

ADAPTIVE MANAGEMENT FRAMEWORK UPDATE

Updated June 2024

Town of Exeter, New Hampshire

INTRODUCTION

This Adaptive Management Framework (AMF) update describes the steps, activities, and measures that the Town of Exeter (Town) has taken to improve water quality from nonpoint sources into Great Bay through June 2024. The initial AMF Proposal (Proposal) was submitted to USEPA on September 30, 2021.

The AMF is a living document that will be reviewed, updated, and modified (as needed) annually to reflect the current understanding of the Great Bay and the progress made by the Town and other relevant parties. The updates and modifications will be informed based upon the outcomes from implementing the efforts outlined in the Proposal and collaborating with the Municipal Alliance for Adaptive Management (MAAM), the other seacoast communities, and key stakeholders (PREP, NHDES, and USEPA). The Town believes that the collaborative approach will provide the most efficient and streamlined use of limited resources (time and money) and avoid unnecessary duplication of efforts.

SUMMARY OF PROGRESS

This summary of progress describes the steps, activities, and measures that the Town has taken to improve water quality from nonpoint sources into Great Bay from the town during Year 3. As outlined in the General Permit, this AMF is broken up into five areas (A through E):

- A. Ambient Water Quality Monitoring
- B. Track Reductions and Additions of Total Nitrogen
- C. Overall Source Reduction
- D. Load Based Threshold
- E. Completion of a total nitrogen TMDL

The Town's progress in Year 3 towards for each of these categories is outlined in the sections below. Additions or changes to the proposal are also reflected

A. AMBIENT WATER QUALITY MONITORING IN GREAT BAY

The Town contributed funds to the Municipal Alliance for Adaptive Management (MAA), as a full member, to work closely with PREP to support PREP's annual and long-term monitoring initiatives. Additionally, the Town participated on PREP's Management Committee as well as served as a co-chair of the Piscataqua Regional Monitoring Collaborative. The Town will continue to work with PREP to gather a better understanding of the direct outcomes from the monitoring program including annual raw data output, annual summary reports and long-term trend reports.

B. TRACK REDUCTIONS AND ADDITIONS OF TOTAL NITROGEN

The Town has been tracking reductions and additions of total nitrogen since 2014. In Year 3, the Town continued to track private development implementation of nonpoint and point source efforts to reduce total nitrogen loads using the pollution tracking and accounting program (PTAP). The Town also input all stormwater best management practices on Town owned property into PTAP. The Town lost the employee

responsible for implementation of the program and is trying to fill the position whose duties will continue PTAP implementation, and therefore projects have not been approved. The Town is working with consultants to get the private and public projects that are input into PTAP approved so that nitrogen reductions can be calculated for the Town.

C. OVERALL SOURCE REDUCTION

Point Source Reduction Strategies

A variety of measures to reduce wastewater point source nitrogen will be evaluated as part of this AMF Proposal. The strategies evaluated and a description of how the Town will implement these strategies is summarized in **Table 1**.

Table 1. Proposed Point Source Reduction Strategies

STRATEGY	DESCRIPTION OF IMPLEMENTATION	SUMMARY OF PROGRESS
<p>WWTF Optimization</p>	<p>The Town will continue to evaluate WWTF modification and process optimization techniques for additional reduction of total nitrogen from the WWTF effluent.</p>	<p>The WWTF has been optimized to the extent feasible based on the design (5 mg/L TN).</p> <p>For the past twelve months, the monthly average TN concentration was 3.6 mg/L with an average TN load of 66 lbs/day. The rolling seasonal average total nitrogen was 52 lbs/day. The Town has a rolling season average total nitrogen effluent limitation of 106 lbs/day.</p> <p>The Town has reduced their load by an additional 51%, when compared to their effluent limit.</p>
<p>Inflow and Infiltration</p>	<p>The Town will implement recommendations from the 2013 Phase III I/I Plan and 2017 CSO LTCP. Projects will include Westside Drive and Salem Street.</p> <p>The Town will continue to fund pipe and manhole rehabilitation projects aimed at reducing inflow and infiltration.</p>	<p>The Town hired a consultant in August 2022 to help update the CSO LTCP to include sewer system improvements and help the Town re-prioritize future CSO LTCP efforts since the previous CSO LTCP update in January 2017. This CSO LTCP update is necessary, but engineering reporting efforts were temporarily paused so that the final report can include the findings of UE’s recent/ongoing sewer flow monitoring, sewer planning, and design work from a contract the Town authorized in 2023. The temporary pause in the CSO LTCP report was recommended to make the final report more comprehensive/useful for Town planning and is anticipated to be completed by the end of 2024.</p> <p>Westside Drive project is currently in the final design phase. The design remedy will likely include separate drain line and the ability for homes in the development to connect sump pumps to the drain line.</p> <p>On Salem Street, the Town has a private service replacement program which will ensure that sump pumps are not tied into the sewer. About ten residents volunteered to participate in the program.</p> <p>The Town is currently working with NHDES and a consultant to prepare a vulnerability assessment on</p>

