

ADAPTIVE MANAGEMENT FRAMEWORK PROPOSAL

Town of Newmarket, New Hampshire

INTRODUCTION

EPA Region 1 issued a Great Bay Total Nitrogen General Permit for Wastewater Facilities in New Hampshire (“General Permit”) (NPDES General Permit: NHG58A000) for 13 eligible wastewater treatment facilities (WWTFs). The General Permit was issued on November 24, 2020 and became effective beginning on February 1, 2021.

The General Permit establishes total nitrogen effluent limitations, monitoring requirements, reporting requirements and standard conditions. The discharge of all pollutants other than nitrogen from these WWTFs is authorized by each WWTF's respective individual NPDES permit. EPA developed the General Permit, as part of an Adaptive Management Framework (AMF), to comprehensively regulate nitrogen loading from the 13 WWTFs at watershed-wide scale. It also incorporates an innovative and adaptive approach to achieve reductions in total nitrogen loads to the Great Bay estuary through a combination of mandatory load limits at the WWTFs and voluntary nonpoint source nitrogen reductions.

The General Permit established the WWTF nitrogen load limits by evaluating 17 WWTF's in the Great Bay watershed in both New Hampshire and Maine. EPA determined that the most environmentally beneficial and cost-effective reductions in nitrogen would come from WWTF with design flows greater than 2.0 million gallons per day (MGD). In total, there are 7 WWTFs with a design flow greater than 2.0 MGD. These larger WWTF's were allocated a seasonal annual total nitrogen discharge effluent concentration limit of 8 milligrams per liter (mg/L). The 10 remaining WWTFs, all with a design flows less than 2.0 MGD, were allocated a “hold the load” approach. This approach allows the WWTFs total nitrogen load limit to not exceed their seasonal average annual total nitrogen load based on the WWTF's performance from 2012 – 2016. The one exception for WWTF's with a design flow less than 2.0 MGD, is the Town of Newmarket (“the Town” or “Newmarket”), which received an annual total nitrogen load limit equivalent to 8 mg/L effluent TN concentration using the same methodology employed for the 7 largest WWTF's in the Great Bay watershed greater than 2.0 MGD.

The General Permit is one aspect of the AMF with other elements being ambient monitoring, pollution tracking, reduction planning, and review. Implementation of an adaptive management approach would include collaboration between EPA, the State of New Hampshire, and public and private stakeholders. The collaboration entails participating in a) ambient water quality monitoring in the Great Bay; b) tracking loads of total nitrogen; c) planning for overall source reductions; d) evaluating a load-based threshold, 0.32 milligrams per liter instream total nitrogen criterion, or other threshold for demonstrating attainment of water quality standards; and e) establishing a timeline for completing a total nitrogen total maximum daily load (TMDL) for the Great Bay. This detailed proposal demonstrates the Newmarket's election to opt into the voluntary AMF option.

BACKGROUND

Newmarket understands the value of the Great Bay Estuary as a resource for the NH Seacoast communities. The Town has been working feverishly to improve water quality to the receiving waters to which we discharge and ultimately to the Great Bay. The Town is committed to continuing these efforts and looking for additional opportunities to further improve water quality from point and non-point

sources. As summarized in this section, the Town is very familiar with development of Nitrogen Control Plans, tracking and accounting and monitoring water quality, all parts of the voluntary AMF. The Town hopes to build upon the efforts completed to date, under the NCP and to gain a better understanding on how these efforts have and will continue to impact water quality.

Newmarket owns and operates a 0.85-MGD WWTF. In February 2013, the Town was issued a NPDES Wastewater Discharge permit to establish minimum effluent discharge requirements at the WWTF. The NPDES permit required a seasonal rolling average effluent total nitrogen of 3.0 mg/l. In May 2013, EPA issued an Administrative Order on Consent (AOC), which provides the Town with an interim seasonal rolling average effluent total nitrogen limit of 8.0 mg/l and provides a compliance schedule to achieve numerous specific tasks, as summarized below: ·

