

**New Hampshire  
Department of Environmental Services  
Wetlands Bureau Mitigation Program**



**AQUATIC RESOURCE  
MITIGATION FUND**

**Merrimack River Watershed  
Site Selection Committee  
Recommendations**

*August 2009*



## INTRODUCTION

The New Hampshire Department of Environmental Services (DES) Aquatic Resource Mitigation (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 (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 of: 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 (ACE) and the NH Wetlands Council (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.

The first watershed to reach the two year milestone and advertise available funds was the HUC 8 Merrimack River watershed. On April 2, 2009 DES announced the availability of \$650,000 with a deadline for proposal submittal of June 5, 2009. The funds came from 9 permitted projects located in the towns of Bow, Candia, Epsom, Hooksett, Londonderry and Manchester (See Attachment A). These permitted projects impacted the following functions: wildlife habitat, groundwater discharge and recharge, flood storage and sediment/toxicant retention. Eight applications were received in response to the solicitation and are summarized below.

A. Project Proponent: Joint application by the Russell Foundation, Piscataquog Land Trust, and Saint Anselm College  
Project Title: Stewart Property, Francestown

This project proposes to purchase, fee simple, 55 acres of the Stewart land in Francestown. This purchase will protect: (1) over 5,000 feet of shoreline along Rand Brook and the South Branch of the Piscataquog River including enhancement involving restoration of active cow pasture back to natural riparian vegetation and the removal of invasive species in both wetlands (approximately 2 acres) and uplands, (2) a NH Natural Heritage ranked exemplary floodplain forest that includes both upland and floodplain vernal pools, habitats for several species listed in the NH Wildlife Action Plan including nesting goshawk, woodcock, and wood turtle, and water quality of Rand Brook and the Piscataquog River. A conservation plan developed by the proponents ranked protecting the Stewart parcel and adjacent land as among the top three land conservation priorities for the Piscataquog River Watershed. This project is part of a larger conservation initiative called the Headwaters Project.

Grant amount requested:	\$45,500.00
Amount of non-federal matching funds secured:	\$125,000.00
Total project costs:	\$170,000.00

B. Project Proponent: Town of Hooksett and Bear-Paw Regional Greenways partnership  
Project Title: Clay Pond Headwaters Protection Project

The town and Bear-Paw Regional Greenways are working in partnership to conserve 733+/- acres of high value wildlife habitat in the Clay Pond Headwaters area, including over 130 acres of wetlands, and restore or provide habitat improvements for three streams that were negatively impacted crossings during historic settlement of the area. The goal is to permanently protect the area by combining town ownership with a conservation easement(s) held by Bear-Paw. This will assure permanent conservation of this area which is recognized as a top priority in Hooksett's Master Plan, the NH Wildlife Action Plan, Bear-Paw's Conservation Plan, and others. The three stream restoration sites will improve a total of 105 linear feet of perennial and intermittent habitat with a total of 6,389 square feet of restoration. The Hooksett Conservation Commission, LCHIP, the NHDES Wetlands Mitigation and Drinking Water Source Protection programs, and the Open Space Institute's Saving New England's Wildlife program have already committed funds to this important project.

Grant amount requested:	\$265,315.00
Amount of non-federal matching funds proposed:	\$1,064,475.00
Total project costs:	\$1,329,790.00

C. Project Proponent: The Society for the Protection of NH Forest  
Project Title: Concord Regional Solid Waste/Resource Recovery Center, Canterbury

The Forest Society seeks to purchase and protect a 294-acre parcel in Canterbury. This property was previously proposed for the Concord Regional Solid Waste/Resource Recovery Center. Protecting this land is of critical conservation importance as it includes 26 acres of wetlands and two miles of undeveloped shoreline on the Merrimack River, as well as exemplary plant communities and habitat for several state-listed plant and animal species. The entire property is within Tier One, Highest Ranked Habitat in NH, as identified in the NH Wildlife Action Plan. The property overlies an aquifer, with substrate identified as glacial lake bottom deposits. The property is well known for its long scenic wooded shoreline along the Merrimack River, and the hiking, fishing and boating enjoyment opportunities it provides. It is also proximate to several other preserved parcels along the river.