STRATEGY	DESCRIPTION OF IMPLEMENTATION	SUMMARY OF PROGRESS
		Swazey Parkway to determine if there are any opportunities to reduce potential I/I.
Sump Pump Redirection Program	The Town will revisit the Sump Pump Redirection Program and re-educate residents about the program and develop potential enforcement measures. The Town will evaluate if the program needs to be implemented in other areas of town.	<p>The Town is using the existing pamphlets developed as part of the Sump Pump Redirection Program to educate residents on Salem Street.</p> <p>The Town created an updated pamphlet about environmental concerns and contaminants associated with sump pumps. The Town hopes to distribute the pamphlet Town wide to raise awareness.</p>
Septage Receiving	The Town will continue to receive septage from the town, Stratham, Newfields, Brentwood, East Kingston, and Kensington to assist with the denitrification process at the WWTF.	The Town had to shut down the program due to safety concerns for the foreseeable future. However, the Town has designed and ordered equipment for a new septage receiving facility. The installation is expected to be completed in 2024 to begin receiving septage again 2025. The Town also needs to hire one additional wastewater operator to operate the facility.

Nonpoint Source Reduction Strategies

A variety of measure to reduce nonpoint source (stormwater and groundwater) nitrogen will be evaluated as part of this AMF Proposal. The strategies evaluated, the targeted land use/source, and a description of how the Town will implement these strategies is summarized in **Table 2**.

Table 2. Proposed Non-point Source Reduction Strategies

STRATEGY	TARGET LAND USE/SOURCE	DESCRIPTION OF IMPLEMENTATION	SUMMARY OF PROGRESS
Fertilizer and Turf Management Program	Pervious Developed Land	The Town will develop and implement a fertilizer outreach and education program targeted at reducing the application of fertilizer and using turf management best practices. The Town will apply this outreach program to both Town staff and departments as well as to the public. The Town will develop education materials as well as conduct workshops for the public.	<p>The Town received grant funding to make updates to the Town’s <u>Healthy Lawns – Clean Water Initiative Program</u>. The goal of the program is to educate residents and to reduce the use and application of fertilizer on lawns. Program updates included:</p> <ul style="list-style-type: none"> - A brochure for property owners on how they can reduce nutrient loads on their property including a pledge to have soil sampled prior to fertilizer application, how to read a fertilizer bag, how to calibrate a spreader, ways to reduce irrigation and conserve rainwater on-site, and opt for native plantings that can withstand drought, heat, and soil conditions. - Yard sign for property owners to display in their yards once they’ve made the Healthy Lawns pledge. - Review of Town regulations to determine locations where updates could be made to promote the program goals. - Table at the Alewife Festival in May 2023

