# Spruce Creek Watershed Restoration Project Phase V

#20180005

## **Final Project Report**

**Grantee:** Town of Kittery

Grantee Contact: Jessa Kellogg, Public Works Inspector

Town of Kittery DPW 200 Rogers Road Kittery, ME 03904

Date Project Started: January 1, 2018

Date FPR Submitted: December 31, 2020

Acknowledgement of DEP/EPA Grant Agreement Rider A: Funding for this project, In part, was provided by the U.S. Environmental Protection Agency under Section 319 of the Clean Water Act. The funding is administered by the Maine Department of Environmental Protection in partnership with EPA. EPA does not endorse any commercial products or services mentioned.

## I. Project Summary

## **Project Purpose**

Located along the southern coast of Maine, the Spruce Creek estuary provides both economic and ecological significance to the community by supporting numerous recreational and commercial water-based activities while serving as a haven for many resident and migratory species. As a continuation of Phase IV work, the purpose of the Spruce Creek Watershed Restoration Project — Phase V was to restore the water quality of Spruce Creek by building on past efforts through the following: 1) remediate identified NPS sites on agricultural land by improving the buffer areas of the headwaters of Spruce Creek 2) install pet waste dispensers and signage in areas of pet waste contamination; 3) increase awareness of NPS pollution (from fecal sources) through a continued outreach program, specifically targeting agricultural land and residential neighborhoods; 4) continue baseline monitoring of bacteria and other key pollutants to track progress in remediating NPS (from fecal sources) over time; and, 5) continue collaborative meetings and interaction with project partners.

## **Highlights and Challenges**

The Spruce Creek Watershed Restoration Project — Phase V found success with many of its intended objectives. Two riparian buffer planting BMPs were Installed to reduce nutrient and bacterial inputs from agricultural lands in the headwaters of Spruce Creek. These buffer plantings were installed with the help of over 40 volunteers who planted over 600 native plants over the course of two days, donating 140 hours of their time. A total of 9 "No Poop Fairy" signs were installed in 5 critical public areas throughout the watershed. An increase in awareness of NPS pollution (from fecal sources) was brought through mailing of a pet waste brochure to 614 residences in two targeted neighborhoods in the watershed with historical high bacteria counts seen during water sampling events. Baseline water quality data was gathered in and analyzed for in 2018 and 2020. These data are an addition to the already existing water quality data from the Spruce Creek watershed. Each year the Spruce Creek water quality monitoring dataset becomes more robust and will continue to do so for every year that monitoring is continued.

Of all the stated tasks in the workplan, the most challenging was assessing the effectiveness of the installed agricultural BMPs at Rustlewood Farm. Water quality data were to be compared upstream and downstream of the buffer planting from 2018 to 2020. However, due to the drought that occurred in the summer of 2020, water quality monitoring sites upstream of the Rustlewood Farm buffer planting were dry and no water was present to sample. Also, primarily due to the extended dry conditions brought on by the 2020 drought, 56% of all intended water quality data were gathered in 2020. It is recommended that baseline monitoring be continued to better assess water quality improvements from the BMPs and to monitor the health of Spruce Creek.

Another challenge occurred for NPS outreach opportunities. Due to the COVID-19 pandemic, outreach opportunities such as the Kittery Block Party were canceled to

adhere to state guidelines. The Town of Kittery was unable to secure funding to complete the parking area or construct a kiosk at Rustlewood Farm. Therefore, the planned placard at the kiosk was not completed under Task 3. Additionally, the owner of Rustlewood Farm wished to not mark the edge of the required 50' buffer planting area with stakes but is aware of the boundary. Kittery Land Trust (KLT) has a good working relationship with the farm owner, and KLT volunteers monitor this site throughout the year and will provide feedback to the farm owner if mowing extends into the buffer area. Under Task 4 the pet waste bag dispensers were not installed due to funding constraints for ongoing replenishment by the Town and concerns over disposal of waste bags. The Town is committed to increasing education and awareness about the topic of pet waste.

## **II.** Project Overview

## **Task 1: Project Management**

The Town of Kittery and Maine DEP signed a grant agreement outlining project roles, responsibilities, and funding arrangements. Following Maine DEP procurement guidelines described under Section 4 of DEP's NPS Grant Administrative Guidelines, the Town of Kittery subcontracted FB Environmental Associates (FBE) to provide project task management. The Town of Kittery and FBE have tracked project progress, expenses, and local match. Semi-annual Progress Reports (PRs) and one Final Project Report (FPR) have been completed. The Town of Kittery has utilized the DEP "NPS Site Tracker" Excel spreadsheet tool developed in Phase II of this project to record and track all NPS problem sites encountered during the project. As part of the FPR, the Town of Kittery provided a summary of NPS Site Tracker information collected in the watershed to DEP.

