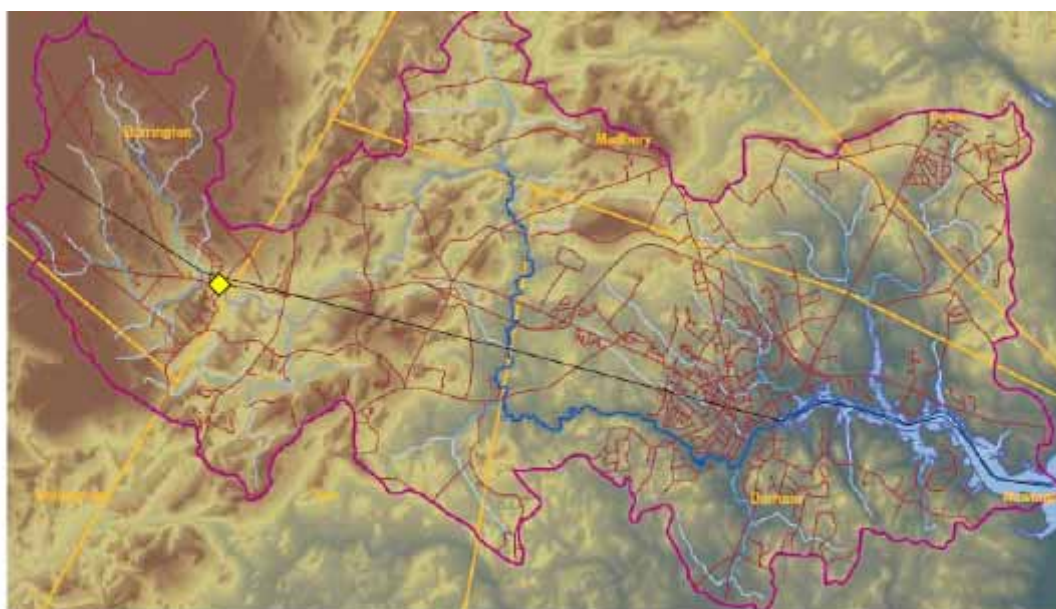
BUFFER PRESERVATION, BRENTWOOD



SIEMONS FAMILY CHARITABLE TRUST, MILTON



**UPPER OYSTER RIVER CHANNEL & FISH
PASSAGE RESTORATION, BARRINGTON**

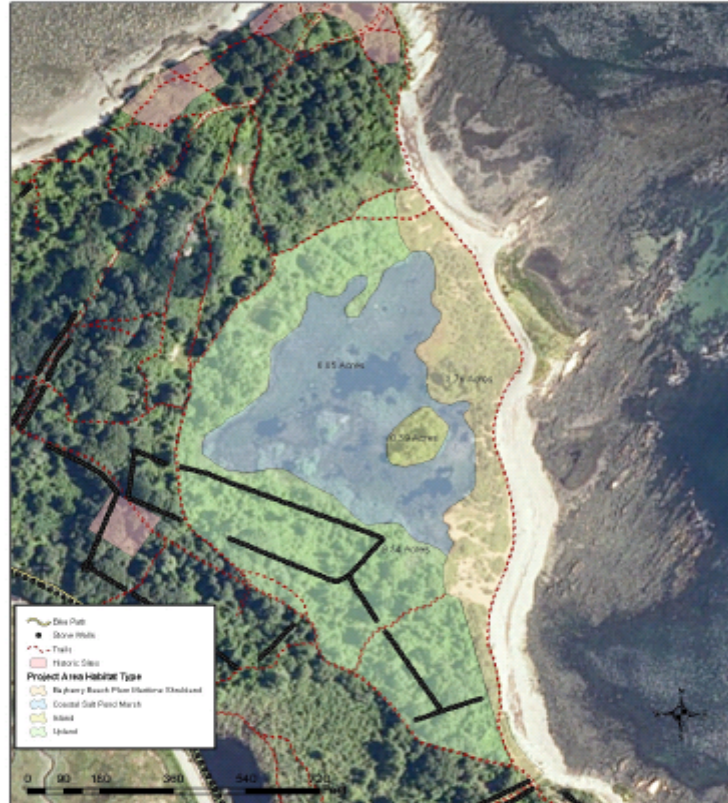


◆ = proposed culvert location within Oyster River Watershed

ODIORNE POINT STATE PARK

MARITIME COBBLE BEACH & COASTAL SALT POND MARSH RESTORATION PROJECT

ODIORNE POINT HABITAT TYPES



BERRY BROOK WATERSHED RESTORATION THROUGH STREAM RESTORATION, BUFFER DEVELOPMENT, AND LID RETROFITS, DOVER



Figure 3: Berry Brook Watershed Aerial Photo Indicating Floodplain, Soils, and Wetlands

Berry Brook Restoration Proposal 9/30/2010

Page 27

RIVER ROAD MARSH RESTORATION, NEW CASTLE

