

AGENDA PACKET

10/10/18 REGULAR MEETING

Legal Holiday 2019

(M.G.L. Chap. 4, Sec. 7, Clause 18)

New Year's Day	Tuesday, January 1
Martin Luther King, Jr. Day	Monday, January 21
President's Day	Monday, February 18
Patriots' Day	Monday, April 15
Memorial Day	Monday, May 27
Independence Day	Thursday, July 4
Labor Day	Monday, September 2
Columbus Day	Monday, October 14
Veteran's Day	Monday, November 11
Thanksgiving Day	Thursday, November 28
Christmas Day	Wednesday, December 25

Sunday/Saturday Legal Holidays: All holidays falling on Sunday must be observed on Monday, under state law. Saturday holidays are observed on Saturday (if the holiday falls on a Saturday, the employee is given an additional day off within 60 calendar days). Unionized personnel should refer to the "Holiday" provision within the current contractual agreement(s).

Floating Holidays: The following days **ARE NOT** legal holidays in Barnstable County but may be taken as floating holidays within 100 calendar days following the holiday (per non-union handbook Leave 8.2). For Union personnel please refer to provisions within the current contractual agreement(s).

Evacuation Day	Sunday, March 17
Bunker Hill Day	Monday, June 17

Approved:

Board of Regional Commissioners


Leo G. Cakounes, Chair


Ronald R. Beaty, Vice-Chair


Mary Pat Flynn, Commissioner

10-10-18
Date

COMMONWEALTH OF MASSACHUSETTS

BARNSTABLE, SS.

At a Regular Meeting of the Barnstable County Board of Regional Commissioners, at the Superior Courthouse Building, on the tenth day of October, A.D. 2018, motion by Commissioner Beaty to authorize the approval of the proposed 2019 Legal Holiday Schedule, as presented, 2nd by Commissioner Flynn, approved 3-0-0

Leo G. Cakounes, Chair: Y

Ronald R. Beaty, Vice-Chair: Y

Mary Pat Flynn, Commissioner: Y

A true copy, Attest, October 10, 2018



Janice O'Connell
Barnstable County Regional Clerk



BARNSTABLE COUNTY COMMISSIONERS

RONALD R. BEATY
Barnstable

LEO G. CAKOUNES
Harwich

MARY PAT FLYNN
Falmouth

SUPERIOR COURTHOUSE
3195 MAIN STREET
P.O. BOX 427
BARNSTABLE, MASSACHUSETTS 02630
PHONE: (508) 375-6648
FAX:(508) 362-4136

HOME RULED CHARTERED
IN 1989

MEMORANDUM

Date: October 10, 2018
To: Barnstable County Commissioners
From: Jack Yunits, County Administrator
Subject: Proposed 2018/2019 Thanksgiving, Christmas and New Year's Holiday Schedule for County Employees

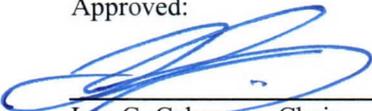
Please approve the request from Barnstable County Administrator's Office for the following proposed 2018/2019 Holiday work schedule:

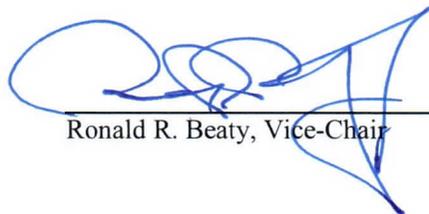
Consistent with MGL Chapter 4, Section 7 (clause 18) and the authority vested with the Barnstable County Commissioners under the Home Rule Charter, I am presenting the upcoming holiday schedule.

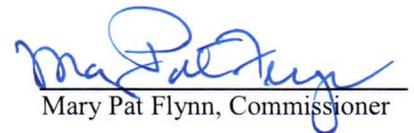
- **Wednesday, November 21, 2018** will be treated as a normal working day, with standard working schedules, up until 12:00 p.m. All County offices will close at 12:00 p.m. Employees required by their department manager to work beyond 12:00 p.m. will be compensated at a holiday rate.
- **Thursday, November 22, 2018** is a legal holiday and all county offices will be closed for the entire day.
- **Friday, November 23, 2018** is to be treated as a "Skeleton Day". Both union and non-union employees, with department's head approval, may elect to take this day off without penalty and the various County offices are to be open in accordance with normal working hours. Those employees who work on this day are to take this "Skeleton Day" off on or before January 31, 2019.
- **Monday, December 24, 2018** will be treated as a normal working day, with standard working schedules, up until 12:00 p.m. All County offices will close at 12:00 p.m. Employees required by their department manager to work beyond 12:00 p.m. will be compensated at a holiday rate.
- **Monday, December 25, 2018** is observed as a legal holiday and all county offices will be closed for the entire day.
- **Monday, December 31, 2018** is a regular working day and all County offices will be open for the entire day.
- **Monday, January 1, 2018** is observed as a legal holiday and all county offices will be closed for the entire day.

The Department of Finance will inform employees of the requirements for the disbarment of paychecks and vendor payments under this schedule.

Approved:


Leo G. Cakounes, Chair


Ronald R. Beaty, Vice-Chair


Mary Pat Flynn, Commissioner

10-10-18
Date



BARNSTABLE COUNTY COMMISSIONERS

RONALD R. BEATY
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MEMORANDUM

Date: October 10, 2018
To: Barnstable County Commissioners
From: Jack Yunits, County Administrator
Subject: Proposed 2018/2019 Thanksgiving, Christmas and New Year's Holiday Schedule for County Employees

Please approve the request from Barnstable County Administrator's Office for the following proposed 2018/2019 Holiday work schedule:

Consistent with MGL Chapter 4, Section 7 (clause 18) and the authority vested with the Barnstable County Commissioners under the Home Rule Charter, I am presenting the upcoming holiday schedule.

- **Wednesday, November 21, 2018** will be treated as a normal working day, with standard working schedules, up until 12:00 p.m. All County offices will close at 12:00 p.m. Employees required by their department manager to work beyond 12:00 p.m. will be compensated at a holiday rate.
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The Department of Finance will inform employees of the requirements for the disbursement of paychecks and vendor payments under this schedule.

Approved:


Leo G. Cakounes, Chair


Ronald R. Beaty, Vice-Chair


Mary Pat Flynn, Commissioner

10-10-18
Date

COMMONWEALTH OF MASSACHUSETTS

BARNSTABLE, SS.

At a Regular Meeting of the Barnstable County Board of Regional Commissioners, at the Superior Courthouse Building, on the tenth day of October, A.D. 2018, motion by Commissioner Beaty to authorize the approval of the proposed 2018/2019 Holiday Break Schedule, as presented, 2nd by Commissioner Flynn, approved 3-0-0

Leo G. Cakounes, Chair: Y

Ronald R. Beaty, Vice-Chair: Y

Mary Pat Flynn, Commissioner: Y

A true copy, Attest, October *10*, 2018



Jenice O'Connell
Barnstable County Regional Clerk

COMMONWEALTH OF MASSACHUSETTS ~ STANDARD CONTRACT FORM



This form is jointly issued and published by the [Executive Office for Administration and Finance \(ANF\)](#), the [Office of the Comptroller \(CTR\)](#) and the [Operational Services Division \(OSD\)](#) as the default contract for all Commonwealth Departments when another form is not prescribed by regulation or policy. Any changes to the official printed language of this form shall be void. Additional non-conflicting terms may be added by Attachment. Contractors may not require any additional agreements, engagement letters, contract forms or other additional terms as part of this Contract without prior Department approval. Click on hyperlinks for definitions, instructions and legal requirements that are incorporated by reference into this Contract. An electronic copy of this form is available at www.mass.gov/osc under [Guidance For Vendors - Forms](#) or www.mass.gov/osd under [OSD Forms](#).

