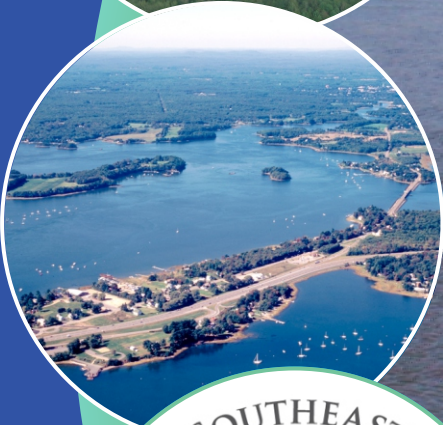


November 2014

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ANNUAL REPORT



Pease Tradeport | P.O. Box 22122 | Portsmouth, NH 03802

**2014 ANNUAL REPORT
SOUTHEAST WATERSHED ALLIANCE
November 1, 2014**

To: Senate President
Speaker of the House of Representatives
Senate Energy, Environment and Economic Development Committee
House Resources, Recreation and Development Committee

From: **Southeast Watershed Alliance**
P.O. Box 22122
Pease Tradeport
Portsmouth, NH 03802
Southeastwatershedalliance.org



Regarding: Annual Report pursuant to RSA 485-E:12

I. GENERAL

The Southeast Watershed Alliance (Alliance) was established by the New Hampshire Legislature in 2009 pursuant to RSA 485-E:5. The Alliance represents 42 communities in the NH Coastal Watershed. To date, 28 of those communities have officially designated representatives to the Alliance and those representatives actively participate in Alliance activities. Many of the remaining communities have been closely following the activities of the Alliance and attending meetings. The representatives from the participating communities have been working together to accomplish the tasks and goals set forth in RSA 485-E:5 II. The Alliance has been conducting outreach to those communities that have not yet officially designated a representative to foster their participation and encourage them to join. We are optimistic that more communities will join the Alliance in the coming year. The Alliance is also conducting outreach to other groups and organizations within the watershed such as local river advisory committees, county planning commissions, the Piscataqua Region Estuaries Partnership (PREP) and many others to actively engage those groups in helping the Alliance to achieve its goals.

II. MISSION STATEMENT

The mission of the Southeast Watershed Alliance is to establish a regional framework for Piscataqua coastal watershed communities, regional planning commissions, the State and other stakeholders to collaborate on planning and implementation measures to improve and protect water quality and more effectively address the challenges of meeting clean water standards.

III. BOARD OF DIRECTORS

The Board of Directors of the Alliance consists of eleven (11) Representatives that are elected by a majority vote of all Representatives in attendance at the Annual Meeting. The Board of Directors

meets regularly on the second Wednesday of every month at 3:00 P.M. with additional meetings scheduled as needed. Meetings of the full Alliance membership are held quarterly on Wednesday evenings with additional meetings scheduled as needed. Quarterly meetings of the full Alliance during 2014 were held on April 16, July 9 and October 15. The meeting scheduled for February had to be cancelled due to a winter storm.

At the quarterly Alliance Meeting held on July 9, 2014, a slate of four (4) candidates was presented to the membership for nominees to the Board of Directors to replace the four members of the Board whose terms expired in 2014. The nominees included:

Brian Goetz – City of Portsmouth
 Dean Peschel – City of Dover
 Richard Snow – Town of Candia
 Alison Watts – Town of Newfields

Additionally, Christopher Albert (Epping) was nominated to replace Michael Perfit (Stratham), who relocated out of the watershed, on the Board of Directors. There was not a quorum of Representatives in attendance at the July meeting so the voting had to be tabled until the October meeting.

