2008 REPORT OF THE ACTIVITY OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES AQUATIC RESOURCE MITIGATION FUND PROGRAM

December 31, 2008

I. INTRODUCTION

The NHDES Wetlands Program (DES) has reported that since the 18th century, about one-tenth of the nontidal wetlands have been destroyed in the state. During the high growth period between 2001 and 2006, approximately 900 acres of wetlands were filled or otherwise impacted due to permitted activities. In March, 2004, the DES wetlands program adopted a set of mitigation rules that establish what is necessary for an applicant to provide for wetland compensation. The rules spell out ratios for wetland creation, restoration and upland preservation relative to the type of wetland lost through the proposed development. During the 2006 legislative session, the General Court enacted Senate Bill 140, known as Aquatic Resource Compensatory Mitigation. Chapter 313, Laws of 2006 has now been codified at RSA 482-A:28 through RSA 482-A:33. The law became effective on August 18, 2006 and the DES adopted rules for its operation on June 20, 2007. See Env-Wt 100-800 administrative rules at: http://des.nh.gov/organization/commissioner/legal/rules/index.htm#wetlands.

The Aquatic Resource Mitigation (ARM) Fund has been created as one of several compensatory mitigation options available to applicants for impacts to wetlands and other aquatic resources. This mitigation option is available for use after avoidance and minimization of impacts to these aquatic resources has been achieved. 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. The ARM Fund seeks "no net loss" of aquatic resource acreage and functions using a watershed approach. See Figure 1 for the Hydrologic Unit Code 8 (HUC 8) display of the watersheds that is used for collection of funds.

The DES regulations allow for the funds in each watershed account to accumulate for two years after the first deposit into each account. After two years have lapsed, the funds will be advertised in a request for proposals for disbursal. Since there has not been any release of funds to report, this report outlines the wetland impacts, a summary of wetland functions and values lost, and accruals associated with the DES ARM Fund. The purpose of this report is to advise the public of the status of the ARM Fund and to address items referenced in the DES regulations, Env-Wt 807.19, specifically:

(1) A summary that details the sources of all payments received and all fund expenditures on a per-watershed basis.

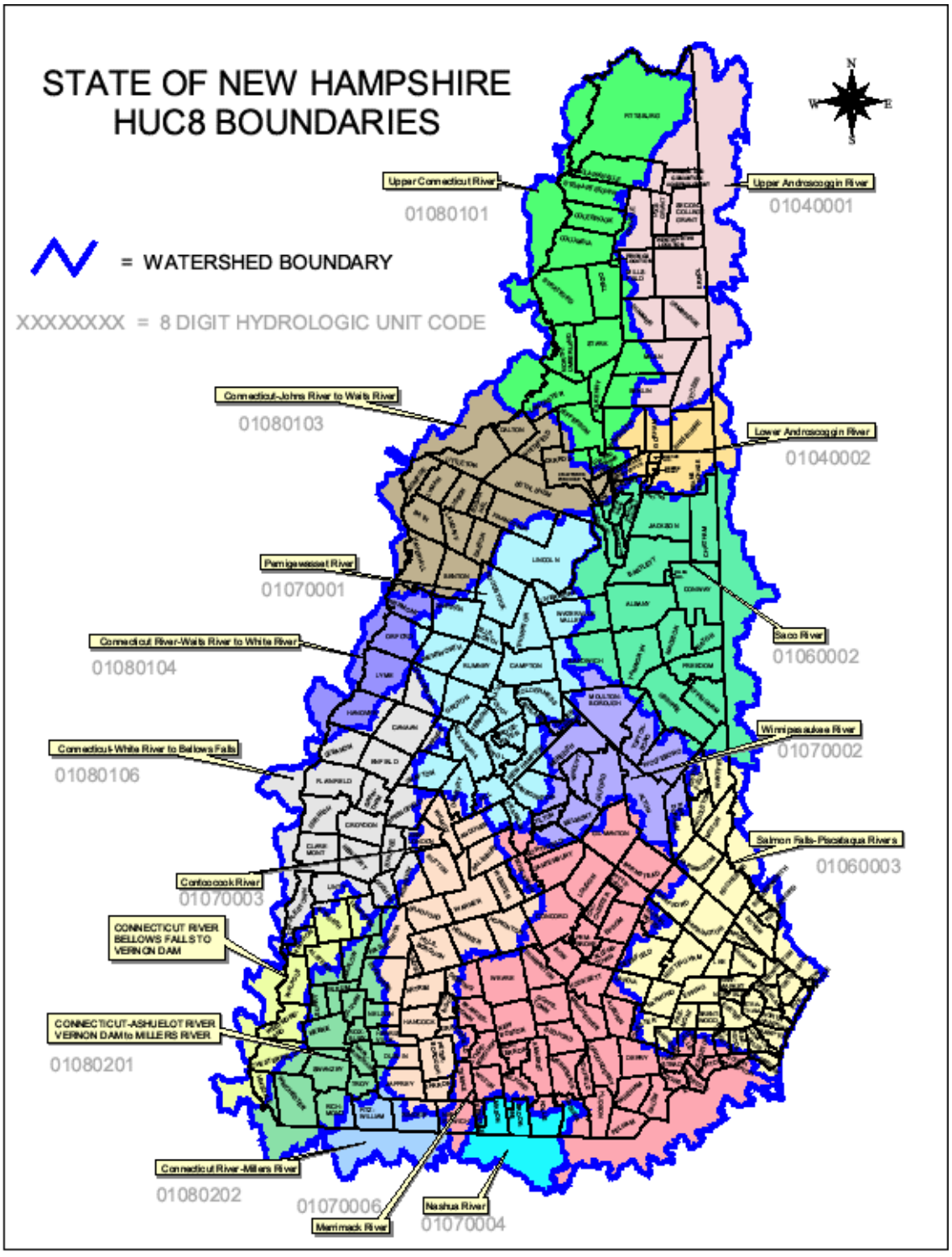
Future reports will include the following additional details:

