

**STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES**

Aquatic Resource Mitigation Fund

RSA Chapter 482-A

Fiscal Year

2017

Report



Water Division/Wetlands Bureau

Executive Summary

Since the ARM Fund was established in 2006, 156 applicants have used this form of mitigation and these funds have been used to support projects that restore, enhance, and preserve aquatic resources and upland buffers. The program has been very successful for grant applicants and has resulted in approximately 16,026 acres of land conservation, 100 acres of wetland restoration/enhancement, 15 acres of tidal restoration/enhancement, and approximately 50 miles of stream passage improvements. The in-lieu fee option has become a good option for applicants needing to provide compensatory mitigation. The total funds collected since the program was established totals \$15,776,000 which has gone to fund 80 projects.

In FY 2017 (7/1/2016 through 6/30/2017), 20 permits involving a payment were issued that resulted in 13 acres of wetland loss, 853 linear feet of stream loss, and 12.5 acres of temporary impacts including secondary impacts due to conversion of forested wetlands to emergent or scrub shrub wetlands. The fund received approximately \$1.8 million in the payments collected. During this time frame, ARM Fund grants were awarded to restore 11 acres of floodplain forested wetlands, provide 18.4 miles of restored stream connectivity, and preserve an additional 3,751 acres of land. For the total of funds collected in fiscal year 2017, over \$8.7 million of funds was leveraged to complete the grant projects.

Introduction

Compensation for unavoidable wetland impacts has been a part of the New Hampshire Department of Environmental Services (hereinafter "DES") Wetlands Bureau program since the mid 1980's and now serves as a critical way the program addresses impacts under the federal Clean Water Act, Sections 401 and 404 which result in the discharge of dredged or filled materials within "waters of the U.S." Under the U.S. Army Corps of Engineers, (hereinafter "Corps") General Permit for New Hampshire, compensatory mitigation for proposed wetland dredge and fill impacts is required for projects having more than 10,000 square feet of wetland impact, and for minor projects when deemed appropriate by the Corps, to comply with federal standards. During the 2006 legislative session, the General Court enacted Senate Bill 140, known as Aquatic Resource Compensatory Mitigation Fund (hereinafter "ARM Fund"). These provisions are codified at RSA 482-A:28-33. The law creating the ARM Fund program became effective on August 18, 2006, and DES adopted implementing rules, Env-Wt Chapter 800 which was effective on June 20, 2007.

The operation of New Hampshire's In-Lieu Fee (ILF) program is carried out pursuant to 33 CFR Parts 325 and 332 known as the federal "mitigation rule." The *NH ARM Fund Final In-Lieu Fee Program Instrument* was executed in March, 2012 to comply with the federal mitigation rule. The document can be found at the Federal Instrument link: <http://www.nae.usace.army.mil/Portals/74/docs/regulatory/Mitigation/NHinstrument051812.pdf>

The Instrument establishes guidelines, responsibilities and standards for the establishment, use, operation and maintenance of the ARM Fund in a way that brings the existing mitigation program into compliance with the federal mitigation rule. The signatories to this instrument recognize that cooperation between and among the Corps, US Environmental Protection Agency (hereinafter "EPA"), US Fish and Wildlife Service, National Marine Fisheries Service, and DES is critical to the continued development of a high-quality mitigation program and share a commitment to continue efforts that have been on-going since adoption of the ARM Fund program. As a five year update, the Instrument was amended and signed (Appendix B). A five year status and trends summary is also being prepared and will be available on the web page upon completion. A ten year amended Instrument will be formally updated in 2022.

DES is the qualified program sponsor and administrator for the ARM Fund program. DES works with the Corps

to ensure that the requirements for aquatic resource mitigation are being met. DES is solely responsible for providing compensatory mitigation for projects which have paid into the ARM Fund. The procedures and guidelines for coordinating compensatory mitigation requirements for permits issued by the Corps in New Hampshire are specifically addressed in the Program Instrument. The ARM Fund may be used for permit actions involving (a) Corps General Permits, (b) DES permits, and (c) Corps and DES individual permits. Occasionally the Corps may deem it appropriate to require additional payment to adequately compensate for temporary or secondary impacts of a project. If this occurs, the funds are accepted into the ARM Fund for the applicant to receive a state and federal permit. Additional payment may also be required by the Corps based on the functions and values lost and other environmental issues they find that need to be compensated for.

Status of Program and Improvements (July 1, 2016 through June 30, 2017)

The ARM Fund is one of several compensatory mitigation options available to permittees 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. Although compensatory mitigation is often a requirement in permits, use of the ARM Fund can only occur after the applicant has reviewed other available forms of mitigation in the vicinity and local community.

DES is required to track, by service area, income received, the source of the income, and any interest earned by the program. To address federal requirements, a ledger has been developed to include a list of all permits for which in-lieu fee program funds were accepted, including the appropriate state and federal permit number, the service area in which the specific authorized impacts are located, the amount (acreage or linear feet) of authorized impacts, the aquatic resource type impacted by Cowardin class, the amount paid to the in-lieu fee program for each of the authorized impacts, and the date the funds were received. A summary of the projects and payments made into the ARM Fund is available on the DES web site for review as well as being posted by DES on the Regulatory In-lieu fee and Banking Information Tracking System (RIBITS) managed by the Corps. This site is currently found at <http://ribits.usace.army.mil> and can be viewed by the public.

The revised rules allow DES to better measure the success of the mitigation program by establishing new mitigation procedures. The rules require a pre-application meeting for all mitigation projects thus improving the quality of wetland and plant community resource impact information received. Additional rule revisions allow DES to be provided more science based information to inform the ARM Fund award process with special emphasis on stream mitigation requirements.

At the start of state fiscal year 2015, DES acquired a two-year EPA program development grant to assist in program improvements relative to the efficiency and consistency of the mitigation program review process, as well as for tracking the loss and gains to aquatic resources.

A final program improvement undertaken this fiscal year was collaborating with the New Hampshire Geological Survey and the New Hampshire Department of Transportation to establish an inventory of deficient culverts or stream crossings on the state transportation system that fragment stream reaches. With this information, the program would then have the opportunity to fund high priority deficient culverts through ARM funds. These deficient culverts or barriers to aquatic organism passage are proposed to be replaced/rehabilitated as mitigation for other stream impacts. A program development grant was submitted to the EPA to continue the collaboration between DES, NHDOT, NH Fish & Game, and NH GRANIT to perform additional stream assessments, and to attempt to develop a system to prioritize the replacement of crossings with the most potential to exacerbate the effects of climate change. Assessment scores relative to the aquatic organism passage constraints and geomorphic compatibility conditions will be collected to address rehabilitation of

existing infrastructure as mitigation for other roadway projects. The stream passage improvement program is a new and promising model of collaboration and utilization of limited funds for measurable environmental gains.

FY 2017 Permits Issued with ARM Fund as Compensatory Mitigation Component

In FY 2017, 20 permits involving an ARM Fund payment were issued that resulted in 12.98 acres of wetland loss, 853 linear feet of stream loss/impacts, and 12.47 acres of temporary impacts including secondary impacts due to conversion of forested wetlands to emergent or scrub shrub wetlands. Table 1 provides a list of the projects permitted from July 1, 2016 to June 30, 2017 where the wetland permit holders selected payment to the ARM Fund to satisfy mitigation requirements.

TABLE 1. WETLAND PERMITS ISSUED IN FY 2017 USING ARM FUND (7/1/2016 through 6/30/2017)

DES FILE NUMBER/ TOWN	SERVICE AREA	WETLAND LOSS		STREAM LOSS (lin feet)	TEMPORARY IMPACTS		ARM FUND REVENUE/ ADMIN FEE
		(Square Feet)	AC		(Square feet)	AC	
2016-2506/ Gorham	Androscoggin			80			\$19,603.20/ \$3,267.20
2007-2429/ Berlin	Androscoggin						\$1,000.00
2016-1465/ Thornton	Pemigewasset- Winnepesaukee			21			\$5,040.00/ \$840.00
2016-790/ Gilford	Pemigewasset- Winnepesaukee			134			\$27,360.00/ \$4,560.00
2015-3344/ Hampton	Salmon Falls- Piscataqua	21,218	0.49				\$102,426.08/ \$17,071.01
2015-3065/ Dover	Salmon Falls- Piscataqua	24454	0.56				\$118,047.29/ \$19,674.55
2016-603/ Hampton	Salmon Falls- Piscataqua	2128	0.05				\$20,545.07/ \$3,424.18
2016-524/ Epping	Salmon Falls- Piscataqua	21419	0.49				\$76,308.54/ \$6,937.14
2014-2959/ Newington	Salmon Falls- Piscataqua	34487	0.79				\$151,269.89/ \$25,211.65
2015-1595/ Portsmouth	Salmon Falls- Piscataqua	938	0.02				\$4,975.88/ \$452.35
2016-1701/ Stratham	Salmon Falls- Piscataqua	20327	0.47				\$102,828.70/ \$17,138.12
2012-3271/ Hooksett	Merrimack	212137	4.87				\$180,000.00
2016-1817/ Weare	Merrimack			66			\$15,840.00/ \$2,640.00
2016-495/ Concord	Merrimack			170			\$40,800.00/ \$6,800.00
2016-147/ Chichester	Merrimack	889	0.02	178	2965		\$42,720.00/ \$7,120.00

2015-2336/ Pelham, Windham, Hudson, Londonderry	Merrimack	4428	0.10	17	385,896	\$646,875.40/ \$107,812.56
2016-123/ Barnstead	Merrimack	31136	0.71	112		\$145,005.29/ \$24,167.55
2016-3357/ Goffstown – Weare	Merrimack	157,135	3.61			\$15,550.70
2017-270/ Keene	Lower CT	34810	0.80			\$77,378.61/ \$12,896.44
2016-1493/ Stewartstown	Upper CT			95		\$22,800.00/ \$3,800.00
TOTALS		408,371	12.98	853	543,031	\$1,568,112.60/ \$263,812.75

ARM Fund Disbursements in FY 2017

The ARM Fund program grants funds to projects involving wetland and/or stream restoration, wetland enhancement, and/or preservation of upland buffers associated with high quality aquatic resources. The projects that were provided payment during FY 2016 are noted in Table 2 as well as active projects with encumbered funds to be spent in the coming year.