The 2014 Board of Directors consisted of the following members:

<u>MUNICIPALITY</u>	<u>REPRESENTATIVE</u>	<u>TERM EXPIRES</u>
Town of Newmarket	William Arcieri	2015
Town of Hampton Falls	Candace Dolan	2016
Town of Danville	Walter Fries	2015
Town of Northwood	Shelley Frost	2015
City of Portsmouth	Brian Goetz	2014
Town of Epping	Christopher Albert	2016
City of Dover	Dean Peschel	2014
Town of Durham	George Rief	2015
Town of Candia	Richard Snow	2014
Town of Chester	Michael Trainque	2016
Town of Newfields	Alison Watts	2014

The officers of the Alliance for 2014 included the following:

Chairman	Michael Trainque
Vice Chairman	Walter Fries
Treasurer	Richard Snow
Secretary	Shelley Frost
Project Coordinator	Alison Watts
Education and Outreach	Candace Dolan

IV. EDUCATION AND OUTREACH

Education and outreach to municipal governing boards, land use boards, stakeholders, and the general population within the watershed communities are core functions of the Alliance and are

critical to achieving the goals of the Alliance. This outreach is an extensive undertaking and will require more resources than currently available to the Alliance. The NHDES Coastal Program section, Piscataqua Region Estuaries Partnership (PREP), and the regional planning commissions have provided technical advice within the scope of their respective expertise. They have been the primary resources available to the Alliance. The education and outreach activities during 2014 were largely the result of volunteer efforts within the Alliance. Looking forward, the Alliance is positioning itself to serve in the role of conducting Education and Outreach activities related to stormwater management and compliance pursuant to the Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) permit which was issued by the U.S. EPA as draft in February 2013 but has not yet been issued as a final permit. The Alliance is also pursuing grants and other funding from different sources to enable the Alliance to continue and expand its education and outreach efforts on behalf of its member communities.

A. SYMPOSIA

The Alliance sponsored, conducted and/or was involved in two symposia during 2014. The symposia are summarized below.

● **Great Bay Modeling Symposium – April 18, 2014**

Four different scientific and management models developed to model and study specific impacts to Great Bay were presented and discussed at this symposium. The four models presented were: ***Great Bay Non-Point Source Study*** (Ted Diers – New Hampshire Department of Environmental Services); ***Oyster River Integrated Plan*** (David Cedarholm - Town of Durham; William Arcieri - VHB; and Zach Henderson - Woodard & Curran); ***Water Integration for the Squamscot-Exeter*** (Robert Roseen – Geosyntec; and Alison Watts – UNH); and ***Great Bay Hydrodynamic Model*** (Thomas Gallagher – Hydroqual).

● **Great Bay Coastal Watershed Symposium – May 30, 2014**

This day-long symposium provided a forum to share and discuss science, information, and management in support of collaborative integrated watershed management in the Great Bay coastal watershed. The purpose of the symposium was to review existing information, identify gaps and opportunities, and continue to build mutually beneficial collaboration among a wide range of stakeholders, including municipal representatives, regional planners, consultants, scientists, not-for-profits, and businesses. There were a total of 11 presentations made (all available on the *Alliance* web site) followed by a round table discussion after lunch.

Future symposia are likely to focus on topic areas such as: green alternatives to stormwater management; stormwater regulatory compliance, water quality issues, septic system operation and maintenance; nitrogen reducing septic system technologies; non-point source pollutant monitoring and control; stormwater education and outreach pursuant to the MS4 NPDES permit; stormwater management standards; stormwater Best Management Practices (BMP's) case studies; or various aspects of the *Watershed Management and Restoration Plan* being developed by the Alliance.

B. WORKSHOPS

The Alliance did not conduct, host or sponsor any workshops during 2014, however, this is an action item for 2015.

C. ONGOING EDUCATION AND OUTREACH

The Alliance continued discussions with member communities and groups such as the *Seacoast Stormwater Coalition* to offer to assist them with the education and outreach efforts that will be required pursuant to the EPA's Municipal Separate Storm Sewer System (MS4) permit under the National Pollutant Discharge Elimination System (NPDES) when it becomes final as noted above as well as other education and outreach initiatives within the coastal watershed.

The Alliance continues its ongoing education and outreach efforts by fostering communication, cooperation and collaboration with the 42 communities within the watershed as well as with stakeholders, the regional planning commissions, PREP, the local river advisory committees, the NHDES, EPA and others. It will be essential for the Alliance to achieve consensus and buy-in from the member communities in order to develop and implement the goals of the Alliance, including the further development of a watershed-wide management and restoration plan. The education and outreach efforts will require resources, such as labor, funding and other needs, not yet available to the Alliance in order to adapt information and present it in an effective manner to the various and diverse audiences with their differing needs for information.