STRATEGY	TARGET LAND USE/SOURCE	DESCRIPTION OF IMPLEMENTATION	SUMMARY OF PROGRESS
			<p>The Town has had one property sign the pledge to participate in the program. The Town will be looking for opportunities to team with local businesses who sell fertilizer to local property owners.</p>
<p>Post-Construction Regulations</p>	<p>Impervious</p>	<p>The Town recently updated their Site Plan and Subdivision regulations to incorporate post-construction stormwater controls optimized for the removal of nitrogen. All private development stormwater projects that require a Site Plan or Subdivisions approval will be required to reduce total nitrogen by 60%.</p> <p>The Town will ensure during the Site Plan and Subdivision Review process that applicants are meeting the regulatory requirements. The Town currently uses a third-party consulting firm to review applications and provide the Town and applicants specific comments regarding the stormwater post-construction requirements.</p> <p>The Town will track and account for the implementation of post-construction stormwater BMPs on private development.</p>	<p>The Town continues to have a third-party consultant review Site Plan and Subdivision applications to ensure they are meeting the required 60% reduction in total nitrogen.</p> <p>The Town requires applicants to track and account for implementation of post-construction stormwater BMPs on private development using PTAP.</p> <p>The Town will consider changes to the Site Plan and Subdivision regulations that would require private development projects to demonstrate that the total nitrogen in the post-development condition does not exceed the pre-development condition from both stormwater and other non-point sources (i.e., septic systems).</p>
<p>Land Use Regulation Review</p>	<p>Impervious</p>	<p>The Town will review current land use regulations and explore changes that will result in less nitrogen loading into the environment. These strategies may include, but not limited to, providing incentives for redeveloping existing parcels, requiring advanced septic systems in areas not serviced by municipal sewer, and increasing the required nutrient removal rates by stormwater BMPs.</p> <p>The Town will review current land use regulations to determine barriers to low impact develop in street design, parking lot guidelines and green infrastructure best management practices.</p>	<p>The Town hired a consultant to review current land use regulations to determine what land uses pay for the services provided through taxes and user fees. The outcome of the study will be a recommendation for changes to zoning ordinances that would discourage development outside of the water and sewer user areas. The regulations would encourage infill and redevelopment and would result in a drastic decrease future impervious cover. Regulations also for consideration are requiring advanced septic systems if you develop outside of the water/sewer district.</p> <p>The Town also reviewed the current land use regulations and found no barriers to the implementation of low impact development in street design or parking lots.</p>
<p>Pet Waste Station Program</p>	<p>Pervious Developed Land Impervious</p>	<p>Continue to implement Pet Waste Station Program by supplying pet waste bags and removing pet waste from disposal containers.</p>	<p>The Town continued implementation of the Pet Waste Station Program by supplying pet waste bags and removing pet waste from disposal containers.</p> <p>The Town will begin tracking the number of bags collected from each receptacle. The number of bags collected will be weighed and</p>

STRATEGY	TARGET LAND USE/SOURCE	DESCRIPTION OF IMPLEMENTATION	SUMMARY OF PROGRESS
			recorded at the end of each collection day. In 2023, the Town collected approximately 10,839 lbs. of dog waste with monthly average of 903 lbs.
Infrastructure Maintenance Program	Impervious	<p>The Town will develop and implement a program detailing the activities and procedures to maintain storm drainage infrastructure in a timely manner. The program will include routine inspections, cleaning, and maintenance of catch basins to maintain 50% free-storage capacity in the catch basin sump.</p> <p>The Town will continue to operate and maintain a vacuum truck and clean catch basins.</p>	<p>The Town continued implementation of the catch basin cleaning program. The Town is continuing to collect asset information as well as detailing the depth of sediment in each catch basins. The Town will use this information to optimize their catch basin cleaning but targeting those that fill up with sediment more frequently than others. The Town will begin to determine the source of the sediment and make efforts to reduce source load.</p> <p>The Town is reviewing catch basin cleaning records to develop a catch basin optimization program to ensure that catch basins that are more than 50% are being cleaned out and to determine potential sources of sediment. The Town also hopes to use this data to develop a street sweeping route optimization with a focus on heavy source load areas based on catch basin cleaning data.</p> <p>The Town cleans all stormwater treatment units on an annual basis to ensure they are functioning as designed.</p>
Catch Basin Replacement Program	Impervious	<p>The Town will develop a program to replace catch basins in the Town with sumps that are less than the recommended 3-foot sump to provide water quality pretreatment. The Town has a significant number of catch basins in the town with inadequate sumps.</p> <p>This program would provide additional sediment storage capacity in these catch basins and allow the Town to effectively remove sediment prior to discharging to the receiving water.</p> <p>The Town anticipates replacing on average 25 catch basins per year, during the General Permit term.</p>	<p>The Town continues to purchase deep sump catch basins to support conversion of catch basins with inadequate sumps (less than 3-feet) to deep sump. Two catch basins have been updated this year and 3 additional are projected to be updated. New deep sump catch basins were added on Westside Drive (19) and on Cullen Way (1).</p> <p>As part of road reconstruction on Salem and Park Streets, approximately 37 catch basins with insufficient sumps were replaced. The Westside Drive project replaced 3 catch basins with insufficient sumps.</p>
Organic Waste and Leaf Litter Collection Program	Developed Pervious Impervious	The Town will gather, remove, and properly disposal of landscaping wastes, organic debris, and leaf litter from impervious roadways and parking lots. The gathering and removal will occur immediately after any landscaping activities.	The Town continued to gather, remove, and properly dispose of landscaping wastes, organic debris, and leaf litter from impervious roadways and parking lots. Additionally, the Town continues street sweeping efforts in the fall to collect leaf litter than falls into the roadways, preventing it from getting into the storm drain network.

