



NHDES 2008

Watershed Restoration Grants

for

Impaired Waters

PRE-PROPOSAL Information and Application

The New Hampshire Department of Environmental Services (DES) is pleased to announce the availability of Watershed Restoration Grants to support local initiatives to control nonpoint source pollution and address pollution problems in impaired waters.

Impaired waters are those that do not meet water quality standards. We have selected a subset of impaired waters eligible for Watershed Restoration Grants based on availability of watershed planning documents and assessment of local capacity to restore impaired waters. The list of eligible watersheds is in Section 3 of this document. In addition, proposals for other projects where impairments exist that can be documented, and where local institutions exist that can be demonstrated to have the ability to manage projects, may also apply for these grants. The water impairments that a project would address need to be documented to a sufficient degree for DES to determine whether the waters of concern would qualify for listing on the DES list of impaired waters (the "303(d) list") during the next listing cycle and why the waters are not already listed. Only projects that benefit waters that qualify for listing as impaired under existing criteria will be considered for funding."

Funds for DES Watershed Restoration Grants are appropriated through the U.S. Environmental Protection Agency under Section 319 of the Clean Water Act. Approximately \$310,000 will be available for Watershed Restoration projects this year, pending EPA and State approvals. Based on expected budget requirements to complete a comprehensive watershed-based project of this nature, we anticipate funding between three and six projects this year.

Submission Deadline:
4:00pm
October 19, 2007

Section A: GRANT INFORMATION

1. Introduction

Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water.

Hydrologic and habitat modification are also sources of nonpoint source pollution. Hydrologic modification includes bank erosion, channel modification, removal of vegetation along water bodies, urbanization as it affects stream flows and water quality, and wetlands alteration. Habitat modification includes any loss of or change to riparian and aquatic environments, where riparian is defined to include both shoreland and upland areas in proximity to a wetland or other water body.

Pre-Proposals will be used to select project proposals warranting further discussion through a DES interview with potential project implementers. Based on these interviews, successful projects will be selected. Project implementers of the selected projects will be invited to work with DES staff to develop a comprehensive, outcome-based, full proposal application. Selected full proposals will receive funding for implementation.

Pre-proposal Benefits for Project Implementers:

- ✓ Simplified Pre-Proposal process
- ✓ Assistance in developing your proposal, budget, and project plan
- ✓ Increased focus on achieving your desired results
- ✓ More technical assistance from DES staff
- ✓ Assistance with meeting EPA 319 Program requirements

2. Who Can Apply?

The following governmental subdivisions and non-profit organizations are eligible to receive Watershed Assistance Grants. **Non-profit organizations must be registered as corporations with the N.H. Secretary of State**, (see www.sos.nh.gov/corporate/nonprofitleader.htm). Other groups may also apply for grant funding by partnering with the following organizations:

- Municipalities
- Regional Planning Commissions
- Non-profit Organizations
- County Conservation Districts
- State Agencies
- Watershed Associations
- Water Suppliers
- Designated River Local Advisory Committees

Note that grant funds may be used to sub-contract with private entities, such as environmental consulting or engineering firms, to complete portions of projects that are beyond the capacity of the grantee organization.

3. Project Requirements

To be considered for funding, projects must meet the following minimum requirements:

1. Watershed Restoration Grants must involve one or more of the targeted impaired waters listed below. However, applications in other watersheds will be considered if documentation of impairments are provided. See Consolidated Assessment and Listing Methodology (CALM) website at www.des.nh.gov/wmb/swqa/calm.html for more information on documentation.

AUID	WATERBODY NAME	PRIMARY TOWN
NHEST600031004-05	BROWNS RIVER	HAMPTON FALLS
NHEST600031004-06	HUNTS ISLAND CREEK	SEABROOK
NHEST600031003-01	HAMPTON FALLS RIVER	HAMPTON FALLS
NHEST600031004-07	MILL CREEK	SEABROOK
NHEST600031004-09-05	HAMPTON/SEABROOK HARBOR - SEABROOK HARBOR BEACH	SEABROOK
NHRIV600031001-04	HODGSONS BROOK	PORTSMOUTH
NHRIV600030603-02	POKAMOONSHINE BROOK	FARMINGTON
NHLAK700010804-02-02	WEBSTER LAKE - GRIFFIN TOWN BEACH	FRANKLIN
NHLAK700010804-02-03	WEBSTER LAKE - LEGACE TOWN BEACH	FRANKLIN
NHRIV600030608-15	BERRY BROOK	DOVER
NHIMP600030603-01	COCHECO RIVER - CITY DAM 1	ROCHESTER
NHLAK600030604-01-02	BOW LAKE - TOWN BEACH	STRAFFORD
NHRIV600030608-03	COCHECO RIVER	DOVER
NHRIV700010804-05	SUCKER BROOK - UNNAMED BROOKS	ANDOVER
NHRIV700010804-07	UNNAMED BROOK - TO SUCKER BROOK	ANDOVER
NHIMP600030607-02	COCHECO RIVER - GONIC DAM POND	ROCHESTER
NHRIV600030601-02	COCHECO RIVER	NEW DURHAM
NHRIV600030601-09	COCHECO RIVER	FARMINGTON
NHRIV600030602-03	AXE HANDLE BROOK - HOWARD BROOK	ROCHESTER
NHRIV600030603-01	COCHECO RIVER	FARMINGTON
NHRIV600030603-06	COCHECO RIVER	ROCHESTER
NHRIV600030603-08	COCHECO RIVER	ROCHESTER
NHIMP600030608-02	COCHECO RIVER - WATSON-WALDRON DAM POND	DOVER
NHLAK700010804-02-01	WEBSTER LAKE	FRANKLIN
NHRIV600030608-05	COCHECO RIVER	DOVER
NHLAK600030602-01	BAXTER LAKE	FARMINGTON
NHEST600031002-01	WITCH CREEK	RYE
NHRIV600030607-12	UNNAMED TRIBUTARY - TO COCHECO RIVER	ROCHESTER
NHRIV600030607-15	COCHECO RIVER	ROCHESTER
NHRIV600030608-12	UNNAMED TRIBUTARY - TO COCHECO RIVER (DOVER (DOWNSTREAM OF PORTLAND AVE))	DOVER
NHRIV600030608-13	UNNAMED TRIBUTARY - TO COCHECO RIVER - (DOVER	DOVER