- “...the Town shall begin tracking all activities [that the Town should reasonably be aware of, e.g., activities that involve a Town review/approval process or otherwise require a notification to the Town] within the Town that affect the total nitrogen load to Great Bay Estuary. This includes, but is not limited to, new/modified septic systems, decentralized wastewater treatment facilities, changes to the amount of effective impervious cover, changes to the amount of disconnected impervious cover [including pavement and buildings], conversion of existing landscape to lawn/turf and any new or modified Best Management Practices.” [Article D.1] ·
- “...the Town shall begin coordination with the NHDES, other Great Bay communities, and watershed organizations in NHDES’s efforts to develop and utilize a comprehensive subwatershed-based tracking/accounting system for quantifying the total nitrogen loading changes associated with all activities within the Town that affect the total nitrogen load to the Great Bay Estuary.” [Article D.2] ·
- “...the Town shall begin coordination with the NHDES to develop a subwatershed community-based total nitrogen allocation.” [Article D.3]
- Nitrogen Control Plan - “By September 30, 2018, submit to EPA and the NHDES a total nitrogen non-point source and point source stormwater control plan (“Nitrogen Control Plan”), including a schedule of at least five years for implementing specific control measures as allowed by state law to address identified non-point source and stormwater Nitrogen loadings in the Town of Newmarket that contribute total nitrogen to the Great Bay Estuary, including the Lamprey River. If any category of de-minimis non-point source loadings identified in the tracking and accounting program are not included in the Nitrogen Control Plan, the Town shall include an explanation of any such exclusions. The Nitrogen Control Plan shall be implemented in accordance with the schedules contained therein.” [Article D.4]
- Engineering Evaluation - “By September 30, 2024 the Town shall submit an engineering evaluation that includes recommendations for the implementation of any additional measures necessary to achieve compliance with the NPDES Permit, or a justification for leaving the interim discharge limit set in place (or lower the interim limit to a level below 8.0 mg/l but still above 3.0 mg/l) beyond that date. Such justification shall analyze whether:

- a) Total nitrogen concentration in the Lamprey River and downstream waters are trending towards nitrogen targets (Footnote 3: The Town shall account for precipitation in the trend analysis and baseline measurement.);
- b) Significant improvements in dissolved oxygen, chlorophyll a, and macroalgae levels have been documented; and
- c) Non-point source and stormwater point source reduction achieved are trending towards allocation targets and appropriate mechanisms are in place to ensure continued progress.” [Article E.2]

In accordance with the AOC, since 2013 the Town has prepared Total Nitrogen Reports which summarize the tracking and accounting for activities that affect the total nitrogen load to Great Bay Estuary. The Town began tracking and accounting in 2014, as required by the AOC. Initially, Newmarket developed its own tracking and accounting system, which was used for the 2014 to 2018 Annual Report submittals. However, since 2018 Newmarket has been coordinating with NHDES and other municipalities to track and account for total nitrogen through PTAP. PTAP started in 2015 and was been developed by NHDES and UNH, with significant input from EPA, Newmarket and other Great Bay municipalities. Per the PTAP website, PTAP “will result in the creation of guidelines and recommendations for tracking and accounting systems and identify potential tools that will enable municipalities to perform a quantitative assessment of pollutant load reductions associated with nonpoint source management activities in the Great Bay region.” (<https://www.unh.edu/unhsc/ptapp>). Newmarket began utilizing the PTAP system when it was completed by NHDES/UNH in February 2018.

In July 2017, the Town completed their upgrade to the WWTF in accordance with the AOC. The comprehensive WWTF upgrade was one of the first significant nitrogen focused upgrades of its kind in the Great Bay. The Town invested \$14.1 Million, which included a four-stage Bardenpho process designed to achieve an effluent total nitrogen limit of less than 8 mg/L at annual average design flows. Due to the Town’s continued optimization efforts over the past 4 years, along with the Town’s flows and loadings, performance of the WWTF upgrade has exceeded the design performance. The WWTF have been achieving an average effluent nitrogen concentration consistently less than 4 mg/L (16 lbs TN/day) through the permitted growing season. This improvement in effluent total nitrogen represents a significant reduction (~ 95%) in total nitrogen loading to the Great Bay, accounting for an annual load reduction of approximately 56,000 lbs of total nitrogen.

In 2018, the Town prepared a Nitrogen Control Plan (NCP)¹ to comply with its AOC. The NCP established the land uses and sources of total nitrogen from non-point sources from the Town. These land uses and sources are summarized in **Table 1** below. Understanding the developed land uses and sources of total nitrogen to the Great Bay helps the Town target what management practices and strategies would be most appropriate at improving water quality. The Nitrogen Control Plan outlined a series of point source and non-point source strategies that the Town would implement to improve water quality. The Town envisions that this AMF Proposal will build upon the Nitrogen Control Plan and strategies to improve water quality.