Grant amount requested:	\$300,000.00
Amount of non-federal matching funds proposed:	\$510,000.00
Total project costs:	\$810,000.00

D. Project Proponent: Town of Londonderry  
Project Title: Nesenkeag Brook Headwaters Project, Londonderry

The restoration of the Nesenkeag Brook Headwaters site attempts to return a degraded ecosystem to its natural potential. The project proposes to restore and protect these values. The percentage of restored wetland functions will be assessed through annual monitoring for at least three years. After implementing restoration, specific measurable results will likely include: wildlife habitat improvement; reduction of invasive species; and possible water quality improvements. Other positive measurable results are likely after full on-site wetland analysis, hydrology, and final restoration plans are completed and implemented.

Grant amount requested:	\$88,198.00
Amount of non-federal matching funds proposed:	\$5,969.80
Total project costs:	\$94,167.80

## **RESULTS OF ARM FUND SITE SELECTION COMMITTEE REVIEW**

The Committee visited all the sites for which access was available. On July 22 the Committee convened to evaluate the applications. The projects were then ranked as noted below with the following Committee findings:

- 1<sup>st</sup>. Stewart Property, Francestown
  - A. The project includes restoration of multiple types of wetland resources with a high likelihood of success;
  - B. There is a blend of functions to be restored which will be protected through a conservation easement;
  - C. The site includes protection of a buffer adjacent to other protected lands;
  - D. There is a biodiversity of aquatic habitats including vernal pools, riparian habitat and headwater areas; and
  - E. There is a threat to aquatic resources from development as it is adjacent to residential development and includes high quality uplands with river frontage.
  
- 2<sup>nd</sup>. Clay Pond Headwaters Protection Project, Hooksett
  - A. Three restoration opportunities have a net functional benefit to habitat connectivity;
  - B. Site includes large wetland complex, vernal pools of high habitat value, and is located in the headwaters of the HUC 10 watershed and a prime wetland, Clay Pond;
  - C. Protection of the properties will add three parcels within the context of 733 acres of protected land adjacent to other large protected blocks; and
  - D. The site is under threat primarily from forestry practices which would adversely affect habitat and water quality functions. In addition, there is some potential for residential development.
  
- 3<sup>rd</sup>. Concord Regional Solid Waste/Resource Recovery Center, Canterbury
  - A. There is no restoration potential proposed as part of the application but the project meets the intentions and goals for protection of high value upland and riparian habitat;
  - B. The site contains federal & state listed plant species and exemplary natural communities with high value wildlife habitat with significant floodplain forest component;
  - C. The proposed conservation easement will allow for restoration and enhancement activities on the wetlands and shoreline, and will include specific provisions specifically allowing wetland restoration or enhancement activities on the property; and
  - D. There is evidence of this property being under threat as it was previously considered for a regional landfill with a high likelihood it could have been developed. An application for the landfill had been submitted to DES for review.

4<sup>th</sup>. Nesenkeag Brook Headwaters Project, Londonderry (Partial funding recommended)

- A. The opportunity for restoration and invasive species elimination includes a comprehensive review of the Nesenkeag Headwaters site which will include a detailed survey, wetland delineation, and engineered plan and specifications to address impaired functions and values and water quality issues;
- B. The final restoration plans are likely to address the following (but not limited to): restoring hydrologic conditions; grading to reestablish historic topography; control and removal of invasive plants; riparian planting with trees and other native wetland species;
- C. Although under Town ownership, no additional long-term protection measures, such as a conservation easement, are proposed; and
- D. There is a level of uncertainty of what will result from the hydrologic plan if the plan in fact, increases functions at that site.

The Committee recommends full funding of projects 1 through 3. The Committee noted that the three selected projects provide the greatest potential to replace or protect specific wetland functions and values lost by the impacts in the Merrimack River HUC 8 watershed. Where project scores are comparable, preference was given to projects that provide the longer-term, more beneficial protection.

The Committee also recommends partial funding for the Nesenkeag Brook Headwaters Project of up to \$20,000 to determine if a restoration plan could result in long-term improvements at the site. This approval is contingent upon the Town providing long-term protection of the property. Although the Committee was supportive of the Grassy Brook application, it was noted in correspondence with the Grassy Brook applicant that project could not go forward without full funding. The Nesenkeag Brook project has the potential to have good restoration of wetland functions and a component of protection for long-term success. Attachment B provides a map of the four projects selected.