(2) A description of each project funded and information on the progress or completion of those projects;
(3) The acreage and type of aquatic resource restored, created, or otherwise protected in each HUC 8 watershed by the projects described pursuant to (b), above; and
(4) The functions gained by the projects described pursuant to (b), above.

The last section of this report highlights program achievements made by the mitigation program over the 2007-2008 calendar years.

FIGURE 1. STATE OF NEW HAMPSHIRE HYDROLOGIC UNIT CODE 8

BOUNDARIES



II. WETLAND LOSS AND CONTRIBUTIONS RECEIVED

Since the ARM Fund's inception, **19** projects have used the payment option as mitigation for permitted wetland impacts. The **19** permitted projects resulted in **9.2 acres** of wetland impacts over the two years of operation. For these wetland impacts, the Fund accrued contributions totaling **$1,113,769.22**. The impacts, contributions, functions and values impacted by projects that generated funds and the proposed release dates of each account are shown below.

ARM FUND REVENUES, IMPACTS AND FUNCTION AND VALUES LOST CALENDAR YEAR 2007-2008

UPPER CONNECTICUT RIVER WATERSHED – Release September 2009

DES PERMIT LOCATION, FILE #	IMPACTS (in acres)	FUNCTIONS & VALUES LOST	REVENUES	DATE PERMIT ISSUED
Pittsburg, 2006-516	0.99	Wildlife habitat, Uniqueness as it drains to Designated River - CT River	$103,226.00	8/20/2007
TOTALS FOR WATERSHED	**0.99**		**$103,226.00**	

UPPER ANDROSCOGGIN RIVER WATERSHED – Release October 2010

DES PERMIT LOCATION, FILE #	IMPACTS (in acres)	FUNCTIONS & VALUES LOST	REVENUES	DATE PERMIT ISSUED
Milan, 2008-2098	0.61	Limited due to historic use as lumber yard; within 100 year floodplain	$63,110.55	10/17/2008
TOTALS FOR WATERSHED	**0.61**		**$63,110.55**	

CONNECTICUT RIVER – JOHNS RIVER TO WAITS RIVER – Release August 2009

DES PERMIT LOCATION, FILE #	IMPACTS (in acres)	FUNCTIONS & VALUES LOST	REVENUES	DATE PERMIT ISSUED
Bethlehem, 2002-1856	0.34	Wildlife habitat; Uniqueness; High elevation 1080-1220'	$14,904.44	7/20/2007
Littleton, 2002-2529	0.27	Wildlife habitat	$29,904.23	8/2/2007
TOTALS FOR WATERSHED	**0.61**		**$44,808.67**	