V. FUNDING

GRANTS

A. Grant Number 2

The UNH Stormwater Center, in conjunction with the Alliance, completed all of its tasks under this Watershed Assistance Grant which was conducted jointly by UNH and the Alliance with funding received from the New Hampshire Department of Environmental Services (NHDES). This project included developing a *Great Bay Municipal Bioretention Program* to assist coastal watershed communities in implementing strategies for watershed nutrient reduction. As part of this project, stormwater treatment devices/technologies were installed in three communities – Stratham, Durham and Newington.

Under this grant, the Alliance provided signage, hosted a website (<http://southeastwatershedalliance.org/biopalooza>), and conducted outreach to communities about the benefits of improved stormwater management.



Bioretention system in Stratham constructed under the Biopalooza grant.

B. Grant Number 3

The University of New Hampshire, in conjunction with the Southeast Watershed Alliance, the Rockingham County Planning Commission, the National Estuarine Research Reserve and Antioch University completed the tasks under this grant award. The project funded under this grant award involved implementation of *Green Infrastructure for Sustainable Coastal Communities* to build municipal capacity in coastal watershed communities for green infrastructure by engaging local and regional stakeholders in a planning and implementation process supported by technical resources and current relevant information. The goal of creating a collaborative process is to build community resilience and improve capacity for managing water resources and related ecosystem services. Funding for this grant was received from the National Oceanic and Atmospheric Administration (NOAA) and was distributed through the National Estuarine Research Reserve (NERR) Science Collaborative.



Residents installing a rain garden in Exeter under the Green Infrastructure grant.

This project provided communities with the opportunity to identify and address stormwater related issues specific to their community. This project involved work in six New Hampshire communities – Exeter, Stratham, Portsmouth, Brentwood, Rochester and Durham, on a range of planning and installations including implementation of stormwater regulations developed by the Alliance (<http://southeastwatershedalliance.org/stormwater-initiative>), installation of stormwater treatment systems, neighborhood lawn care, and snowdump management. These projects were tracked and publicized through the Alliance website.

C. Funding – General

Activities conducted by Alliance members to date have primarily been on a volunteer basis without compensation. In fact, cash outlays required for Alliance expenses, office space and meeting spaces have been donated by members and representatives of the Alliance as well as local private companies and member towns. Consistent sources of funding are essential to even modestly accomplish the goals and purpose of the Alliance. In this time of economic stress and dwindling government funding, direct financial contribution by participating communities has been difficult at best because of competing critical needs, timing due to municipal funding appropriation lead times and voter choice without extensive education (available through the Alliance). Planning to undertake the many tasks required to achieve the purposes of the enabling legislation is ongoing but implementation of these tasks has been severely inhibited by the lack of available funding.

While related municipal efforts in the past were eligible for partial (20% to 30%) grant funding by the State under RSA 486-A for public wastewater and stormwater systems and RSA 486 for public water systems (e.g. SB60 – Commission to Study Water Infrastructure Sustainable Funding), no such funding has been made available to the Alliance to date. During 2014 efforts were made in Concord to appropriate grant funding through the NHDES State Aid Grant program to appropriate funding for the development of the regional *Watershed Management and Restoration Plan*. The Alliance will continue to seek and apply for funding from any and all sources from which funding is or may be available including state and federal programs, charitable trusts and foundations and

other sources. The Alliance and its Board of Directors, with recommendations from its Program Development Committee and its Advisory Board, supports a legislative initiative to make watershed management and restoration plans eligible for funding under the New Hampshire State Aid Grant program.

VI. STRATEGIC PLAN

The Alliance finalized its *Strategic Plan* in December 2012, however, during 2014 there were discussions relative to updates of the *Strategic Plan*. The *Strategic Plan* sets forth goals and priority actions for the Alliance in furtherance of its mission to improve and protect water quality throughout the NH coastal watershed. The *Strategic Plan* is dynamic and must be continually reviewed and periodically updated in order to remain vibrant, relevant and meaningful to serve the purposes of the Alliance.