CONTRACTOR LEGAL NAME: County of Barnstable (and d/b/a):	COMMONWEALTH DEPARTMENT NAME: Dept of Fish & Game, Div Marine Fisheries MMARS Department Code: FWE
Legal Address: (W-9, W-4,T&C): Cape Cod Cooperative Extension PO Box 367, Barnstable MA 02630	Business Mailing Address: 251 Causeway Street, Suite 400, Boston, MA 02114
Contract Manager: Julie Ferguson	Billing Address (if different):
E-Mail: jferguson@barnstablecounty.org	Contract Manager: Tom Shields
Phone: 508.375. 6879 Fax:	E-Mail: thomas.shields@state.ma.us
Contractor Vendor Code: VC6000194979	Phone: 508-990-2860 x126 Fax: 508-990-0449
Vendor Code Address ID (e.g. "AD001"): AD _____ (Note: The Address Id Must be set up for EFT payments.)	MMARS Doc ID(s): BARNSTABLECOUNTYFY19 RFR/Procurement or Other ID Number: Legislative Earmark pursuant to c. 154 of the Acts of 2018.
<p style="text-align: center;"><input checked="" type="checkbox"/> NEW CONTRACT</p> PROCUREMENT OR EXCEPTION TYPE: (Check one option only) <input type="checkbox"/> Statewide Contract (OSD or an OSD-designated Department) <input type="checkbox"/> Collective Purchase (Attach OSD approval, scope, budget) <input type="checkbox"/> Department Procurement (Includes State or Federal grants 815 CMR 2.00) (Attach RFR and Response or other procurement supporting documentation) <input type="checkbox"/> Emergency Contract (Attach justification for emergency, scope, budget) <input type="checkbox"/> Contract Employee (Attach Employment Status Form , scope, budget) <input checked="" type="checkbox"/> Legislative/Legal or Other: (Attach authorizing language/justification, scope and budget)	<p style="text-align: center;"><input type="checkbox"/> CONTRACT AMENDMENT</p> Enter Current Contract End Date <u>Prior</u> to Amendment: _____ 20 _____ Enter Amendment Amount: \$ _____ (or "no change") AMENDMENT TYPE: (Check one option only. Attach details of Amendment changes.) <input type="checkbox"/> Amendment to Scope or Budget (Attach updated scope and budget) <input type="checkbox"/> Interim Contract (Attach justification for Interim Contract and updated scope/budget) <input type="checkbox"/> Contract Employee (Attach any updates to scope or budget) <input type="checkbox"/> Legislative/Legal or Other: (Attach authorizing language/justification and updated scope and budget)
The following COMMONWEALTH TERMS AND CONDITIONS (T&C) has been executed, filed with CTR and is incorporated by reference into this Contract. <input checked="" type="checkbox"/> Commonwealth Terms and Conditions <input type="checkbox"/> Commonwealth Terms and Conditions For Human and Social Services	
COMPENSATION: (Check ONE option): The Department certifies that payments for authorized performance accepted in accordance with the terms of this Contract will be supported in the state accounting system by sufficient appropriations or other non-appropriated funds, subject to intercept for Commonwealth owed debts under 815 CMR 9.00. <input type="checkbox"/> Rate Contract (No Maximum Obligation. Attach details of all rates, units, calculations, conditions or terms and any changes if rates or terms are being amended.) <input checked="" type="checkbox"/> Maximum Obligation Contract Enter Total Maximum Obligation for total duration of this Contract (or <i>new</i> Total if Contract is being amended). \$ <u>58,334</u>	
PROMPT PAYMENT DISCOUNTS (PPD): Commonwealth payments are issued through EFT 45 days from invoice receipt. Contractors requesting accelerated payments must identify a PPD as follows: Payment issued within 10 days ___% PPD; Payment issued within 15 days ___ % PPD; Payment issued within 20 days ___ % PPD; Payment issued within 30 days ___% PPD. If PPD percentages are left blank, identify reason: ___agree to standard 45 day cycle ___ statutory/legal or Ready Payments (G.L. c. 29, § 23A); ___ only initial payment (subsequent payments scheduled to support standard EFT 45 day payment cycle. See Prompt Pay Discounts Policy .)	
BRIEF DESCRIPTION OF CONTRACT PERFORMANCE or REASON FOR AMENDMENT: (Enter the Contract title, purpose, fiscal year(s) and a detailed description of the scope of performance or what is being amended for a Contract Amendment. Attach all supporting documentation and justifications.) For a joint program of shellfish propagation in Barnstable County pursuant to c. 154 of the Acts of 2018. The County may invoice monthly based on periodic allotments as established by the Office of Administration and Finance.	
ANTICIPATED START DATE: (Complete ONE option only) The Department and Contractor certify for this Contract, or Contract Amendment, that Contract obligations: <input checked="" type="checkbox"/> 1. may be incurred as of the Effective Date (latest signature date below) and no obligations have been incurred prior to the Effective Date . <input type="checkbox"/> 2. may be incurred as of _____, 20____, a date LATER than the Effective Date below and no obligations have been incurred prior to the Effective Date . <input type="checkbox"/> 3. were incurred as of _____, 20____, a date PRIOR to the Effective Date below, and the parties agree that payments for any obligations incurred prior to the Effective Date are authorized to be made either as settlement payments or as authorized reimbursement payments, and that the details and circumstances of all obligations under this Contract are attached and incorporated into this Contract. Acceptance of payments forever releases the Commonwealth from further claims related to these obligations.	
CONTRACT END DATE: Contract performance shall terminate as of <u>June 30</u> , 20 <u>19</u> with no new obligations being incurred after this date unless the Contract is properly amended, provided that the terms of this Contract and performance expectations and obligations shall survive its termination for the purpose of resolving any claim or dispute, for completing any negotiated terms and warranties, to allow any close out or transition performance, reporting, invoicing or final payments, or during any lapse between amendments.	
CERTIFICATIONS: Notwithstanding verbal or other representations by the parties, the "Effective Date" of this Contract or Amendment shall be the latest date that this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, or a later Contract or Amendment Start Date specified above, subject to any required approvals. The Contractor makes all certifications required under the attached Contractor Certifications (incorporated by reference if not attached hereto) under the pains and penalties of perjury, agrees to provide any required documentation upon request to support compliance, and agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein according to the following hierarchy of document precedence, the applicable Commonwealth Terms and Conditions , this Standard Contract Form including the Instructions and Contractor Certifications , the Request for Response (RFR) or other solicitation, the Contractor's Response, and additional negotiated terms, provided that additional negotiated terms will take precedence over the relevant terms in the RFR and the Contractor's Response only if made using the process outlined in 801 CMR 21.07 , incorporated herein, provided that any amended RFR or Response terms result in best value, lower costs, or a more cost effective Contract.	
AUTHORIZING SIGNATURE FOR THE CONTRACTOR: X: _____ Date: <u>10-10-19</u> (Signature and Date Must Be Handwritten At Time of Signature) Print Name: <u>Leo Cakounes, Mary Pat Flynn, Ron Beatty</u> Print Title: <u>County Commissioners</u>	AUTHORIZING SIGNATURE FOR THE COMMONWEALTH: X: _____ Date: _____ (Signature and Date Must Be Handwritten At Time of Signature) Print Name: <u>Kevin Creighton</u> Print Title: <u>Chief Fiscal Officer</u>

COMMONWEALTH OF MASSACHUSETTS ~ STANDARD CONTRACT FORM



INSTRUCTIONS AND CONTRACTOR CERTIFICATIONS

The following instructions and terms are incorporated by reference and apply to this Standard Contract Form. Text that appears underlined indicates a "hyperlink" to an Internet or bookmarked site and are unofficial versions of these documents and Departments and Contractors should consult with their legal counsel to ensure compliance with all legal requirements. Using the Web Toolbar will make navigation between the form and the hyperlinks easier. Please note that not all applicable laws have been cited.

CONTRACTOR LEGAL NAME (AND D/B/A): Enter the **Full Legal Name** of the Contractor's business as it appears on the Contractor's [W-9](#) or [W-4 Form](#) (Contract Employees only) and the applicable [Commonwealth Terms and Conditions](#). If Contractor also has a "doing business as" (d/b/a) name, BOTH the legal name and the "d/b/a" name must appear in this section.

Contractor Legal Address: Enter the Legal Address of the Contractor as it appears on the Contractor's [W-9](#) or [W-4 Form](#) (Contract Employees only) and the applicable [Commonwealth Terms and Conditions](#), which must match the legal address on the 10991 table in MMARS (or the Legal Address in HR/CMS for Contract Employee).

Contractor Contract Manager: Enter the authorized Contract Manager who will be responsible for managing the Contract. The Contract Manager should be an Authorized Signatory or, at a minimum, a person designated by the Contractor to represent the Contractor, receive legal notices and negotiate ongoing Contract issues. The Contract Manager is considered "Key Personnel" and may not be changed without the prior written approval of the Department. If the Contract is posted on [COMMBUYS](#), the name of the Contract Manager must be included in the Contract on COMMBUYS.

Contractor E-Mail Address/Phone/Fax: Enter the electronic mail (e-mail) address, phone and fax number of the Contractor Contract Manager. This information must be kept current by the Contractor to ensure that the Department can contact the Contractor and provide any required legal notices. Notice received by the Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any written legal notice requirements.

Contractor Vendor Code: The Department must enter the [MMARS Vendor Code](#) assigned by the Commonwealth. If a Vendor Code has not yet been assigned, leave this space blank and the Department will complete this section when a Vendor Code has been assigned. The Department is responsible under the [Vendor File and W-9s Policy](#) for verifying with authorized signatories of the Contractor, as part of contract execution, that the legal name, address and Federal Tax Identification Number (TIN) in the Contract documents match the state accounting system.

Vendor Code Address ID: (e.g., "AD001") The Department must enter the MMARS Vendor Code Address ID identifying the payment remittance address for Contract payments, which MUST be set up for EFT payments PRIOR to the first payment under the Contract in accordance with the [Bill Paying](#) and [Vendor File and W-9](#) policies.

COMMONWEALTH DEPARTMENT NAME: Enter the full Department name with the authority to obligate funds encumbered for the Contract.

Commonwealth MMARS Alpha Department Code: Enter the [three \(3\) letter MMARS Code](#) assigned to this Commonwealth Department in the state accounting system.

Department Business Mailing Address: Enter the address where all formal correspondence to the Department must be sent. Unless otherwise specified in the Contract, legal notice sent or received by the Department's Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address for the Contract Manager will meet any requirements for legal notice.

Department Billing Address: Enter the Billing Address or email address if invoices must be sent to a different location. Billing or confirmation of delivery of performance issues should be resolved through the listed Contract Managers.

Department Contract Manager: Identify the authorized Contract Manager who will be responsible for managing the Contract, who should be an authorized signatory or an employee designated by the Department to represent the Department to receive legal notices and negotiate ongoing Contract issues.

Department E-Mail Address/Phone/Fax: Enter the electronic mail (e-mail) address, phone and fax number of the Department Contract Manager. Unless otherwise specified in the Contract, legal notice sent or received by the Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any requirements for written notice under the Contract.

MMARS Document ID(s): Enter the MMARS 20 character encumbrance transaction number associated with this Contract which must remain the same for the life of the Contract. If multiple numbers exist for this Contract, identify all Doc Ids.

RFR/Procurement or Other ID Number or Name: Enter the Request for Response (RFR) or other Procurement Reference number, Contract ID Number or other reference/tracking number for this Contract or Amendment and will be entered into the Board Award Field in the MMARS encumbrance transaction for this Contract.

NEW CONTRACTS (left side of Form):

Complete this section ONLY if this Contract is brand new. (Complete the CONTRACT AMENDMENT section for any material changes to an existing or an expired Contract, and for exercising options to renew or annual contracts under a multi-year procurement or grant program.)

PROCUREMENT OR EXCEPTION TYPE: Check the appropriate type of procurement or exception for this Contract. Only one option can be selected. See [State Finance Law and General Requirements](#), [Acquisition Policy and Fixed Assets](#), the [Commodities and Services Policy](#) and the [Procurement Information Center \(Department Contract Guidance\)](#) for details.

Statewide Contract (OSD or an OSD-designated Department): Check this option for a Statewide Contract under OSD, or by an OSD-designated Department.

Collective Purchase approved by OSD: Check this option for Contracts approved by OSD for collective purchases through federal, state, local government or other entities.

Department Contract Procurement: Check this option for a Department procurement including state grants and federal sub-grants under [815 CMR 2.00](#) and [State Grants and Federal Subgrants Policy](#), Departmental Master Agreements (MA). If multi-Department user Contract, identify multi-Department use is allowable in Brief Description.

Emergency Contract: Check this option when the Department has determined that an unforeseen crisis or incident has arisen which requires or mandates immediate purchases to avoid substantial harm to the functioning of government or the provision of necessary or mandated services or whenever the health, welfare or safety of clients or other persons or serious damage to property is threatened.

Contract Employee: Check this option when the Department requires the performance of an [Individual Contractor](#), and when the planned Contract performance with an Individual has been classified using the [Employment Status Form](#) (prior to the Contractor's selection) as work of a Contract Employee and not that of an Independent Contractor.

Legislative/Legal or Other: Check this option when legislation, an existing legal obligation, prohibition or other circumstance exempts or prohibits a Contract from being competitively procured, or identify any other procurement exception not already listed. Legislative "earmarks" exempt the Contract solely from procurement requirements, and all other Contract and state finance laws and policies apply. Supporting documentation must be attached to explain and justify the exemption.

CONTRACT AMENDMENT (Right Side of Form)

Complete this section for any Contract being renewed, amended or to continue a lapsed Contract. All Contracts with available options to renew must be amended referencing the original procurement and Contract doc ids, since all continuing contracts must be maintained in the same Contract file (even if the underlying appropriation changes each fiscal year.) "See [Amendments, Suspensions, and Termination Policy](#)."

Enter Current Contract End Date: Enter the termination date of the Current Contract being amended, even if this date has already passed. (Note: Current Start Date is not requested since this date does not change and is already recorded in MMARS.)

Enter Amendment Amount: Enter the amount of the Amendment increase or decrease to a Maximum Obligation Contract. Enter "no change" for Rate Contracts or if no change.

AMENDMENT TYPE: Identify the type of Amendment being done. Documentation supporting the updates to performance and budget must be attached. **Amendment to Scope or Budget:** Check this option when renewing a Contract or executing any Amendment ("material change" in Contract terms) even if the Contract has lapsed. The parties may negotiate a change in any element of Contract performance or cost identified in the RFR or the Contractor's response which results in lower costs, or a more cost-effective or better value performance than was presented in the original selected response, provided the negotiation results in a better value within the scope of the RFR than what was proposed by the Contractor in the original selected response. Any "material" change in the Contract terms must be memorialized in a formal Amendment even if a corresponding MMARS transaction is not needed to support the change. Additional negotiated terms will take precedence over the relevant terms in the RFR and the Contractor's Response only if made using the process outlined in [801 CMR 21.07](#), incorporated herein, provided that any amended RFR or Response terms result in best value, lower costs, or a more cost effective Contract.