PEMIGEWASSETT RIVER WATERSHED – Release June 2010

DES PERMIT LOCATION, FILE #	IMPACTS (in acres)	FUNCTIONS & VALUES LOST	REVENUES	DATE PERMIT ISSUED
Lincoln, 2007-881	0.28	Groundwater recharge/discharge	$30,122.14	2/27/2008
Woodstock, 2007-145	0.36	Wildlife habitat; limited sediment/toxicant retention; unique due to proximity to Designated River	$37,280.06	3/1/2008
Lincoln, 2007-1538	0.14	Limited groundwater recharge/discharge; sediment/toxicant retention	$14,829.77	6/23/2008
TOTALS FOR WATERSHED	**0.78**		**$82,231.97**	

WINNIPESAUKEE RIVER WATERSHED – September 2009

DES PERMIT LOCATION, FILE #	IMPACTS (in acres)	FUNCTIONS & VALUES LOST	REVENUES	DATE PERMIT ISSUED
Tilton, 2005-3055	0.59	Limited overall - some sed/toxicant retention	$85,108.00	8/30/2007
Moultonborough, 2006-2266	0.49	Floodflow alteration, wildlife habitat, sed/tox retention	$76,358.73	12/5/2007
TOTALS FOR WATERSHED	**1.08**		**$161,466.73**	

SALMON FALLS RIVER – PISCATQUA RIVER WATERSHED – August 2010

DES PERMIT LOCATION, FILE #	IMPACTS (in acres)	FUNCTIONS & VALUES LOST	REVENUES	DATE PERMIT ISSUED
Rye, 2008-590	0.05	Salt marsh habitat; fish and shellfish habitat; shoreline stabilization	$14,216.22	7/28/2008
Stratham, 2007-2373	0.8	Sediment/toxicant removal; nutrient removal/retention	$124,391.90	9/2/2008
TOTALS FOR WATERSHED	**0.85**		**$138,608.12**	

MERRIMACK RIVER WATERSHED – February 2009

DES PERMIT LOCATION, FILE #	IMPACTS (in acres)	FUNCTIONS & VALUES LOST	REVENUES	DATE PERMIT ISSUED
Londonderry, 2006-2360	0.4	Stormwater detention of runoff from existing site	$52,394.00	1/25/2007
Hooksett, 2006-712	0.36	Floodflow alteration, wildlife habitat, limited groundwater rechg/discharge	$61,153.33	6/18/2007
Hooksett, 2005-2505	0.58	Groundwater recharge/discharge	$77,636.00	9/6/2007
Candia, 2006-1471	0.72	Stormwater detention, sed/tox retention	$82,438.00	12/27/2007
Londonderry, 2008-3	0.51	Groundwater recharge; flood-flow alteration; sediment/toxicant removal	$35,545.44	3/27/2008
Epsom, 2006-3183	0.46	Wildlife habitat; sediment/toxicant retention; some floodflow alteration	$52,342.79	8/16/2008
Epsom, 2007-2200	0.4	Flood storage; wildlife habitat	$45,774.52	12/1/2008
TOTALS FOR WATERSHED	**3.43**		**$407,284.08**	

CONNECTICUT RIVER – ASHUELOT RIVER – VERNON DAM TO MILLERS RIVER WATERSHED – May 2010

DES PERMIT LOCATION, FILE #	IMPACTS (in acres)	FUNCTIONS & VALUES LOST	REVENUES	DATE PERMIT ISSUED
Keene, 2007-2703	0.85	Sediment/toxicant retention; groundwater recharge/discharge; floodflow alteration; limited wildlife habitat and shoreline stabilization	$113,033.10	4/30/2008
TOTALS FOR WATERSHED	**0.85**		**$113,033.10**	

Four additional projects DES has determined an ARM Fund payment is acceptable are noted below. These **4** projects have the potential of an additional **$365,909.86** to be paid into the Fund.

POTENTIAL ARM FUND REVENUES, IMPACTS AND FUNCTION AND VALUES LOST IN CALENDAR YEAR 2008

PROJECT TOWN	HUC 8 WATERSHED	IMPACTS	FUNCTIONS AND VALUES LOST	REVENUES
Goffstown, 2006-1392	Merrimack River	0.43	Floodflow alteration, groundwater rechg/dischg, wildlife habitat, production export	$60,724.72
Lancaster, 2008-361	Upper Connecticut River	0.38	Limited value as it has been clearcut and is surrounded by industrial park.	$40,373.00
Lincoln, 2008-807	Pemigewassett River	0.61	Limited value manmade waterway	$64,812.14
Manchester, 2006-3219	Merrimack River	1.29	Flood storage; sediment/toxicant retention	$200,000.00
TOTALS FOR POTENTIAL PAYMENTS		**2.71**		**$365,909.86**