## **Task 2: Steering Committee**

The Steering Committee, which formed in 2008 during Phase I of the Spruce Creek Watershed Restoration Project, has continued to be a guiding body for this project. The committee's main functions included guiding project activities and progress and ensuring the schedule of the grant was on track while providing feedback on key project deliverables. The steering committee met 3 times over the course of Phase V (6/21/18, 6/10/19, 7/2/20). Committee members included a representative from Maine DEP (Kristin Feindel initially, replaced by Addie Halligan), the Spruce Creek Association (Phyllis Ford, others), municipal staff (Public Works Inspector, Jessa Kellogg), and the hired consultant (FBE, represented by Project Manager, Laura Diemer initially, followed by Amanda Gavin). Additional municipal staff from Public Works, volunteers from the Kittery Land Trust and Conservation Commission and other interested local citizens also occasionally attended meetings. The Steering Committee helped to ensure the schedule of the grant was on track and provided feedback on key project deliverables.

## Task 3: Agricultural BMP Installations & Outreach

Phase V continued to address stormwater runoff from agricultural land including Rustlewood Farm, a working dairy farm, as part of a 300-acre conservation easement

purchased by the KLT. The proposed BMP site location at Rustlewood Farm was previously targeted by the National Resource Conservation Service (NRCS) as part of a conservation plan to restore New England cottontail rabbit habitat and promote the development of a shrubland wildlife corridor. NRCS identified an area along the headwaters of the Creek where the farm owners drove across with a manure spreader, likely tracking manure on the tires into the Creek. Manure spreading rates and timing on the fields adjacent to the Creek are managed through a USDA-approved Comprehensive Nutrient Management Plan, and the farmers only spread in the fall to reduce manure impacts, but the manure is still a possible contributor to high fecal indicator bacteria counts downstream. In 2015, NRCS installed a bridge at the stream crossing location so that the manure spreader does not disturb the Creek, planted a buffer with dense patches of bare root and live stake shrubs with a 15-ft shrub strip along the eastern edge of the Creek, and installed posts to demarcate a 50-ft no-mow buffer.

Upon consultation with NRCS and a May 2016 site walk with property owners and the KLT, the Town of Kittery proposed to enhance approximately 400 feet of this buffer by filling in open patches and extending the depth of the buffer where the initial plantings did not take. Following the review of the recommended BMPs and the creation of a cost share agreement, project partners, including the property owners, reviewed and accepted the recommended BMPs and approved the site selection and design. In May of 2019, the Town of Kittery, FBE, and 40 local volunteers gathered at Rustlewood Farm to plant 600 native trees along an unvegetated 400-foot stretch of Spruce Creek's headwaters, between two established sampling sites. A riparian buffer is a vegetated area along a stream that reduces erosion and flooding, provides shade, and minimizes the amount of pollutants entering the stream by absorbing and filtering animal waste, sediments, nutrients, bacteria, and pesticides from nearby lands. Over the course of two days, volunteers of all ages collectively donated 140 hours to complete the planting. The goal of the buffer planting was to reduce possible untreated surface runoff from the manured havfields to the Creek. The Town ensured that all materials and equipment were made available for the installation. The Town will also ensure that the conditions outlined in the cost-share agreement made between the farm owners and KLT are kept so that the buffer is maintained over time. FBE documented pre- and post-installation conditions and calculated pollutant load reductions using EPA-approved STEPL model.

Through the conservation easement, the farm owners allow public access during the winter and by permission only. This highly visible area off Route 101 provides an opportunity to engage and educate watershed residents about fecal contamination problems and solutions. KLT was not able to secure funding to complete a klosk at Rustlewood Farm to describe the BMP. A press release was issued on 10/22/2020, but an In-person tour could not be completed due to the COVID-19 pandemic restrictions. A virtual StoryMap tour was developed and shared through the press release, municipal website and emailed to stakeholders.

