

NHDES AQUATIC RESOURCE MITIGATION FUND PROGRAM:

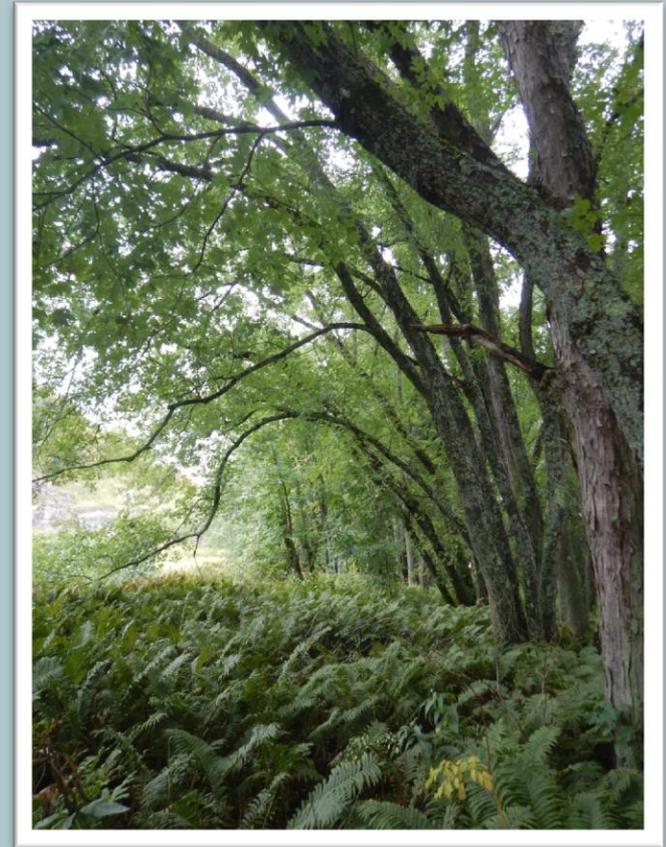
FUNDING FOR WETLAND RESTORATION,
STREAM PASSAGE IMPROVEMENT, AND
LAND CONSERVATION



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NHDES
Wetlands Mitigation Program

PRESENTATION OVERVIEW

- **Wetland mitigation overview**
 - The need to mitigate
 - Thresholds for mitigation
 - Mitigation options
- **ARM Fund program**
- **ARM Fund Projects**
 - Grant Program
 - What makes a competitive grant
 - Example Stream Projects



BASIC COMPONENTS OF THE MITIGATION RULES

ENV-WT 300, 500, 800



- Requires sequence of avoidance, minimization, then compensation for unavoidable impacts.
- Establishes thresholds of when mitigation is required and ratios.
- Allows for restoration, preservation, and creation.
- Local priorities and Conservation Commission input recognized.
- Establishes criteria for mitigation plans and for preservation proposals.

NHDES WETLANDS BUREAU

ADMINISTRATIVE RULES AND THRESHOLDS

Wetland regulatory program that issues permits and requires mitigation for certain projects that meet a minimum threshold

- Wetland impacts > 10,000 square feet
- Tidal impacts - no minimum requirement
- Perennial Stream impacts > 200 linear feet (bank+channel+bank)
- Intermittent Stream Impacts - Measured along the thread of the channel
- Temporary and secondary impacts (ACOE) to buffers of streams and vernal pools.



FOUR FORMS OF COMPENSATORY MITIGATION IN NEW HAMPSHIRE

- **Permittee – Responsible:**
 - 1) Wetland & Stream Restoration
 - 2) Upland Preservation Through Permanent Conservation
 - 3) Wetland Creation
- **In-lieu Fee Payment to NHDES:**
 - 4) Payment Into the ARM Fund



Mitigation Sequence Requires Checking FIRST with Local Conservation Commission “Priority List”



Emphasis on local
Conservation Commission's
development of a
“Priority”
Mitigation List

TOP
10
LIST

A green frog is sitting on the number 10 in the graphic.