TABLE 2. ARM FUND DISBURSEMENTS FOR PROJECTS IN FY 2017 AND ACTIVE PROJECTS

Project Name: Town of Milan Community Forest			
Applicant: Town of Milan	Watershed: Androscoggin	Town: Milan	
ARM Funds Disbursed in FY 2017: \$61,000.00	Total ARM Fund Grant Awarded in 2015: \$61,000.00	ARM Fund Amount Spent to Date: \$61,000.00	Remaining Amount Encumbered: \$0.00
Description: The Town of Milan used funds to permanently protect 6.6 acres of land to add to the Milan Community Forest which will be conserved through a conservation easement. The proposed acquisition is located on the Androscoggin River with approximately 420 feet of river frontage. Approximately 13% of the parcel is in the 100 year flood plain. A management plan will be written with an objective for habitat protection.			
Project Name: Lake Wicwas Conservation Project			
Applicant: Lakes Region Conservation Trust	Watershed: Pemigewasset-Winnepesaukee	Town: Meredith	
ARM Funds Disbursed in FY 2017: \$64,23600	Total ARM Fund Grant Awarded in 2014: \$64,236.00	ARM Fund Amount Spent to Date: \$64,236.00	Remaining Amount Encumbered: \$0.00
Description: The Lakes Region Conservation Trust (LRCT) and Lake Wicwas Association used funds to permanently protect four separate parcels in the northeast part of the lake. A total of 27.44 acres of			

land and one mile of shoreline on Lake Wicwas in Meredith was included in the acquisitions. The parcels protected include four potential vernal pools, an island, and the largest marsh area (12.5 acres) within the lake that provides habitat for the only nesting loon pair in the area.			
Project Name: Isinglass River Floodplain Project			
Applicant: Southeast Land Trust	Watershed: Salmon Falls-Piscataqua	Town: Barrington	
ARM Funds Disbursed in FY 2017: \$61,545.00	Total ARM Fund Grant Awarded in 2016: \$61,545.00	ARM Fund Amount Spent to Date: \$61,545.00	Remaining Amount Encumbered: \$0.00
Description: Located on the north side of Seavey Bridge Road, the Isinglass River conservation easement encompasses approximately 53 acres in Barrington and abuts approximately 327-acre of contiguous conservation land. The property includes nearly six-acres of important high value wetlands and one documented functioning vernal pool and two probable vernal pools. This parcel creates a contiguous block of 380-acres of conservation land, all of which is located just down river from the 300-acre Calef Forest project completed a few years ago by the Town of Barrington and the Trust for Public Land. In addition, the conservation easement will ensure that the approximately 3 mile long "Barrington Trail," which extends along the property's Isinglass River frontage all the way to the Town ball fields on Smoke Street, remains open to public access. The property will be permanently conserved through a SELT held conservation easement with an Executory Interest to the Town of Barrington. The property is located within a 1,200-acre unfragmented forest block.			
Project Name: Great Dam Removal			
Applicant: Town of Exeter	Watershed: Salmon Falls-Piscataqua	Town: Exeter	
ARM Funds Disbursed in FY 2017: \$100,000.00	Total ARM Fund Grant Awarded in 2015: \$100,000	ARM Fund Amount Spent to Date: \$100,00.00	Remaining Amount Encumbered: \$0.00
Description: The Town of Exeter used ARM funds to remove the Great Dam in downtown Exeter. The project benefits the diadromous fish populations in the Exeter River and the wider Great Bay Estuary, enhances the natural and human ecosystem by improving water quality, and reduces Exeter's vulnerability to the growing risk of flooding. The removal project restores approximately 15 miles of the Exeter River and its tributaries to a free-flowing condition, eliminating a barrier to migrating anadromous fish and improving water quality. The project eliminated the following structures from the river: the reinforced concrete run-of-river dam consisting of a spillway, a fish ladder, and a small lower dam (or weir) structure; a low-level outlet; and a penstock. The project also included reshaping the river channel within the footprint of the existing dam and the area immediately upstream and downstream using a natural channel design approach based on sound fluvial geomorphic principles. The location is within the historic community center that is under Town ownership.			
Project Name: Multi-Habitat Restoration in Cutts Cove			
Applicant: UNH/Jackson Estuarine Laboratory	Watershed: Salmon Falls- Piscataqua	Town: Portsmouth	
ARM Fund Disbursed in FY 2017: \$61,557.95	Total ARM Fund Grant Awarded in 2015: \$134,736.00	ARM Fund Amount Spent to Date: \$61,557.95	Remaining Amount Encumbered: \$73,178.05

<p>Description: The project proposes to restore a suite of tidal marsh habitats that reflects the current distribution of low marsh, high marsh and tidal buffer zone relative to the tidal regime at the site, and will provide shoreline resiliency in the face of sea level rise for decades to come. Restoration includes portions of Cutts Cove with habitats that are absent or poorly functioning by: 1) enhancing the diversity and quality of 90,000 square feet of mudflat habitat through addition of native shell substrate; 2) creating a living shoreline of rock sill with shellfish and expanding a remnant patch of existing salt marsh by 40,500 square feet and creating a vegetated tidal buffer zone; 3) removal of 700 linear feet of armoring along the Cutts Cove shoreline; and 4) improving an area of Tidal Buffer Zone with functional connections to marsh and upland along 700 feet of artificial shoreline providing for habitat migration in the future.</p>			
<p>Project Name: Powder Major's – Goss Farm</p>			
<p>Applicant: Society for the Protection of NH Forests</p>	<p>Watershed: Salmon Falls- Piscataqua</p>	<p>Town: Durham, Madbury and Lee</p>	
<p>ARM Fund Disbursed in FY 2017: \$148,000.00</p>	<p>Total ARM Fund Grant Awarded in 2015: \$148,000.00</p>	<p>ARM Fund Amount Spent to Date: \$148,000.00</p>	<p>Remaining Amount Encumbered: \$0.00</p>
<p>Description: The Forest Society funds were used to purchase 195 acres of land in fee from three separate entities, and create a new forest reservation open to the public. The three towns in which the project is located hold conservation easements on their respective portions of the project in exchange for town funding to the project. The Goss parcel contains 84 acres of wetlands, 5,100 feet of frontage on the Oyster River which is the drinking water source for the Town of Durham and UNH, 800 feet of frontage on Dube Brook, and overlies an aquifer. Three confirmed vernal pools are on the parcel with several rare plants as well as documentation for Blanding's turtles and American eel with 12 other occurrences of rare and threatened wildlife within the Oyster River corridor. The property is entirely within the focus area of The Nature Conservancy's Land Conservation Plan for NH Coastal Watersheds and is part of a larger, 3-town greenbelt conservation initiative. It abuts and enlarges other conservation lands including tow town-owned conservation easements, and wraps around a newly acquired 87 acre town property.</p>			
<p>Project Name: Berry's Brook Conservation Project</p>			
<p>Applicant: Town of Rye</p>	<p>Watershed: Salmon Falls - Piscataqua</p>	<p>Town: Rye</p>	
<p>ARM Funds Disbursed in FY 2017: \$121,000.00</p>	<p>Total ARM Fund Grant Awarded in 2014: \$121,000.00</p>	<p>ARM Fund Amount Spent to Date: \$121,000.00</p>	<p>Remaining Amount Encumbered: \$0.00</p>
<p>Description: The Rye Conservation Commission purchased and permanently protected 73+/- acres of the former Rand Lumber Yard property located on Wallis Road in Rye. This parcel will contribute to existing protected lands, as it located within a large contiguous block of open lands. A significant wildlife corridor extends easterly toward the Bellyhack Bog and tidal estuary that is within a mile. The wetlands found on site are mainly forested with several potential vernal pools. The upland buffers will protect Berry's Brook and designated prime wetlands in Portsmouth. The Natural Heritage Bureau datacheck results indicated that the Needham's Skimmer and Spotted Turtle are all located in close proximity. The property provides public access.</p>			