	(UPSTREAM OF ATLANTIC AVE))	
NHEST600031002-02	LITTLE HARBOR	RYE
NHLAK600030601-05-02	SUNRISE LAKE - TOWN BEACH	MIDDLETON
NHRIV700010203-01	PEMIGEWASSET RIVER	WOODSTOCK
NHRIV700010302-03	BAKER RIVER	WARREN
NHIMP700030204-05-02	BEARDS BROOK - MILL POND TOWN BEACH	WASHINGTON
NHIMP802010303-04-02	UNKNOWN RIVER - SAND DAM VILLAGE POND TOWN BEACH	TROY
NHRIV801010203-07	CONNECTICUT RIVER	CLARKSVILLE
NHRIV801010305-01	CONNECTICUT RIVER	STEWARTSTON
NHRIV801010305-02	CONNECTICUT RIVER	STEWARTSTON
NHRIV801010401-04-02	MOHAWK RIVER	COLEBROOK
NHRIV801010402-01	MOHAWK RIVER	COLEBROOK
NHRIV801010402-03	MOHAWK RIVER	COLEBROOK
NHRIV801010404-02	CONNECTICUT RIVER	COLUMBIA
NHRIV801010405-03	CONNECTICUT RIVER	COLUMBIA
NHRIV801010603-05	CONNECTICUT RIVER	STRATFORD
NHRIV801010707-10	UPPER AMMONOOSUC RIVER	STARK
NHRIV801010707-12	UPPER AMMONOOSUC RIVER	STARK
NHRIV801010707-13	UPPER AMMONOOSUC RIVER	STARK
NHRIV801010707-18	UPPER AMMONOOSUC RIVER	NORTHUMBERLAND
NHRIV801010902-02	CONNECTICUT RIVER	NORTHUMBERLAND
NHRIV801010902-03	CONNECTICUT RIVER	NORTHUMBERLAND
NHRIV801010903-02	CONNECTICUT RIVER	LANCASTER
NHIMP700060901-07	SOUHEGAN RIVER – OTIS DAM	NEW IPSWICH
NHIMP700060902-01	SOUHEGAN RIVER	GREENVILLE
NHIMP700060904-08	SOUHEGAN RIVER – PINE VALLEY MILL	WILTON
NHIMP700060906-07	SOUHEGAN RIVER – GOLDMAN DAM	MILFORD
NHIMP700060906-08	SOUHEGAN RIVER – MCLANE DAM	MILFORD
NHIMP700060905-01-01	BABOOSIC LAKE	AMHERST
NHIMP700060905-01-02	BABOOSIC LAKE – TOWN BEACH	AMHERST
NHIMP700060906-01	HONEY POT POND	AMHERST
NHIMP700060901-04	STARK BROOK	NEW IPSWICH
NHIMP700060901-05	SOUHEGAN RIVER- WEST SOUHEGAN RIVER	NEW IPSWICH
NHRIV700060901-09	SOUHEGAN RIVER – FURNACE BROOK	NEW IPSWICH
NHRIV700060902-05	SOUHEGAN RIVER – TUCKER BROOK	WILTON
NHRIV700060902-13	SOUHEGAN RIVER	WILTON
NHRIV700060903-16-02	STONY BROOK – TOWN BEACH (GOSS PARK)	WILTON
NHRIV700060904-07	PURGATORY BROOK	MILFORD
NHRIV700060904-13	SOUHEGAN RIVER – STONY BROOK	WILTON
NHRIV700060904-14	SOUHEGAN RIVER	MILFORD
NHRIV700060905-17	BABOOSIC BROOK – MCQUADE BROOK	BEDFORD
NHRIV700060905-18	RIDDLE BROOK	BEDFORD
NHRIV700060905-19	BABOOSIC BROOK – RIDDLE BROOK	MERRIMACK
NHRIV700060906-13	SOUHEGAN RIVER	MILFORD
NHRIV700060906-16	SOUHEGAN RIVER	AMHERST
NHRIV700060906-18	SOUHEGAN RIVER	MERRIMACK
NHRIV700060906-20	UNNAMED BROOK – FROM YORK POND TO SOUHEGAN RIVER	MERRIMACK
NHRIV700060606-25	SOUHEGAN RIVER	MERRIMACK