SAMPLE PRIORITY LIST

- Parcels adjacent to existing conservation lands (also in Tier 1 WAP map locations)
- Town forests or parcels acquired not currently protected – consider habitat value for restoration
- Land in vicinity to drinking water supplies
- Floodplains and riparian areas, vernal pool habitat
- Farmlands with focus for enhancing wetland and stream buffers

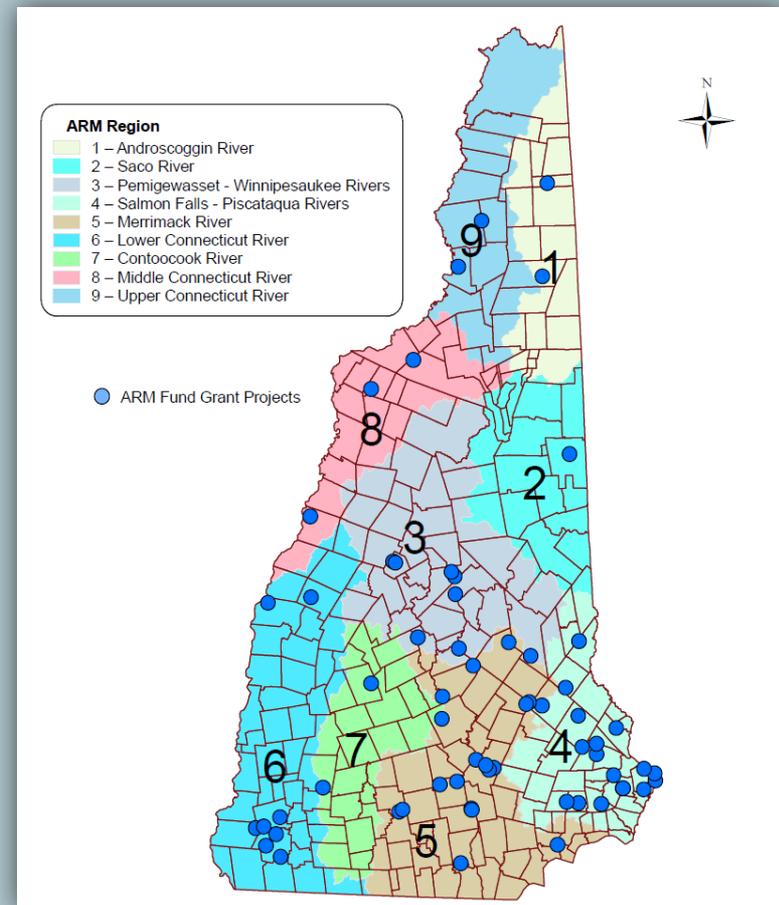
- Wetland restoration – remove fill, restore hydrology, remove ditching
- Restoration of streams where they have been culverted, buried, channels straightened
- Enhancement of buffers where they may be lacking
- Water quality improvements - look at impaired waters for best locations for improvements

- Culvert replacements and dam removals
- Connecting sections of streams to improve passage for aquatic organisms, fish passage
- Stream bank restoration/vegetated enhancement
- Eradication of invasive species – with long-term monitoring program established

AQUATIC RESOURCE MITIGATION FUND

RSA 482-A:28 - 33

- Additional mitigation option available to applicants.
- Option for projects that have difficulty finding good mitigation.
- Process of providing a payment into a fund that pools money together to be spent in the “watershed” where impacts occurred.
- Funds go toward wetland restoration, preservation of land adjacent to aquatic resources, wetland creation or aquatic resource improvements.