Project Name: Oyster Reef Restoration			
Applicant: The Nature Conservancy	Watershed: Salmon Falls - Piscataqua	Town: Greenland	
ARM Funds Disbursed in FY 2017: \$0.00	Total ARM Fund Grant Awarded in 2015: \$190,500.00	ARM Fund Amount Spent to Date: \$0.00	Remaining Amount Encumbered: \$190,500.00
<p>Description: The Nature Conservancy proposes to restore five acres of oyster reef to improve water quality in the Great Bay Estuary (GBE). Secondary goals and benefits will restore fish and aquatic habitat, ecological integrity, and wetland dependent wildlife habitat. The two tracts will be located adjacent to existing restoration areas, creating a contiguous twelve-acre reef block in the GBE in Greenland. In fall 2016, UNH will conduct a post-construction underwater video assessment to verify surf-clam coverage across the new reef. They will also use a fixed-area benthic sampler to retrieve surf-clam and spat-on-shell to estimate annual natural recruitment and initial density of live oysters for the reef. Each fall for the next five consecutive years (2017-2021), UNH will use the benthic sampler for retrieval of reef material to determine annual recruitment rates and live density estimates.</p>			
Project Name: Rollins Brook Headwaters Project			
Applicant: Southeast Land Trust of NH	Watershed: Salmon Falls – Piscataqua	Town: Nottingham	
ARM Funds Disbursed in FY 2017: \$0.00	Total ARM Fund Grant Awarded in 2016: \$48,240.00	ARM Fund Amount Spent to Date: \$0.00	Remaining Amount Encumbered: \$48,240.00
<p>Description: The Rollins Brook Headwaters Project is located in Nottingham and proposes to protect approximately 70 acres of forest and 17 acres of wetland habitat, including a 13-acre beaver impoundment. The property’s aquatic resources serve as the headwaters for Rollins Brook, a tributary to the North River, Lamprey River, and the Great Bay Estuary. The property also has 3 confirmed vernal pools, 1,000 feet of headwater stream (currently impounded by beaver dam), and 52 acres of associated upland habitat. The project proposes to restore and enhance critical wildlife habitat, with a particular focus on the state endangered Blanding’s turtle, which is known to occupy this parcel. This property connects to more than 2,000 acres of protected lands east of Pawtuckaway State Park, including the soon-to-be-protected Harvey Forest at Kennard Hill, one of SELT’s “crown jewels” with more than 1,100 acres of open space. This project will protect the property from future residential development.</p>			
Project Name: Musquash Conservation Area			
Applicant: NH Fish & Game Department	Watershed: Merrimack	Town: Londonderry	
ARM Funds Disbursed in FY 2017: \$400,000.00	Total ARM Fund Grant Awarded in 2016: \$400,000.00	ARM Fund Amount Spent to Date: \$400,000.00	Remaining Amount Encumbered: \$0.00
<p>Description: The project permanently conserves two parcels containing 149+/- acres adjacent to the Musquash Conservation Area in Londonderry belonging to the Mathes Family Limited Partnership through a partnership between Southeast Land Trust and the NH Fish and Game Department. Parcel #1 is approximately 140 acres with 18.7 acres of wetlands including a large wetland system located in the north and west of the property and nine documented and five potential vernal pools found in the</p>			

eastern and southern portion of the property. These features are a part of the large Musquash Swamp wetland system. Parcel #2 is 10 acres located northeast of Parcel #1 and also abutting the Musquash Swamp Conservation Area with 1 acre of wetland. NHFG biologists documented the nine vernal pools with either wood frog and/or spotted salamander egg masses. Five additional pools were inventoried but indicator species were not found during the site visit. A recent timber harvest on the parcel has impacted the landscape surrounding the pools. Future management will include 200 foot wetland buffers to protect the functions and values of these areas. A stewardship plan will address recreational development, forest management, and wildlife habitat and water quality protection. The property is also located in a focus area identified for recovery of the New England cottontail (NEC), a state endangered species. Parcel #1 has the potential for the creation of high quality habitat for the species through management in the upland forest present on the property.

Project Name: McQuesten Brook Restoration Project

Applicant: NH Rivers Council and Town of Bedford	Watershed: Merrimack	Town: Bedford	
ARM Funds Disbursed in FY 2017: \$328,070.00	Total ARM Fund Grant Awarded in 2015: \$345,000	ARM Fund Amount Spent to Date: \$328,070.00	Remaining Amount Encumbered: \$16,930.00

Description: The McQuesten Brook watershed covers 563 acres in Bedford and Manchester. McQuesten Brook originates in Bedford, flows into Manchester, collects outlet waters from McQuesten Pond before flowing under Second Street, through the Eastman Avenue and Wathen Road wetland complex in Bedford and under the Everett Turnpike to meet the Merrimack River. The two stream crossings that carry McQuesten Brook through the Eastman Avenue and Wathen Road wetland complex are severely undersized and listed in the *2012 305(b)/303(d) Surface Water Quality Assessment* for failure to support aquatic life due to insufficient dissolved oxygen concentration and saturation and for excessive chlorides. These impairments threaten the survival of the naturally reproducing population of Eastern Brook Trout that currently thrive in portions of McQuesten Brook. In addition, McQuesten Brook has also been impacted by hydrologic and habitat modification resulting from the presence of these under-sized stream crossings. The project proposes the installation of an appropriately sized (14-foot width) stream crossing at Eastman Avenue and fully daylighting McQuesten Brook at Wathen Road through culvert and road fill removal to increase hydraulic and sediment transport capacity throughout the reach. Restoring full aquatic organism passage at both Eastman Avenue and Wathen Road will increase access to about 1,950 feet of McQuesten Brook between I-293 and South Main Street. It will remove barriers and re-connect 2.57 acres of wetland habitat within this reach of McQuesten Brook.

Project Name: Austin Parcel

Applicant: Town of Brookline Conservation Commission	Watershed: Merrimack	Town: Brookline	
ARM Funds Disbursed in FY 2017: \$89,000.00	Total ARM Fund Grant Awarded in 2016: \$89,000.00	ARM Fund Amount Spent to Date: \$89,000.00	Remaining Amount Encumbered: \$0.00

Description: The Brookline Conservation Commission used funds to acquire the Austin Parcel which has 3,000 linear feet of riparian frontage along the Nissitissit River. The Town placed a conservation easement on the property which is held by the Piscataquog Land Conservancy. The parcel contains a riverine complex that has intermittent streambed with an unconsolidated bottom along with palustrine

forested, emergent, and scrub-shrub wetland habitat. Protection of the frontage and upland buffer is a high priority in the region and this is one of the last large sections of the river that has not been protected or developed in New Hampshire. This area of the river offers an impressive Eastern Brook Trout fishery and both NHFG and Trout Unlimited have expressed interest in seeing it protected. The WAP depicts the property as being a combination of Highest Ranked Habitat in NH and Highest Ranked Habitat in Biological Region. The area is open to the public.

Project Name: McQuesten Pond Dam Removals

Applicant: NH Rivers Council	Watershed: Merrimack	Town: Manchester
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ARM Funds Disbursed in FY 2017: \$30,050.00	Total ARM Fund Grant Awarded in 2013: \$65,400.00	ARM Fund Amount Spent to Date: \$21,200.00	Remaining Amount Encumbered: \$14,150.00
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Description: McQuesten Brook is listed as impaired for failure to support aquatic life due to insufficient dissolved oxygen concentration and saturation. The brook is also impaired for excessive chlorides. McQuesten Pond fails to support aquatic life due to insufficient dissolved oxygen content and fails to support primary contact recreation due to excessive concentrations of Chlorophyll-a. The presence of two dams within McQuesten Pond have interrupted hydraulic connectivity, stream geomorphology, and wetland functions, and are one of the primary sources of impairment along with stormwater runoff. The ultimate goals of this project are to develop removal plans for two obsolete stream barriers in a portion of McQuesten Brook that has been artificially impounded to form McQuesten Pond, and then remove both barriers to restore stream and wetland functions. The completed project will provide an additional 1,500 linear feet of trout habitat once the restored channel has stabilized and a riparian buffer is established for shading and cooling stream temperatures.

Project Name: Haller Farm

Applicant: City of Concord	Watershed: Merrimack	Town: Concord
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ARM Funds Disbursed in FY 2017: \$0.00	Total ARM Fund Grant Awarded in 2015: \$300,000.00	ARM Fund Amount Spent to Date: \$0.00	Remaining Amount Encumbered: \$300,000.00
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Description: The City of Concord was awarded funds for the acquisition of two parcels totaling approx. 100 acres located off of Lakeview Road and West Parish Road in the Penacook Lake Watershed. Penacook Lake is the City of Concord’s primary source of drinking water and is designated as a class “A” water body. The majority of the Haller Farm property consists of forested upland, with sloping hills that drain toward the lake, and contains palustrine wetlands, intermittent and perennial streams, and vernal pools. Acquisition of the Haller land will link other protected land in the area, adding to a block of approximately 900 acres of conservation land within the Penacook Lake Watershed. Public access is provided.

Project Name: Brennan Brook Confluence Project

Applicant: Francestown Land Trust	Watershed: Merrimack	Town: Francestown
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ARM Funds Disbursed in FY 2017: \$0.00	Total ARM Fund Grant Awarded in 2016: \$83,850.00	ARM Fund Amount Spent to Date: \$0.00	Remaining Amount Encumbered: \$83,850.00
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Description: The Francestown Land Trust proposes to purchase a 7.6-acre property along the South Branch of the Piscataquog River, and protect an additional 33-acres of land with conservation easements donated by abutting landowners in support of this project. The Piscataquog Land Conservancy will hold the conservation easement for the 7.6 acre property. The project will permanently protect 2,155-feet of the South Branch of the Piscataquog River, its associated riparian and upland forest as well as eight acres of wetlands at the confluence of Brennan Brook. Approximately 10.5 acres in this project area is classified by the WAP as highest ranked habitat (Tier 1), 17 acres is considered Tier 2 habitat, and 4.5 acres is ranked as supporting landscape (Tier 3). According the NHB report, the endangered Blanding’s turtle, and two species of special concern – smooth green snake and wood turtle, have been found in the area. The Brennan Brook-South Branch Confluence Project connects to and enhances the ecological function of over 4,500 acres of biologically diverse protected land. Public access is provided.