This task also addressed agricultural runoff from a small residential hobby farm along the headwaters of Spruce Creek off Picott Road. FBE generated a technical assistance report for one hobby farm to install BMPs (i.e., buffer plantings) to treat runoff from the farm's defined animal pen adjacent to the Creek. A cost share agreement with the

property owner was made to install and maintain the agreed upon BMPs. The buffer planting was completed by town staff and volunteers with oversight by technical consultants and included planting 32 perennial shrubs and trees within a 45-ft long by 20-ft wide buffer area on either side of the footbridge near the water quality monitoring site PICOTT DS. The Town ensured that all materials and equipment were made available for the installation. The Town will also ensure that the conditions outlined in the cost-share agreement are kept so that the buffer is maintained over time. The consultant documented pre- and post-installation conditions and calculated pollutant load reductions using EPA-approved STEPL model.



Figure 1: Riparlan buffer planting along Spruce Creek at Rustlewood Farm in May of 2019.

#### Task 4: Pet Waste Outreach

Previous surveys and investigations in the Spruce Creek watershed have identified several residential neighborhoods as "hotspots" for sources of pet waste likely contributing to fecal contamination. Pet waste disposal signage was installed in five public areas in the watershed, and outreach conducted in two targeted neighborhoods, near the Trafton Lane/Haley Road culvert and Emery Field in Admiralty Village. Due to the COVID-19 pandemic, the Town's annual festival was cancelled, therefore, the proposed pet waste outreach at the Block Party did not occur as planned. The signage was instead promoted through a press release and virtual StoryMap tour. Project signs were reviewed and approved by EPA Region 1.

## Task 5: Spruce Creek Bacteria Monitoring

A USEPA-approved Quality Assurance Project Plan (QAPP) was developed on 7/26/18. The Town of Kittery committed funding for 2018-19 water quality monitoring based on the QAPP. With assistance from FBE, the Town of Kittery and volunteers sampled ten sites (Map 1) for Enterococci bacteria and nutrients, in addition to physical parameters

collected by hand-held meters, during both wet and dry weather<sup>1</sup>. Three water quality monitoring reports were completed following the completion of monitoring (April 2019, April 2020, and December 2020)<sup>2</sup>. The April 2019 report included data analyses from grab samples and continuous logger data collected in the summer of 2018, the April 2020 report included the analyses of continuous logger data collected in the summer of 2019, and the December 2020 report included the analysis of grab samples collected in the summer of 2020. Results from these reports helped assess BMP effectiveness and further guide preparations for additional targeted remediation and outreach.

#### **Task 6: Pollutant Reduction Estimates**

The Town of Kittery and consultants have estimated NPS pollutant load reductions (bacteria, sediment, nitrogen, and phosphorus) achieved under this project. During design and installation of BMPs at NPS sites, appropriate field measurements were recorded to prepare written estimates of pollutant load reductions. Estimates were prepared for all NPS sites. The USEPA Spreadsheet Tool for Estimating Pollutant Loads (STEPL) model (see website: <a href="https://www.epa.gov/nps/spreadsheet-tool-estimating-pollutant-loads-stepl">https://www.epa.gov/nps/spreadsheet-tool-estimating-pollutant-loads-stepl</a>) was used. It was estimated that a total of 0.4 tons/year of sediment, 9.1 pounds/year of total nitrogen, and 0.9 pounds/year of total phosphorus were reduced through the implementation of BMPs. Estimates were checked for proper application of the method and the results are summarized on a standard form provided by DEP titled "Pollutants Controlled Report" (PCR). The PCR was submitted to the DEP Agreement Administrator by December 31 of each year until project completion. Documentation of the estimation procedures used for each NPS site will be kept in the Grantee project file and will be available for DEP/EPA review.

<sup>&</sup>lt;sup>1</sup> Conditions were considered "wet" if nearby weather stations recorded any of the following: >0.1" of precipitation in the prior 24 hours; or >0.25" in the prior 48 hours; or >2.0" in the prior 96 hours. Larger precipitation events were sampled when possible. Dry weather conditions were defined as periods when precipitation was less than 0.1" for each day within 72 hours.

<sup>&</sup>lt;sup>2</sup> The 2018 grab sampling and continuous logger monitoring data were presented in the 2018 Spruce Creek Water Quality Monitoring Report. The 2019 continuous logger monitoring data were presented in the 2019 Spruce Creek Water Quality Monitoring Report. The Town of Kittery and volunteers were unable to collect grab samples due to scheduling constraints in 2019, so this effort was moved to 2020.