¹ [2018 Nitrogen Control Plan](#)

Table 1. Total Nitrogen Load by Land Use/Source (Nitrogen Control Plan, 2018)

Land Use/Source	TN Load from Pervious Surfaces (lbs/year)	TN Load from Impervious Surfaces (lbs/year)	TOTAL TN Load (lbs/yr)
Developed Land Uses/Sources			
Agriculture	1,079	0	1,079
Commercial, Services, and Institutional	24	232	256
Industrial	4	67	71
Industrial and Commercial Complexes	11	12	23
Mixed Development Uses	0	27	27
Outdoor	339	11	349
Residential	2,062	404	2,467
Transportation, Communications, and Utilities	92	1,067	1,158
Vacant	20	2	22
Septic	-	-	6,943
Groundwater (Non-septic)	-	-	10,239
SUBTOTAL			22,632
Undeveloped Land Uses/Sources			
Barren	147	1	148
Forest	1,567	0	1,567
Transitional	42	1	42
Water	0	0	0
Wetland	466	0	466
SUBTOTAL			2,223
TOTAL (lbs/yr)			24,855
TOTAL (tons/yr)			12.4

Newmarket remains authorized to discharge under their expired 2013 Individual Permit, which has been administratively continued, at the WWTF. Newmarket will remain covered under this permit until EPA issues an individual permit for the other water quality parameters not covered under the General Permit. At such time, Newmarket will receive an authorization to discharge under the General Permit. The Town takes exception to some elements of the General Permit and has provided public comment on the methodology and takes the position that they should be being receive load allocation similar to other small WWTFs with design flow less 2.0 MGD, since Newmarket's WWTF has a design flow of 0.85 MGD. As such, the Town should be allocated an annual total nitrogen limit consistent with the "hold the load" approach, which equates to an annual point source total nitrogen allocation of 170 lbs/day versus the 30 lbs/day allocated in the General Permit. Newmarket feels as though the General Permit penalizes the Town, for moving forward with WWTF improvements that allow the Town to treat to a higher degree of nitrogen treatment. Even though Newmarket is not covered under the General Permit, they have elected to prepare this voluntary AMF to show their commitment to reducing TN.

Municipal Separate Storm Sewer System

Since 2018, the Town has been regulated under the National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permit. The MS4 permit regulates stormwater point source discharges in the urbanized area of the Town (as defined by the US Census). The Town has been complying with this permit and submitting Annual Reports² to EPA since 2019.

Monitoring Efforts

To comply with the AOC, the Town developed a Water Quality Monitoring Program for the Lamprey River. The WQMP included an adaptive management approach, intended to allow empirical observations over time to better understand the scientific uncertainty of the water quality criteria and both short-and-long-term effects of any load reductions completed by the Town. The WQMP used historical data to establish a baseline for the Lamprey River prior to nitrogen removal efforts (pre-WWTF upgrade). This data includes two downstream datasonde/sampling locations (LAMP-01 and LAMP-02) deployed by EPA in 2016 and 2017, and one upstream datasonde/sampling location deployed by Piscataqua Region Estuaries Partnership (PREP). As part of the WQMP the Town partnered with UNH to complete monitoring at one location on the Lamprey River, located downstream of the WWTF outfall. This location is between the two EPA monitoring locations (LAMP-01 and LAMP-02), which were used in the 2016 and 2017 sampling seasons.

In general, the WQMP consisted of both continuous datasonde monitoring and monthly grab samples. Two datasondes were purchased by the Town, to provide UNH with the redundancy needed to maintain the continuous monitoring at one location from April through October. Once per month, UNH measured the water column conditions using a handheld meter and light attenuation. Two grab samples per month (one at high tide and one at low tide) were also be collected at the datasonde location, from April through December. Sample analyses were completed by the Water Quality Analysis Lab (WQAL) at UNH (also used by PREP).

To implement the WQMP, the Town invested \$130,000 for sampling between 2019 and 2020.