**ARM FUND PROJECT AWARD
SITES 2009-2015**

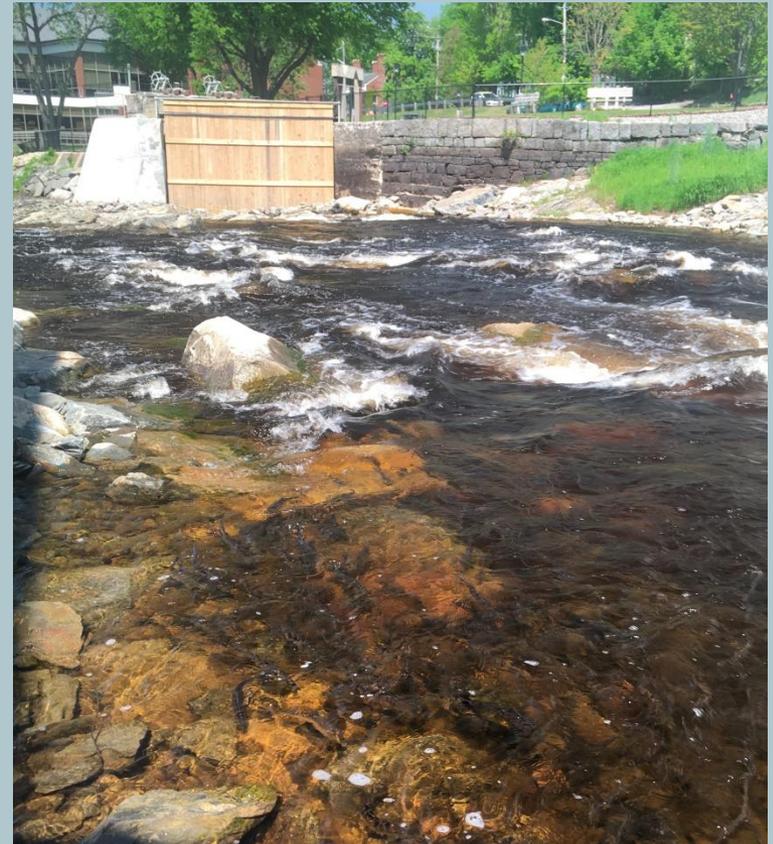
NHDES WETLAND MITIGATION ARM FUND RULES

- Sets standards of how a payment is considered and approved
- Identifies what types of projects are eligible
- Develops a Site Selection Committee and grant round
- Includes additional oversight by Army Corps, EPA, USFWS, NOAA & NRCS



TARGET IMPORTANT AQUATIC RESOURCE PROJECTS

- Restore and/or protect systems of regional and statewide significance.
- Greatest potential to restore or protect aquatic resource functions and values;
- Restore important wildlife & fisheries habitats with a goal to improve aquatic fish passage;
- Protect significant features relative to drinking water resources, floodplains, and vernal pools.



TYPES OF PROJECTS THAT MAY APPLY FOR ARM FUNDS

- Construction costs associated with restoration from initial clearing to monitoring and follow-up remedial measures
- Acquisition of land and cost for protection in perpetuity
- Acquisition of conservation easements and all transaction costs including stewardship fees
- Dam removals, culvert replacements, stream and floodplain restoration projects
- Tidal resource improvements, living shoreline projects in coastal areas

WHAT GUIDES THE DES IN-LIEU FEE PROGRAM?

- NH Mitigation Rules: Chapter 800. Adopted in 2004, Revised in 2007 and 2/1/2016
- Federal Mitigation Rules: Department of Defense and Environmental Protection Agency. April 10, 2008. *Compensatory Mitigation for Losses of Aquatic Resources*. Final rule. Federal Register. Vol. 73, No. 70: pp. 19594-19705.
- Federal In-Lieu Fee Instrument
- District Engineer Oversight/Approval
- Interagency Review Team and Site Selection Committee
- Wetland Council



HB 648 FLOOD COMMISSION KEY FINDING: ENSURE THAT BRIDGES AND CULVERTS ARE ADEQUATELY SIZED.

Adopt wetland rules that incorporate the following design guidance:

- To allow for passage of the 100-year frequency storm.
- To ensure to the maximum extent possible that there is no increase in flood stages on abutting properties
- Flow and sediment transport characteristics will not be affected in a manner which could adversely affect channel stability as described in the *NH Fish and Game Stream Crossing Guidance*(September 2008)

New Hampshire House Bill 648
Chapter 179 Laws of 2007
Comprehensive Flood Management Study
Commission

Final Report
2008



HB 648 FLOOD COMMISSION KEY FINDING: CONSIDER OPTIONS FOR STREAM MITIGATION

- Perform a riparian habitat restoration project in the area of the impacted stream reach or in the same watershed
- Record a conservation easement on a riparian upland buffer with a minimum of 100 feet along both sides of a stream
- Provide payment in-lieu of other options
- Statute revised in 2010 for stream impacts to be assessed at \$200 per linear foot of impact and administrative assessment applies



ARM FUND EVALUATION CRITERIA FOR WETLAND PROJECTS

- Restoration of functions and values
- Overall environmental significance – source water protection area, wellhead, high yield aquifer, threatened/endangered species, Wildlife Action Plan habitats
- Proximity/connectivity and overall mitigation potential
- Cost-effectiveness and partnership potential



EVALUATION CRITERIA FOR STREAM PASSAGE IMPROVEMENT PROJECTS

- Aquatic resource of concern?
 - Species present/potential?
- Overall Mitigation Potential/Protection.
 - AOP and Geomorphic scores
- How much of the aquatic resource will be protected.
- Buffers.
- Connections.
- Likelihood of project success.
 - Project Partners
 - Concept Design
- Flood hazard.
- Critical infrastructure