Interim Contracts: Check this option for an Interim Contract to prevent a lapse of Contract performance whenever an existing Contract is being re-procured but the new procurement has not been completed, to bridge the gap during implementation between an expiring and a new procurement, or to contract with an interim Contractor when a current Contractor is unable to complete full performance under a Contract.

Contract Employee: Check this option when the Department requires a renewal or other amendment to the performance of a Contract Employee.

Legislative/Legal or Other: Check this option when legislation, an existing legal obligation, prohibition or other circumstance exempts or prohibits a Contract from being competitively procured, or identify any other procurement exception not already listed. Legislative "earmarks" exempt the Contract solely from procurement requirements, and all other Contract and state finance laws and policies apply. Attach supporting documentation to explain and justify the exemption and whether Contractor selection has been publicly posted.

COMMONWEALTH TERMS AND CONDITIONS

Identify which [Commonwealth Terms and Conditions](#) the Contractor has executed and is incorporated by reference into this Contract. This Form is signed only once and recorded on the Vendor Customer File (VCUST). See [Vendor File and W-9s Policy](#).

COMPENSATION

COMMONWEALTH OF MASSACHUSETTS ~ STANDARD CONTRACT FORM



Identify if the Contract is a **Rate Contract** (with no stated Maximum Obligation) or a **Maximum Obligation Contract** (with a stated Maximum Obligation) and identify the Maximum Obligation. If the Contract is being amended, enter the new Maximum Obligation based upon the increase or decreasing Amendment. The Total Maximum Obligation must reflect the total funding for the dates of service under the contract, including the Amendment amount if the Contract is being amended. The Maximum Obligation must match the MMARS encumbrance. Funding and allotments must be verified as [available and encumbered](#) prior to incurring obligations. If a Contract includes both a Maximum Obligation component and Rate Contract component, check off both, specific Maximum Obligation amounts or amended amounts and Attachments must clearly outline the Contract breakdown to match the encumbrance.

PAYMENTS AND PROMPT PAY DISCOUNTS

Payments are processed within a 45 day payment cycle through EFT in accordance with the Commonwealth [Bill Paying Policy](#) for investment and cash flow purposes. Departments may NOT negotiate accelerated payments and Payees are NOT entitled to accelerated payments UNLESS a prompt payment discount (PPD) is provided to support the Commonwealth's loss of investment earnings for this earlier payment, or unless a payments is legally mandated to be made in less than 45 days (e.g., construction contracts, Ready Payments under [G.L. c. 29, s. 23A](#)). See [Prompt Pay Discounts Policy](#). PPD are identified as a percentage discount which will be automatically deducted when an accelerated payment is made. Reduced contracts rates may not be negotiated to replace a PPD. If PPD fields are left blank please identify that the Contractor agrees to the standard 45 day cycle; a statutory/legal exemption such as Ready Payments ([G.L. c. 29, § 23A](#)); or only an initial accelerated payment for reimbursements or start up costs for a grant, with subsequent payments scheduled to support standard EFT 45 day payment cycle. Financial hardship is not a sufficient justification to accelerate cash flow for *all* payments under a Contract. Initial grant or contract payments may be accelerated for the *first* invoice or initial grant installment, but subsequent periodic installments or invoice payments should be scheduled to support the Payee cash flow needs and the standard 45 day EFT payment cycle in accordance with the Bill Paying Policy. Any accelerated payment that does not provide for a PPD must have a legal justification in Contract file for audit purposes explaining why accelerated payments were allowable without a PPD.

BRIEF DESCRIPTION OF CONTRACT PERFORMANCE

Enter a brief description of the Contract performance, project name and/or other identifying information for the Contract to specifically identify the Contract performance, match the Contract with attachments, determine the appropriate expenditure code (as listed in the [Expenditure Classification Handbook](#)) or to identify or clarify important information related to the Contract such as the Fiscal Year(s) of performance (ex. "FY2012" or "FY2012-14"). Identify settlements or other exceptions and attach more detailed justification and supporting documents. Enter "Multi-Department Use" if other Departments can access procurement. For Amendments, identify the purpose and what items are being amended. Merely stating "see attached" or referencing attachments without a narrative description of performance is insufficient.

ANTICIPATED START DATE

The Department and Contractor must certify WHEN obligations under this Contract/Amendment may be incurred. Option 1 is the default option when performance may begin as of the [Effective Date](#) (latest signature date and any required approvals). If the parties want a new Contract or renewal to begin as of the upcoming fiscal year then list the fiscal year(s) (ex. "FY2012" or "FY2012-14") in the Brief Description section. Performance starts and encumbrances reflect the default [Effective Date](#) (if no FY is listed) or the later FY start date (if a FY is listed). Use Option 2 only when the Contract will be signed well in advance of the start date and identify a specific future start date. Do not use Option 2 for a fiscal year start unless it is certain that the Contract will be signed prior to fiscal year. Option 3 is used in lieu of the [Settlement and Release Form](#) when the Contract/Amendment is signed late, and obligations have already been incurred by the Contractor prior to the [Effective Date](#) for which the Department has either requested, accepted or deemed legally eligible for reimbursement, and the Contract includes supporting documents justifying the performance or proof of eligibility, and approximate costs. Any obligations incurred outside the scope of the [Effective Date](#) under any Option listed, even if the incorrect Option is selected, shall be automatically deemed a settlement included under the terms of the Contract and upon payment to the Contractor will release the Commonwealth from further obligations for the identified performance. All settlement payments require justification and must be under same encumbrance and object codes as the Contract payments. Performance dates are subject to [G.L. c.4, § 9](#).

CONTRACT END DATE

The Department must enter the date that Contract performance will terminate. **If the Contract is being amended and the Contract End Date is not changing, this date must be re-entered again here.** A Contract must be signed for at least the initial duration but not longer than the period of procurement listed in the RFR, or other solicitation document (if applicable). No new performance is allowable beyond the end date without an amendment, but the Department may allow a Contractor to complete minimal close out performance obligations if substantial performance has been made prior to the termination date of the Contract and prior to the end of the fiscal year in which payments are

appropriated, provided that any close out performance is subject to appropriation and funding limits under state finance law, and CTR may adjust encumbrances and payments in the state accounting system to enable final close out payments. Performance dates are subject to [G.L. c.4, § 9](#).

CERTIFICATIONS AND EXECUTION

See [Department Head Signature Authorization Policy](#) and the [Contractor Authorized Signatory Listing](#) for policies on Contractor and Department signatures.

Authorizing Signature for Contractor/Date: The Authorized Contractor Signatory must (in their own handwriting and in ink) sign AND enter the date the Contract is signed. See section above under "[Anticipated Contract Start Date](#)". Acceptance of payment by the Contractor shall waive any right of the Contractor to claim the Contract/Amendment is not valid and the Contractor may not void the Contract. **Rubber stamps, typed or other images are not acceptable.** Proof of Contractor signature authorization on a [Contractor Authorized Signatory Listing](#) may be required by the Department if not already on file.

Contractor Name /Title: The Contractor Authorized Signatory's name and title must appear legibly as it appears on the [Contractor Authorized Signatory Listing](#).

Authorizing Signature For Commonwealth/Date: The [Authorized Department Signatory](#) must (in their own handwriting and in ink) sign AND enter the date the Contract is signed. See section above under "[Anticipated Start Date](#)". **Rubber stamps, typed or other images are not accepted.** The Authorized Signatory must be an employee within the Department legally responsible for the Contract. See [Department Head Signature Authorization](#). The Department must have the legislative funding appropriated for all the costs of this Contract or funding allocated under an [approved Interdepartmental Service Agreement \(ISA\)](#). A Department may not contract for performance to be delivered to or by another state department without specific legislative authorization (unless this Contract is a Statewide Contract). For Contracts requiring Secretariat signoff, evidence of Secretariat signoff must be included in the Contract file.

Department Name /Title: Enter the Authorized Signatory's name and title legibly.

CONTRACTOR CERTIFICATIONS AND LEGAL REFERENCES

Notwithstanding verbal or other representations by the parties, the "Effective Date" of this Contract or Amendment shall be the latest date that this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, or a later Contract or Amendment Start Date specified, subject to any required approvals. The Contractor makes all certifications required under this Contract under the pains and penalties of perjury, and agrees to provide any required documentation upon request to support compliance, and agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein:

Commonwealth and Contractor Ownership Rights. The Contractor certifies and agrees that the Commonwealth is entitled to ownership and possession of all "deliverables" purchased or developed with Contract funds. A Department may not relinquish Commonwealth rights to deliverables nor may Contractors sell products developed with Commonwealth resources without just compensation. The Contract should detail all Commonwealth deliverables and ownership rights and any Contractor proprietary rights.

Qualifications. The Contractor certifies it is qualified and shall at all times remain qualified to perform this Contract; that performance shall be timely and meet or exceed industry standards for the performance required, including obtaining requisite licenses, registrations, permits, resources for performance, and sufficient professional, liability; and other appropriate insurance to cover the performance. If the Contractor is a business, the Contractor certifies that it is listed under the [Secretary of State's website](#) as licensed to do business in Massachusetts, as required by law.

Business Ethics and Fraud, Waste and Abuse Prevention. The Contractor certifies that performance under this Contract, in addition to meeting the terms of the Contract, will be made using ethical business standards and good stewardship of taxpayer and other public funding and resources to prevent fraud, waste and abuse.

Collusion. The Contractor certifies that this Contract has been offered in good faith and without collusion, fraud or unfair trade practices with any other person, that any actions to avoid or frustrate fair and open competition are prohibited by law, and shall be grounds for rejection or disqualification of a Response or termination of this Contract.

Public Records and Access The Contractor shall provide full access to records related to performance and compliance to the Department and officials listed under [Executive Order 195](#) and [G.L. c. 11, s.12](#) seven (7) years beginning on the first day after the final payment under this Contract or such longer period necessary for the resolution of any litigation, claim, negotiation, audit or other inquiry involving this Contract. Access to view Contractor records related to any breach or allegation of fraud, waste and/or abuse may not be denied and Contractor can not claim confidentiality or trade secret protections solely for viewing but not retaining documents. Routine Contract performance compliance reports or documents related to any alleged breach or allegation of non-compliance, fraud, waste, abuse or collusion may be provided electronically and shall be provided at Contractor's own expense. Reasonable costs for copies of non-routine Contract related records shall not exceed the rates for public records under [950 C.M.R. 32.00](#).

Debarment. The Contractor certifies that neither it nor any of its subcontractors are currently debarred or suspended by the federal or state government under any law or

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regulation including, [Executive Order 147](#); [G.L. c. 29, s. 29F](#); [G.L. c. 30, § 39R](#); [G.L. c. 149, § 27C](#); [G.L. c. 149, § 44C](#); [G.L. c. 149, § 148B](#) and [G.L. c. 152, s. 25C](#).