The Committee's findings for the four applications that will not receive ARM funds are summarized in Attachment C.

**ATTACHMENT A.**

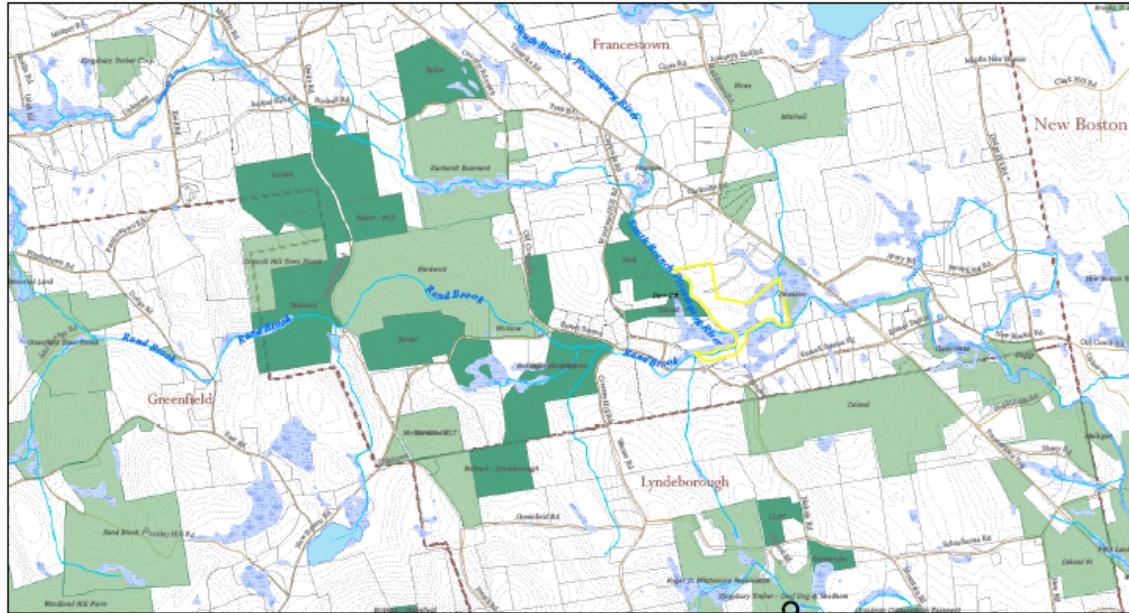
**MERRIMACK RIVER WATERSHED ARM FUND PAYMENTS**

PERMIT #	LOCATION	PROJECT TYPE	COWARDIN CLASS	PRIMARY F/V's	OTHER ISSUES	WETLAND LOSS SQFT	PAYMENT AMOUNT	DEPOSIT DATE
2006-2360	Londonderry	Coca Cola 32,850 sq.ft. facility addition, access road	PEM manmade area used for drainage/retention	Storm water detention of runoff from existing site		17520	52,394.00	1/25/2007
2006-712	Hooksett	SNU dining facility	PFO1	Floodflow alt, limited groundwater recharge/dischage, wildlife habitat		15,678	61,153.33	6/18/2007
2005-2505	Hooksett	Lowe's-Walmart stores	PEM1Ex, PFO1Ex, man-made seasonal stream	Groundwater recharge/dischage	Former gravel pit. Potential NE cottontail habitat.	25,381	77,636.00	9/6/2007
2006-1471	Candia	Light industrial park on 14 acre parcel	PFO1	Storm water det, sed/tox retention		31,319	82,438.00	12/27/2007
2008-3	Londonderry	DOT roadway widening, intersection reconfiguring	PEM1F, R2UB2,PFO1E	Wildlife habitat, sed/tox retention, some floodflow alt		22,332	35,545.44	3/27/2008
2006-3183	Epsom	Roadway cnstr for commercial subdivision	PFO1E, PFO1C, PFO1/C and E	Groundwater recharge; floodflow alt; sed/tox ret/removal;		19,922	52,342.79	8/16/2008
2007-2200	Epsom	Commercial development of 12 ac for retail	PFO1E	Flood storage, wildlife habitat		17,422	45,774.52	12/2/2008
2008-2312	Bow	PSNH power plant improvement	PSS1E	Flood storage, groundwater discharge, wildlife habitat	Worked with F&G on New England cottontail mitigation	26,905	78,157.28	1/26/2009
2006-3219	Manchester	Airport EMAS project	PFO1E, PSS	Sed tox/removal, wildlife habitat, nutrient retention	Wetland restoration was not successful		200,000	2/20/2009
<b>TOTALS</b>						176,479	685,441.36	