Fall Brook Culvert Replacement, Swanzey, NH



ARM Funding:
=\$165,000

Total Project Cost:
\$250,572

Project Objective:
Increase access to
cold water
headwaters habitat

Project Partners:
Trout Unlimited,
Cheshire County
Conservation District,
Town of Swanzey,
NRCS, Fish & Game,
Harris Center for
Conservation

Fall Brook Culvert Replacement, Swanzey, NH

- Downstream/Outlet side of structure May 10, 2011



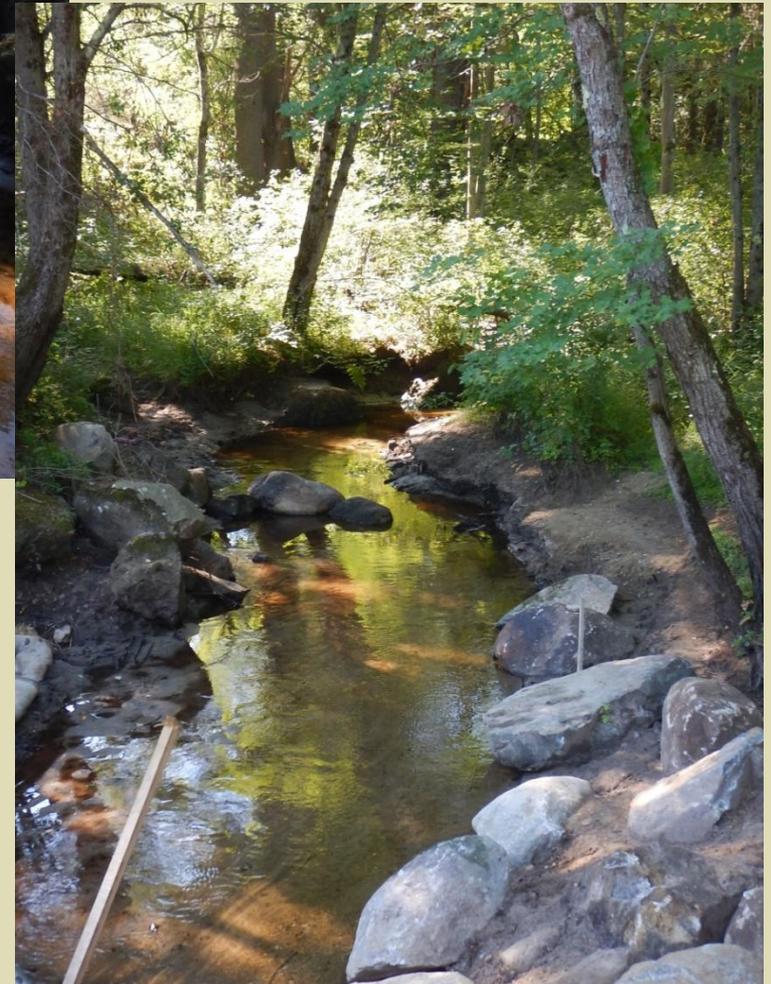
- Upstream (Inlet) side of culvert - May 10, 2011
- Existing structure: 6-foot diameter, 50-foot long corrugated metal pipe