Applicable Laws. The Contractor shall comply with all applicable state laws and regulations including but not limited to the applicable [Massachusetts General Laws](#); the Official [Code of Massachusetts Regulations](#); [Code of Massachusetts Regulations](#) (unofficial); [801 CMR 21.00](#) (Procurement of Commodity and Service Procurements, Including Human and Social Services); [815 CMR 2.00](#) (Grants and Subsidies); [808 CMR 1.00](#) (Compliance, Reporting and Auditing for Human And Social Services); [AICPA Standards](#); confidentiality of Department records under [G.L. c. 66A](#); and the [Massachusetts Constitution Article XVIII](#) if applicable.

Invoices. The Contractor must submit invoices in accordance with the terms of the Contract and the Commonwealth [Bill Paying Policy](#). Contractors must be able to reconcile and properly attribute concurrent payments from multiple Departments. Final invoices in any fiscal year must be submitted no later than August 15th for performance made and received (goods delivered, services completed) prior to June 30th, in order to make payment for that performance prior to the close of the fiscal year to prevent reversion of appropriated funds. Failure to submit timely invoices by August 15th or other date listed in the Contract shall authorize the Department to issue an estimated payment based upon the Department's determination of performance delivered and accepted. The Contractor's acceptance of this estimated payment releases the Commonwealth from further claims for these invoices. If budgetary funds revert due to the Contractor's failure to submit timely final invoices, or for disputing an estimated payment, the Department may deduct a penalty up to 10% from any final payment in the next fiscal year for failure to submit timely invoices.

Payments Subject To Appropriation. Pursuant to [G.L. c. 29 § 26, § 27](#) and [§ 29](#), Departments are required to expend funds only for the purposes set forth by the Legislature and within the funding limits established through appropriation, allotment and subsidiary, including mandated allotment reductions triggered by [G.L. c. 29, § 9C](#). A Department cannot authorize or accept performance in excess of an existing appropriation and allotment, or sufficient non-appropriated available funds. Any oral or written representations, commitments, or assurances made by the Department or any other Commonwealth representative are not binding. The Commonwealth has no legal obligation to compensate a Contractor for performance that is not requested and is intentionally delivered by a Contractor outside the scope of a Contract. Contractors should verify funding prior to beginning performance.

Intercept. Contractors may be registered as Customers in the Vendor file if the Contractor owes a Commonwealth debt. Unresolved and undisputed debts, and overpayments of Contract payments that are not reimbursed timely shall be subject to intercept pursuant to [G.L. c. 7A, s. 3](#) and [815 CMR 9.00](#). Contract overpayments will be subject to immediate intercept or payment offset. The Contractor may not penalize any state Department or assess late fees, cancel a Contract or other services if amounts are intercepted or offset due to recoupment of an overpayment, outstanding taxes, child support, other overdue debts or Contract overpayments.

Tax Law Compliance. The Contractor certifies under the pains and penalties of perjury tax compliance with [Federal tax laws](#); [state tax laws](#) including but not limited to [G.L. c. 62C](#), [G.L. c. 62C, s. 49A](#); compliance with all state tax laws, reporting of employees and contractors, withholding and remitting of tax withholdings and child support and is in good standing with respect to all state taxes and returns due; reporting of employees and contractors under [G.L. c. 62E](#), withholding and remitting [child support](#) including [G.L. c. 119A, s. 12](#); [TIR 05-11](#); [New Independent Contractor Provisions](#) and applicable [TIRs](#).

Bankruptcy, Judgments, Potential Structural Changes, Pending Legal Matters and Conflicts. The Contractor certifies it has not been in bankruptcy and/or receivership within the last three calendar years, and the Contractor certifies that it will immediately notify the Department in writing at least 45 days prior to filing for bankruptcy and/or receivership, any potential structural change in its organization, or if there is any risk to the solvency of the Contractor that may impact the Contractor's ability to timely fulfill the terms of this Contract or Amendment. The Contractor certifies that at any time during the period of the Contract the Contractor is required to affirmatively disclose in writing to the Department Contract Manager the details of any judgment, criminal conviction, investigation or litigation pending against the Contractor or any of its officers, directors, employees, agents, or subcontractors, including any potential conflicts of interest of which the Contractor has knowledge, or learns of during the Contract term. Law firms or Attorneys providing legal services are required to identify any potential conflict with representation of any Department client in accordance with Massachusetts Board of Bar Overseers (BBO) rules.

Federal Anti-Lobbying and Other Federal Requirements. If receiving federal funds, the Contractor certifies compliance with federal anti-lobbying requirements including [31 USC 1352](#); [other federal requirements](#); [Executive Order 11246](#); [Air Pollution Act](#); [Federal Water Pollution Control Act](#) and [Federal Employment Laws](#).

Protection of Personal Data and Information. The Contractor certifies that all steps will be taken to ensure the security and confidentiality of all Commonwealth data for which the Contractor becomes a holder, either as part of performance or inadvertently during performance, with special attention to restricting access, use and disbursement of personal data and information under [G.L. c. 93H](#) and [c. 66A](#) and [Executive Order 504](#). The Contractor is required to comply with [G.L. c. 93I](#) for the proper disposal of all paper and electronic media, backups or systems containing personal data and information, provided further that the Contractor is required to ensure that any personal data or information

transmitted electronically or through a portable device be properly encrypted using (at a minimum) [Information Technology Division \(ITD\) Protection of Sensitive Information](#), provided further that any Contractor having access to credit card or banking information of Commonwealth customers certifies that the Contractor is PCI compliant in accordance with the [Payment Card Industry Council Standards](#) and shall provide confirmation compliance during the Contract, provide further that the Contractor shall immediately notify the Department in the event of any security breach including the unauthorized access, disbursement, use or disposal of personal data or information, and in the event of a security breach, the Contractor shall cooperate fully with the Commonwealth and provide access to any information necessary for the Commonwealth to respond to the security breach and shall be fully responsible for any damages associated with the Contractor's breach including but not limited to [G.L. c. 214, s. 3B](#).

Corporate and Business Filings and Reports. The Contractor certifies compliance with any certification, filing, reporting and service of process requirements of the [Secretary of the Commonwealth](#), the [Office of the Attorney General](#) or other Departments as related to its conduct of business in the Commonwealth; and with its incorporating state (or foreign entity).

Employer Requirements. Contractors that are employers certify compliance with applicable state and [federal employment laws](#) or regulations, including but not limited to [G.L. c. 5, s. 1](#) (Prevailing Wages for Printing and Distribution of Public Documents); [G.L. c. 7, s. 22](#) (Prevailing Wages for Contracts for Meat Products and Clothing and Apparel); [minimum wages and prevailing wage programs and payments](#); [unemployment insurance](#) and contributions; [workers' compensation and insurance](#), [child labor laws](#), [AGO fair labor practices](#); [G.L. c. 149](#) (Labor and Industries); [G.L. c. 150A](#) (Labor Relations); [G.L. c. 151](#) and [455 CMR 2.00](#) (Minimum Fair Wages); [G.L. c. 151A](#) (Employment and Training); [G.L. c. 151B](#) (Unlawful Discrimination); [G.L. c. 151E](#) (Business Discrimination); [G.L. c. 152](#) (Workers' Compensation); [G.L. c. 153](#) (Liability for Injuries); [29 USC c. 8](#) (Federal Fair Labor Standards); [29 USC c. 28](#) and the [Federal Family and Medical Leave Act](#).

Federal And State Laws And Regulations Prohibiting Discrimination including but not limited to the [Federal Equal Employment Opportunity \(EEO\) Laws](#) the [Americans with Disabilities Act](#); [42 U.S.C. Sec. 12,101, et seq.](#), the [Rehabilitation Act](#), [29 USC c. 16 s. 794](#); [29 USC c. 16 s. 701](#); [29 USC c. 14, 623](#); the [42 USC c. 45](#); (Federal Fair Housing Act); [G.L. c. 151B](#) (Unlawful Discrimination); [G.L. c. 151E](#) (Business Discrimination); the Public Accommodations Law [G.L. c. 272, s. 92A](#); [G.L. c. 272, s. 98](#) and [98A](#), [Massachusetts Constitution Article CXIV](#) and [G.L. c. 93, s. 103](#); [47 USC c. 5, sc. II, Part II, s. 255](#) (Telecommunication Act); Chapter 149, [Section 105D](#), [G.L. c. 151C](#), [G.L. c. 272, Section 92A, Section 98](#) and [Section 98A](#), and [G.L. c. 111, Section 199A](#), and [Massachusetts Disability-Based Non-Discrimination Standards For Executive Branch Entities](#), and related Standards and Guidance, authorized under Massachusetts Executive Order or any disability-based protection arising from state or federal law or precedent. See also [MCAD](#) and [MCAD links and Resources](#).

Small Business Purchasing Program (SBPP). A Contractor may be eligible to participate in the SBPP, created pursuant to [Executive Order 523](#), if qualified through the SBPP COMMBUYS subscription process at: [www.commbuys.com](#) and with acceptance of the terms of the SBPP participation agreement.

Limitation of Liability for Information Technology Contracts (and other Contracts as Authorized). The [Information Technology Mandatory Specifications](#) and the [IT Acquisition Accessibility Contract Language](#) are incorporated by reference into Information Technology Contracts. The following language will apply to Information Technology contracts in the U01, U02, U03, U04, U05, U06, U07, U08, U09, U10, U75, U98 object codes in the [Expenditure Classification Handbook](#) or other Contracts as approved by CTR or OSD. Pursuant to Section 11. Indemnification of the Commonwealth Terms and Conditions, the term "other damages" shall include, but shall not be limited to, the reasonable costs the Commonwealth incurs to repair, return, replace or seek cover (purchase of comparable substitute commodities and services) under a Contract. "Other damages" shall not include damages to the Commonwealth as a result of third party claims, provided, however, that the foregoing in no way limits the Commonwealth's right of recovery for personal injury or property damages or patent and copyright infringement under Section 11 nor the Commonwealth's ability to join the contractor as a third party defendant. Further, the term "other damages" shall not include, and in no event shall the contractor be liable for, damages for the Commonwealth's use of contractor provided products or services, loss of Commonwealth records, or data (or other intangible property), loss of use of equipment, lost revenue, lost savings or lost profits of the Commonwealth. In no event shall "other damages" exceed the greater of \$100,000, or two times the value of the product or service (as defined in the Contract scope of work) that is the subject of the claim. Section 11 sets forth the contractor's entire liability under a Contract. Nothing in this section shall limit the Commonwealth's ability to negotiate higher limitations of liability in a particular Contract, provided that any such limitation must specifically reference Section 11 of the Commonwealth Terms and Conditions. In the event the limitation of liability conflicts with accounting standards which mandate that there can be no cap of damages, the limitation shall be considered waived for that audit engagement. These terms may be applied to other Contracts only with prior written confirmation from the Operational Services Division or the Office of the Comptroller. The terms in this Clarification may not be modified.

Northern Ireland Certification. Pursuant to [G.L. c. 7 s. 22C](#) for state agencies, state authorities, the House of Representatives or the state Senate, by signing this Contract the

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Contractor certifies that it does not employ ten or more employees in an office or other facility in Northern Ireland and if the Contractor employs ten or more employees in an office or other facility located in Northern Ireland the Contractor certifies that it does not discriminate in employment, compensation, or the terms, conditions and privileges of employment on account of religious or political belief; and it promotes religious tolerance within the work place, and the eradication of any manifestations of religious and other illegal discrimination; and the Contractor is not engaged in the manufacture, distribution or sale of firearms, munitions, including rubber or plastic bullets, tear gas, armored vehicles or military aircraft for use or deployment in any activity in Northern Ireland.