Project Name: Hitchiner Town Forest

Applicant: Town of Milford	Watershed: Merrimack	Town: Milford	
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ARM Funds Disbursed in FY 2017: \$0.00	Total ARM Fund Grant Awarded in 2016: \$8,260.00	ARM Fund Amount Spent to Date: \$0.00	Remaining Amount Encumbered: \$8,260.00
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Description: The Milford Conservation Commission (MCC) was awarded \$8,260 for the Hitchiner Town Forest Project. The MCC will permanently protect Hitchiner Town Forest and the natural resources on the property with a conservation easement to be held by the New England Forestry Foundation (NEFF). Management is being guided by a Forest Management Plan which was updated in 2008 and a Field Management Plan created in 2012. As part of the project MCC will conduct a wetland assessment of the stream and wetland system located on the southwest portion of the site. The upland on the property is considered of “Highest Ranked Habitat in the Biological Region” in the WAP. A chestnut oak forest/woodland occupies approximately 30 acres on the upper slopes of Milford’s Hitchiner Town Forest property. This forest type reaches the northern extent of its range in New Hampshire, and is ranked imperiled/critically imperiled in the state. Much of the land surrounding the Town Forest is under residential development and placing an easement on the property will sustain the natural landscape.

Project Name: Upper North Branch River Property

Applicant: Southeast Land Trust of NH	Watershed: Merrimack	Town: Candia	
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ARM Funds Disbursed in FY 2017: \$0.00	Total ARM Fund Grant Awarded in 2016: \$30,000.00	ARM Fund Amount Spent to Date: \$0.00	Remaining Amount Encumbered: \$30,000.00
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Description: The project will protect approximately 14.85 acres of wetland including 8 large vernal pools, nearly 900 feet of river/stream shoreline, and approximately 102 acres of upland buffer in the regionally significant Upper North Branch River Core Focus Area (as identified by the Land Conservation Plan for NH’s Coastal Watersheds). The property will be protected by an easement held by Southeast Land Trust that excludes a small area around the existing house. As part of a large unfragmented block over 5,000 acres in size, the property contains 88 acres of Tier 1 habitat and 33 acres of Tier 2 habitat. A Natural Heritage Bureau (NHB) report shows that the property has a population of the state threatened (\$2) Appalachian barren-strawberry within the proposed conservation easement area. The property is within a Blanding’s turtle priority conservation area identified by NHFG. This site ranks second out of the top 10 focus areas in NH and connects the property’s habitat to an existing 388-acre block of conservation land.

Project Name: Beaver Brook Restoration Project			
Applicant: City of Keene	Watershed: Lower Connecticut River	City: Keene	
ARM Funds Disbursed in FY 2017: \$198,898.00	Total ARM Fund Grant Awarded in 2012: \$277,707.00	ARM Fund Amount Spent to Date: \$240,897.85	Remaining Amount Encumbered: \$36,809.15
<p>Description: The proposed project includes restoration of approximately 1 acre of historically filled wetlands within the Beaver Brook watershed in the City of Keene. The proposed restoration will advance the on-going effort to restore Beaver Brook, augment flood storage in this area of the City, and create additional scientific and educational opportunities that complement on-going projects within the Watershed. The proposed restoration parcel is contiguous with Robin Hood Park, which is a 110-acre conservation parcel. Invasive species will be removed, mainly a large Japanese knotweed colony. Research of the parcel deed and two abutting parcels is also proposed to potentially protect the park area in perpetuity.</p>			
Project Name: Falls Brook Stream Restoration			
Applicant: Cheshire County Conservation District	Watershed: Lower CT River	Town: Swanzey	
ARM Funds Disbursed in FY 2017: \$139,743.08	Total ARM Fund Grant Awarded in 2014: \$165,000.00	ARM Fund Amount Spent to Date: \$165,000.00	Remaining Amount Encumbered: \$0.00
<p>Description: Cheshire County Conservation District with assistance from Trout Unlimited used funds to improve aquatic organism passage, particularly for brook trout, in the Falls Brook culvert located on Hale Hill Road which is two and one quarter miles upstream of the confluence with the Ashuelot River. Falls Brook sub-watershed was identified as the second highest priority sub-watershed due to the amount of high quality cold water headwaters habitat throughout this stream network. The majority of Falls Brook consists of excellent brook trout thermal refugia and spawning habitat. The anticipated restoration will replace an undersized culvert, potentially hazardous to community infrastructure and stream geomorphology during extreme storm events, whereby protecting the long term viability of local wetlands. The new structure is a steel stringer bridge design allowing for full passage of all organisms as well as the stream flows related to the one hundred year storm event.</p>			
Project Name: Ashuelot River Floodplain Protection and Restoration Project			
Applicant: Monadnock Conservancy and The Nature Conservancy	Watershed: Lower CT River	Town: Swanzey	
ARM Funds Disbursed in FY 2017: \$60,000.00	Total ARM Fund Grant Awarded in 2015: \$147,615.00	ARM Fund Amount Spent to Date: \$60,000.00	Remaining Amount Encumbered: \$87,615.00
<p>Description: Over 29 acres of floodplain forest, hayfield, and high quality oxbow wetlands was permanently protected by a conservation easement in Swanzey, along 1,500 feet of the State Designated Ashuelot River. Eleven acres of riparian wetland area will be restored, which are currently hayfield, adjacent to the Ashuelot River and areas surrounding 5.5 acres of oxbow wetlands, will be restored back to floodplain forest habitat. Located in the Lower Basin Aquifer in southern Keene and northern Swanzey, the project area is described in a 2004 aquifer study that notes the water-bearing capacity of this property as "highly favorable for groundwater supply development based on excellent water quality</p>			

<p>and yield” (<i>Results of Hydrogeologic Investigations Lower Ashuelot River Basin</i>, Keene, NH 2004). The Wildlife Action Plan ranks the majority of the project area as Tier 1, top ranked habitat in the State. The project is particularly valuable to wildlife movement in the area as it connects the 1,500-acre Mount Cresson - Town of Swanzey conservation land and Yale-Toumey Forest west of Matthews Road to the Ashuelot River valley and specifically the Town of Swanzey Conservation Land just south of the property and on the east side of the river (tract not shown in <i>NH Granit</i>).</p>			
<p>Project Name: Smith Pond Shaker Forest</p>			
<p>Applicant: Upper Valley Land Trust</p>	<p>Watershed: Lower CT River</p>	<p>Town: Enfield</p>	
<p>ARM Funds Disbursed in FY 2017: \$0.00</p>	<p>Total ARM Fund Grant Awarded in 2015: \$362,385.00</p>	<p>ARM Fund Amount Spent to Date: \$0.00</p>	<p>Remaining Amount Encumbered: \$362,385.00</p>
<p>Description: The Upper Valley Land Trust was awarded funds for fee acquisition of 995 acres of the Smith Pond Shaker Forest property in Enfield. The property contains 114.5 acres of wetlands, 16,900 feet of perennial stream and 13,100 feet of intermittent streams. This represents almost 6 miles of stream habitat and 5.2 miles of stream-bank on perennial streams. The remote 68 acre Smith Pond is the stunning wetland centerpiece of the property, and it is surrounded by other high quality wetlands and mature forest. It has a total of 17,560 feet of pond shoreline habitat and encompasses over 15 different types of wetlands including: large pond, forested wetland, high-gradient streams with pools, medium gradient stream with associate riparian wetlands in some meanders, emergent marsh, vernal pools, and even two beautiful waterfalls. Intact forested buffers will cover at least 370 acres of the property and over the long term should provide the highest quality context for all of the wetlands and streams, particularly as natural levels of course woody debris are added to the various ecosystems. Restoration opportunities exist in areas impacted by previous logging operations.</p>			
<p>Project Name: Ticknor Woodlands Addition</p>			
<p>Applicant: Upper Valley Land Trust</p>	<p>Watershed: Lower CT River</p>	<p>Town: Lebanon</p>	
<p>ARM Funds Disbursed in FY 2017: \$0.00</p>	<p>Total ARM Fund Grant Awarded in 2016: \$168,500.00</p>	<p>ARM Fund Amount Spent to Date: \$0.00</p>	<p>Remaining Amount Encumbered: \$168,500.00</p>
<p>Description: The Upper Valley Land Trust (UFLT) proposes to purchase 110 acres of forested property in Lebanon and place a permanent conservation easement on it, and convey it to the City in a simultaneous transaction with the seller. Long-term management and stewardship will be the responsibility of UFLT and the City. This project will protect 18.7 acres of wetlands, 1,300 linear feet of perennial stream, 855 feet of Mascoma River frontage, as well as an additional 2,400 linear feet of intermittent stream. The parcel lies north and adjacent to the 76+/- acre, permanently protected “Ticknor Woodland” property, owned by the City of Lebanon and protected with a UFLT-held conservation easement. The conservation easement will also ensure and provide for continued public access for low-impact activities consistent with overall aquatic resource protection. Following the purchase of the property, the City will engage in preparing a management plan for the property that will incorporate a resource inventory and restoration activities into the first two years of the plan.</p>			
<p>Project Name: Brown Addition to Black Mountain Reservation</p>			
<p>Applicant: Society for the Protection of NH Forests</p>	<p>Watershed: Contoocook</p>	<p>Town: Sutton</p>	