## Spruce Creek, Kittery, Maine Data Source: ME GIS, NHD Sampling Sites Projection: NAD 19183 UTM Zone 19 Created by: FBE November 2020 **Watershed** Stream 0 0.125 0.25 0.5 Miles Sampling Site Waterbody RUSWOODFARM 3 👵 RUSWOODFARM 2 ... RUSWODDFARM 1 . PSC PRDRIVE WR Cûl-PICOTT OS MIDEST .

Map 1. Location of the 2018-2020 sampling sites in the Spruce Creek watershed.

## **III.** Deliverables Summary

Li	st of Deliverables from Work Plan	Date Deliverable submitted to DEP				
1.	Contract with Consultant, semi-annual progress reports, final project report, and updated NPS Site Tracker Summary (Task 1).	Contract (5/2/18); semi-annual progress reports (11/8/18, 5/6/19, 11/4/19, 5/4/20); final project report (12/31/20); updated NPS Site Tracker Summary (12/28/20)				
2.	BMP technical design for Rustlewood Farm Buffer Planting (Task 3).	Buffer Planting BMP technical design (4/5/19); Buffer Planting Assessment (9/3/20)				
3.	Technical assistance report for Picott Road hobby farm (Task 3).	Technical assistance report (9/4/20)				
4.	NPS Site Report for each NPS site (Task 3).	NPS Site Report Rustlewood Farm (12/31/19); NPS Site Report Picott Road Hobby Farm (12/28/20)				
5.	Copies of key outreach materials, including brochure, summary of tours and events, press releases, summary and pictures of signage installation (Tasks 3 and 4).	Brochure (614 mailed on 10/12/20), summary of tours and events (10/22/20), press releases (10/22/20), summary and pictures of signage installation (10/22/20)				
6.	Approved QAPP; 2018 & 2019 Annual water quality monitoring reports (Task 5).	Approved QAPP (7/26/2018); 2018 WQ Report (4/26/19); 2019 WQ Report (4/30/19); 2020 WQ Report (12/28/20)				
7.	Pollutants Controlled Report each year until project completion (Task 6).	2019 PCR (12/31/19); 2020 PCR (12/31/20); STEPL model worksheet (12/31/19, 12/28/20)				

## **IV. Project Outcomes**

## **Major Outcomes of The Project**

There were several major outcomes for the Spruce Creek Watershed Restoration Project – Phase V:

- A 400-ft long and 15-ft wide buffer was created along Spruce Creek at Rustlewood Farm in May of 2019. The addition of 600 native trees is helping to uptake nutrient and bacterial runoff from adjacent fields, increase sediment stabilization, and provide habitat for native wildlife. The STEPL model estimates this BMP is preventing 0.3 tons/yr of sediment, 8.0 lbs./yr of nitrogen, and 0.8 lbs./yr of phosphorus from reaching the Creek.
- A vegetated buffer, approximately 45 ft long and 20 ft wide, was created along an unnamed tributary near the water quality monitoring site, PICOTT DS, known as the Picott buffer planting. As with the Rustlewood Farm buffer planting, this BMP,

- although smaller, is designed to decrease the volume of runoff containing bacteria, nutrients, and sediment from entering Spruce Creek. The STEPL model estimates this BMP is preventing 0.1 tons/yr of sediment, 1.1 lbs./yr of nitrogen, and 0.1 lbs./yr of phosphorus from reaching the Creek.
- 9 pet waste disposal signs have been installed at 5 public locations throughout the Spruce Creek watershed.
- Three years of continuous water quality logger data were collected (late summer to fall 2018-2020), and two years of water quality grab sample monitoring were completed (2018 and 2020) according to the approved QAPP, along with three annual reports. The analysis and presentation of 2020 continuous logger monitoring data will be funded at a later date.

## **Environmental Results of The Project**

- One major environmental result of this project is the likely reduction of stormwater flow (and thus pathogen/bacteria loading) at Rustlewood Farm to Spruce Creek. Although water quality monitoring results were inconclusive due to drought conditions in 2020 (see the Spruce Creek 2020 Water Quality Monitoring Report for more Information), it is likely that this BMP is improving the water quality of Spruce Creek, along with other BMPs and actions taken within the watershed.
- The water quality monitoring dataset for Spruce Creek becomes more robust for every year that monitoring is continued. As the data record expands, water quality analysis will provide better insights to long-term trends and allow better understanding of interannual changes in water quality that may be related to specific conditions within a given year (e.g., weather patterns, land use changes, remediation efforts, etc.).