**ATTACHMENT B.**

**PARCEL INFORMATION FOR FOUR ARM FUND PROJECTS**

**Stewart Property, Francestown**

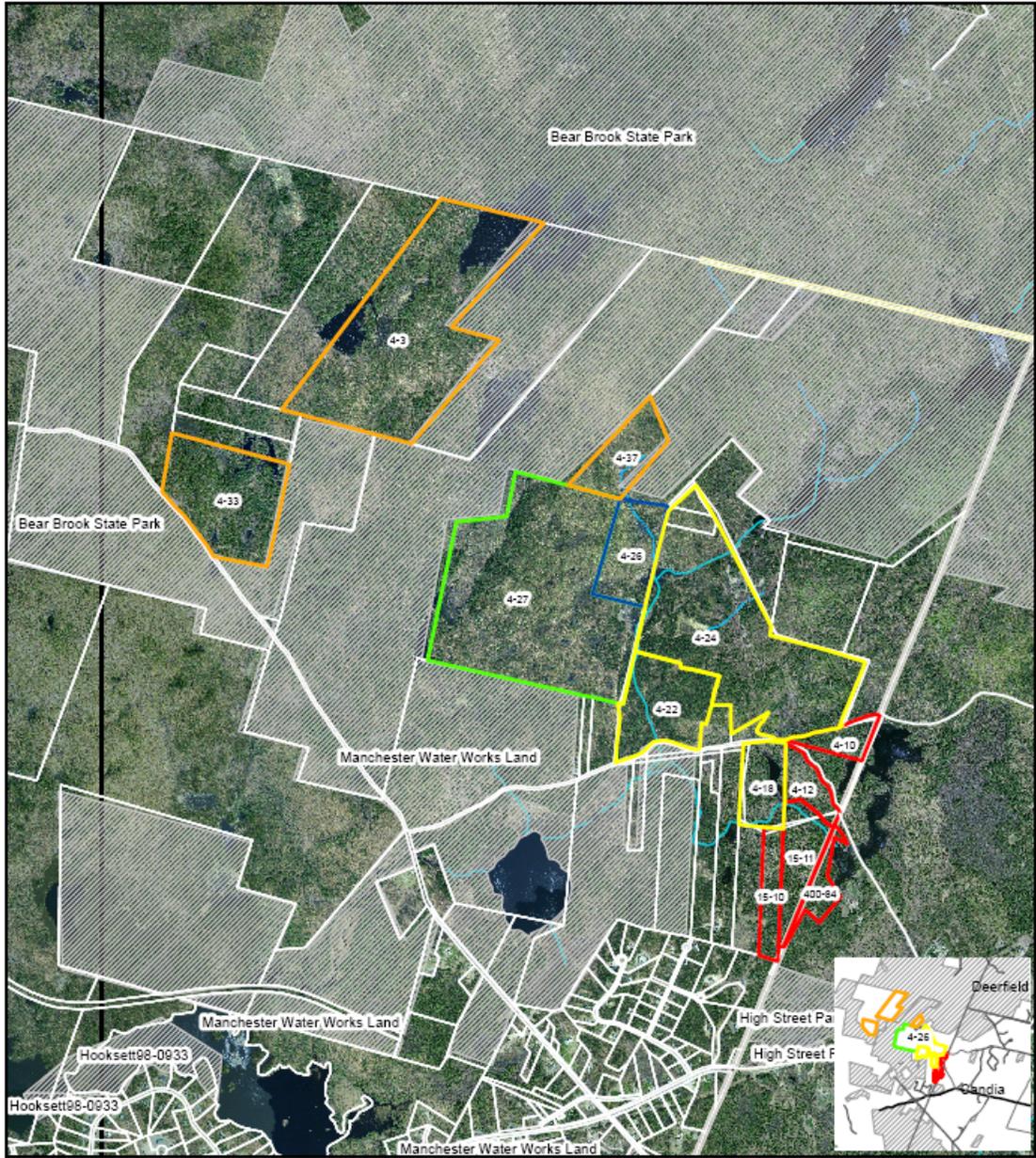


- Stewart Property: Local Context**
- Stewart Property
  - Streams and Rivers
  - Lakes and Ponds
  - Wetlands
  - Completed HP-1 Projects
  - Other Conserved Lands
  - Tax Parcels
  - Town Boundaries
  - 20' Contours
  - Public Roads