ARM Funds Disbursed in FY 2017: \$150,000.00	Total ARM Fund Grant Awarded in 2015: \$150,000.00	ARM Fund Amount Spent to Date: \$150,000.00	Remaining Amount Encumbered: \$0.00
<p>Description: The Forest Society purchased and permanently protected the 236-acre Brown property in Sutton. The Brown tract directly abuts the Forest Society's 1,054-acre Black Mountain Forest, which was conserved in 2010. The Black Mountain Forest in turn abuts the 4,565-acre Mt. Kearsarge State Forest and several other conservation parcels to create a block of over 9,000 acres of contiguous conservation land. One of the primary goals of this conservation project is the protection 2,100 feet of both sides of an un-named perennial stream which drains off the property through the existing Black Mountain Forest and finally into Stevens Brook, a tributary to the Warner River. The NH Fish & Game's Inland Fisheries Division is in the process of completing a Fisheries Management Plan for the Lower Warner River Watershed to conserve and restore wild brook trout in the watershed. Through that effort they identified the stream on the Brown tract as having the highest documented wild brook trout density of all the streams in the Lower Warner River watershed. The Brown parcel contains very high quality wildlife habitat including 63 ac. of Tier 1 (the highest quality habitat in the state), and 46 ac. of Tier 2 (highest ranked habitat in the region) wildlife habitat according to the state's WAP. The property contains at least three state rare plants: early coralroot (<i>Corallorhiza trifida</i>), whitetinge sedge (<i>Carex albicans</i> var. <i>albicans</i>), and MacKay's brittle fern (<i>Cystopteris tenuis</i>). Stevens Brook also overlies a stratified drift aquifer. An existing trail provides easy public access to this property, and the adjacent Kearsarge Regional High School provides exceptional educational opportunities.</p>			
Project Name: Shumway Forest Conservation Project			
Applicant: Hanover Conservancy	Watershed: Middle Connecticut River	Town: Hanover	
ARM Funds Disbursed in FY 2017: \$249,740.00	Total ARM Fund Grant Awarded in 2016: \$249,740.00	ARM Fund Amount Spent to Date: \$249,740.00	Remaining Amount Encumbered: \$0.00
<p>Description: The Shumway Forest conservation project protects a total of 313 acres on Moose Mountain, including 23.5 acres of wetland and 10,900 linear feet of riparian corridor, through acquisition of a permanent conservation easement by the Hanover Conservancy. On the Shumway property, 45 of the 313 acres are already protected by federal easements. This project adds another 268 acres to the existing contiguous 2,353 acres of federal, local, and private conservation lands north of Mill Pond, and 1,177 acres of local and private conservation lands on the south side of the pond. This would result in a total of nearly 3,800 acres on Moose Mountain that are either permanently protected or managed by Hanover's Conservation Commission strictly for conservation purposes. The property includes the presence of Tier 1 and Tier 2 wildlife habitat and supporting landscape; highest elevation unprotected wildlife habitat in the town; and the presence of recreational foot trails, including the Appalachian Trail. The wetland assessment identified at least ten types of valuable wetlands on this property along with intermittent and perennial 1st, 2nd, and 3rd order streams and their floodplains; pond and pond edge; shrub/moss fen; red spruce swamp; and probable vernal pools.</p>			
Project Name: Brebner Property			
Applicant: Ammonoosuc Conservation Trust	Watershed: Middle CT River	Town: Bethlehem	
ARM Funds Disbursed in FY 2017: \$0.00	Total ARM Fund Grant Awarded in 2015: \$100,000.00	ARM Fund Amount Spent to Date: \$0.00	Remaining Amount Encumbered: \$100,000.00

Description: Ammonoosuc Conservation Trust proposes to conserve 203 acres of forest land, 4,327 linear feet of frontage on the Ammonoosuc River, a designated river, and over 7,500 linear feet of streams that drain across the site and into the Ammonoosuc. The property includes Black Brook and Barrett Brook, which are Order 1 and Order 2 streams, and a Palustrine emergent/scrub shrub wetland with a history of beaver activity. Forested wetlands surround Barrett Brook with ¾ of a mile along the Ammonoosuc River. This section of the river represents the beginning of the upper section of the Ammonoosuc River which is extremely bouldery with rapids and is an excellent fresh water fishery. The site is located upstream from municipal water sources at Lisbon and Woodsville and nearly the entire area is within either the “Highest Ranked Habitat in the Biological Region” or supporting area.			
Project Name: Aquatic Habitat Restoration and Brook Trout Connectivity at Nash Steam Forest			
Applicant: Trout Unlimited	Watershed: Upper Connecticut	Town: Odell and Stratford	
ARM Funds Disbursed in FY 2017: \$5,000.00	Total ARM Fund Grant Awarded in 2015: \$5,000.00	ARM Fund Amount Spent to Date: \$5,000.00	Remaining Amount Encumbered: \$0.00
Description: Trout Unlimited (TU), in partnership with the New Hampshire Fish and Game Department and New Hampshire Division of Forest and Lands, completed aquatic restoration work in the Nash Stream watershed. The Nash Stream Restoration Project is a phased, multi-year effort to restore channel processes and habitat quality/connectivity so that the watershed supports an intact aquatic ecosystem, including native coldwater fish. In the first phase TU restored over two miles of instream and riparian habitat that was damaged by a catastrophic dam break and subsequent channel alteration and completed up to 13,580 linear feet (2.6 miles) of tributary wood replenishment in the East Branch. In this second phase of tributary wood replenishment, TU proposes to add wood to the channel and restore up to 3.2 miles of instream and riparian habitat that was impaired by historic logging activities. ARM funds will support wood replenishment in the East Branch and Long Mountain Brook which are direct tributaries to Nash Stream. The project ultimately will restore over nine miles of mainstem and ten miles of tributary habitat, and reconnect over six miles of tributaries. The Nash Stream Restoration Project is located entirely within the publicly-owned Nash Stream Forest, which prioritizes permanent protection of the restored aquatic resources that provide lasting public benefit.			

ARM Fund Awards Announced in December, 2016

DES announced the availability of funds in nine service areas in March, 2016. The amount of funding available, functions and values to be replaced, and amount of resource loss is noted in Table 3.

Thirty-nine pre-proposals were submitted and reviewed by DES and the Committee and feedback was provided. Twenty-five full application submittals were received August 31, 2016. The Saco and Androscoggin River service areas did not receive any applications. The funds in those service areas will be advertised in 2018.

TABLE 3. ARM FUNDS AVAILABLE FOR 2016 GRANT ROUND

Service Area	Functions and Values to be Replaced	Wetland Loss (square feet)	Stream Loss (linear feet)	Total Funds Available
1. Androscoggin River	Carry over funds from 2015			\$480
2. Saco River	Carry over funds from 2015. Wildlife and fisheries habitat, shoreline anchoring, groundwater discharge.	9,497	329 linear feet of intermittent stream	\$22,500
3. Pemigewasset Winnepesaukee Rivers	Carry over funds related to fisheries habitat. Floodflow alteration, nutrient removal, sediment retention, bank impacts.	336 permanent impacts; 59,115 temporary impacts	21 linear feet (2015 carry over funds)	\$107,500
4. Salmon Falls – Piscataqua Rivers	Carry over funds from 2015. Nutrient removal and conversion in buffer to streams and forested wetlands (non-tidal). Tidal buffer zone impacts.	7,779 non- tidal permanent impacts and 25,518 temporary impacts; 14,093 tidal		\$233,700 non-tidal; \$103,900 tidal
5. Merrimack River	Carry over funds from 2015. Nutrient removal, sediment retention, floodflow alteration, fish and wildlife habitat. (Vernal pool buffer impacts.)	466,161 permanent impacts and 50,068 temporary impacts	4,039 perennial and 4,135 intermittent	\$313,000 entire watershed and \$828,000 CTAP towns*
6. Lower Connecticut River	Carry over funds from 2015. Wildlife habitat, flood storage, alteration, nutrient removal, production export (conversion of PFO to PEM).	37,917 permanent impacts and 406,960 temporary impacts	32 intermittent	\$319,500
7. Contoocook River	Carry over funds from 2015.			\$24,000
8. Middle Connecticut River	Carry over funds from 2015. Wildlife habitat, groundwater recharge/discharge, nutrient removal.	48,245 permanent impacts and 114,321 temporary impacts	30 perennial	\$367,500
9. Upper Connecticut River	Shoreline stabilization		474 perennial	\$94,800

The members of the Site Selection Committee, representatives from the Corps, EPA, Natural Resource Conservation Service and DES staff visited the sites on September 23, 28, 29, October 4 and 6. On October 24, 2015 the Committee and federal agency representatives convened to evaluate and rank the applications and determined funding amounts for the projects. The Committee's recommendations were approved by the Corps and the Wetland Council. The following summaries provide details of the awards announced by the Committee and a brief description of the gain in resources from each project awarded funds according to the service areas.