#### Lessons Learned

• One important lesson learned from this project was related to the challenges working with the unexpected drought conditions of 20203. During a drought, there is less surface runoff and groundwater flow, which can result in a decrease of terrestrial fecal sources transported from the landscape to the Creek. Low flow conditions also concentrate solutes and increase water clarity (from settling) (Byappanahalli et al., 2012). Low and slow flows allow fecal indicator bacteria to settle to the bottom and become unaccounted for in surface grab sampling. Low and slow flows can also warm waters quickly and stimulate bacterial growth within a certain threshold (between 10°C and 45°C) beyond which fecal indicator bacteria die off at extreme temperatures. More data will be needed under more typical rainfall years to better assess the long-term impact of the buffer plantings and outreach efforts.

<sup>&</sup>lt;sup>3</sup> During the 2018 sampling season, a total of 12 inches of precipitation fell from the first sample collected in July through the last sample in September, and five separate rainfall events produced over 1 inch of precipitation. By contrast, 3.3 inches of precipitation fell during the 2020 sampling season with only one storm over 1 inch (Figure 1).

## V. Summary of Total Expenditures

	Federal Funds	Non-Federal Match	<u>Total</u>
Funds Originally Allocated	\$36,543.00	\$26,933.00	\$63,476.00
Funds Expensed	\$36,543.00	\$61,940.25	\$98,483.25
Funds Remaining	\$0.00	\$(35,007.25)	\$(35,007.99)

SCWRP Phase V Grant Expense and Non-Federal Match Summary							
			Non-Federal Match				
Watershed Project Activity or Work Plan Element	Grant Funds Expended	Volunteer Match	In-Kind Services	Kittery Cash Match	Cost Share	Total Match	Grant + Match
Task 1: Project Management	\$3,627.28		\$4,212.98			\$4,212.98	\$7,840.26
Task 2: Steering Committee	\$715.62	\$825.88	\$369.92			\$1,195.80	\$1,911.42
Task 3: Agricultural BMP	\$21,644.46	\$3,320.66	\$3,783.67			\$7,104.33	\$28,748.79
Task 4: Pet Waste Signage/Outreach	\$1,214.90		\$1,199.76			\$1,199.76	\$2,414.66
Task 5: WQ Monitoring	\$7,791.74	\$983.46	\$3,816.23	\$43,370.23		\$48,169.88	\$55,961.62
Task 6: Pollutant Reduction Estimates	\$1,549.00		\$57.50			\$57.50	\$1,606.50
TOTAL	\$36,543.00	\$5,130.00	\$13,440.06	\$43,370.19		\$61,940.25	\$98,483.25

## VI. Non-Federal Match Documentation / Certification

Non-Federal Match Documentation / Certification

NPS Grants Program, Maine Department of Environmental Protection

Grantees need to document matching funds or services contributed to the project. The amount of match required is listed under 'Budget Information' in the project work plan. Grantees must submit this form as part of the Final Project Report to certify that match has been properly documented before closeout of the Grant Agreement.

To efficiently meet documentation requirements, Grantees should accumulate match information as the project proceeds and record information in a table. See *Nonpoint Source Grant Administrative Guidelines* (2016) Appendix A for an example. The following information is needed to adequately document match.

1. Source.

Identify the source of the funds or services;

2. Activity.

Describe the activity and the amount of activity; and

3. Valuation.

Describe the basis for assigning the amount of dollar value to the activity.

Important: This signed certification form must be accompanied by supporting information that documents (source, activity, and valuation) the matching funds or services claimed by the Grantee. The Certification Statement alone is not sufficient to document the non-federal match.

#### **GRANTEE INFORMATION:**

Grantee Name:

Town of Kittery

Address:

200 Rogers Road

Kittery, ME 03904

Telephone:

(207) 439-0333

Contact Person:

Jessa Kellogg, Public Works Inspector

#### PROJECT INFORMATION:

Project #:

20180005

Project Title:

Spruce Creek Watershed Restoration Project, Phase V

Match Amount Planned Under the Grant Agreement:

\$26,933.00

Match Amount Claimed:

\$61,940.25

#### **CERTIFICATION STATEMENT:**

I certify that the non-federal match summarized in the attached information was expended in the course of completing work described in the Grant Agreement for the Project referenced above. Supplemental match documentation is available for review in Grantee files.