II. DES MITIGATION PROGRAM ACHIEVEMENTS IN 2007 - 2008

In the first year of operation, the ARM Fund program has made huge progress in preparing for the release and use of collected funds. The following items summarize program achievements to date:

- Pursuant to RSA 482-A:32, an ARM Fund Site Selection Committee (Committee) has been established for the purpose of identifying projects to be funded. The Committee consists of the following members: A single representative from the Department of Environmental Services, Fish and Game Department, the Office of Energy and Planning, and the Department of Resources and Economic Development will be appointed by the respective Commissioner or Director of each such department or office. Four members of the public, appointed by the Governor and Executive Council for a term of three years will also serve on the Committee. These members represent each of the following organizations: the New Hampshire Association of Conservation Commissions, the New Hampshire Association of Natural Resource Scientists, The Nature Conservancy, and the Society for the Protection of New Hampshire Forests.

- New Mitigation Agreement Form (attached) has been developed to streamline the process for conceptual stages of mitigation proposals developed for wetland applications.

- New DES Mitigation Information and Checklist (attached) has been developed and is published on the website.

- Program was awarded an EPA Development grant to develop a strategy for identifying wetland restoration and land protection projects for funds from the Aquatic Resource Mitigation fund. The grant

will be completed in February, 2009 so stakeholders in the Merrimack River HUC 8 watershed can use the information and apply for ARM funds available in March 2009. The strategy will then be used in other watersheds for identification and use by the public.

- A Memorandum of Understanding between the DES and U.S. Army Corps of Engineers, New England District was signed on March 14, 2008 to establish the procedures and guidelines between the permitting agencies and compensatory mitigation requirements.

- DES has developed a draft ARM Fund application packet; and

- DES met with the DES Web Design Team and has developed a comprehensive Fact Sheet (attached) and other attachments for the development of a new Mitigation webpage. Final formatting of the pages was completed in November, 2008 and all materials associated with the mitigation program can be found at **http://des.nh.gov/organization/divisions/water/wetlands/wmp/index.htm**

III. CONCLUSION

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

NHDES PRELIMINARY MITIGATION AGREEMENT FORM

I, _____, ("Applicant"), represented by _____ ,
(Print Applicant name legibly) (Print Authorized Agent name legibly)
and the Department of Environmental Services ("DES") hereby agree to the process described below to streamline the review of Applicant's application for a permit under RSA 482-A.

A **Preliminary Mitigation** package is being submitted with the Standard Dredge and Fill Application in accordance with Env-Wt 501.06 and Env-Wt 800. The package contains the information required as outlined in the DES Compensatory Mitigation Checklist.

The preliminary mitigation proposal type is (please check one or more types):

- ___ Wetland Restoration
- ___ Upland Buffer Preservation
- ___ Wetland Creation
- ___ Payment into the Aquatic Resource Mitigation Fund following consideration of the three options noted above and determining them to not be feasible for complete mitigation.

By executing this agreement, DES agrees to accept Applicant's **Preliminary Mitigation** proposal for purposes of determining whether the application is administratively complete. However, the application will not be deemed complete if other basic information is missing such as the required plans, attachments, and/or fees.

Applicant agrees to submit the final mitigation plans to DES for review by _____.
Date

Applicant and DES, by mutual agreement authorized under RSA 482-A:3, XIV(c)(3), agree to extend the response time for DES to review the final mitigation proposal, once received, to 60 days from receipt of the final mitigation plans.

The applicant agrees that if the information required under Env Wt 800 is not submitted by the date specified in this agreement or 120 days from a Request For More Information by DES, the application will be denied.

I, ___ Applicant ____ Authorized Agent [check one] hereby certify that the information submitted with the application meets the **Preliminary Mitigation** requirements for the DES Wetlands Bureau to understand the nature and appropriateness of the proposed mitigation.

_____ _____
Signature of Applicant or Authorized Agent Date

The NHDES Wetlands Bureau agrees, by the signature below, that the information submitted meets the **Preliminary Mitigation** requirements, and that technical review of the mitigation proposal will not commence until the required items are submitted before or on the date noted above.