Action priorities identified in the *Strategic Plan* include:

- Collaborate with various groups and stakeholders throughout the watershed to achieve common water quality goals.
- Provide outreach and education to diverse groups.
- Establish benchmarks and metrics for improving water quality.
- Foster inter-municipal cooperation to achieve common goals.
- Address stormwater issues and implement stormwater Best Management Practices.
- Foster and promote Bio-Extraction and similar programs.
- Develop and implement drinking water protection measures.
- Support efforts to promote and implement land conservation.
- Secure funding assistance to fund the activities of the Alliance.
- Develop and implement long-term goals.

VII. WATERSHED MANAGEMENT AND RESTORATION PLAN

By far the most ambitious undertaking on which the Alliance is focused involves the development of a *Watershed Management and Restoration Plan*. The NH coastal watershed has been identified by State and Federal regulatory agencies as having the most significant number of impaired water bodies in New Hampshire under stress from various sources of water quality impairments. Portions of the Great Bay estuary are in non-attainment of designated uses and in violation of established water quality criteria. Because nutrient enrichment and other adverse water quality impacts result from a variety of both point and non-point sources, the mitigation of these environmental stressors requires new and innovative approaches to identifying, controlling and reducing both point and non-point inputs, especially in light of competing demands for limited resources.

A key aspect of the *Watershed Management and Restoration Plan* will be the emphasis on Adaptive Management. Adaptive Management is, by definition, a structured iterative process of robust decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. In this way, decision making simultaneously meets one or more resource management objectives and, either passively or actively, accrues information needed to improve future management and decision-making. Adaptive management is a tool which should be used

not only to change a system, but also to learn about the system (Holling 1978). Because adaptive management is based on a learning process, it improves long-term management outcomes. The challenge in using the adaptive management approach lies in finding the correct balance between gaining knowledge to improve management in the future and achieving the best short-term outcome based on current knowledge (Allan & Stankey 2009). Communities today face a bewildering array of regulatory compliance requirements for water supply, wastewater collection and disposal and stormwater management not to mention others. In the face of limited resources, communities will be faced with decision-making as to how to make the best possible use of those limited resources for maximum gain and benefit. This will absolutely require an adaptive management approach since communities cannot “do it all”.

Individual nutrient reduction sub-watershed plans are in development by several communities including the Towns of Durham, Exeter, Stratham and Newfields, but an overall watershed plan would ensure consistency across the watershed, conserve resources and meet water quality objectives on a much broader scale.

The objective of the *Watershed Management and Restoration Plan* is to take a broad holistic and more cost-effective adaptive management approach to implementing water quality restoration and management measures that will achieve better overall results in improving water quality goals in less time and at less cost than the traditional regulate-react approach. The adaptive management approach allows for planning, implementation, monitoring and refinement in order to maximize the results with limited resources (resource optimization). The idea behind the *Plan* is for the Alliance and its 42 member communities to become proactive rather than reactive in restoring water quality within the watershed. A successful *Plan* will require extensive collaboration and cooperation between municipalities, agencies, volunteer groups and other watershed stakeholders.

This type of approach is consistent with the latest regulatory guidance at the national level. A report by the National Research Council (NRC) indicates that regulatory agencies must re-establish permit requirements on a watershed basis to “*ensure progress and provide meaningful regulation*”. The NRC report indicates that EPA’s current regulatory approach is unlikely to produce a sustainable administrative framework for long-term management as traditional wastewater and stormwater permits often require separate permits with different departments or agencies thereby minimizing collaboration and effective regional watershed oversight. This traditional diversified approach also minimizes the opportunities for creative, innovative, centralized and multi-pronged approaches to achieving water quality goals. The Alliance fully supports the concept of Integrated Planning in order to identify efficiencies in implementing competing regulatory requirements in a more effective and sustainable approach.

Comprehensive watershed planning is a significant undertaking that will require extensive community engagement, pollutant load modeling, monitoring and optimization, and remedial design, supported by extensive long-term monitoring. The Alliance will continue to work with its members and other groups to develop a conceptual framework for the *Watershed Management and Restoration Plan* with an integrated adaptive management approach. Development and implementation of a detailed *Plan* will require significant resources beyond what the Alliance

currently has available. The key element that has been missing thus far is funding and resources to help move the development of this plan forward.