Pandemic, Disaster or Emergency Performance. In the event of a serious emergency, pandemic or disaster outside the control of the Department, the Department may negotiate emergency performance from the Contractor to address the immediate needs of the Commonwealth even if not contemplated under the original Contract or procurement. Payments are subject to appropriation and other payment terms.

Consultant Contractor Certifications (For Consultant Contracts "HH" and "NN" and "U05" object codes subject to [G.L. Chapter 29, s. 29A](#)). Contractors must make required disclosures as part of the RFR Response or using the [Consultant Contractor Mandatory Submission Form](#).

Attorneys. Attorneys or firms providing legal services or representing Commonwealth Departments may be subject to [G.L. c. 30, s. 65](#), and if providing litigation services must be approved by the Office of the Attorney General to appear on behalf of a Department, and shall have a continuing obligation to notify the Commonwealth of any conflicts of interest arising under the Contract.

Subcontractor Performance. The Contractor certifies full responsibility for Contract performance, including subcontractors, and that comparable Contract terms will be included in subcontracts, and that the Department will not be required to directly or indirectly manage subcontractors or have any payment obligations to subcontractors. .

EXECUTIVE ORDERS

For covered Executive state Departments, the Contractor certifies compliance with applicable [Executive Orders](#) (see also [Massachusetts Executive Orders](#)), including but not limited to the specific orders listed below. A breach during period of a Contract may be considered a material breach and subject Contractor to appropriate monetary or Contract sanctions.

[Executive Order 481](#), [Prohibiting the Use of Undocumented Workers on State Contracts](#). For all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, Departments, divisions, councils, bureaus, and offices, now existing and hereafter established, by signing this Contract the Contractor certifies under the pains and penalties of perjury that they shall not knowingly use undocumented workers in connection with the performance of this Contract; that, pursuant to federal requirements, shall verify the immigration status of workers assigned to a Contract without engaging in unlawful discrimination; and shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker

[Executive Order 130](#), [Anti-Boycott](#). The Contractor warrants, represents and agrees that during the time this Contract is in effect, neither it nor any affiliated company, as hereafter defined, participates in or cooperates with an international boycott (See [IRC § 999\(b\)\(3\)-\(4\)](#), and [IRS Audit Guidelines Boycotts](#)) or engages in conduct declared to be unlawful by [G.L. c. 151E, s. 2](#). A breach in the warranty, representation, and agreement contained in this paragraph, without limiting such other rights as it may have, the Commonwealth shall be entitled to rescind this Contract. As used herein, an affiliated company shall be any business entity of which at least 51% of the ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interests of the Contractor, or which directly or indirectly owns at least 51% of the ownership interests of the Contractor.

[Executive Order 346](#), [Hiring of State Employees By State Contractors](#). Contractor certifies compliance with both the conflict of interest law [G.L. c. 268A specifically s. 5 \(f\)](#) and this order; and includes limitations regarding the hiring of state employees by private companies contracting with the Commonwealth. A privatization contract shall be deemed to include a specific prohibition against the hiring at any time during the term of Contract, and for any position in the Contractor's company, any state management employee who is, was, or will be involved in the preparation of the RFP, the negotiations leading to the awarding of the Contract, the decision to award the Contract, and/or the supervision or oversight of performance under the Contract.

[Executive Order 444](#), [Disclosure of Family Relationships With Other State Employees](#). Each person applying for employment (including Contract work) within the Executive Branch under the Governor must disclose in writing the names of all immediate family related to immediate family by marriage who serve as employees or elected officials of the Commonwealth. All disclosures made by applicants hired by the Executive Branch under the Governor shall be made available for public inspection to the extent permissible by law by the official with whom such disclosure has been filed.

[Executive Order 504](#), [Regarding the Security and Confidentiality of Personal Information](#). For all Contracts involving the Contractor's access to personal information, as defined in [G.L. c. 93H](#), and personal data, as defined in [G.L. c. 66A](#), owned or controlled by Executive Department agencies, or access to agency systems containing such information or data (herein collectively "personal information"), Contractor certifies under the pains and penalties of perjury that the Contractor (1) has read Commonwealth of Massachusetts

Executive Order 504 and agrees to protect any and all personal information; and (2) has reviewed all of the Commonwealth [Information Technology Division's Security Policies](#). Notwithstanding any contractual provision to the contrary, in connection with the Contractor's performance under this Contract, for all state agencies in the Executive Department, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established, the Contractor shall: (1) obtain a copy, review, and comply with the contracting agency's Information Security Program (ISP) and any pertinent security guidelines, standards, and policies; (2) comply with all of the Commonwealth of Massachusetts Information Technology Division's "[Security Policies](#)") (3) communicate and enforce the contracting agency's ISP and such Security Policies against all employees (whether such employees are direct or contracted) and subcontractors; (4) implement and maintain any other reasonable appropriate security procedures and practices necessary to protect personal information to which the Contractor is given access by the contracting agency from the unauthorized access, destruction, use, modification, disclosure or loss; (5) be responsible for the full or partial breach of any of these terms by its employees (whether such employees are direct or contracted) or subcontractors during or after the term of this Contract, and any breach of these terms may be regarded as a material breach of this Contract; (6) in the event of any unauthorized access, destruction, use, modification, disclosure or loss of the personal information (collectively referred to as the "unauthorized use"): (a) immediately notify the contracting agency if the Contractor becomes aware of the unauthorized use; (b) provide full cooperation and access to information necessary for the contracting agency to determine the scope of the unauthorized use; and (c) provide full cooperation and access to information necessary for the contracting agency and the Contractor to fulfill any notification requirements. Breach of these terms may be regarded as a material breach of this Contract, such that the Commonwealth may exercise any and all contractual rights and remedies, including without limitation indemnification under Section 11 of the [Commonwealth's Terms and Conditions](#), withholding of payments, Contract suspension, or termination. In addition, the Contractor may be subject to applicable statutory or regulatory penalties, including and without limitation, those imposed pursuant to G.L. c. 93H and under [G.L. c. 214, § 3B](#) for violations under M.G.L. c. 66A. [Executive Orders 523, 524 and 526](#), Executive Order 526 (Order Regarding Non-Discrimination, Diversity, Equal Opportunity and Affirmative Action which supersedes [Executive Order 478](#)), [Executive Order 524](#) (Establishing the Massachusetts Supplier Diversity Program which supersedes Executive Order 390), [Executive Order 523](#) (Establishing the Massachusetts Small Business Purchasing Program.) All programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background. The Contractor and any subcontractors may not engage in discriminatory employment practices; and the Contractor certifies compliance with applicable federal and state laws, rules, and regulations governing fair labor and employment practices; and the Contractor commits to purchase supplies and services from certified minority or women-owned businesses, small businesses, or businesses owned by socially or economically disadvantaged persons or persons with disabilities. These provisions shall be enforced through the contracting agency, OSD, and/or the Massachusetts Commission Against Discrimination. Any breach shall be regarded as a material breach of the contract that may subject the contractor to appropriate sanctions.

COMMONWEALTH OF MASSACHUSETTS

BARNSTABLE, SS.

At a regular meeting of the Barnstable County Board of Regional Commissioners, at the Superior Courthouse Building, on the tenth day of October, A.D. 2018, motion by Commissioner Beaty to authorize the execution of a contract for a grant from the Massachusetts Department of Fish & Game, Division of Marine Fisheries to the Cape Cod Cooperative Extension for a joint program of shellfish propagation in Barnstable County in the amount of \$58,334.00 for a period through June 30, 2019, as presented, 2nd by Commissioner Flynn, approved 3-0-0

Leo G. Cakounes, Chair: Y

Ronald R. Beaty, Vice-Chair: Y

Mary Pat Flynn, Commissioner: Y

A true copy, Attest, October 10, 2018



Janice O'Connell
Barnstable County Regional Clerk

SUBAWARD AGREEMENT
BETWEEN

Barnstable County through
Cape Cod Commission
3225 Main Street
Barnstable, MA 02630

and

Association to Preserve Cape Cod
482 Main Street
Dennis, MA 02638

Federal Award Identification Number: 00A00370
Federal Award Date: October 1, 2017
Federal Award Amount: \$7,361,002
Federal Awarding Agency: U.S. Environmental Protection Agency through Restore America's Estuaries
Subaward Date: September 1, 2018
Subaward to the Cape Cod Commission: \$399,998
Subaward Number: SNEPWG18-9-CCC
CFDA Number/Name: 66.129 – Southeast New England Coastal Watershed Restoration
FFATA Reportable: yes
Research & Development: no

Subaward Start Date: October 1, 2018
Subaward Amount: \$99,488
Subrecipient NICRA: n/a
Subrecipient Match: \$36,019
Subrecipient DUNS: 794871186
Subaward Expiration Date: July 31, 2020

Project Contacts:

Erin Perry, Special Project Manager
eperry@capecodcommission.org
508-744-1236

Gail Coyne, Chief Fiscal Officer
gcoyne@capecodcommission.org
508-744-1202

Subrecipient Project Contacts:

Andrew Gottlieb, Executive Director
agottlieb@apcc.org
508-619-3185

THIS SUBAWARD AGREEMENT (the "Agreement") is being entered into by and between Barnstable County, acting by and through the Cape Cod Commission (the "Recipient") and the Association to Preserve Cape Cod (the "Subrecipient") so that the Subrecipient may partner with the Recipient in a project titled "Regional Collection & Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making" (the "Project") funded through the Southeast New England Program (SNEP) Watershed Grants.

1. Background and Prime Award. U.S. Environmental Protection Agency and Restore America's Estuaries entered into Cooperative Agreement #00A00370 (hereafter referred to as Prime Award) to fund the Southeast New England Watershed Grants Projects. Restore America's Estuaries and the Cape Cod Commission entered into a subrecipient agreement #SNEPWG18-9-CCC to fund the Project. Under the terms of this Agreement, the Recipient awards funds to the Subrecipient for its participation in the Project. Although funds to be provided to the Subrecipient under this Agreement will come ultimately from the U.S. Environmental Protection Agency and Restore America's Estuaries, Subrecipient acknowledges that U.S. Environmental Agency and Restore America's Estuaries are not Parties to this Agreement and have no obligations directly to Subrecipient under this Agreement. Notwithstanding the above, Subrecipient will be subject to and will comply with the terms and conditions contained in the Prime Award which are applicable to the Subrecipient, which are attached hereto as Attachment B and incorporated herein by reference.

2. Scope of Services/Budget. The Subrecipient will perform the scope of services for a maximum subaward of \$99,488 as set forth in Attachment A. The Subrecipient agrees to provide a non-federal match of \$36,019 in project-related costs as described in the budget.