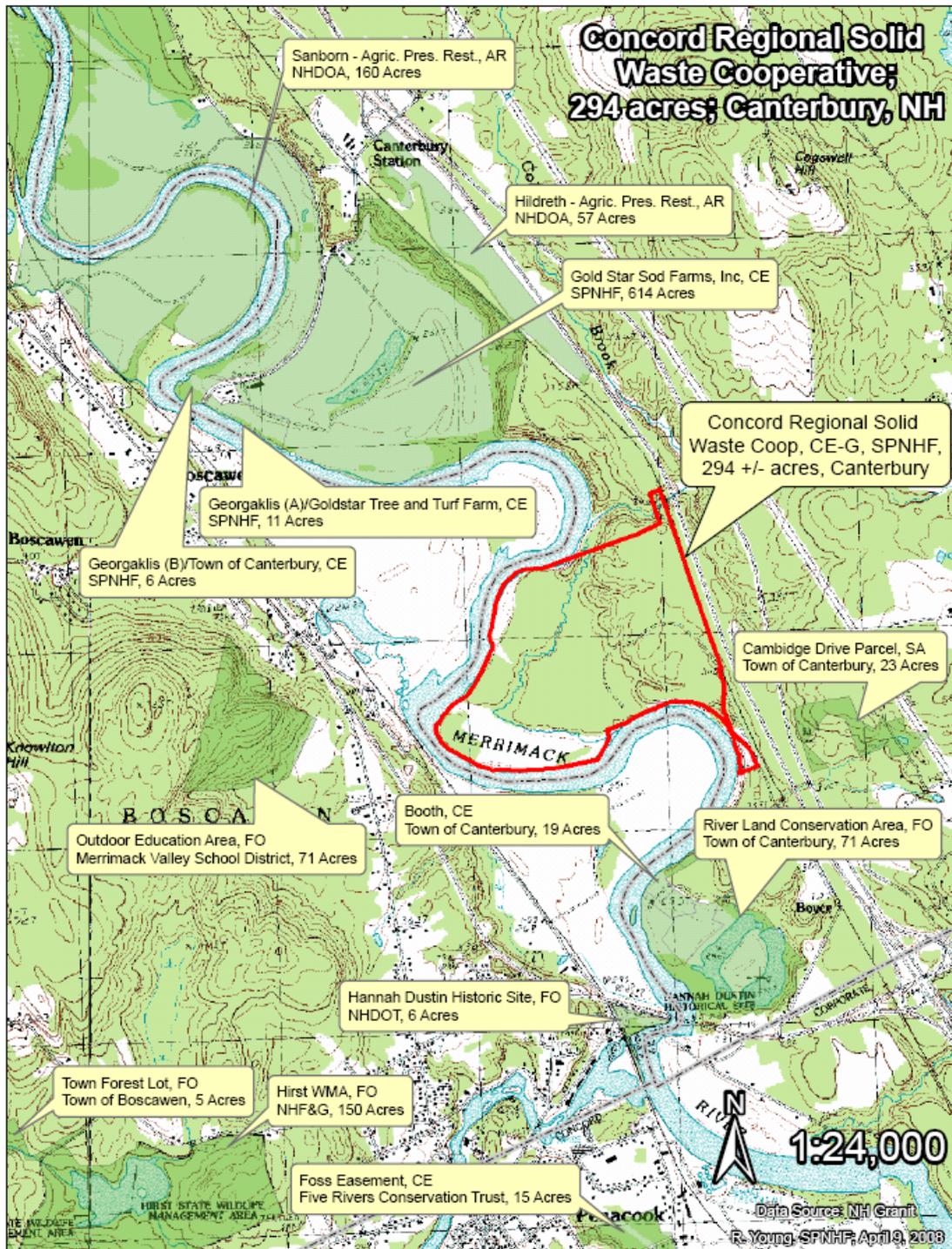


METROPLAN & CONSULTANTS  
Data Source: 101 GRANT STREET, BIRMGHAM  
PROJECT: MD 83, 101 STATE PLANE  
MAP OF SERVICE AREA  
E. Page 6.1.28