_____ _____
NHDES Wetland Mitigation Coordinator Date

ENVIRONMENTAL Fact Sheet

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

29 Hazen Drive, Concord, New Hampshire 03301 • (603) 271-3503 • www.des.nh.gov

WD-WB-16 **2008**

Compensatory Mitigation Information and Checklist

For permanent impacts that will remain after avoidance and minimization measures have been addressed, the applicant shall submit a compensatory mitigation proposal in accordance with Env-Wt 800, unless exempted by Env-Wt 302.03(c). Criteria in Env-Wt 501.02(a) provide details about information to be submitted with your application.

In general, an applicant is required to provide compensatory mitigation if the project meets any of the following criteria:

- The project will result in 10,000 square feet or greater of permanent wetland impact.
- The project will alter the course of or disturb 200 linear feet or more of an intermittent or perennial nontidal stream or river channel or its banks. For intermittent streams, the distance shall be measured along the thread of the channel. For perennial streams or rivers, the total disturbance shall be calculated by summing the lengths of disturbance to the channel and each of the banks.
- The project involves construction of a pond with more than 20,000 square feet of impact in a wetland or surface water.
- The project involves only the installation of accessory docking structures or the construction of new shoreline structures and breakwaters, or includes such work in combination with other qualifying criteria, provided the resulting dock surface area of all new shoreline structures on the frontage is less than 2,000 square feet.

Compensatory mitigation is required to replace or protect wetland functions and values that are impacted by the project. Please demonstrate how you have reviewed all of the following four options:

1) **Upland Buffer Preservation** means an area of land that is contiguous to an aquatic resource and contributes to the functions and values of that resource. For this to be acceptable by DES, the land must be protected through a conservation easement or transfer of fee simple ownership to an acceptable agency or organization. Please demonstrate that the following organizations have been consulted that include state natural resource agencies, land trusts, watershed associations, and regional planning commissions.
2) **Wetland Restoration** means the re-establishment of a filled, dredged, or drained wetland to its historic condition, so as to restore lost functions to the greatest extent practicable, by removal of fill, restoration of hydrology to the area, or by such other means necessary.
3) **Wetland Creation** means the transformation of upland to wetland at a site where upland was not created by human activity such as by filling or water diversion.
4) **Payment** in-lieu of the three options above after they have been considered and determined not feasible. Payment is provided to the Aquatic Resource Mitigation Fund if the project will fill less than one acre of wetlands or will impact up to three acres if it is a public roadway or public utility project.

Mitigation Checklist

For projects that require mitigation, the Standard Dredge and Fill application shall be considered <u>administratively complete</u> when a Preliminary Mitigation Package is submitted with the following:

_____ An **explanation** of which of the mitigation options is/are being proposed for compensatory mitigation.

____ Wetland creation **____ Wetland restoration**

____ Upland buffer preservation **____ Payment to Aquatic Resource Mitigation Fund**

_____ A plan showing the general location of the proposed mitigation site.

_____ A functional assessment of the impacted jurisdictional area(s).

_____ A functional assessment of the proposed mitigation site.

_____ A completed agreement form signed by the applicant and noting the date when a complete mitigation proposal will be submitted to DES. The agreement form is attached to this checklist.

Where **upland buffer preservation** is proposed:

_____ A draft report that documents the current property conditions.

_____ A summary of the conservation values and goals.

Where **wetland restoration or creation** is proposed:

_____ A summary of the proposed measures.

For a compensatory mitigation <u>proposal</u> to be deemed complete, the applicant shall consult DES rules Env-Wt 800, which requires additional information to be submitted such as the following:

For projects that involve **upland buffer preservation:**

_____ Final baseline documentation report of the land proposed for protection, which describes current property conditions and includes photographs.

_____ A copy of the proposed conservation easement language or language noting conveyance of fee simple ownership.

_____ A surveyed plan showing the location of the proposed conservation area boundaries.

_____ A statement from the proposed grantee indicating that the proposed grantee will accept the easement or fee simple deed.

For projects that involve **wetland restoration or creation**:

_____ Explain how the proposal creates hydrologic conditions or land connections that will produce the desired wetland functions or values to be restored or created.

_____ Detailed plans with existing and proposed grades, predicted water fluctuations, and proposed wetland cover types.

_____ Construction procedures and timing of the work to take place.

_____ A planting proposal, source of soils to be used, erosion controls to be installed, and an invasive species control plan if applicable.