3. Disbursements and Accounting. The Subrecipient will separately account for expenditures made and payments received under this Subaward in its accounting records. The Recipient will not be obligated to pay Subrecipient for any costs not detailed in Attachment A and will be under no obligation to disburse funds to the Subrecipient under the Agreement, except to the extent that funds are disbursed to the Recipient under the Prime Award. Disbursements will be made to Subrecipient on a reimbursement basis no more frequently than quarterly, based upon receipt of a complete and accurate Financial Report for the applicable period. Payments will be sent to Subrecipient via check.

4. Administration: The Subrecipient agrees to comply with the Prime Award Terms and Conditions detailed in Attachment B and with 2 CFR 200 Uniform Guidance.

5. Reporting:

- Performance/Progress Reports – deliverables and progress reports per Attachment A are due 10 days after the quarters ending March 31, June 30, September 30, and December 31. A Final report is due within 30 days of Project completion (no later than August 31, 2020). The Subrecipient should refer to the detailed progress report requirements in Attachment B, Prime Award Conditions and its Attachment 1: Progress Report Requirements and Attachment 2: Final Report Requirements.
Financial Reports – quarterly financial reports are due 10 days after the quarters ending March 31, June 30, September 30, and December 31. Final financial report is due within 30 days of project completion (no later than August 31, 2020). The Subrecipient should refer to the Summary Budget Table reporting requirements also in Attachment B, Prime Award Conditions and its Attachment 1: Progress Report Requirements and Attachment 2: Final Report Requirements.

6. Termination or Suspension of Agreement for Cause. If through any sufficient cause, the Subrecipient or the Recipient fails to fulfill or perform its duties and obligations under this Agreement, or if either party violates or breaches any of the provisions of this Agreement, either party will thereupon have the right to terminate or suspend this Agreement, by giving written notice to the

other party of such termination or suspension and specifying the effective date thereof. Such notice will be given at least fifteen (15) calendar days before such effective date.

7. Termination for Convenience of Recipient. The Recipient will have the right to discontinue the work of the Subrecipient and cancel this Agreement by written notice to the Subrecipient of such termination and specifying the effective date of such termination. In the event of such termination or suspension of this Agreement, the Subrecipient will be entitled to just and equitable compensation for satisfactory work completed, for services performed and for reimbursable expenses necessarily incurred in the performance of this Agreement up to and including the date of termination or suspension.

8. Recordkeeping, Audit, and Inspection of Records. The Subrecipient agrees to maintain books, records, documents and other evidence pertaining to all costs and expenses incurred and revenues acquired under this Subaward (collectively "Records") to the extent and in such detail as will properly reflect all costs and expenses for which reimbursement is claimed. The Records will be maintained in accordance with 2 CFR 200.333. As may be requested, the Subrecipient will provide timely and unrestricted access to its books and accounts, files and other Records with respect to the Project for inspection, review and audit by the Recipient, Restore America's Estuaries, U.S. Environmental Protection Agency and their authorized representatives. Upon inspection, review or audit, if the Recipient, Restore America's Estuaries, or U.S. Environmental Protection Agency disallows any costs claimed by the Subrecipient related to this Agreement, the Subrecipient will be responsible for reimbursing the Commission for any of those costs.

If the Subrecipient has a single audit performed in accordance with Uniform Guidance, the Subrecipient must electronically submit (within the earlier of 30 calendar days after receipt of the auditor's report, or nine months after the end of the audit period) to the Federal Audit Clearinghouse (FAC) the data collection form and the reporting package. The collection form must be obtained from the FAC webpage. The reporting package must include the Financial Statements and Schedule of Expenditures of Federal awards, the summary schedule of prior audit findings, the auditors reports and a corrective action plan. If the Subrecipient does not submit the form and package within the required timeframe, the Recipient may perform additional monitoring of the award.

9. Title to and Use of Work Products and Data. Except to the extent otherwise provided in the Prime Award, all completed work products funded by this Agreement are in the public domain, free of copyright or other intellectual property protections.

10. Announcements and Acknowledgments. All public announcements or news stories concerning the Project will be subject to the prior approval of the Recipient and will indicate the participation of the Recipient, SNEP, Restore America's Estuaries, and U.S. Environmental Protection Agency in the funding of the Project.

11. Liability and Indemnification. The work done by or for the Subrecipient under this Agreement will be performed entirely at the risk of Subrecipient. The Subrecipient will be solely responsible for the payment of any and all claims with respect to, any loss, personal injury, death, property damage, or otherwise, arising out of any act or omission of its employees or agents in connection with the performance of its work, and Subrecipient will indemnify and defend the Recipient, Restore America's Estuaries, and U.S. Environmental Protection Agency, and each of its officers, directors, employees, and agents (in each case, an "Indemnified Party") against, and shall hold each Indemnified Party harmless of and from, any and all claims, liabilities, losses, costs, damages, and other expenses of any kind or nature whatsoever (including, but not limited to, attorneys' fees and expenses, as well as costs of suit, which any Indemnified Party may incur as a result of or in connection with the Project, or which may cause the Commission to be in default under the Prime Award.

12. Choice of Law. This Agreement will be construed under and governed by the laws of the Commonwealth of Massachusetts. The Subrecipient and the agents thereof, agree to bring any federal or state legal proceedings arising under this Agreement, in which the Commission is a party, in a court of competent jurisdiction within the Commonwealth of Massachusetts. This paragraph will not be construed to limit any rights a party may have to intervene in any action, wherever pending, in which the other is a party.

13. Force Majeure. Neither party will be liable to the other nor be deemed to be in breach of this Agreement for failure or delay in rendering performance arising out of causes factually beyond its control and without its fault or negligence. Such causes may include but are not limited to: acts of God or the public enemy, wars, fires, floods, epidemics, strikes, or unusually severe weather. Dates or times of performance will be extended to the extent of delays excused by this section, provided that the party whose performance is affected notifies the other promptly of the existence and nature of such delay.

14. Compliance with Laws. The Subrecipient will promptly comply with all applicable laws, rules, regulations, ordinances, orders and requirements of the Commonwealth and any state or federal governmental authority relating to the delivery of the services described in this Agreement.

15. Headings, Interpretation and Severability. The headings used herein are for reference and convenience only and will not be a factor in the interpretation of the Agreement. If any provision of this Agreement is declared or found to be illegal, unenforceable, or void, then both parties will be relieved of all obligations under that provision. The remainder of the Agreement will be enforced to the fullest extent permitted by law.

IN WITNESS WHEREOF, Recipient and Subrecipient have executed this Agreement this 10th day of October in the year two thousand and eighteen.

FOR BARNSTABLE COUNTY COMMISSIONERS:

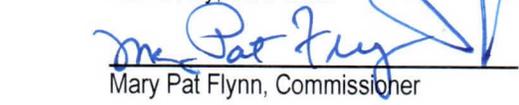
FOR ASSOCIATION TO PRESERVE CAPE COD:



Leo Cakounes, Chair



Ron Beaty, Vice-Chair



Mary Pat Flynn, Commissioner



Andrew Gottlieb, Executive Director

10/2/18

Date

10-10-18

Date

FOR THE COMMISSION:



Kristy Senator, Executive Director

10/3/2018

Date

ATTACHMENT A SCOPE OF WORK/DELIVERABLES/BUDGET

TASKS

APCC staff will work with Cape Cod Commission staff and other project partners to complete tasks associated with the project titled "Regional Collection and Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making". Project tasks include:

- Task 1: Data integration, quality assurance and control
- Task 2: Collaboration with end users and pilot project
- Task 3: Data analysis and development of a processing script
- Task 4: Integration with web-based user interface and other information products
- Task 5: Targeted outreach to inform local action
- Task 6: Final report

APCC staff will work with the project team on tasks associated with expanding upon existing freshwater databases and integrating estuarine and freshwater data and analyses into information products to increase knowledge and understanding of the health of water resources.

The following work will be completed by APCC staff (in parenthesis is the project task each is associated with):

- Working with the project partners and consultants to develop and agree upon quality assurance and control procedures for both historic and future water quality data (Task 1)
- Working with Commission staff to inventory and compile freshwater data for integration into the water quality database (Task 1)
- Working with Commission staff to develop a Quality Assurance Project Plan (QAPP) for lakes and ponds data (Task 1)
- Coordinating with project partners during regularly scheduled project team meetings (Task 2)
- Attending and participating in End User Group meetings on an approximately quarterly basis (Task 2)
- Attending and participating in up to two workshops with a pilot watershed group (Task 2)
- Working with project partners and an End User Group to define the metrics needed to inform local water quality planning (Task 2 and Task 3)
- Working with Commission staff and project partners to analyze freshwater data included in the water quality database, consistent with the metrics identified (Task 3)
- Developing water resources report cards that provide letter grades for water quality of lakes, rivers, estuaries and coastal waters, groundwater, drinking water and watersheds (Task 4)
- Developing the State of the Waters: Cape Cod report (Task 4)

DELIVERABLES

- Inventory of freshwater quality data
- Compiled historical freshwater quality data
- Water resources report cards
- State of the Waters: Cape Cod report

TIMELINE

The project timeline is as follows:

	2018			2019												2020							
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Task 1																							
Data Compilation																							
Database QA/QC																							
WBNERR QAPP Development																							
Ponds and Lakes QAPP Development																							
Task 2																							
End User Group Mtgs																							
Monitoring Group Workshop																							
Identify Data Outputs/Analysis Needs																							
Pilot Watershed Interpretation																							
Identify Monitoring/Research Gaps																							
Task 3																							
Data Analysis/Script Development																							
Pilot Watershed Analysis/Interpretation																							
Task 4																							
Development of Report Card Template																							
Report Cards Released																							
"State of the Waters: Cape Cod" Released																							
Integrate Script with Database/Website																							
Task 5																							
Develop Targeted Outreach Schedule																							
Targeted Outreach/Workshops/Meetings																							
Task 6																							
Final Report																							

To maintain the proposed timeline and achieve associated milestones, APCC deliverables should be delivered no later than the following:

- Inventory of freshwater quality data – November 30, 2018
- Compiled historical freshwater quality data – January 11, 2019
- Water resources report cards – annually by May 31
- State of the Waters: Cape Cod report – August 30, 2020

APCC - SNEP Watershed Grant Budget					
Cost Item or Category	Cost Basis	RAE SNEP Request	Non-Federal Match	Match Source	Total Project Cost
Personnel					
Jo Ann Muramoto	500 hrs. @ \$48.00	18,000.00	6,000.00	APCC-MET	24,000.00
Don Keeran	502 hrs. @ \$43.20	16,264.80	5,421.60	APCC-MET	21,686.40
Kristin Andres	502 hrs. @ \$40.00	15,060.00	5,020.00	APCC-MET	20,080.00
Brian Horsley	416 hrs. @ \$32.00	9,984.00	3,328.00	APCC-MET	13,312.00
Total Personnel		59,308.80	19,769.60		79,078.40
Fringe					
Fringe, CCC					
Fringe, APCC	25%	14,827.20	4,942.40	APCC-MET	19,769.60
Fringe, BBC					
Fringe, PCCS					
Fringe, SMAST					
Fringe, WBNERR					
Fringe, WHOI					-
Total Fringe		14,827.20	4,942.40		19,769.60
Travel					
In-state travel	2,000 miles x \$.545	730.30	359.70		1,090.00
Out-of-state travel (RAE Summit 2018)	Estimate	1,340.00	660.00		2,000.00
					-
Total travel		2,070.30	1,019.70		3,090.00
Equipment					
					-
Total Equipment		-	-		-
Supplies					
Office Supplies	Estimate	502.50	247.50		750.00
Software	Estimate	335.00	165.00		500.00
Total Supplies		837.50	412.50		1,250.00
Contractual					
QAQC Database					-
web design	Estimate	13,400.00	6,600.00		20,000.00
Total Contractual		13,400.00	6,600.00		20,000.00
					-
TOTAL DIRECT		\$ 90,443.80	\$ 32,744.20		\$ 123,188.00
Modified Total Direct Costs		90,443.80	32,744.20		123,188.00
Indirect 10% of MTDC	10%	9,044.38	3,274.42		12,318.80
TOTAL (Total Direct + 10%TMDC)		\$ 99,488	\$ 36,019		\$ 135,507
Match rate:			36.20%		