STRATEGY	TARGET LAND USE/SOURCE	DESCRIPTION OF IMPLEMENTATION	SUMMARY OF PROGRESS
		<p>The Town will dispose of these materials at the Town Transfer Station.</p>	<p>The Town will continue to do curb side collection in the Fall (2024), as well as targeting curbed streets where drainage infrastructure exists to reduce the potential for leaves to enter the drain system.</p>
<p>Enhanced Street/Pavement Cleaning Program</p>	<p>Impervious</p>	<p>The Town will continue implementing its enhanced sweeping program to clean all curbed impervious cover (i.e., directly connected impervious cover) and parking lots, at least two times per year (spring and fall), with targeted weekly sweeping in the downtown area and monthly sweeping of parking lots.</p> <p>The Town will use a high-efficiency, regenerative air-vacuum sweeper to implement the program.</p>	<p>The Town continues to implement its enhanced street sweeping program to clean all curbed impervious cover in Town.</p> <p>Following the catch basin optimization study, the Town will start street sweeping route optimization with a focus on heavy source load areas based on catch basin cleaning data.</p> <p>The Town submitted a loan application to NHDES for a new street sweeper. The loan was selected as a priority project. The Town will use this sweeper to increase street sweeping across Town.</p>
<p>Septic System Program</p>	<p>Septic</p>	<p>The Town will investigate the feasibility of an incentive-based private septic system replacement/upgrade program. The Town anticipates developing a loan forgiveness program, where private property owners could borrow the cost difference between a traditional system and an advanced treatment system for targeted nitrogen removal.</p> <p>As part of the program, the Town will develop a map of locations of current septic systems within 250 feet of a receiving water. The Town will incorporate outreach and education to the property owners in these areas and make them aware of this program. The Town will also conduct outreach during the Site Plan and Subdivision review process for new development or redevelopment projects.</p> <p>Following development of the program, the Town will evaluate next steps for implementation of the program.</p>	<p>The Town received a grant to assist with investigating the feasibility of an incentive-based private septic system replacement/upgrade program. The Town completed the feasibility study which included:</p> <ul style="list-style-type: none"> - Identification of septic systems users within the Town and mapped the locations of these systems. - Development of a suitability criteria for potential retrofit locations - Literature review of advanced septic system technologies targeted at removal of nitrogen - Regulation review to determine potential amendments to allow for the use of advanced septic systems - Funding mechanisms - Incentive program framework <p>The Town presented the findings of the feasibility study to the River Advisory Committee and discussed next steps.</p> <p>The Town is considering applying for CWSRF Stormwater Planning funds to explore the feasibility of a septic system retrofit overlay district and identifying potential nutrient reduction and cost benefits of implementing the program when compared to other septic system nutrient reduction options (i.e., sewer extensions). The planning funding would also</p>