2. The project must address the required elements “a through i” for watershed management plans (see Application Section 6 for details).
3. The project must **address a goal or goals in the *New Hampshire Nonpoint Source Management Plan***, Goals only, are available online at www.des.state.nh.us/wmb/was/documents/linktonpsgoals.pdf or a complete plan is online at: www.des.state.nh.us/WMB/Was/documents/npsplan.pdf or available in hard copy at DES.
4. A project must plan or implement measures that **prevent, control, or abate NPS pollution**. Projects should:
 - be directed at encouraging, requiring, or achieving implementation of best management practices (BMPs), whether structural or non-structural, to abate existing nonpoint sources, or directed at preventing NPS pollution through better land use management.
 - implement BMPs throughout the watershed rather than at a single site.
 - be feasible, practical and cost effective.
 - provide an informational, educational, and/or technical transfer component.
5. The project must include an appropriate **method for verifying project success** with respect to the project performance targets, with an emphasis on demonstrated environmental improvement.
6. Grant Recipients must enter into a **Grant Agreement** with the State of New Hampshire to receive funds. Grant agreements will require Governor and Executive Council approval. The State of New Hampshire requires the following documentation for execution of Grant Agreements (this documentation is **not required at the time of Pre-Proposal**, but will be needed prior to awarding funds):
 - a) Vendor Code - issued following the organization’s submittal of the “Alternate W-9” form. (This form provided by DES. Organizations that have received funds from DES in the past will already have a Vendor Code on file).
 - b) Notarized “Grant Agreement” form (the “contract”) – provided by DES and signed and notarized by project implementers.
 - c) Notarized “Certificate of Authority” form – provided by DES and signed and notarized by project implementers (Note: The Certificate of Authority indicates that the person signing the Grant Agreement has authority to do so).
 - d) “Certificate of Good Standing” form from the N.H. Secretary of State (Note: This form indicates that a non-profit organization has filed its Articles of Agreement with the Secretary of State and that the organization has paid the \$25 fee to do so).
 - e) Certificate of Insurance indicating that the Grant Recipient has the required amount of liability insurance (\$2,000,000 for bodily injury; \$500,000 property damage).

6. Proposals that are selected for funding will be required to **provide at least 40%** of the total project cost with non-federal funds and/or in-kind services, such as volunteer labor.
7. If the project will involve the collection, analysis, or manipulation of environmental data, including the use of load reduction models or engineering calculations, it will require a **Quality Assurance Project Plan (QAPP)**. Keep in mind that it can take up to several months to complete the QAPP writing and approval process, and that the QAPP must be approved before sampling begins. For guidelines on the development and approval of QAPPs, visit the DES website at www.des.state.nh.us/WMB/Was/QAPP. Please contact Jillian McCarthy at (603)271-8475, or jmccarthy@des.state.nh.us with QAPP related questions.

Projects that will involve non-monitoring environmental data, such as pollutant load reduction estimates, engineering calculations, or use of secondary data, will require an abbreviated QAPP.

8. Because these grants are made possible through federal funding, organizations are required to conduct a **competitive bid process** for contractor selection and to make a good faith effort to hire disadvantaged businesses. For a list of disadvantaged business enterprises see www.nh.gov/dot/bureaus/humanresources/laborcompliance/dbe/directory.htm or contact Jeff Marcoux at (603)271-8862, or jmarcoux@des.state.nh.us.
9. **Semi-annual progress reports** and a **final report** are required. Progress reports are intended to allow implementers to consider, and share information regarding progress toward meeting performance targets, and allow DES staff to offer assistance in meeting those targets. **Semi-annual reports are available at:** [www.des.state.nh.us/wmb/was/documents/Quarterly Progress Report Form06.doc](http://www.des.state.nh.us/wmb/was/documents/Quarterly%20Progress%20Report%20Form06.doc) and **final reports area available at:** [www.des.state.nh.us/wmb/was/documents/Final %20Report Guidance06.doc](http://www.des.state.nh.us/wmb/was/documents/Final%20Report%20Guidance06.doc).

4. Evaluation Criteria

The Watershed Assistance Section grants review team will evaluate Pre-Proposal submissions. The review team will be looking for the following:

- A clear water quality or habitat problem
- Potential to achieve measurable results
- Commitment of the project implementer's support network
- A clear and concise project outcome statement
- Realistic performance targets to achieve the desired outcome

Implementer groups selected during the Pre-Proposal phase will be invited to interview with DES staff to further discuss the project proposal. Based on the results of the interview,

implementers may be invited to work with DES staff to develop a comprehensive outcome-based project proposal. Selected comprehensive project proposals will receive funding for implementation.

Please visit the DES Watershed Assistance Section grants website to access the database of past projects funded through the grants program:

http://www2.des.state.nh.us/OneStop/Watershed_NPSGrants_Query.aspx

Pre-Proposals must be received at DES no later than 4:00 p.m. October 19, 2007.

5. How Do I Apply?

Submit **5 signed copies** of the Pre-Proposal form (Section B of this document) via mail or hand delivery, and an electronic copy to:

NH Department of Environmental Services
Attention: Jeff Marcoux
Watershed Assistance Section
PO Box 95
Concord, NH 03302-0095

For overnight shipping or hand deliveries, our address is:
29 Hazen Drive
Concord, NH 03301-6509.

E-mail electronic copies in Microsoft Word or PDF file formats to: jmarcoux@des.state.nh.us
If your file is too large to be e-mailed, please provide electronic files on compact-disk.

For assistance with your Pre-Proposal, refer to the contacts in Section 7 "*For More Information*".

6. Time Table for Contract Processing

Final funding decisions will be made by February 9, 2007, so that contracting can be completed in time for the 2008 outdoor working season.