Pemigewasset-Winnepesaukee River Service Area:

\$107,500, Meredith. Permanently protect approximately 206 acres of land on Meredith Neck with direct frontage on Page Pond. The Town of Meredith, acting through its Conservation Commission, will be the long-term landowner and land manager. The proposed acquisition includes areas of prime wetlands, 330 linear feet of Page Brook and 2,875 linear feet of an unnamed brook that flows directly into Lake Winnepesaukee. This project builds connectivity across Meredith Neck to create a large block of conserved land.

Salmon Falls to Piscataqua River Service Area:

\$40,000, Candia. Protect approximately 117 acres of land in Candia including 8 large vernal pools, nearly 900 feet of river/stream shoreline in the regionally significant Upper North Branch River Core Focus Area (as identified by the Land Conservation Plan for NH's Coastal Watersheds). The property will be protected by an easement held by Southeast Land Trust and is within a Blanding's turtle priority conservation area identified by NHEG known as the Bear Brook site. This site ranks second out of the top 10 focus areas in NH and connects the property's habitat to an existing 388-acre block of conservation land.

\$85,000, Fremont. Acquire approximately 343 acres of land including 4,107 linear feet of Brown Brook which is a tributary to the Piscassic River. The property also includes several streams that flow into Brown Brook and 3,135 linear feet of an unnamed tributary to the Exeter River. The subject Property includes nearly 71.5-acres of high value wetlands, including portions of 5 Prime Wetlands, and 29 probable vernal pools. The Property is almost entirely ranked as "Highest Ranking Habitat in the State" in the WAP. In addition, the Property is within a "High Priority" site for Blanding's turtles identified in the "Conservation Plan for Blanding's Turtle and Associated Species of Conservation Need in the Northeastern United States".

\$61,545, Barrington. Purchase a conservation easement on 53 acres of land located along the Isinglass River which abuts approximately 327-acres of contiguous conservation land. The property includes nearly six-acres of important high value wetlands, one confirmed vernal pool and two probable vernal pools. Conserving this parcel will create a contiguous block of 380-acres of conservation land, all of which is located just down river from the 300-acre Calef Forest. In addition, the conservation easement will ensure that the approximately 3 mile long "Barrington Trail," which extends along the property's Isinglass River frontage, remains open to public access.

\$149,805, Dover. Provide funds to assist in the Sawyer Mill Dam Removal Project located on the Bellamy River in Dover. The goals of the Sawyer Mill Dam Removal Project are to restore fish passage; improve fish and wildlife habitat; improve water quality; and reduce flood hazards. Removal of the two Sawyer Mill Dams will significantly improve access for American eels and restore passage for alewife, blueback herring and sea lamprey, which are identified as species of "special concern" and "species of greatest conservation need" by NHEG. The project will reconnect 11.2 miles of main-stem riverine habitat to Great Bay.

\$50,000, Barrington. Provide funds for the Upper Oyster River Passage Project that will replace the highest priority road/stream crossing culvert in the Oyster River watershed to restore natural stream channel dynamics

and function on an impacted reach of the Oyster River. The project proposes to restore full fish passage to approximately four 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), Eastern Brook Trout, American Eel, and other important aquatic species. The project includes the permanent protection, through a deed restriction, of approximately 12 acres of undeveloped land adjacent to the Oyster River and the 1,528-acre Samuel A. Tamposi Water Supply Reserve land.

\$38,240, Nottingham. Permanently protect 87 acres of land which are the headwaters for Rollins Brook, a tributary to the North River, Lamprey River, and the Great Bay Estuary in Nottingham. This property includes a 13-acre beaver impoundment and 3 confirmed vernal pools. The project proposes to restore and enhance critical wildlife habitat, with a particular focus on the state endangered Blanding's turtle, which is known to occupy this parcel. This property connects to more than 2,000 acres of protected lands east of Pawtuckaway State Park, including the soon-to-be-protected Harvey Forest at Kennard Hill, one of SELT's "crown jewels" with more than 1,100 acres of open space.

Merrimack River Service Area:

\$100,000, Concord. Provide funds for the Portsmouth Street Stream Restoration Project. This project will restore Mill Brook and improve the floodplain connectivity to the Merrimack River, and restore the stream channel so it is similar to natural conditions upstream. The project will replace an undersized culvert with a 16 x 3 foot three-sided culvert that will pass the 100-year storm. This increase in crossing size will restore Merrimack River floodwater access to approximately 4.7 acres of wetlands upstream of Portsmouth Street. The project also includes the

\$400,000, Hooksett and Candia. Conserve 1,870 +/- acres of land including Tower Hill Pond in Hooksett and Candia. The project will permanently conserve 45 separate wetlands encompassing 280-acres, over 2 miles of undeveloped shoreline of Tower Hill Pond, 6.3 miles of perennial streams, 1.6 miles of intermittent streams, 74 vernal pools and 1,590 acres of upland and lowland forest. The land contains a portion of the 8,000 acres owned and managed by Manchester Water Works that provides clean drinking water to the over 160,000 residents of the City of Manchester and surrounding towns.

\$400,000, Londonderry. Conserve two parcels of land totaling 149 +/- acres adjacent to the Musquash Conservation Area in Londonderry. This project is a partnership between Southeast Land Trust which will hold the easement on the property and NHFG which will own the property. The property is located in a focus area identified for recovery of the New England cottontail (NEC), a state endangered species. Parcel #1 has the potential for the creation of high quality habitat for the species through management in the upland forest present on the property. Nearly the entire property is identified as either Tier 1 or 2 in the WAP. Both parcels are located in an area of dense residential development and could easily be developed. Parcel #1 has over 500 feet of road frontage along the residential development to the south including direct access to Preserve Drive.

\$150,000, Salem. Acquire a conservation easement on approximately 100 acres of land along the Hittytity Brook which abuts the 206-acre Salem Town Forest. Conserving this parcel will create a contiguous block of 345-acres of conservation land in Salem. After the acquisition is complete the Town plans to make improvements to several stream and wetland crossings on the Property that are currently impeding flow and potentially impeding aquatic passage. The property includes approximately 22.5 acres of a high transmissivity aquifer that is located in the area of Hittytity Brook. This aquifer has been considered as a potential water supply by the Town due to its productivity. Conserving this property will help preserve this potential future public water supply.

\$89,000, Brookline. Acquire a 22 acre parcel of land located along the Nissitissit River. A conservation easement will be placed on the property to be held by the Piscataquog Land Conservancy. Protection of the frontage and upland buffer is a high priority in the region since this is one of the last large sections of the river that has not been protected and it contains an impressive eastern brook trout fishery. The WAP depicts the property as being a combination of Highest Ranked Habitat in NH and Highest Ranked Habitat in Biological Region.

\$83,850, Frankestown. Purchase a 7.6-acre property along the South Branch of the Piscataquog River, and protect 33-acres with conservation easements donated by abutting landowners in support of this project. The project will permanently protect 2,155 linear feet of the South Branch of the Piscataquog River, its associated riparian and upland forest as well as eight acres of wetlands at the confluence of Brennan Brook. The Brennan Brook-South Branch Confluence Project connects to and enhances the ecological function of over 4,500 acres of biologically diverse protected land.

\$8,260, Milford. Permanently protect the Hitchiner Town Forest in Milford with a conservation easement to be held by the New England Forestry Foundation (NEFF). The upland on the property is considered of "Highest Ranked Habitat in the Biological Region" in the WAP. A chestnut oak forest/woodland occupies approximately 30 acres on the upper slopes of Milford's Hitchiner Town Forest property. This forest type reaches the northern extent of its range in New Hampshire, and is ranked S1/S2 (imperiled/critically imperiled) in the state. Much of the land surrounding the Town Forest is under residential development and placing an easement on the property will sustain the natural landscape.

Lower Connecticut River Service Area:

\$105,000, Fitzwilliam. Acquire the 72-acre Chamberlain property located on the southern shore of Sip Pond. The predominant feature of the property is the wetland, which is part of the 352-acre Sip Pond Peatland Complex. The parcel has 2,200 feet of frontage on Sip Pond and 2,100 feet of frontage along Sip Pond Brook. The property is within two wellhead protection areas and ninety-five percent (68.6 acres) of the property overlies a stratified drift aquifer. This wetland complex represents one of the highest quality wetlands in Fitzwilliam, if not the region.

\$168,500, Lebanon. Purchase 110 acres of forested property in Lebanon and place a permanent conservation easement on it, and convey it to the City in a simultaneous transaction with the seller. This project will protect 18.7 acres of wetlands, 1,300 linear feet of perennial stream, 855 feet of Mascoma River frontage, as well as an additional 2,400 linear feet of intermittent stream. The parcel lies north and adjacent to the 76+/- acre, permanently protected "Ticknor Woodland" property, owned by the City of Lebanon. The conservation easement will also ensure and provide for continued public access for low-impact activities consistent with overall aquatic resource protection.

Contoocook River Service Area:

\$24,000, Henniker. Provide funds to install stormwater management structures to improve water quality and minimize stormwater erosion along the bank of the Contoocook River at Azalea Park. Azalea Park is a historical landmark in downtown Henniker, located along the Contoocook River. The focus of this phase of the project is to manage the upland stormwater runoff which has been directed into a wetland in the park, causing erosion of the park entrance path and adding sediments and salt into the wetland. Managing the upland stormwater runoff and controlling the water flow into the river after storm events will help decrease the sediment washing into the river.