VIII. WEB SITE

The Alliance maintains a web site dedicated to furtherance of its purposes. All meeting notices, agendas, minutes and other general information are posted there. The URL for the web site is: ***SoutheastWatershedAlliance.org***. During 2014 significant strides were made in expanding the web site to include additional resources, reorganizing the website, changing the appearance of the website and adding links to other information sources in an effort to improve education and outreach and provide resources to the various members, groups and stakeholders. One of the main goals of the Alliance is to become a resource. The Alliance will continue to focus on improving its web site during 2015.

IX. MEETINGS

The Board of Directors of the Alliance meet monthly to manage the business and affairs of the Alliance. Meetings are held in the conference room of the Portsmouth office of Hoyle, Tanner & Associates, Inc. located in the Pease International Tradeport at 100 International Drive, Suite 360, Portsmouth, New Hampshire. Meetings are generally held on the second Wednesday of each month from 3:00 to 5:00 P.M. although the date of individual meetings can vary according to the business at hand and the schedules of Board members.

Meetings of the full Alliance are held quarterly. The meetings are typically held on Wednesday evenings at 6:30 P.M. The dates of the meetings vary and are scheduled individually. Meeting locations are changed in an effort to bring the Alliance to the various communities around the watershed. Meeting notices are sent electronically to members and friends on our contact list and posted on the web site.

X. ONGOING ACTIVITIES

The Alliance previously identified several priority tasks on which attention needed to be focused. Meetings held by the Board of Directors and the full Alliance during 2014 included ongoing discussion and refinement of these priorities, goals and objectives. Certain short-term tasks were identified that need to be given priority relative to improving water quality in the NH Coastal Watershed. Emphasis is given to tasks that are both practicable and capable of implementation in the near term without new large capital or infrastructure outlays. Such tasks include:

Develop consistent storm water regulations and Best Management Practices.

Model stormwater standards were developed in 2012 under a grant from the NHDES. To date two municipalities, Newfields and North Hampton, have adopted these Standards and several other communities have requested implementation assistance through the Green Infrastructure Project. The Alliance continues to encourage communities to adopt or implement the model stormwater standards. Incorporation of these standards into an MS4 Community's site plan and subdivision regulations will serve to help that community meet the requirements of the MS4 permit when it becomes final.

Identify “hot spots” (i.e. sources and land practices) that degrade water quality.

The Municipal Bioretention Program developed GIS-Based load maps for the four participating communities. Additional communities may be included in this mapping project in 2015 depending upon the level of interest and available resources.

Maintain and improve the web site.

The website has been significantly updated and provides examples, case studies and resources to assist communities with stormwater and non-point source related issues. The Alliance will continue to develop and improve its web site and develop web resources on other water-related issues.

Identify priorities for water quality monitoring.

A regional monitoring plan, funded by shared resources and conducted by UNH, has been proposed by the NHDES. Administering this program and soliciting community input would be an ideal role for the Alliance and, in fact, is a high-priority action for the Alliance for 2015, but is not possible without staff and other resources. Development and management of a targeted monitoring program is a top priority for the Alliance for 2015.

Coordination with other agencies and stakeholders.

Michael Trainque, representative for the Town of Chester and Chairman of the Alliance Board of Directors serves on the *Piscataqua Region Estuaries Partnership (PREP)* Management Committee representing the Alliance on the Committee. Other members of the Alliance also serve on the PREP Management Committee and the Alliance looks forward to working closely with PREP and other agencies to meet shared goals and objectives.

Alison Watts, PhD., representative for the Town of Newfields, continued to represent the Alliance in *New Hampshire Lives on Water*, the non-profit organization that is following up on the Water Sustainability Commission recommendations.

Additional priorities include:

- Identify funding resources to enable prerequisite research and corrective actions to be undertaken;
- Apply for funding (typically grants) to enable the Alliance to carry out activities in furtherance of its goals and objectives;
- Conduct land owner outreach and municipal involvement that address various water quality issues. Examples of this include: benefit of routine septic system maintenance; proper use of fertilizers and low impact landscaping; creation of vegetated buffer zones along shorelines; incorporating Low Impact Development (LID) requirements into existing site and subdivision regulations to address stormwater management; development of design standards for onsite septic systems to reduce nitrogen.