2018 SNEP WATERSHED GRANTS

Subrecipient Agreement Between Restore America's Estuaries and Cape Cod Commission (Barnstable County)

September 1, 2018 – September 30, 2020

Contract #SNEPWG18-9-CCC

Points of Contact

For Restore America's Estuaries:

Thomas Ardito
401-575-6109
tardito@estuaries.org
P.O. Box 476, Saunderstown, RI 02874

For Cape Cod Commission (Barnstable County):

Erin Perry, Special Projects Manager
3225 Main St., Barnstable, MA 02630
508-744-1236
eperry@capecodcommission.org

This constitutes an agreement between Restore America's Estuaries (RAE or the Recipient) and Cape Cod Commission (Barnstable County) (CCC or the Subrecipient), regarding the responsibilities of each in their roles as Recipient and Subrecipient under the 2018 round of Southeast New England Program (SNEP) Watershed Grants, **EPA FAIN Grant #00A00370**, and its amendments and supplements.

1. Contract Documents: Contract documents shall consist of this agreement and the following attachments, all of which are incorporated by reference into this agreement.

Attachment 1: Progress Report Requirements

Attachment 2: Final Report Requirements

Attachment 3: Project workplan and budget.

2. Services: CCC agrees to perform services as described in the scope and budget provided in Attachment 3 of this agreement (hereinafter the “Project.”)

3. Contract Amount: Restore America’s Estuaries agrees to make available \$399,998 for use by CCC for the contract period. CCC agrees to expend this money in conformity with the scope and budget in Attachment 3 (the Project.) CCC agrees to provide \$145,665 in Project-related matching costs as described in the budget. Matching funds must be from non-federal sources and must be expended during the period of this agreement.

4. Contract Period: This agreement covers the period **September 1, 2018 through September 30, 2020**. Work shall be completed and all reimbursable expenses incurred by **August 31, 2020**.

5. Alterations: Any alterations in the scope of the work performed shall be submitted by the Subrecipient in writing to RAE, and must be approved in advance in writing by RAE. Cumulative transfers of funds among approved direct cost categories that exceed 10% of the total award must be approved by RAE in writing in advance.

For Subrecipients with a current Negotiated Indirect Cost Rate Agreement (NICRA) on file with a federal agency, amended budgets must maintain consistency with the NICRA and the requirements of the 2018 SNEP Watershed Grants Request for Proposals (RFP). For these Subrecipients, indirect costs may not exceed 25% of the award amount.

For Subrecipients without a current NICRA, amended budgets must maintain consistency with the requirements of the 2018 SNEP Watershed Grants RFP, and may not exceed 10% of Modified Total Direct Costs as described in the RFP.

6. Progress & Final Reports: The Subrecipient agrees to submit progress reports twice yearly, and a final report upon completion of the Project, according to the following schedule:

Report	Period Covered	Due Date
Progress #1	Sep. 1, 2018 – Dec. 31, 2018	Jan. 31, 2019
Progress #2	Jan. 1, 2019 – Jun. 30, 2019	Jul. 31, 2019
Progress #3	Jul. 1, 2019 – Dec. 31, 2019	Jan. 31, 2020
Progress #4	Jan. 1, 2020 – Jun. 30, 2020	Jul. 31, 2020
Final Report	Entire Project period (completion no later than Aug. 31, 2020)	30 days following completion of Project and no later than Sept. 30, 2020.

Progress and final reports will reference the goals and objectives included in Attachment 3 and indicate the progress that has been made toward each during the reporting period. Subrecipient agrees to prepare and submit progress and final reports as described above and in Attachments 1 & 2. RAE reserves the right to withhold payments if the Subrecipient has not submitted the reports on schedule or if reports are unsatisfactory in meeting the requirements of this agreement. See Attachments 1 & 2 for more information on reporting formats.

Final reports should be geared toward an audience broader than simply RAE – in other words, it should be designed to communicate Project outcomes and results in a meaningful way to end users, stakeholders and others who may be able to learn from or take advantage of, or learn from Project outcomes and results. In all cases the final report should include an executive summary providing a brief but complete overview of Project outcomes and results, as specified in Attachment 1. In the event that the final report is intended for a technical audience, the executive summary should be written for a general audience and suitable for such purposes as reporting to funding agencies, elected officials, general-interest media outlets, etc. See Attachment 2 for more information.

Be sure to take plenty of high-resolution photographs throughout the course of the Project for use in progress reporting and, most importantly, the final report and executive summary. See Attachments 1 & 2 for more information.

7. Collaboration and Communication: SNEP Watershed Grants Program supports the Southeast New England Program (SNEP), an initiative of the U.S. Environmental Protection Agency (EPA), Region 1. The mission of SNEP is to:

Foster collaboration among regional partners across southeast New England’s coastal watersheds to protect and restore water quality, ecological health and diverse habitats by sharing knowledge and resources, promoting innovative approaches, and leveraging economic and environmental investments to meet the needs of current and future generations.

More information about SNEP is available at

<https://www.epa.gov/snecwrp>

Strong local and regional partnerships are essential in carrying out the mission of SNEP. Subrecipient agrees to participate in SNEP through at least two workshops or conferences over the course of the Project.

Subrecipient agrees to acknowledge SNEP and RAE in communications with the media, the public, and elected officials about the Project, including all publications, work products, academic and general publications, videos, signage, press releases, etc. Signs, printed reports and similar materials should include the SNEP logo where practicable. Subrecipients may download high-resolution digital files of the SNEP logo at www.snepgrants.org.

Example acknowledgement language:

[Project name] is supported by the Southeast New England Program (SNEP) Watershed Grants. SNEP Watershed Grants are funded by the U.S. Environmental Protection Agency (EPA) through a collaboration with Restore America's Estuaries (RAE). For more on SNEP Watershed Grants, see www.snepgrants.org

Subrecipient will coordinate with RAE on outreach plans, events, products, and media coverage associated with the Project, so that RAE may assist with the development of outreach communications and messaging. Subrecipient should provide drafts of any outreach plans to RAE staff for review and input. In particular, all press releases should be shared with RAE in draft at least one week in advance of release to allow RAE the opportunity to provide comments, and a quote if requested.

Subrecipient agrees to provide copies of final outreach products, website mentions, press materials, photos, etc. via the standard progress reports to RAE, or when available throughout the award period.

Subrecipient will provide RAE with high-resolution before, during, and post-implementation photos of the Project. Photos of Project sites prior to construction and during Project implementation should be submitted with progress reporting or as requested by RAE.

Subrecipient will notify RAE of all significant Project-related meetings and events (Project team meetings, public meetings, public hearings and presentations, press events, commencement of construction, ribbon-cuttings, etc.) at least one week prior to the event.

SNEP Watershed Grants are federal funds. RAE will assume, therefore, that all completed work products funded by SNEP are in the public domain, free of copyright or other intellectual property protections, unless covered by another applicable agreement or requirement (e.g., university intellectual property policies). In the event that Project work

products are subject to other intellectual property requirements, the Subrecipient shall inform RAE of such requirements ***prior to signature*** of this grant.

Project implementation sites (e.g., best management practice (BMP) installations, construction areas, etc.) must display, where appropriate and practicable, a permanent sign indicating that the Project has received funding through the U.S. Environmental Protection Agency, Southeast New England Program, and Restore America's Estuaries, and including the SNEP logo. Signage should also identify other contributing partners.

8. Permits & Compliance: Subrecipient will ensure that implementation of the Project meets all federal, state and local environmental laws and consistency requirements, including EPA Quality Assurance Project Plan (QAPP) requirements.

9. Invoices: Subrecipient will invoice RAE at least quarterly and at most monthly for reimbursable Project expenses. Generally, payment of approved expenses will be by reimbursement by RAE; however, the Subrecipient may request advance payment if necessary.

In the event that advance funds are needed, requests should be made at least one month prior to the anticipated need for the funds.

Invoices must follow the following format:

- The invoice must be on organization letterhead.
- Reference the contract number.
- Include date of invoice and period covered.
- List the total amount of expenses and match incurred during the invoice period by approved grant budget categories, as contained in the line item budget in Attachment 3.
- Indicate the amount of cumulative expenses and match from the beginning of the budget period and the balance still available. This information should also be listed by approved grant budget categories, as contained in the line item budget in Attachment 3.
- Include a general description of work performed or costs incurred.
- List the Project task that the requested amount applies to. If the requested remittance amount applies to two or more Project tasks, the invoice must list the amount that will be applied to each.
- Cash and in-kind matching funds should be listed separately, and the source of all match identified.
- Include organization name, mailing address for payment, and any cost codes that should be included on the check.
- Invoices must be signed by an authorized representative of the organization.

Submit invoices in PDF format to:

snepgrants@estuaries.org

Note: Variances among approved direct cost categories that cumulatively exceed 10% of the total award must be approved by RAE in advance in writing.

10. Financial Records: Subrecipient agrees to maintain accurate records of all costs incurred in the performance of this work, including matching funds, and agrees to allow Restore America’s Estuaries, EPA, and their duly authorized representatives reasonable access to their records to verify the validity of expenses reimbursed under this agreement. Subrecipient agrees to maintain financial records, supporting documents and other records pertaining to this agreement for a period of three (3) years from the termination date of this agreement.

To comply with federal regulations, Subrecipient agrees to maintain a financial management system that provides accurate, current and complete disclosure of the financial status of the subaward. This means the financial system must be capable of generating regular financial status reports which indicate the dollar amount allocated for the award (including any budget revisions), the amount obligated, and the amount expended for each activity. The system must permit the comparison of actual expenditures and revenues against budgeted amounts.

Accounting records must be supported by source documentation. Invoices, bills of lading, purchase vouchers, payrolls and the like must be secured and retained for three (3) years in order to show for what purpose funds were spent. Payments should not be made without invoices and vouchers physically in hand. All vouchers and invoices should be on vendors' letterheads.

All employees paid in whole or in part from funds provided under this agreement must prepare a time sheet indicating the hours worked for each pay period. Personnel activity reports (i.e. timesheets) reflect an after-the-fact determination of the actual activity of each employee charging time to the agreement and must reflect all time spent by an employee and be signed by the employee or a supervisor. “Timesheets” are required only for those employees charging time to the Project, and then must reflect all time spent by the employee.

Subrecipient should keep records, based on these time sheets and the hourly payroll costs for each employee, indicating the distribution of payroll charges.