Middle Connecticut River Service Area:

\$252,240, Hanover. Purchase a conservation easement on the Shumway Forest, a 313-acre parcel on Moose Mountain in Hanover. The property includes the presence of headwater streams and a diversity of other valuable wetlands, presence of Tier 1 and 2 wildlife habitat and supporting landscape, the highest elevation unprotected wildlife habitat in the town, and a section of the Appalachian National Scenic Trail. The parcel provides conservation linkages within a large block of unfragmented forest on Moose Mountain in the Quabbin to Cardigan region.

Upper Connecticut River Service Area:

\$79,800, Colebrook. Protect and restore 71.57 acres of high conservation-value riverine habitat, floodplain forest and farmland along 1.6 miles of the Connecticut River. The Nature Conservancy will acquire the fee interest in the Brunault tract and subsequently transfer ownership to NHFG. The project will result in the permanent protection of 3.4 contiguous miles of Connecticut River shoreline on the New Hampshire side. The protection of the Brunault property will contribute to a 970-acre block of protected conservation land on both sides of the river. Restoration of the parcel's floodplains will create a more resilient ecosystem, ensuring dynamic river processes, such as channel migration that creates oxbows and sandbars for pioneer species recruitment. It will also help ensure the protection of four state-listed endangered plants found on the property. The floodplain forest on the Brunault tract is also part of a rare natural community.

\$15,000, Stratford and Odell. Provide funds for aquatic restoration work in the Nash Stream watershed. The project is a phased, multi-year effort to restore channel processes and habitat quality/connectivity so that the watershed supports an intact aquatic ecosystem, including native coldwater fish. In this second phase of tributary wood replenishment, Trout Unlimited proposes to add wood to the channel and restore up to 3.2 miles of instream and riparian habitat that was impaired by historic logging activities in the East Branch and Long Mountain Brook which are direct tributaries to Nash Stream. The project ultimately will restore over nine miles of mainstem and ten miles of tributary habitat, and reconnect over six miles of tributaries.

Status of the ARM Fund Account

The FY 2017 ended with all nine ARM Fund service areas having a positive balance. Table 4 describes revenues, expenses, encumbered funds and a balance according to each service area.

One component of an ARM Fund payment is an administrative assessment established by RSA 482-A:30, III and RSA 482-A:30-1,II. Such account assessments collected shall be used to support up to two full-time positions to administer the funds. The assessment has vacillated starting at 5% in 2009, 20% in 2010, 10% from 2011 through 2015 and is currently 20%. The status of the account is noted in Table 5.

TABLE 4. STATUS OF ARM FUND ACCOUNTS ACCORDING TO SERVICE AREAS

Service Areas	Beginning Balance (7/1/2016)	Revenues	Expenses	Encumbered	Interest earned	Ending Balance (6/30/2017)
Androscoggin River	\$61,480.00	\$17,336.00	\$61,000.00	\$ -	\$ -	\$17,816.00
Saco River	\$22,947.16	\$ -	\$ -	\$ -	\$ -	\$22,947.16
Pemigewasset to Winnepesaukee Rivers	\$194,932.26	\$27,000.00	\$64,236.00	\$ -	\$467.60	\$158,163.86
Salmon Falls to Piscataqua Rivers	\$972,683.62	\$486,492.46	\$492,102.95	\$311,918.05	\$1,769.29	\$656,924.37
Merrimack River	\$3,092,949.97	\$953,801.98	\$847,120.00	\$453,190.00	\$26,070.24	\$2,772,512.19
Lower Connecticut River	\$1,216,190.01	\$64,482.17	\$398,641.08	\$655,309.15	\$2,197.58	\$228,919.53
Contoocook River	\$174,056.08	\$ -	\$150,000.00	\$ -	\$ -	\$24,056.08
Middle Connecticut River	\$432,838.71	\$ -	\$249,740.00	\$100,000.00	\$2,948.27	\$86,046.98
Upper Connecticut River	\$99,800.00	\$19,000.00	\$5,000.00	\$ -	\$1,205.59	\$115,005.59
Total All Watersheds	\$6,267,877.81	\$1,568,112.61	\$2,267,840.03	\$1,520,417.20	\$34,658.56	\$4,082,391.75

Status of Administrative Assessment Account

TABLE 5. STATUS OF ADMINISTRATIVE ASSESSMENT ACCOUNT

Beginning balance (7/1/2016)	Revenues	Expenses	Ending Balance (6/30/2017)	Cumulative Balance
\$311,707.81	\$263,812.74	\$109,816.65	\$153,996.09	\$576,928.44

**APPENDIX A
ARM FUND PAYMENTS, 2006-2016**

PERMIT #	LOCATION	WETLAND LOSS (sqft)	STREAM LOSS (lin ft)	TEMP IMPACTS	TOTAL PAYMENT AMOUNT	DEPOSIT DATE
2006-2360	Londonderry	17,520.00			\$52,394.00	1/25/2007
2006-712	Hooksett	15,678.00			\$61,153.33	6/18/2007
2002-1856	Bethlehem	14,800.00			\$14,904.44	7/20/2007
2002-2529	Littleton	11,898.00			\$29,904.23	8/2/2007
2006-516	Pittsburg	43,452.00			\$103,226.00	8/20/2007
2005-3055	Tilton	25,850.00			\$85,108.00	8/30/2007
2005-2505	Hooksett	25,381.00			\$77,636.00	9/6/2007
2006-2266	Moultonboro	21,485.00			\$76,358.73	12/5/2007
2006-1471	Candia	31,319.00			\$82,438.00	12/27/2007
2007-881	Lincoln	12,437.00			\$30,122.14	2/27/2008
2007-145	Woodstock	15,500.00			\$37,280.06	3/1/2008
2008-3	Londonderry	22,332.00			\$35,545.44	3/27/2008
2007-2703	Keene	36,990.00			\$113,033.10	4/30/2008
2007-1538	Lincoln	6,123.00			\$14,829.77	6/23/2008
2008-590	Rye	2,000.00			\$14,216.22	7/28/2008
2006-3183	Epsom	19,922.00			\$52,342.79	8/16/2008
2007-2373	Stratham	35,000.00			\$124,391.90	9/2/2008
2008-2098	Milan	26,435.00			\$63,110.55	10/17/2008
2007-2200	Epsom	17,422.00			\$45,774.52	12/2/2008
2008-2312	Bow	26,905.00			\$78,157.28	1/26/2009
2005-2313	Colebrook	22,075.00			\$52,933.59	2/18/2009
2006-2733	Lee	23,890.00			\$68,374.50	2/5/2009
2006-3219	Manchester				\$200,000.00	2/19/2009
2008-1529	Jefferson	210.00			\$503.51	3/24/2009
2008-2762	Littleton	12,933.00			\$32,505.59	3/27/2009
2008-1332	Dalton	12,645.00			\$30,357.77	4/13/2009
2008-807	Lincoln	26,760.00			\$64,812.14	4/20/2009
2008-1333	Whitefield	80,770.00			\$90,000.00	5/12/2009
2008-1264	Seabrook	16,094.00			\$57,198.96	6/8/2009
2009 TOTALS		623,826.00			\$1,788,612.56	
2009-593	Durham	16,094.00			\$14,653.53	8/19/2009
2009-937	Hampton	24,001.00			\$95,766.77	10/7/2009
2008-2780	Portsmouth	1,000.00			\$7,980.00	8/19/2009
2008-690	Washington	17,810.00			\$30,000.00	11/20/2009
2009-2922	Rochester	348,480.00			\$1,235,319.12	3/5/2010
2009-1872	Dummer	11,482.00			\$30,708.68	3/18/2010
2009-2330	Keene	14,500.00			\$49,752.41	3/16/2010
2010-215	Ossipee	16,357.00			\$48,534.45	4/5/2010
2008-877	Littleton	17,725				4/27/2010