Piscataqua Regional Estuaries Partnership (PREP)

The Town has contributed funding and supplies to the Piscataqua Regional Estuaries Partnership (PREP), which is part of the US EPA's National Estuary Program. The National Estuary Program is a joint local/state/federal program established under the Clean Water Act with the goal of protecting and enhancing nationally significant estuarine resources. PREP receives funding from the EPA and is hosted and administered by the School of Marine Science and Ocean Engineering at the UNH.

The Town contributed \$10,000 to eelgrass mapping and most recently, donated the use of two water quality data sondes, valued at \$30,448 in support of the PREP Piscataqua Region Monitoring Collaborative activities (**Attachment A**). It is the Town's understanding that PREP will use these funds to collect data to help support the efforts of gaining a better understanding of water quality within Great Bay.

Stormwater Regulations

² [2017 MS4 Permit Annual Reports](#)

The Town has Site Plan and Subdivision Regulations³ which will include onsite stormwater management controls for peak flow and runoff volumes as well as water quality treatment. All development and redevelopment projects that disturb more than 20,000 square feet of area or will add more than 5,000 square feet of impervious areas shall submit a Stormwater Management and Erosion Control Report with accompanying plans for review and approval by the Planning Board.

Under these regulations, applicants for new development projects are required to provide treatment of runoff from impervious surfaces to achieve at least 80% removal of total suspended solids and at least 50% removal of both total nitrogen and total phosphorus. Applicants for redevelopment projects are required to attempt to meet the minimum stormwater management requirements for the entire developed area of the site to the maximum extent practical. Where it is not practical or feasible to meet the stormwater management requirements for the entire developed portion of the site, the applicant shall attempt to meet these requirements for at least 50 percent of the total developed area under proposed conditions.

These regulations ensure that as private development moves forward in the Town, that water quality improvements are being made to existing impervious cover through the redevelopment process and that new development projects are providing water quality treatment for changes in land cover.

Fertilizer Efforts

New Hampshire State Statute¹ (RSA: 431) as modified in 2013 states that no turf (lawn) fertilizer sold at retail shall exceed 0.9 pounds per 1,000 square feet of total nitrogen per application when applied according to the instructions on the label. Furthermore, no turf fertilizers sold at retail shall exceed 0.7 pounds per 1,000 square feet of soluble nitrogen per application when applied according to the label. This new law applies to synthetic (manufactured) fertilizers, natural inorganic fertilizers (from a mineral nutrient source), and natural organic fertilizers (derived from either plant or animal products). The guaranteed analysis of a lawn fertilizer is listed on the product label. Nitrogen sources and their solubility are listed individually⁴.

Further, fertilizer cannot legally be applied to vegetation or soils located within 25 feet of the reference line of any public waters. Beyond 25 feet, slow or controlled release fertilizer may be used, but must be applied by horticultural professionals who have a pesticide application license issued by the New Hampshire Department of Agriculture⁵.

Slow or controlled release fertilizer means fertilizer that is guaranteed, as indicated on the package label, to contain:

- At most 2 percent phosphorous, and
- A nitrogen component which contains at least 50% slow release nitrogen.

The Town currently hires a professional contractor for application of fertilizer on Town owned recreational fields.

³ [Site Plan and Subdivision Regulations](#)

⁴ [unh-nh-turf-law-fact-sheet.pdf](#)

⁵ [Protected Shoreland FAQ | NH Department of Environmental Services](#)

Structural Stormwater Best Management Practices

The Town evaluates opportunities for implementation of structural stormwater best management practices (BMPs) to provide water quality treatment for existing and new impervious area on all capital improvement projects. Through this process, the Town has installed water quality BMPs at several locations throughout the Town.

PROPOSAL

This AMF Proposal describes the steps, activities, and measures that the Town will take to improve water quality from nonpoint sources into Great Bay from the Town during this General Permit term. As outlined in the General Permit, this AMF Proposal is broken up into five areas:

- 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 proposed approach for each of these categories is outlined in the sections below. This proposal will be a living document that will be reviewed, updated and/or modified on an annual basis 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 implementation of the efforts outlined in this proposal and collaboration with the other Seacoast communities and key stakeholders (PREP, NHDES and EPA).

A. AMBIENT WATER QUALITY MONITORING IN GREAT BAY

Part 3-1.a. of the General Permit recommends an outline of an approach to monitor the ambient water quality in the Great Bay estuary to determine project trends.