### Clay Pond Headwaters Project, Hooksett - 2005 Aerial View



## CRSWRRC, Canterbury





## ATTACHMENT C.

### SUMMARY OF FOUR ARM FUND PROJECTS NOT SELECTED FOR FUNDING

1. Project Proponent: Southeast Land Trust of New Hampshire  
Project Title: Grassy Brook Farm/Paul-Mannino Property, South Hampton

Grassy Brook Farm is 46.97 acres of wetlands, fields, and forest. This property drains into the Grassy Brook wetland complex that flows into the Powwow River and eventually the Merrimack River. The proponent proposes to protect and conserve the property through the conveyance of a conservation easement with an option to purchase contingent on ARM funding.

Grant amount requested:	\$150,515.98
Amount of non-federal matching funds proposed:	\$2,023.00
Total project costs:	\$152,538.98

- A. The application does not propose restoration although some culvert enhancements could be considered in addition to the budget for protecting the parcel, however, that would involve getting permission from several other landowners;
- B. The majority of the wetlands, approximately 10 acres, are located in the central portion of the property and are a part of the Grassy Brook drainage that flows into the Powwow River and eventually the Merrimack River;
- C. The conservation easement on this parcel may lead to additional adjacent parcels to be protected; and
- D. The threat of development is questionable as access is limited and would require permission to cross other parcels.

2. Project Proponent: Town of Litchfield and agent Swamp, Inc.  
Project Title: Greenwich Road, Litchfield

This is a four year project to restore an emergent wetland that is owned by the town and located on Greenwich Road. The site is threatened by invasive species, specifically Phragmites and purple loosestrife. Open water habitat also is proposed to be created. A portion of marsh is currently under a conservation easement. Funds are proposed to be used for final restoration plan and to cover costs associated with the restoration work, construction management, permit costs, excavation costs and disposal of excavated materials, as well as post-construction monitoring and maintenance.

Grant amount requested:	\$164,035.00
Amount of non-federal matching funds proposed:	\$0
Total project costs:	\$164,035.00

- A. The proposal for invasive species management has a low potential for long-term sustainability as it addresses symptoms rather than the problem(s);
- B. The area was originally a spruce-fir forest that will not be restored in this application; and
- C. Impacts to the upland buffer for creation of open water is not justified.

3. Project Proponent: Town of Windham and agent Swamp, Inc.  
Project Title: Lowell Road, Windham

This four year project aims to restore an emergent wetland threatened by invasive plants and to create open water habitat. The property is located on Lowell Road and is privately owned. This project requests ARM funds to develop final restoration plans and to cover costs associated with the proposed restoration work, construction of a walkway, permit costs and administrative costs. ARM funds are also requested for pre- and post-restoration monitoring and maintenance expenses until the site is successfully restored.

Grant amount requested:	\$61,685.00
Amount of matching non-federal funds proposed:	\$0
Total project costs:	\$61,685.00

- A. The proposal for invasive species management has a low potential for long-term success;
- B. The area is in highly developed location and susceptible to continual exposure to invasive species; and
- C. The proposal provides questionable restoration methods and does not achieve long-term protection of the property.

4. Project Proponent: Town of Windham and agent Swamp, Inc.  
Project Title: Marblehead Road, Windham

This four year project aims to restore a portion of a sixty-two acre red maple swamp threatened by invasive plants. The wetland to be restored is located on Marblehead Road and abuts a former incinerator site. The ash has been capped and does not produce methane. The Town of Windham owns the entire landfill and adjacent marsh. Three town organizations are involved with this project: the Conservation Commission, the town Health Officer, and the Board of Selectmen.

Grant amount requested:	\$41,660.00
Amount of non-federal matching funds proposed:	\$0
Total project costs:	\$41,660.00

- A. The proposal for invasive species management has a low potential for long-term success;
- B. The site is adjacent to a capped landfill that may be used in a way that may cause degradation of habitat values;
- D. The proposal provides questionable restoration methods and does not achieve long-term protection of the property; and
- D. The invasive species “problem” does not seem to have reduced the functioning of the wetland.