2010 TOTALS		467,449.00			\$1,512,714.96	
PERMIT #	LOCATION	WETLAND LOSS (sqft)	STREAM LOSS (lin ft)	TEMP IMPACTS	TOTAL PAYMENT AMOUNT	DEPOSIT DATE
2005-556	Durham	17,816.00			\$58,339.06	7/6/2010
2010-1370	Hooksett	4,844.00			\$10,304.23	8/31/2010
2009-2853	Lebanon	115,400.00			\$75,000.00	10/12/2010
2010-1525	Enfield	115,125.00			\$339,037.39	10/1/2010
2010-1261	Alton	49,145.00			\$165,692.62	10/21/2010
2009-2989	Berlin	47,981				12/30/2010
2009-396	Epsom	22,946				9/10/2010
2010-26	Newbry-Goshen	22,144				11/22/2010
2010-1970	Concord-Penacook	1,720			\$7,414.03	1/18/2011
2010-2355	Lincoln	1,620			\$5,237.53	1/14/2011
2010-428	Hanover	2,700				2/1/2011
2011 TOTALS		401,441			\$661,024.86	
2010-997	Littleton	24,363				8/2/2011
2011-922	Bow-Concord	42,472.00			\$119,668.45	8/16/2011
2010-745	Groton	71,680.00			\$150,000.00	10/5/2011
2010-616	Nashua	506,605			\$2,021,412.57	10/17/2011
2010-1370	Hooksett	835			\$3,173.67	10/25/2011
2010-197	Bedford	16,291				11/4/2011
2011-831	Warner	1,138			\$9,383.28	12/29/2011
2011-817	Manchester	16,291			\$74,019.49	1/11/2012
2011-1637	Keene	26,830			\$119,325.86	1/18/2012
2011-1261	Nashua	19,080			\$86,691.54	1/31/2012
2010-2887	Lisbon	10,750			\$32,901.05	5/16/2012
2012 TOTALS		736,335			\$2,616,575.91	
2009-2074	Rochester	92,462			\$35,000.00	10/16/2012
2012-1226	Swanzey	18,500			\$59,920.11	11/5/2012
2012-1052	Portsmouth	25,265			\$107,876.49	12/17/2012
2012-1060	Greenland	6,098			\$26,039.15	12/17/2012
2012-2027	Bow	15,029			\$55,017.85	12/21/2012
2010-1265	Alton	461			\$1,677.91	1/3/2013
2012-1070	Gilford-Laconia	31,391			\$134,093.32	1/9/2013
2012-1308	Epping	9,766			\$34,200.09	1/31/2013
2012-1824	Belmont	17,414			\$61,006.79	2/6/2013
2010-428	Hanover	2,700			\$9,027.41	4/4/2013
2013-770	Hooksett	16,980			\$65,778.93	6/27/2013
2013 TOTALS		236,066			\$555,437.96	

PERMIT #	LOCATION	WETLAND LOSS (sqft)	STREAM LOSS (lin ft)	TEMP IMPACTS	TOTAL PAYMENT AMOUNT	DEPOSIT DATE
2013-388	Rochester	12,840			\$49,102.60	7/18/2013
2012-3256	Manchester	21,300			\$92,646.85	8/29/2013
2012-3264	Alton	11,524			\$41,944.13	9/27/2013
2013-2141	Nashua	16,976			\$73,834.11	9/30/2013
2012-2682	Haverhill	14,108			\$43,697.72	10/15/2013
2013-380	Winchester-Swanzey	0	541		\$119,020.00	11/8/2013
2012-2681	Windham	67,658.00			\$288,504.12	12/12/2013
2002-2033	Windham	95,850.00			\$282,598.51	12/12/2013
2013-2285	Danville	12,920.00			\$46,021.96	12/18/2013
2013-2154	Deerfield, Candia	1,986.00		262,606.00	\$69,767.92	1/6/2014
2012-2546	North hampton	18,618.00			\$40,488.70	2/19/2014
2010-197	Bedford	8,671.00	435.00		\$129,181.24	1/24/2014
2011-2973	Lebanon	14,410.00			\$5,147.76	3/18/2014
2013-1501	Brentwood	15,650.00			\$56,588.46	4/30/2014
2014-542	Swanzey		80.00		\$69,740.00	6/2/2014
2013-1075	Effingham	3,087.00	14.00		\$3,080.00	5/15/2014
2014-566	Hooksett	11,620.00	198.00		\$9,146.66	6/16/2014
2014-129	Laconia		21.00		\$13,860.00	6/25/2014
2012-2546	North Hampton	74,042.00			\$40,488.70	6/25/2014
2014 TOTALS		401,260.00	1,289.00	262,606.00	\$1,474,859.44	
2013-3310	Lebanon	15,559.00	228.00		\$203,480.46	7/2/2014
2014-871	Lebanon	27,605.00			\$108,476.28	7/7/2014
2014-778	Jefferson		25.00		\$5,500.00	7/3/2014
2013-3283	Conway	6410.00	315.00		\$22161.88	7/9/2014
2014-364	New Ipswich		154.00		\$33,880.00	7/10/2014
2014-507	Wolfeboro	160.00			\$665.73	8/11/2014
2014-407	Littleton	64.00		46,805.00	\$43,916.01	9/4/2014
2013-3175	Bedford	3070	624		\$150,632.42	9/18/2014
2014-1292 & 2014-1257	Webster & Concord	112		390,587.00	\$191,858.90	10/3/2014
2014-1257	Concord	7.00		1,262.00	\$5,241.69	10/3/2014
2014-1589	Londonderry	12698			\$53,895.67	10/15/2014
2014-1591	Londonderry	29838			\$126,645.05	10/15/2014
2011-2973	Lebanon	14,410.00	110		\$56,625.37	10/24/2014
2014-1757	Manchester & Londonderry	676.00		184,274.00	\$48,710.42	10/27/2014
2014-1443	Northwood	50.00			\$181.79	11/14/2014
2013-2389	Milan	21,735.00			\$67,628.00	11/26/2014

PERMIT #	LOCATION	WETLAND LOSS (sqft)	STREAM LOSS (lin ft)	TEMP IMPACTS	TOTAL PAYMENT AMOUNT	DEPOSIT DATE
2014-1053	Portsmouth	101,230.00		53,299	\$351,895.87	11/26/2014
2013-2883	Durham-Newmarket	45,492.00			\$105,000.00	12/8/2014
2014-447	Littleton		25.00		\$10,000.00	12/31/2014
2014-2775	Portsmouth	88.00		17,140.00	\$55,490.40	1/20/2015
2013-2918	Newington	14,093.00			\$9,447.12	2/18/2015
2014-2201	Haverhill	37,020.00			\$119,053.98	3/25/2015
2014-1521	Lebanon	17,114.00		283,068.00	\$130,091.00	3/25/2015
2015-394	Littleton	8,610.00			\$28,422.04	4/29/2015
2014-2773	Hampton		145.00		\$31,900.00	5/8/2015
2014-3064	Salem	11,750.00			\$25,962.10	5/11/2015
2014-2128	Troy	632.00		131,941.00	\$56,184.26	4/20/2015
2015-680	Manchester	4,280.00		47,776.00	\$61,137.98	6/18/2015
2015 TOTALS		372,703.00	1,711.00	1,156,152.00	\$2,098,936.66	
2014-2128	Troy & Fitzwilliam	636.00	32	120,383	\$ 78,720.29	7/15/2015
2013-2154	Deerfield	341			\$1,281.33	8/4/2015
2012-3271	Hooksett				\$20,000.00	10/1/2015
2015-720	Concord	20657		50,068	\$124,301.29	10/6/2015
2015-1505	Littleton & Monroe	48,245.00		114,321	\$270,999.52	10/15/2015
2015-833	Dalton		30		\$6,600.00	10/15/2015
2004-763	Plaistow	28,071.00			\$135,507.71	12/28/2015
2015-1719	Dixville		474		\$113,760.00	12/28/2015
2013-2918	Newington	14,093.00			\$94,471.26	1/11/2016
2015-3287	Tuftsboro	176.00		59,115	\$13,162.81	1/27/2016
2015-1505	Keene	20,167.00		3,509	\$89,400.77	2/9/2016
2014-3446	Londonderry, Salem, Windham, Derry, Manchester	417,433.00			\$1,823,238.90	2/18/2016
2015-3359	Rochester	288.00		25,518	\$6,596.05	1/27/2016
2015-2637	Portsmouth			720	\$1,390.27	3/15/2016
2015-2926	Rochester	7,150.00			\$30,156.50	3/7/2016
2015-3105	Nashua		880	932	\$211,200.00	5/9/2016
2015-2423	Troy	5,330.00			\$19,126.14	5/14/2016
2016 TOTALS		562,587.00	1416	374,566	\$3,039,912.84	

PERMIT #	LOCATION	WETLAND LOSS (square feet)	STREAM LOSS (linear feet)	TEMPORARY IMPACTS	TOTAL PAYMENT AMOUNT	DEPOSIT DATE
2007-2429	Berlin				\$1,000.00	1/17/2017
2015-3344	Hampton	21218			\$102,426.08	7/6/2016
2015-3065	Dover	24,454.00			\$118,047.29	7/8/2016
2012-3271	Hooksett	212,137.00			\$200,000.00	7/13/2016
2016-1817	Weare		66		\$15,840.00	7/29/2016
2016-603	Hampton/ Hampton Falls	2,128.00			\$20,545.07	8/10/2016
2016-495	Concord		170		\$40,800.00	9/9/2016
2016-147	Chichester	889.00	178		\$42,720.00	9/9/2016
2015-2336	Pelham, Hudson, Windham, Londonderry	4,428.00	17	385,896	\$646,875.40	10/11/2016
2016-1465	Thornton		21		\$5,040.00	10/17/2016
2016-524	Epping	21419			\$76,308.54	11/10/2016
2014-2959	Newington	34487			\$151,269.89	11/16/2016
2016-1493	Stewartstown		95		\$22,800.00	11/29/2016
2015-1595	Portsmouth	938.00			\$4,975.88	12/2/2016
2016-123	Barnstead	31,136.00	112		\$145,005.29	12/12/2016
2016-790	Gilford		114		\$27,360.00	1/20/2017
2016-2506	Gorham		80		\$19,603.20	2/22/2017
2016-3357	Goffstown/ Weare			157,135	\$15,550.70	3/6/2017
2016-1701	Stratham	20,327.00			\$102,828.70	4/17/2017
2017-270	Keene	34,810.00			\$77,378.61	6/29/2017
2017 TOTALS		408,371.00	853	543,031	\$1,836,374.65	