Signature of Grantee - Authorized Official

Dote

Source	Activity or Item	Task	Hours	Rate/Value	Total
Public Works Inspector	Project Management	1	56	\$23/hour	\$1,288.00
Public Works Inspector	Project Management	1	12	\$23.73/hour	\$284.76
Public Works Inspector	Project Management	1	56	\$24.87/hour	\$1,392.72
Town Manager	Project Management	1	6	\$40/hour	\$240.00
Public Works Commissioner	Project Management	1	20	\$40/hour	\$800.00
FB Environmental	Project Management	1	41.5	\$5/hour	\$207.50
Public Works Inspector	Steering Committee Attendance	2	10	\$23/hour	\$230.00
Public Works Inspector	Steering Committee Attendance	2	4	\$23.73/hour	\$94.92
FB Environmental	Steering Committee Attendance	2	9	\$5/hour	\$45.00
Volunteers	Steering Committee Attendance 2017 Independent Sector Rate	2	22	\$22.53/hour	\$495.66
Volunteers	Steering Committee Attendance 2018 Independent Sector Rate	2	8	\$23.12/hour	\$184.96
Volunteers	Steering Committee Attendance 2019 Independent Sector Rate	2	6	\$24.21/hour	\$145.26
Public Works Inspector			74	\$23/hour	\$1,702.00
Public Works Agricultural BMPs - Planning, Inspector Oversight, Installations		3 .	41	\$24.87/hour	\$1,019.67

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Source	Activity or item	Task	Hours	Rate/Value	Total
DPW Staff	Agricultural BMPs – Rustlewood Farm Buffer	3	4	\$30/hour	\$120.00
DPW Staff	Agricultural BMPs – Picott Road Buffer	3	2	\$32/hour	\$64.00
DPW Staff	Agricultural BMPs – Picott Road Buffer	3	3	\$21/hour	\$63.00
Volunteers	Agricultural BMPs – Rustlewood Farm Buffer Planting 2018 Independent Sector Rate	3	135.25	\$23.12/hour	\$3,126.98
Volunteers	Agricultural BMPs – Picott Road Buffer Planting 2019 Independent Sector Rate	3	8	\$24.21/hour	\$193.68
FB Environmental	Agricultural BMPs	3	163	\$5/hour	\$815.00
Public Works Inspector	Pet Waste – develop and distribute outreach materials	4	18	\$23.73/hour	427.14
Public Works Inspector	Pet Waste – develop and distribute outreach materials	4	26	\$24.87/hour	\$646.62
DPW Staff	Pet Waste – Install Signage	4	6	\$21/hour	\$126.00
Public Works Inspector	Water Quality Monitoring	5	58	\$23/hour	\$1,334.00
Public Works Inspector	Water Quality Monitoring	5	44	\$24.87/hour	\$1,094.28
DPW Staff	Water Quality Monitoring	5	3	\$23/hour	\$69.00
DPW Staff	Water Quality Monitoring	5	6	\$26/hour	\$156.00
DPW Staff	Water Quality Monitoring	5	18	\$32/hour	\$576.00
FB Environmental	Water Quality Monitoring	5	25.75	\$5/hour	\$128.75

## #20180005 Spruce Creek Watershed Restoration Project, Phase V – Final Report

Source	Activity or Item	Task	Hours	Rate/Value	Total
Volunteers	Water Quality Monitoring – QAPP Training 2017 Independent Sector Rate	5	14	\$22.53/hour	\$315.42
Volunteers	Water Quality Monitoring - 2017 Independent Sector Rate	5	18	\$22.53/hour	\$405.54
Volunteers	Water Quality Monitoring - 2018 Independent Sector Rate	5	3.5	\$23.12/hour	\$80.92
Volunteers	Water Quality Monitoring - 2019 Independent Sector Rate	5	7.5	\$24.21/hour	\$181.58
Harbormaster	Water Quality Monitoring	5	2.5	\$25/hour	\$62.50
Harbormaster Boat/ Volunteer Boat	Water Quality Monitoring – FEMA Equipment Rate 8131	5	10	\$12/hour	\$120.00
Volunteer Boat	Water Quality Monitoring – FEMA Equipment Rate 8131	5	7.5	\$12.55/hour	\$94.13
FB Environmental	Water Quality Monitoring - 2019 Independent Sector Rate	5	7.5	\$24.21/hour	\$181.58
Town of Kittery Cash Match	Water Quality Monitoring – Lab Processing Fees	5		Lump Sum	\$12,580.23
Town of Kittery Cash Match	Water Quality Monitoring – Consultant Contracts	5		Lump Sum	\$30,789.96
FB Environmental	FB Environmental Pollutant Reduction Estimate		11.5	\$5/hour	\$57.50