Total time to process a grant agreement once the Pre-Proposal is received from an organization is approximately **6-8 months**, as shown in the following table:

PROCESS	APPROXIMATE TIME FRAME
1. Deadline for Submission of Pre-Proposals.	October 19, 2007
2. Evaluate Pre-Proposals.	October - November
3. Contact organizations submitting successful Pre-Proposals by phone to schedule interview.	Early November
4. Contact organizations submitting unsuccessful Pre-Proposals by letter.	November
5. Conduct interviews with organizations submitting successful Pre-Proposals.	Late November
6. Select sub-set of Pre-Proposals, assign DES staff, and invite those organizations to submit full project proposals.	Early December
7. Implementers submit full proposals	January 19
8. Make final selection of proposals to receive funding.	February 9
9. Draft Grant Agreements and send to organizations for signatures.	February - March
10. DES Commissioner and N.H. Attorney General's office review grant agreements*.	March*
11. Submit grant agreements to Governor and Executive Council for approval.	March - April
12. Governor and Council approval.	April - May
13. Project may begin.	May

* If an organization has not registered with the Secretary of State, this process may be delayed.

7. For More Information

- For information and assistance regarding grant applications, please contact Jeff Marcoux at (603)271-8862 (jmarcoux@des.state.nh.us) or Eric Williams at (603)271-2358 (ewilliams@des.state.nh.us)

8. Other Grant Options

- In addition to Watershed Restoration Grants, DES is pleased to continue to offer Watershed Assistance Grants for High Quality Waters and Small Education and Outreach Grants for Watershed Organizations. The Small Education and Outreach Grants are limited to \$2,000 per organization and are offered on a continuous basis. For more information, contact Barbara

McMillan at (603)271-7889 (bmcmillan@des.state.nh.us), or see the DES website at www.des.state.nh.us/wmb/was/smgrants.htm.

- For agricultural projects, the N.H. Department of Agriculture offers an Agricultural Nutrient Management (ANM) Grant Program, using Clean Water Act Section 319 funding from DES. Applicants for ANM grants may apply for cost assistance of up to \$2,500 per year. No match is required; however, in-kind services such as labor provided by the applicant will enhance the application. For more information see <http://agriculture.nh.gov/programs/> (scroll to the bottom), or contact the Bureau of Markets at (603)271-3685.

- For more DES grant options see the DES grants and loans webpage at <http://www.des.state.nh.us/asp/Grants/index.asp?gotoGrants=0>

Section B: APPLICATION FORM

Watershed Restoration Grants for Impaired Waters

I. Proposal Title

Willand Pond Drainage Establishment and Public Outreach

II. Contact Information

Primary contact person:	Christopher Parker, AICP		
Organization:	City of Dover		
Street address:	288 Central Avenue		
City, State, ZIP:	Dover, NH 03820		
Day phone: (603)516-6008	Fax: (603)516-6007	Email: c.parker@ci.dover.nh.us	

Secondary contact person:	Craig Wheeler		
Organization:	City of Somersworth		
Street address:	1 Government Way		
City, State, ZIP:	Somersworth, NH 03878		
Day phone: (603)516-9516	Fax: (603)692-9575	Email: cwheeler@somersworth.com	

Signature of Applicant: _____

Date of signature: _____

III. Proposal Summary

In 200 words or less, describe the proposed project including: the general location (municipalities and watershed); water quality impairment(s); causes or sources of water quality impairment(s); proposed management activities, e.g., education, technical assistance; goal(s) of the project; and how success will be verified.

Willand Pond is a 86 acre natural and spring fed Class A water body, situated in the Middle Salmon Falls River, which is located in the Piscataqua River Watershed. The subwatershed of interest, although not delineated at this time, is approximately 290 acres.

Over the decades the pond watershed has been steadily developed. Route 108 borders the pond to the south and west in Dover and Route 9 is situated along the east of the pond in Somersworth. A multitude of factors contribute to a sustained elevated water level that has resulted in flooding, property damage, inaccessibility to trails and other detrimental human and environmental impacts.

There has been encroachment into the disorganized drainage outlet to the north east over time. In addition, installation of a sanitary sewer line and water mains in Somersworth has intersected the path of the drainage flow. Surface water flows out of the pond, through a wetland to the north and appears to be redirected and/or impounded where the sanitary line crosses the hydric soils. Sustained flooding at Willand Pond since the so called Mother’s Day Storm in May 2006, has occurred as well.

On July 13, 2007, DES documented a cyanobacteria bloom in Willand Pond. This occurrence has decreased transparency and affected overall water quality and caused the pond to be classified as eutrophic. Willand Pond is impaired under the DES Surface Water Quality Standard, Env-Ws 1703.01 Water Use Classifications, (c) and (d).

Success will be verified by the reduction of water levels, the creation of a volunteer monitoring group, and the pond being classified as either oligotrophic or mesotrophic after successful implementation of the chosen solution.

IV. Project Location

- A. Town(s): **Somersworth/Dover**
 Is project statewide? **Yes** **No** X
 Does project involve other states? **Yes** **No** X

- B. What type of water body does it affect? **River** **Stream** X **Lake/Pond** X
Estuary **Other** X Wetlands Area
 Waterbody name: **Willand Pond** (NHLAK600030405-03)

- C. Attach a watershed map showing project location **Yes** X

V. Problem/Need

- A. An Impaired Watershed Restoration Grant must address an impaired water in the list below. Check the impaired waters the project will address. However, applications in other watersheds will be considered if documentation of impairments are provided. See Consolidated Assessment and Listing Methodology (CALM) website at www.des.nh.gov/wmb/swqa/calm.html for more information on documentation.