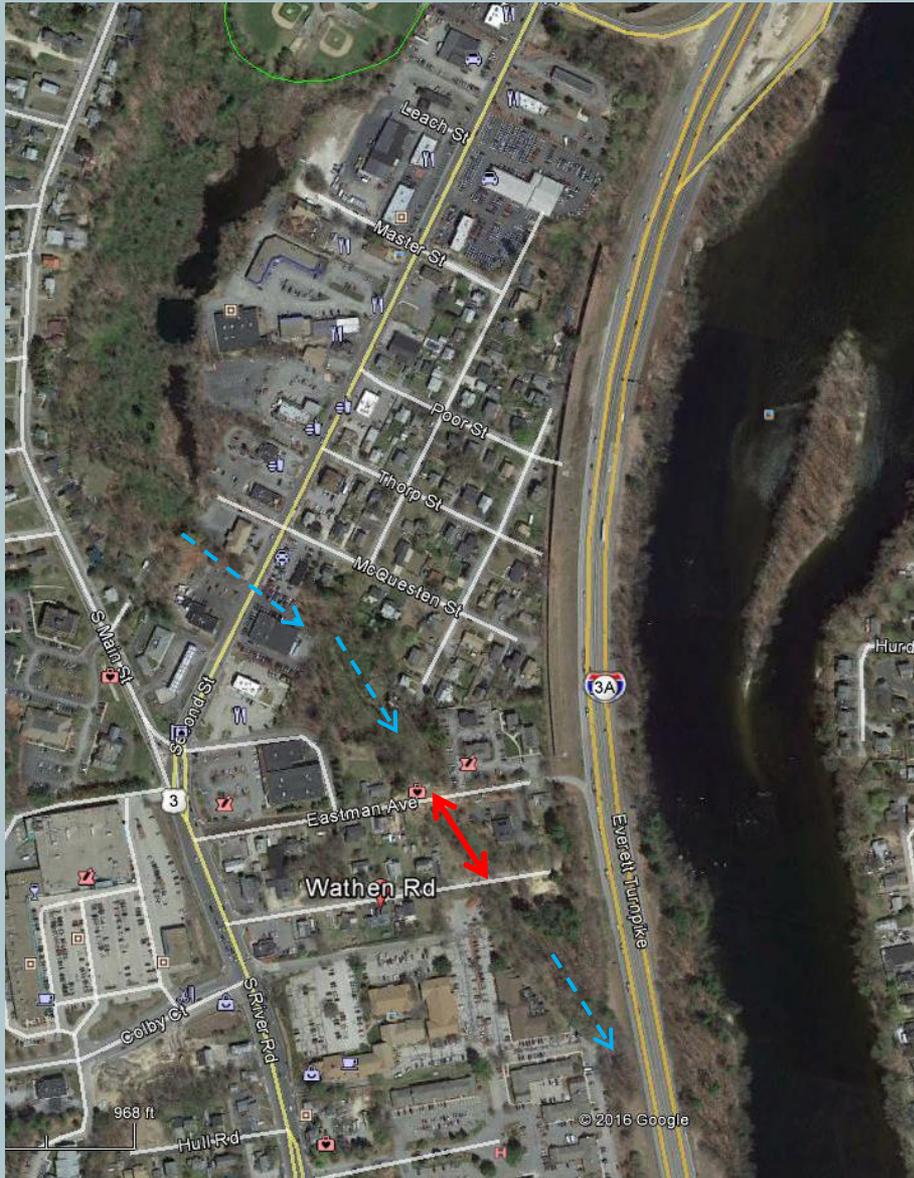


Upstream (inlet)
side of culvert
August 19, 2016

- Install 23-foot wide open bottom arch
- Connection to approximately ten miles of upstream, barrier free, spawning and rearing aquatic habitat.
- Access to spawning habitat on approximately 6 smaller tributaries.



MCQUESTEN BROOK CULVERT REPLACEMENT/REMOVAL



Funding: = \$354,000

Total Project Cost:
Approx. \$800,000

Project Objective:

- Increase access to 1,950 feet of stream,
- Reconnect 2.57 acres of wetland habitat
- Stormwater treatment

Project Partners:

New Hampshire Rivers Council,
NHDES Watershed Assistance Program,
Town of Bedford,
McFarland Johnson, and
John Fields.

McQuesten Brook Culvert Replacement, Bedford

Left: Wathen Upstream
2014

Right: Wathen
Downstream 2014





Left: Eastman Upstream 2014

Right: Eastman Downstream 2014



Aquatic Organism Screen = Reduced AOP

Geomorphic Compatibility Screen:

**Eastman = Mostly Incompatible
Wathen = Partially Incompatible**



Above: Eastman Upstream
15' foot span
April 29, 2016

Right: Wathen Crossing
July 2016



WATHEN RD FLOODPLAIN RESTORATION



RESTORATION PROJECT REQUIREMENTS

- **Restoration Plan**
 - Plan must be submitted and approved prior to commencing work. The restoration plan can often be part of the wetland permit.
 - Coordination with wetlands permitting staff and ARM staff

- **Monitoring Plan**
 - Must include measurable performance objectives and metrics to establish project success.
 - Must be developed in coordination with ARM Staff and approved by the ACOE.

- **Post-Construction Report**

- **Five Years of Monitoring and Monitoring Reports**



*****2018 ARM FUND GRANT ROUND*****
****DEADLINES****

Majority of watersheds with available funding

2 Page Pre-proposal deadline:	April 30, 2018
Final application materials deadline:	August 31, 2018
Site Selection Committee review:	Sept. – Oct., 2018
Army Corps and Wetland Council Review:	November, 2018
Awards Announced	December, 2018

Potential 2018 ARM Funds