For projects that will provide **payment into the Aquatic Resource Mitigation Fund:**

_____ Describe what other forms of mitigation were considered and why they are not feasible.

_____ Request DES to calculate a payment amount.

For More Information

For more information, please contact the DES Wetlands Bureau at (603) 271-2147 or wetmail@des.state.nh.us, or go on-line to www.des.nh.gov/wetlands.

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WD-WB-17 **2008**

Aquatic Resource Mitigation

Dredging, filling and construction in wetland and surface water resources (also, "jurisdictional areas") can result in significant impacts on the environment. Since 1967, New Hampshire has required permits for such activities. While state law requires that dredging and filling of jurisdictional areas must be avoided and impacts minimized, many permits are issued for unavoidable impacts.

To compensate for the loss of these jurisdictional areas, the Department of Environmental Services has adopted rules that require certain projects to provide mitigation for the impacts. Env-Wt 303.02 require mitigation for major impact projects and certain minor impact projects with jurisdictional impacts of 10,000 square feet or greater.

To what projects does compensatory mitigation apply?

A compensatory mitigation proposal is required for minor projects with at least 10,000 square feet of impact and major impact projects, unless jurisdictional impacts are:

- Limited to temporary impacts (the ground surface of the wetland is at the same elevation as before it was disturbed).
- For a pond classified as a minor impact but with less than 10,000 square feet of jurisdictional impacts.
- Less than 10,000 square feet, and not to an exemplary natural community or a state or federally listed endangered or threatened species, its habitat, or reproduction areas.
- For bank stabilization using riprap or other methods to protect existing infrastructure such as highways, bridges, dams or buildings.
- For bank stabilization using bioengineering methods.
- For docking structures if the surface area of all new shoreline structures (for docking) totals less than 2,000 square feet.
- Limited to streams and classified as minor.

Where does the required mitigation have to occur?

Compensatory mitigation sites shall be located in the same watershed, as defined by Env-Wt 101.97, as the impacted wetlands when available and practicable.

How does one determine the appropriate amount of mitigation necessary to offset the impacts associated with a project?

An evaluation of a wetland to determine the functions and values it performs within the context of the broader landscape needs to be done. It is called a functional assessment.

The four types of compensatory mitigation – land preservation, restoration, creation or a payment into the aquatic resource mitigation fund – may be used singly or in combination to assemble a mitigation package that meets current mitigation rules. A clear description of each is as follows:

Land Preservation – The permanent protection of predominantly upland areas using legal and physical mechanisms so that the resource remains in a natural or undeveloped condition. Such protection is accomplished by placing the land under a conservation easement, which is held by a conservation organization, town or state agency. A conservation easement restricts the future use of the property in perpetuity. This practice does not make up for lost wetland functions, but protects other wetlands from degradation due to development of surrounding uplands.

Wetland restoration – The reestablishment of a filled, dredged or drained wetland to its historic condition, to restore lost functions. Restoration can include the removal of fill, restoration of the hydrology, or other means. Wetlands restoration often has a higher success rate, because the wetland hydrology had been present at one time.

Wetlands creation – The transformation of upland to wetland at a site where the upland was not created by human activity, such as by filling or water diversion. Creation typically involves the excavation of a site to achieve adequate hydrologic features, followed by the importation of wetland soils and establishment of wetlands vegetation. This is often very costly and requires significant efforts to succeed.

Aquatic resource mitigation fund – If the other three forms of mitigation have been examined and it has been determined that they are not feasible, this fourth option will be available. That is, payment of funds in lieu of restoration/creation/preservation that can be pooled with similar payments from other projects to fund projects within the same watershed that have greater conservation value.

Replacement Ratios

To answer the "how much" question, ratios of mitigation area to area of wetlands loss, the following table has been developed to reach the goal of having all mitigation sites be quality sites and ensure that there is no net loss of wetlands.

Mitigation Ratio Table 800-1

Resource Type	**Creation Ratio (resource created: size of impact)**	**Restoration Ratio (resource restored: size of impact)**	**Preservation of Upland Buffer Area (buffer area: size of impact)**
Bog	N/A	2 :1	15 :1
Tidal Wetlands	3 :1	2 :1	15 :1
Forested	1.5 :1	1.5 :1	10 :1
Undeveloped Tidal Buffer Zone	N/A	2 :1	3 :1
All Other Jurisdictional Areas	1.5 :1	1 :1	10 :1

For More Information

For more information, please contact the DES Wetlands Bureau at (603) 271-2147 or wetmail@des.state.nh.us, or go on-line to www.des.nh.gov/wetlands.