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NHEST600031004-05	BROWNS RIVER	HAMPTON FALLS
NHEST600031004-06	HUNTS ISLAND CREEK	SEABROOK

NHEST600031003-01	HAMPTON FALLS RIVER	HAMPTON FALLS
NHEST600031004-07	MILL CREEK	SEABROOK
NHEST600031004-09-05	HAMPTON/SEABROOK HARBOR - SEABROOK HARBOR BEACH	SEABROOK
NHRIV600031001-04	HODGSONS BROOK	PORTSMOUTH
NHRIV600030603-02	POKAMOONSHINE BROOK	FARMINGTON
NHLAK700010804-02-02	WEBSTER LAKE - GRIFFIN TOWN BEACH	FRANKLIN
NHLAK700010804-02-03	WEBSTER LAKE - LEGACE TOWN BEACH	FRANKLIN
NHRIV600030608-15	BERRY BROOK	DOVER
NHIMP600030603-01	COCHECO RIVER - CITY DAM 1	ROCHESTER
NHLAK600030604-01-02	BOW LAKE - TOWN BEACH	STRAFFORD
NHRIV600030608-03	COCHECO RIVER	DOVER
NHRIV700010804-05	SUCKER BROOK - UNNAMED BROOKS	ANDOVER
NHRIV700010804-07	UNNAMED BROOK - TO SUCKER BROOK	ANDOVER
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NHRIV600030601-02	COCHECO RIVER	NEW DURHAM
NHRIV600030601-09	COCHECO RIVER	FARMINGTON
NHRIV600030602-03	AXE HANDLE BROOK - HOWARD BROOK	ROCHESTER
NHRIV600030603-01	COCHECO RIVER	FARMINGTON
NHRIV600030603-06	COCHECO RIVER	ROCHESTER
NHRIV600030603-08	COCHECO RIVER	ROCHESTER
NHIMP600030608-02	COCHECO RIVER - WATSON-WALDRON DAM POND	DOVER
NHLAK700010804-02-01	WEBSTER LAKE	FRANKLIN
NHRIV600030608-05	COCHECO RIVER	DOVER
NHLAK600030602-01	BAXTER LAKE	FARMINGTON
NHEST600031002-01	WITCH CREEK	RYE
NHRIV600030607-12	UNNAMED TRIBUTARY - TO COCHECO RIVER	ROCHESTER
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NHRIV700010203-01	PEMIGEWASSET RIVER	WOODSTOCK
NHRIV700010302-03	Baker River	WARREN
NHIMP700030204-05-02	BEARDS BROOK - MILL POND TOWN BEACH	WASHINGTON
NHIMP802010303-04-02	UNKNOWN RIVER - SAND DAM VILLAGE POND TOWN BEACH	TROY
NHRIV801010203-07	CONNECTICUT RIVER	CLARKSVILLE
NHRIV801010305-01	CONNECTICUT RIVER	STEWARTSTON
NHRIV801010305-02	CONNECTICUT RIVER	STEWARTSTON
NHRIV801010401-04-02	MOHAWK RIVER	COLEBROOK
NHRIV801010402-01	MOHAWK RIVER	COLEBROOK
NHRIV801010402-03	MOHAWK RIVER	COLEBROOK
NHRIV801010404-02	CONNECTICUT RIVER	COLUMBIA
NHRIV801010405-03	CONNECTICUT RIVER	COLUMBIA
NHRIV801010603-05	CONNECTICUT RIVER	STRATFORD
NHRIV801010707-10	UPPER AMMONOOSUC RIVER	STARK
NHRIV801010707-12	UPPER AMMONOOSUC RIVER	STARK
NHRIV801010707-13	UPPER AMMONOOSUC RIVER	STARK

NHRIV801010707-18	UPPER AMMONOOSUC RIVER	NORTHUMBERLAND
NHRIV801010902-02	CONNECTICUT RIVER	NORTHUMBERLAND
NHRIV801010902-03	CONNECTICUT RIVER	NORTHUMBERLAND
NHRIV801010903-02	CONNECTICUT RIVER	LANCASTER

- B. Provide a clear statement of the types of nonpoint sources and water quality impairments and threats to be addressed by the project.

According to DES, “Willand Pond is impaired under the DES Surface Water Quality Standard, Env-Ws 1703.01 Water Use Classifications, (c) All surface waters shall provide, whenever attainable, for the protection and propagation of fish, shellfish and wildlife, and for recreation in and on the surface waters and (d) Unless the flows are caused by naturally occurring conditions, surface water quantity shall be maintained at levels adequate to protect existing and designated uses. The Designated Uses not being met are Aquatic Life Use (refer to Indicator 9 Flow in the DES Consolidated Listing and Assessment Methodology [CALM]) and Primary Contact Recreation (refer to CALM PCR Indicator 4 and see notes for cyan bacteria).”

This project will be designed to specifically address the elevated water levels with the goal of maintaining and monitoring an acceptable water level in the pond that avoids or minimizes the threats to water quality, habitat loss, erosion, and recreational opportunities.

VI. Watershed Based Plan

Describe how the project will either implement or generate the required elements of a watershed based plan (a-i below). For impaired waters, the plan should address measures intended to meet the quantifiable water quality goal.