Under this AMF Proposal, the Town will work closely with PREP to support their annual and long-term monitoring initiatives. The Town will review and provide comments on PREP's ambient water quality monitoring program to ensure that the monitoring program meets regulatory compliance needs of the Town. The Town will 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

Part 3-1.b. of the General Permit recommends an outline of the method(s) to track reductions and additions of the total nitrogen over the course of the permit.

The Town has been tracking and accounting since 2014, as required by the AOC. Initially, Newmarket developed its own tracking and accounting system, which was used for the 2014 to 2018 Annual Report submittals. However, since 2018 Newmarket has been coordinating with NHDES and other municipalities to track changes in land use and quantify implementation of nonpoint source best management practices through PTAP.

Under this AMF Proposal, the Town will continue to track the implementation of non-point and point source efforts to reduce total nitrogen loads. The Town will estimate the reductions and additions of TN from developed lands and present this on an annual basis. The Town anticipates tracking the efforts outlined in **Section C** below.

The Town will continue to work with NHDES, UNH, other Great Bay communities, and consultants to develop a tracking and accounting system to perform a quantitative assessment of pollutant load reductions.

C. OVERALL SOURCE REDUCTION

Part 3-1.c. of the General Permit recommends an outline or plan for overall source reductions of TN over the course of the General Permit.

Under this AMF Proposal, the Town will implement point and nonpoint source reduction strategies to reduce TN. On an annual basis, the Town will review the strategies implemented and update the list to reflect progress.

Point Source Reduction Strategies

The Town is currently operating below the wastewater discharge threshold (30 pounds TN per day) established in the General Permit. The Town continues to evaluate WWTF modifications and process optimization techniques to potentially gain further reductions of total nitrogen from the WWTF. These efforts include: the addition of real-time nitrogen monitoring in the secondary treatment process (\$35,000), and evaluation of upgrades to the solids dewatering system (\$600,000). The Town will continue to assess and implement upgrades at the WWTF when deemed beneficial. The Town will account for the pounds removed greater than the discharge threshold and report these on an annual basis.

Non-point Source Reduction Strategies

A variety of nonpoint source (stormwater and groundwater) nitrogen reduction measures 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 Reduction Strategies

STRATEGY	TARGET LAND USE/SOURCE	DESCRIPTION OF IMPLEMENTATION
Post-Construction Regulations	Impervious	<p>The Town recently updated their Site Plan and Subdivision regulations to incorporate post-construction stormwater controls optimized for removal of nitrogen. All private development stormwater projects that require a Site Plan or Subdivisions approval will be required to reduce total nitrogen by 50%.</p> <p>The Town will ensure during the Site Plan and Subdivision Review process that applicants are meeting the regulatory requirements. The Town currently utilizes a third-party consulting firm to review applications and provide comments to the Town and applicants, specific to the stormwater post-construction requirements.</p>

STRATEGY	TARGET LAND USE/SOURCE	DESCRIPTION OF IMPLEMENTATION
		The Town will track and account for the implementation of post-construction stormwater BMPs on private development.
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>
Organic Waste and Leaf Litter Collection Program	Developed Pervious Impervious	<p>The Town will perform gathering, removal and proper disposal of landscaping wastes, organic debris, and leaf litter from impervious roadways and parking lots.</p> <p>The gathering and removal will occur immediately following any landscaping activities.</p> <p>The Town will dispose of these materials at the Town Transfer Station.</p>
Enhanced Street/ Pavement Cleaning Program	Impervious	The Town will develop and implement a sweeping program to clean all curbed impervious cover (i.e., directly connected impervious cover) two times per year (spring and fall).
Stormwater Structural BMP Construction	Impervious	The Town will evaluate opportunities on existing capital improvement projects and Town owned properties where stormwater BMPs can be installed to reduce the frequency, volume and pollutant loads of stormwater discharges.
Evaluate Town-Owned and Right-of-Way Properties for Stormwater Structural BMP Sites	Impervious	<p>The Town will conduct a Town-wide assessment on Town owned properties to identify potential location 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 retrofit of existing impervious cover. The Town will use this plan to systematically retrofit and treat existing impervious cover.</p>
Atmospheric Deposition	Pervious Impervious	<p>The Town will work with EPA 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>

D. LOAD-BASED THRESHOLD

Part 3-1.d. of the general permit recommends an inclusive and transparent process for comprehensively evaluating any significant scientific and methodological issues relating to the permit, including the choice of a load-based threshold of 100 kg ha⁻¹ yr⁻¹ versus any other proposed threshold, including a concentration-based threshold of 0.32 mg/L.