STRATEGY	TARGET LAND USE/SOURCE	DESCRIPTION OF IMPLEMENTATION	SUMMARY OF PROGRESS
			include public education and outreach including a survey to septic system users.
Stormwater Structural BMP Construction	Impervious	<p>The Town will continue to investigate conceptual BMPs identified as part of the Lincoln Street subwatershed studies. The Town will implement the structural stormwater BMP in the Winter Street/Front Street area. Following the construction of this project, the Town will evaluate the process for selection, design, and construction of additional structural stormwater BMPs and determine next steps based on lessons learned.</p> <p>The Town will also evaluate capital improvement projects and identify locations where stormwater retrofits could be implemented to improve water quality from Town-owned impervious cover.</p>	<p>The Town developed designs for the Winter Street/Front Street stormwater BMP. The Town put the project out to bid; however, the bids exceeded the available budget the Town had available. The Town is reconsidering how they can improve stormwater treatment in this area within the budget that is available.</p> <p>The Town received a stormwater planning grant for the Water Street reconstruction project to identify and design stormwater BMPs.</p> <p>The Town will continue to evaluate capital improvement projects and identify locations where stormwater retrofits could be implemented to treat existing impervious cover.</p> <p>As part of the Westside Drive project, the Town is evaluating the potential to include a stormwater treatment practice.</p>
Evaluate Town-Owned and Right-of-Way Properties for Stormwater Structural BMP Sites	Impervious	<p>The Town will conduct a town-wide assessment, like the one conducted in the Lincoln Street subwatershed, for implementation of structural stormwater BMPs to reduce the frequency, volume, and pollutant loads of stormwater discharges.</p> <p>The Town will develop a town-wide plan that identifies conceptual BMP locations and designs for retrofitting existing impervious cover. The Town may use this plan to systematically retrofit and treat existing impervious cover.</p>	<p>The Town received grant funding conduct a town-wide assessment to identify potential locations for stormwater BMP retrofits to treat existing impervious cover. The Town identified 20 potential locations where stormwater retrofits could be installed. The Town prepared conceptual designs for ten stormwater BMP locations. The Town will use this plan to systematically retrofit and treat existing impervious cover.</p> <p>At 20 Hampton Road the Town wants to replace tennis courts and add a walkway to connect the courts. This area is extremely wet due to high groundwater. The Town will be including this project in their Capital Improvement Plan to explore ways to improve drainage.</p>
Atmospheric Deposition	Pervious Impervious	<p>The Town will work with USEPA and NHDES to understand how levels of nitrogen from atmospheric deposition are changing over time.</p> <p>The Town will account for changes in the atmospheric load as part of the tracking and accounting framework on an annual basis (or as data becomes available).</p>	The Town has not made any progress on discussions with USEPA or NHDES on atmospheric deposition.

D. LOAD-BASED THRESHOLD

The Town has allocated funds for an independent consultant to attend collaborative meetings to discuss the development of a load-based threshold. Town will review monitoring initiatives; implement nonpoint and point source projects targeted at reducing total nitrogen in the Great Bay; track and account implementation efforts; and revise this AMF Plan to ensure that the efforts the Town is taking will have the greatest benefit to water quality. The Town is committed to working with MAAM, USEPA, NHDES, PREP, and watershed stakeholders to ensure that the science and recommended next steps for continued improvement in water quality of the Great Bay and its tributaries are understood.

E. COMPLETION OF TMDL

The Town has allocated funds for an independent consultant to attend collaborative meetings to discuss the develop of a timeline for completion of a TMDL or an alternative approach. Town will review monitoring initiatives; implement nonpoint and point source projects targeted at reducing total nitrogen in the Great Bay; track and account implementation efforts; and revise this AMF Plan to ensure that the efforts the Town is taking will have the greatest benefit to water quality. The Town is committed to working with MAAM, USEPA, NHDES, PREP, and watershed stakeholders to ensure that the science and recommended next steps for continued improvement in water quality of the Great Bay and its tributaries are understood.