- a) *Identify pollution causes and sources: An identification of the causes and sources or groups of similar sources that will need to be controlled to achieve the load reductions estimated in this watershed-based plan (and to achieve any other watershed goals identified in the watershed-based plan), as discussed in item (b) immediately below. Sources that need to be controlled should be identified at the significant subcategory level with estimates of the extent to which they are present in the watershed (e.g., X number of storm drains that need retrofits; Y miles of gravel roads that need drainage BMPs; or Z linear miles of eroded streambank needing remediation).*

The elevated water levels of the pond will need to be controlled to reduce the threat of future cyan bacteria blooms, erosion, unnatural habitat modification, loss of trees within the saturated uplands, and the loss of recreational opportunities that rely on adequate water quality such as fishing and bird watching.

As summarized by Paul Currier of the NHDES, the primary causes for the elevated water levels are probably the “cumulative obstruction of surface and subsurface outlet pathways for the pond and cumulative changes in surface runoff and groundwater infiltration patterns due to development in the watershed”.

- b) *Estimate pollution reductions needed: An estimate of the load reductions expected for the management measures described under (c). Estimates should be provided at the same level as in item (a) above (e.g., the total load reduction expected for storm drain retrofits, gravel road BMPs or eroded streambanks). First quantify the pollutant loads for the watershed. Based on these pollutant loads, determine the reductions needed to meet water quality standards (or other goals).*

It has been preliminarily determined that a significant contributor to the water quality threat is the high water levels. The existing vegetation that is dying off due to saturated conditions is contributing to the nutrient loading of the pond. An estimate of a pollutant load reduction is difficult given this situation where the natural occurrence of vegetation that is now saturated is a suspected cause of the elevated nutrient levels. That said, it is expected that restoring and maintaining an adequate water level will reduce or eliminate this threat by reducing the current pollutant load to acceptable state thresholds that are summarized in the following table:

	Oligotrophic lakes	Mesotrophic lakes	Eutrophic lakes
Chlorophyll (<i>ug/l</i>)	0-4	4-15	> 15
Secchi disk transparency (<i>m</i>)	>4	1.8 – 4.0	< 1.8
Total phosphorus (<i>ug/l</i>)	< 10	10 – 20	> 20

Due to the Cyanobacteria bloom, it is a reasonable estimation that Willand Pond falls into the category of Eutrophic. Personal observation of the lake by Dover and Somersworth City officials revealed that transparency was reduced to practically zero during the bloom. It is also reasonable to expect that the levels of chlorophyll increased to support the bloom.

It is expected that the implementation of a solution to reduce the water levels will result in the pond being classified as either an oligotrophic or mesotrophic water body. A Lake Trophic Data survey of the pond was performed by the NHDES in 1987 and 1988 and this report is enclosed within the supporting documents section. This report classifies the pond as mesotrophic at that time. No signs of cyan bacteria were present and intermediate levels of chlorophyll and total phosphorus were found. Given the conditions approximately twenty years ago, it is reasonable to expect a minimum classification of a mesotrophic lake on a consistent basis in the future as a result of the project.

- c) *Actions needed to reduce pollution: A description of the NPS management measures that will need to be implemented to achieve the load reduction or habitat restoration scope estimated under paragraph (b) above (as well as to achieve other watershed goals identified in this watershed-based plan), and an identification (using a map or a description) of the critical areas in which those measures will be needed to implement this plan*

The following action plan items were suggested in a letter from Thomas S. Burack, Commissioner of the NHDES. This letter is dated October 2, 2007 and addressed to the respective Mayors of Somersworth and Dover. A summary of the action items are as follows:

1. Develop a water quality plan with technical assistance provided by the DES Limnology Center;
2. NHDES, Dover, and Somersworth will collectively implement a “no additional runoff volume and no net nutrient loading” requirement for all future projects in the Willand Pond Watershed (evidence of this commitment is already present. The Somersworth planning board recently did not allow a proposed project to drain surface water directly into the wetlands adjacent to Willand pond until a solution is implemented and functioning as planned);.
3. Create a map using GIS software to delineate the watershed that includes pertinent features of the surrounding land;
4. Plan and design a surface outlet to reduce the high water levels of the pond;
5. Somersworth and Dover, with assistance from NHDES, shall conduct an education and outreach program; and,
6. Somersworth and Dover will develop a strategy to retrofit Best Management Practices onto the existing stormwater conveyance systems to reduce nutrient loads from developed areas.

In addition to the above action items listed in the letter, the following may be incorporated into the full proposal:

7. The tasks outlined in a draft work plan developed by SEA Consultants Inc. in cooperation with the Stafford Regional Planning Commission may be integrated into the full proposal. The draft work plan is included in the supporting documents section; and
8. Dover and Somersworth will jointly revise their respective site plan and subdivision regulations. These amendments will aim to require minimum performance standards for water quality and the use of Best management Practices that specifically address common water quality issues associated with the proposed land use. This task will create a “spillover” effect and address water quality throughout the cities and not just the area that is the focus of this proposal.
9. Implementation of chosen solution.

This action plan is consistent with the goals of Dover and Somersworth and look forward to further developing this plan to achieve improved water quality in Willand Pond and the surrounding surface waters if chosen for an interview.

- d) *Costs and authority: An estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon, to implement this plan. Describe the types and sources of match that will be used to implement the project, keeping in mind that at least 40% of the project cost must be provided in non-federal match.*

Costs of the project have not been estimated at this time. The budget is currently being reviewed collectively by Somersworth and Dover. It is anticipated that an estimate will be generated prior to an interview if we are selected. The sources that will be relied upon for providing the required match will be the cities of Dover and Somersworth in a joint effort.