Thus far, the necessary financial resources required for the Alliance to make substantial progress in reaching its larger goals has not materialized though the Alliance continuously explores potential sources of funding. The Alliance is very much cognizant of the current economic stresses faced by local, state and federal governments and the difficulty its members face in committing

resources for the furtherance of Alliance goals. Accordingly, the Alliance will continue to focus its efforts on those activities that can be implemented at low cost while yielding the maximum impact in terms of improving water quality (i.e. the “low hanging fruit”) while seeking the resources necessary to achieve its larger goals and objectives.

New and innovative solutions to solve water quality and related issues continue to be a key priority for the Alliance. Examples of these include implementation of adaptive management approaches and integrated permitting for regulatory compliance. Extractive technologies (e.g., bivalve mollusk aquaculture and micro algal production) could and should be investigated as a possible means, among many, of meeting nutrient criteria goals for estuarine waters. State-of-the-art technologies for nitrogen reduction in onsite septic systems are being explored in Rhode Island and implementation of these technologies in the coastal watershed area of New Hampshire continue to show promise. These initiatives will require financial resources as well as active participation of state and federal agencies in conjunction with local communities and potential business operators/investors. Regional economic benefit, as well as economic benefit to the State as a whole, could be a useful byproduct if this approach can be shown to be successful.

XI. ACTIONS CURRENTLY PLANNED FOR 2015

The Alliance will continue to work with partners, member communities and stakeholders to further the goals and objectives listed below to the extent that resources and funding become available to the Alliance in furtherance of these goals and objectives.

- Implement a range of stormwater management and mitigation solutions in communities throughout the NH coastal watershed in collaboration with project partners from UNH, the local regional planning commissions, and other agencies and groups.
- Be a partner to provide education and outreach related to stormwater management.
- Provide education and outreach related to septic system management.
- Further develop details of the *Watershed Management and Restoration Plan*.
- Support the concepts of *Adaptive Management* and *Integrated Permitting* for achieving regulatory compliance.
- Improve and expand the web site to provide a resource for information and collaboration between communities, agencies and other stakeholders.
- Identify and actively pursue funding resources, including public and private grants, in-kind services and municipal contributions.
- Update the *Strategic Plan* as appropriate.
- Collaborate with other groups, agencies, and organizations such as the EPA, PREP, the Nature Conservancy, the National Estuarine Research Reserve, the Regional Planning Commissions, the


Local River Advisory Committees (LRAC's), and others to assist the Alliance with development of the *Watershed Management and Restoration Plan* and furtherance of other Alliance activities.

- Engage with and support the activities of the various stakeholders and volunteer groups within the coastal watershed such as the Local River Advisory Committees (LRAC's).
- Conduct, host or sponsor symposia and workshops on issues and topics of relevance to the NH coastal watershed communities and stakeholders.
- Perform a broad range of education and outreach activities, in partnership with other organizations and groups, for the coastal watershed communities.
- Identify and develop additional priority activities, including long-term planning and implementation actions.

ACKNOWLEDGEMENTS

The Alliance gratefully acknowledges the donation of time by its members, the donation of computer equipment (three complete computer systems including laptops, printers, and peripherals) by **Pfizer Corporation**; the donation of space, telephone and electricity by **Hoyle, Tanner & Associates, Inc.** in its Portsmouth office in the Pease International Tradeport (including the office space currently occupied by the Alliance as well as the use of the conference room for the monthly Board of Directors meetings) and printing (this report); the donation of time and money by **Michael Perfit** in initially setting up and managing the computer systems and the web site, including the payment of internet charges; and the donation of meeting space by various communities throughout the coastal watershed such as Brentwood, Chester, Dover, Newfields, Newington, Northfield, Portsmouth and Rochester.

Respectfully submitted,
SOUTHEAST WATERSHED ALLIANCE



Michael A. Trainque, P.E., Chairman
Board of Directors