At this time, the Town is not committed to recommending a process for evaluating a load-based threshold. What the Town is committed to is reviewing and interpreting monitoring initiatives; implementing nonpoint and point source projects targeted at reducing TN in the Great Bay; tracking and accounting for our implementation efforts; and revising 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 EPA, 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

Part 3-1.c. of the general permit recommends a proposed timeline for completing a TMDL for Total Nitrogen in Great Bay and for submitting it to EPA for review and approval.

At this time, the Town is not committed to developing a timeline for completion of a TMDL. What the Town is committed to is activities that can inform a future TMDL including funding, reviewing and interpreting monitoring initiatives, implementing nonpoint and point source projects targeted at reducing TN in the Great Bay, tracking and accounting for implementation efforts, and revising this Plan to ensure that efforts will have the greatest benefit to water quality. The Town is committed to working with EPA, 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.

ATTACHMENTS

Attachment A

Email from PREP to Town of Newmarket

From: [Michael Curry](#)
To: [Renee Bourdeau](#)
Subject: FW: donated-sondes
Date: Thursday, July 1, 2021 2:31:31 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. If you have any suspicion, please confirm with the sender verbally that this email is authentic.

FYI

From: Sean Greig <sgreig@newmarketnh.gov>
Sent: Tuesday, June 1, 2021 9:10 AM
To: Michael Curry <michael.curry@wright-pierce.com>
Cc: Timothy Vadney <tim.vadney@wright-pierce.com>
Subject: FW: donated-sondes

From: Rouillard, Rachel <Rachel.Rouillard@unh.edu>
Sent: Friday, May 14, 2021 10:52 AM
To: Gregory, Thomas <tom.gregory@unh.edu>; Matso, Kalle <Kalle.Matso@unh.edu>
Cc: Sean Greig <sgreig@newmarketnh.gov>
Subject: RE: donated-sondes

Hi All:

I spoke with Linda and we are able to accept a letter from Newmarket stating the donation of the two sondes, valued at \$30,448 in support of the PREP Piscataqua Region Monitoring Collaborative activities. Once we have the letter in hand, it'll go to the UNH Foundation for processing and then Sean, we can get you some documentation if needed.

Thanks everyone, and to you Sean for this help!
R

From: Tom Gregory <tom.gregory@unh.edu>
Sent: Wednesday, May 12, 2021 1:41 PM
To: Matso, Kalle <Kalle.Matso@unh.edu>
Cc: Sean Greig <sgreig@newmarketnh.gov>; Rouillard, Rachel <Rachel.Rouillard@unh.edu>
Subject: Re: donated-sondes

Caution - External Email

Hi,

If we assume an eight year lifespan, a linear depreciation curve, and the two years of use already, then I'd say they are worth $\frac{3}{4}$ (6 of 8 years left to live) of the original value.

Tom

<><><><><><><><><><>

Thomas K. Gregory
Research Scientist
Ocean Process Analysis Lab
University of New Hampshire
603-862-5136

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On Wed, May 12, 2021 at 1:38 PM Matso, Kalle <Kalle.Matso@unh.edu> wrote:

Thanks, Tom. Can you suggest a depreciation factor?

Kalle

On May 12, 2021, at 1:35 PM, Tom Gregory <tom.gregory@unh.edu> wrote:

Caution - External Email

Hi,

Here's the quote that was used for sonde purchase. Total was \$40,598.

Tom

On Wed, May 12, 2021, 12:53 PM Matso, Kalle <kalle.matso@unh.edu> wrote:

Hi Tom and Sean,

Just want to get us on the same page regarding Sean's donated sondes so that Rachel can provide Sean with a piece of communication acknowledging our use of the sondes as part of the Collaborative Monitoring effort.

Tom, if you could start us off with a value on the sondes; the business office at UNH will require that we use some sort of "depreciation" factor since they have been previously used.

Thanks,

Kalle

<B161949-EXO2 Sondes, Sensors, UNH, Tom Gregory Rev B.pdf>