It is anticipated that an engineer and environmental professionals will be needed to develop the technical aspects of the action plan. The selection of these professionals shall be determined through a competitive bidding process as required.

The landowner where some of this project will take place has been contacted and has expressed a willingness to work with the cities to develop and implement a satisfactory solution.

- e) *Outreach and education: An information/education component that will be used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing NPS management measures.*

Outreach and education has already begun and will continue as part of this project. There have been several neighborhood meetings that were attended by many concerned residents from Dover and Somersworth. Over hundred people were in attendance at the first meeting held in Dover. An Ad Hoc committee formed of residents was formally established by the Dover City Council and this group is working with the cities on this issue. It is also anticipated that a volunteer group will be formed to possibly perform monitoring activities.

The Cities will work with the NHDES to provide further outreach and publication and will draw from their expertise to implement programs that aim to educate and inform the public about the water quality issues surrounding Willand Pond.

Furthermore, there have been several news stories in local media outlets regarding the high water levels at the pond and this interest is expected to continue throughout this process. The cities will take advantage of this opportunity and communicate with local media outlets to inform the public about the ongoing efforts of this project.

- f) *Schedule: A schedule for implementing the NPS management measures identified in this plan that is reasonably expeditious.*

This schedule follows the numbers set forth in (d) above:

1. Water quality plan	By June 2008
2. "no additional runoff volume and no net	By June 2008

nutrient loading” requirement	
3. Create a map using GIS software	May 2008
4. Plan and design a surface outlet	Summer 2008
5. conduct an education and outreach program	Ongoing from May 2008 to completion of project
6. Develop strategy to retrofit Best Management Practices onto the existing stormwater conveyance systems	Fall 2008
7. Incorporate tasks from SEA draft work plan	At time of full proposal submission
8. Revise site plan and subdivision regulations	By Fall 2008
9. Implement chosen solution	Fall 2008 (low flow)

- g) *Milestones: A description of interim, measurable milestones for determining whether NPS management measures or other control actions are being implemented.*

The measurable milestones will follow the action items and anticipated schedule. This schedule will be used to determine if the action items are being performed according to plan. A log can be created to document these events and submitted along with the required reports to NHDES during the life of the project.

- h) *Success indicators and evaluation: A set of criteria that can be used to determine whether loading reductions or habitat restoration is being achieved over time and substantial progress is being made towards attaining water quality standards and, if not, the criteria for determining whether this watershed-based plan needs to be revised.*

The following criteria shall be used to determine if the goals of the project are being realized:

Surface elevations of the pond;

Lake trophic data as shown in the report by NHDES in 1987 and 1988 that is included;

The presence of Cyanobacteria;
Habitat recovery;
Functionality of implemented solution;
Recreational opportunities; and,
Public perception.

- i) *Monitoring plan: A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under item (h) immediately above.*

Surface elevations of the pond - Surface elevations of the pond will be monitored and recorded. There is a benchmark on a utility pole adjacent to the pond that has been utilized by City staff to monitor the elevations in the past and this will continue. The benchmark is based on the NVGD 1929 datum. This will help determine if the establishment of a drainage pattern from the pond to the Salmon Falls River is resulting in the desired outcome of reducing water levels.

Lake trophic data – Lake trophic data will be gathered and compared to the previous assessment performed in 1987 and 1988 to measure progress and effectiveness of project. It is anticipated that this activity will be performed by a “Friends of Willand pond” volunteer group with technical assistance from the two Cities and NHDES. This component may be expanded to downstream surface waters adjacent to the pond.

Habitat recovery - The extent of reestablishment of the existing vegetation that has died off due to the saturated conditions as a result of the high water. This can be measured by periodic site walks of the subject area to determine the success of the vegetation and restoring the natural habitat of the area. It is anticipated that members of the Dover and Somersworth Conservation Commissions will perform this monitoring activity.

The presence of Cyanobacteria - The existence of cyanobacteria can be measured and can be a component of the lake trophic data survey. The pond can also be visually monitored for the reoccurrence of cyan bacteria blooms at the appropriate time of year.

Recreational opportunities - The pond and surrounding areas shall be available to recreational users. This goal will be monitored by evaluating the reduction or elimination of closing off the pond to recreational users. The quality of the fishery as determined by the Fish and Game Department can be used to measure the success of expanding and maintaining a high quality of recreational opportunities in and around the pond.

Functionality of implemented solution – This can be measured through water level surveys as mentioned above and by visually inspecting the implemented solution and performing any necessary maintenance such as obstruction removal and monitoring the establishment of planted vegetation.

Public perception – Although public perception may be a subjective term, it can still aid in determining if the public outreach and education component of this project is successful. Members of the Ad Hoc committee and other concerned parties will be provided a public forum during the project. These types of meeting have already taken place and they have been a useful source in determining public concerns and perceptions.

VII. Desired Outcome

Provide a concise statement of your desired outcome, or end-state that this project would ideally achieve. Your vision of what total success would “look like”. I.e., Turbidity values in the lake remain below 10 NTU during a 1” rainfall event, and Phosphorus concentrations remain below 15 micro-grams per liter.

The desired outcome for the project will be:

Trophic data from the pond supports a classification of oligotrophic or mesotrophic based on the history and age of the pond;

The pond is not subject to future cyanobacteria blooms unless it is clearly a natural occurrence not associated with anthropogenic activities;

The pond supports a high quality aquatic habitat and is a recreational destination for boaters and fishermen;

The adjacent wetlands and uplands areas around the pond are well vegetated and established and provide natural protection from nonpoint source pollution into the pond;

A drainage pattern from Willand Pond is established and functioning to eliminate elevated water levels as experienced in the past years;

A wide base of support is created within the local communities and a commitment is made to maintain water quality;

A successful outreach and education program is implemented that includes the creation of a volunteer group; and,

A monitoring program is successfully implemented and achieves the desired results;

VIII. Performance Targets

Provide examples of the interim performance targets required to realize the desired outcome. Performance Targets are specific changes in behavior or physical condition. Targets can be verified and are directly controlled by the implementer. I.e., Stabilize at least 500-feet of streambank to eliminate excessive NPS pollutant runoff.

The nature of this project does not appear to lend itself to “interim” performance targets. The nature of this project is to assess the existing conditions to determine the best solution to reduce pollutant loads to acceptable thresholds. It will involve data collection; followed by an examination of alternative solutions; selection of the preferred alternative; implementation of the preferred alternative; and, monitoring the performance of the preferred alternative. That said, once the preferred alternative has been successfully implemented the following performance targets may be used to determine the effectiveness of the chosen solution:

Water levels lowering to “normal” heights (Various information suggests that the pond has historically fluctuated but did not go above approximately 187 feet (NVGD 29); and,

Reduction of chlorophyll, total phosphorus, and an increase in transparency is realized when water levels have started to stabilize.

IX. About Your Organization

- A. *Please describe your organization’s core areas of knowledge or expertise. You may list prior successful projects, or other items that you would include in your organization’s “resume”.*

Dover:

The two main contributors to this project from Dover will be Christopher Parker and Dean Peschel. Chris is the Director of Planning and Community Development and has experience in project management, grant administration, and land use planning. He holds a Masters Degree in Community Planning and Development concentrating on Environmental Land Use. Dean Peschel is the City’s Environmental Projects Manager has extensive experience as a Soil Scientist, and a background in planning, grants administration and project management.

The City began using GIS in 1987, and currently maintains a system including, planimetric, parcel data, contour, municipal infrastructure, and other layers that will aid in the successful completion of the project.

In addition to staff, the City has formed an Ad-hoc advisory committee consisting of neighborhood members. This group will assist in public outreach and educational aspects.

Furthermore, the City's Conservation Commission and Planning Board have exhibited concerns for the elevated water levels. All three committees will work with staff to develop land use regulation changes and administrate those changes.

Somersworth:

The two main contributors to this project from Somersworth will be Craig Wheeler and Dave Sharples. Craig Wheeler is the Director of Development Services and has considerable experience in project management, grant administration, and land use planning. Mr. Sharples, the City Planner, has an undergraduate degree in Environmental Science and a Masters in Urban and Environmental Policy and Planning. The City has an extensive GIS database that includes current tax map data, two-foot contour intervals, municipal infrastructure, aerial photography, and other layers that will aid in the successful completion of the project. All pertinent GRANIT digital data has already been collected and is ready for use. The City has the current version of ArcView (9.2) with the Spatial Analyst Extension and possesses the technical skill to utilize data layers to perform various analyses of the watershed using GIS software.

The Somersworth Conservation Commission and Planning Board have both shown interest in finding and implementing solutions to the elevated water levels. It is anticipated that both of these land use boards will play a role in the successful completion of this project as well as other interested parties concerned about water quality issues.

B. Please list your expected project partners and proposed sources of matching funds.

The City of Dover will work with the City of Somersworth to provide matching funds and technical assistance as needed.

C. Within your organization, who would be responsible for managing this project?

Chris Parker, the Planning Director of Dover, shall be primarily responsible for project management. However, Dover will work jointly with the City of Somersworth on this task.

X. Public Participation

Describe how information and education will be used to enhance public understanding of the project and encourage public participation in selecting, designing, and implementing nonpoint source pollution management measures (i.e. "Train citizens to monitor water quality through volunteer river monitoring program", or "Involve lakeside residents in planting trees and shrubs in the protected shoreland area", etc).

Various public forums will be utilized to disseminate information about the project. As previously mentioned, the local media outlets will be notified of the progress of the project's action items. A "Friends of Willand pond", or similar volunteer organization, will be formed to assist in monitoring activities and provide feedback to City officials. There is consider public interest currently surrounding this issue and this momentum will be seized by the communities to create a successful partnership between the cities and residents alike.

XI. Optional Supporting Materials

In addition to the required map attachment (part IV), you may choose to attach optional materials such as photographs of the project site, letters from supporters, or other items that you would like us to consider regarding this project pre-proposal.

The following supporting documents have been included as part of this submission. Some of these documents have been mentioned within the proposal. Other documents are included to demonstrate the level of activity that has already occurred regarding the elevated water levels of the pond:

1. Base Map;
2. Aerial map of a couple mile radius around the pond;
3. Letter from Thomas S. Burack dated October 2, 2007;
4. Letters of support;
5. A summary of Willand Pond;
6. Hydric Soils and municipal water and sewer map of Somersworth;
7. Surface water elevations map;
8. Draft work plan notes developed by SEA Consultants, Inc. and Strafford Regional Planning Commission;
9. A CD of aerial photos from a flyover in the Spring of 2007 that was motivated by the high water levels; and,
10. Lake trophic data survey form (NHDES 1987 & 1988).