Subrecipient must maintain in its records documentation of non-federal Project-related matching costs in the amount specified in the budget under Attachment 3. Subrecipient agrees to adhere to federal rules and guidelines governing documentation and acceptability of Project-related matching costs.

Matching Contributions, whether in the form of cash, goods and services, or property, must be:

- 1) Non-federal in nature (Federally appropriated or managed funds are ineligible.);
- 2) Utilized for work in support of the Project;
- 3) Expended within the timeframe of this contract; and,

4) Voluntary in nature (Funds presented for fulfillment of mitigation, restitution, or other permit or court-ordered settlements are not eligible.). Subrecipients must document and maintain all records of matching contributions.

11. Audits: RAE reserves the right to audit some or all of the Project costs, expenses, payments, etc., either formally or informally, as the Project proceeds and/or upon completion.

In the event that the Subrecipient's total expenditures under federal awards exceed \$750,000 in a fiscal year, an audit meeting the requirements of 2 CFR 200 is required. It is the Subrecipient's responsibility to contract for this audit and to submit a copy to RAE no later than thirteen months after the close of the fiscal year to which the audit pertains, for fiscal years that fall in whole or in part within the period of this agreement. If an audit discloses findings or recommendations, Subrecipient agrees to include with the audit report a corrective action plan containing the following:

- The name and number of the person responsible for the corrective action plan.
- Specific steps to be taken to comply with the recommendations.
- A timetable for performance and/or implementation dates for each recommendation.
- Descriptions of monitoring to be conducted to ensure implementation.

In the event that the Subrecipient completes any other routine or required audits during the period of this grant (for example, an annual independent audit), the Subrecipient will inform RAE of the availability of the audit within 30 days of completion, and will provide RAE with a copy of the audit *if requested by RAE*.

12. Allowable and Unallowable Costs: SNEP Watershed Grants are federal funds. Subrecipient agrees to follow federal regulations as put forth in 2 CFR 200 and applicable OMB Circulars in determining allowable costs under this agreement. Subrecipient agrees not to use funds provided under this agreement for any cost that is unallowable under these regulations. Reimbursement by RAE for any cost that is later determined to be unallowable does not constitute sanction by RAE for the unallowable use of these funds.

13. Indemnification: The Subrecipient agrees to indemnify RAE against all losses for expenses incurred by the Subrecipient that are, or are later held to be, unallowable. Reimbursement by RAE to the Subrecipient for such costs does not negate nor in any way nullify the Subrecipient's responsibility under this provision.

As the direct Recipient of funds under this Award, RAE is responsible for the management of the award and is ultimately responsible for ensuring compliance with all federal requirements. The Subrecipient will cooperate with RAE in achieving compliance with the specific terms and conditions of the award, as well as the other terms and conditions specified in this agreement.

14. Project Data and Results: Sharing of Project data and results, including environmental data and analysis, is a SNEP priority. All information collected and/or created under this grant/cooperative agreement will be made visible, accessible and independently understandable to users in a timely manner (typically no later than one (1) year after the data are collected or created) free of charge or at minimal cost that is no more than the cost of distribution to the user.

Project results will similarly be made available in a timely manner, typically via the final report described above and in Attachment 2.

15. Signatures

For Restore America's Estuaries

By:  _____
Jeff Benoit, President & CEO

Date: 9-4-18

For Cape Cod Commission (Barnstable County):

By:  _____
Name & Title: Leo Cakounes, Ron Beaty, Mary Pat Flynn,
Barnstable County Commissioners

Date: 09/12/18

Attachments

- Attachment 1: Progress Report Requirements
- Attachment 2: Final Report Requirements
- Attachment 3: Project workplan and budget.



2018 SNEP WATERSHED GRANTS Subrecipient Agreement

Attachment 1: Progress Report Requirements

General Instructions

The Progress Report consists of:

1. Cover Information;
2. Project Report Narrative;
3. Project Budget Report;
4. Supporting Materials;
5. Certification.

Progress reports shall be completed and returned within one month of the end of a reporting period, using the following calendar:

Report	Period Covered	Due Date
Progress #1	Sep. 1, 2018 – Dec. 31, 2018	Jan. 31, 2019
Progress #2	Jan. 1, 2019 – Jun. 30, 2019	Jul. 31, 2019
Progress #3	Jul. 1, 2019 – Dec. 31, 2019	Jan. 31, 2020
Progress #4	Jan. 1, 2020 – Jun. 30, 2020	Jul. 31, 2020
Final Report	Entire Project period (completion no later than Aug. 31, 2020)	30 days following completion of Project and no later than Sept. 30, 2020.

If there was no Project activity during the period, a report should still be filed, explaining why there was no activity. Please use the template attached to these instructions to complete the progress report. The report should be submitted via email in PDF format to:

snepgrants@estuaries.org

The form may be signed electronically.

The following pages provide a template and instructions for progress reports. Use this format.

(Attach. 1 Cont'd)

**SNEP Watershed Grants
Progress Report Template**
Annotated with Instructions

1. Cover Information

Date

Project Name

Contract Number (SNEPWG18-###)

Grant Period (for entire Project)

Grantee Organization

Report Contact Person, with telephone & email

Project Leader (if different)

Reporting Period

Report Type and Number (e.g., Progress #2)

2. Project Report Narrative

Summarize the Project activities undertaken during the current reporting period within the following headings, building upon the narrative from previous reports, if any.

2.A. Results & Progress to Date

Describe in sufficient detail the goals of the Project, and the progress and results achieved during the current reporting period, building on the narrative from previous reports, if any. Report accomplishments or setbacks on specific tasks as described in the scope of work, Attachment 3. This should include information such as:

- problems that the Project is addressing;
- short and long term objectives, and how they are being or have been met;
- relevance of the Project to restoring and protecting coastal and watershed ecosystems in the Southeast New England Region;
- activities carried out in this reporting period, including specific techniques and materials used;
- deliverables or milestones completed or partially completed during the reporting period (if partially completed, describe current status, percentage completion, etc.);
- findings to date or lessons learned during this reporting period;

- challenges or potential roadblocks to future progress (Note: If you have immediate concerns about the Project, please contact RAE to discuss the issue as soon as possible.)

2.B. Work Remaining Under Current Contract

Describe in sufficient detail the activities remaining and next steps to be completed under the current contract. Provide an updated timeline of major Project tasks, as applicable.

2.C. Compliance

Describe the status of Quality Assurance Project Plan (QAPP) completion, submittal and approval. List any permits required for the Project, and their status (e.g., not yet applied for, submitted and under review, approved on [date], etc.).

2.D. Project Partners

List major Project partners, and briefly note their contributions.

2.E. Volunteer and Community Involvement

Describe community support and any public involvement in the Project, including the specific roles of volunteers in Project activities. List the number of volunteers and hours that were contributed during this period. If volunteer time is being used as match, report this in the budget section, described below.

2.F. Outreach & Communications

Describe any outreach or educational activities (e.g. training, brochures, videos, press releases or public events) related to the Project. **Include PDF copies of press releases, outreach documents, newspaper articles, etc. as described under “Supporting Materials,” below.**

3. Project Budget Report

The budget report must provide sufficient information and detail to explain Project expenses, for the reporting period *and* cumulative-to-date, in the context of the objectives, tasks, and categories provided in the Project narrative and budget under Attachment 3. The budget report should be organized so that a reviewer can easily judge whether expenditures to date for the Project are tracking well with progress toward objectives and, if not, to understand why.

3.A. Summary Budget Table

Provide a summary budget table to show overall expenditures and match during the reporting period and cumulative-to-date, using the following format. Be sure to fully document match and match sources.

Summary Budget Table

	Budget Category	Total Budgeted Funds	Total Budgeted Match	Grant Funds Expended this period	Grant Funds Expended Cumulative	Match Funds Expended this period	Match Funds Expended Cumulative	Match Source
a	Personnel							
b	Fringe							
c	Travel							
d	Equipment							
e	Supplies							
f	Contractual							
g	Other							
h	Total Direct							
i	Indirect							
j	Total							

3.B. Detailed Project Budget Table

The centerpiece of the Project budget report is a budget table or tables utilizing the same cost categories and level of detail as the Project budget under Attachment 3. Report expenditures by category and, if applicable, task. Where a category is very broad, provide sufficient breakdown detail – for example, where “personnel” covers a number of individuals, show expenses for each individual; under “subcontracts” show expenses for each subcontract, etc. The table need only describe expenditures during the reporting period, rather than cumulatively. Add additional tables if need be to provide sufficient detail, or to summarize costs by task. **Where additional tables are used, ensure that the reviewer can easily understand how they relate to one another and the summary budget table.**

3.C. Budget Narrative

Use a budget narrative, keyed to the budget tables where necessary, to provide sufficient detail on expenditures and match. The budget narrative in the report may follow the format of the budget narrative in the Project budget under Attachment 3. Be sure to explain any deviations from the approved budget. The Subrecipient Agreement details requirements for prior approval for changes to Project budgets.

4. Supporting Materials

Include high-resolution digital copies, using PDF format for documents and JPG or TIFF format for images, of supporting materials related to the Project, including:

- Project maps and drawings;
- Technical memoranda, data analyses and modeling reports;
- Project photographs, including photos depicting implementation sites before, during, and after implementation; photos of Project signs, etc.;
- Press releases, news articles, brochures, educational curricula, etc.

In the event that file sizes for supporting materials are too large to attach, contact RAE to set up a shared cloud file.

5. Certification

Include this language: *The undersigned verifies that the descriptions of activities and expenditures in this progress report are accurate to the best of my knowledge; and that the activities were conducted in agreement with the grant contract. I also understand that matching fund levels established in the grant contract must be met.*

Grantee Signature:

Name:

Job Title

Date:

Organization:



2018 SNEP WATERSHED GRANTS Subrecipient Agreement

Attachment 2: Final Report Requirements

General Instructions

The Project final report follows the same format as interim progress reports, with several important differences:

- The final report covers the Project from beginning to end, describing the entire course of the Project, and presenting all expenditures and results;
- It includes lessons learned from the vantage point of the completed Project;
- It provides greater detail on both process and outcomes; and
- It includes an executive summary written for a general or general professional audience (more on this below).

The Final Report consists of:

0. Executive Summary;
1. Cover Information;
2. Project Report Narrative;
3. Project Budget Report;
4. Supporting Materials;
5. Certification.

The Final Report covers the entire Project period (completion no later than Aug. 31, 2020) and must be submitted within 30 days following completion of the Project (no later than Sept. 30, 2020.)

The report should be submitted via email in PDF format to:

snepgrants@estuaries.org

The form may be signed electronically.

The following pages provide a template and instructions for final reports. Use this format.

(Attach. 2 Cont'd)

**SNEP Watershed Grants
Final Report Template**
Annotated with Instructions

O. Executive Summary

The executive summary (ES) is most easily completed after the rest of the final report has been written; however, it is an essential component of the report and should not be treated as an afterthought. Communication, collaboration, learning and technology transfer are fundamental to the mission of the Southeast New England Program (SNEP). The executive summary will be a principal means by which outcomes of the Project are communicated; therefore, it should adhere to the following guidelines:

- The executive summary should be written and formatted so it can be used as a stand-alone report. It should make sense to a reader with no prior knowledge of the Project, and should be fully understandable independent of the rest of the final report or any other Project information or documentation.
- Follow the format and utilize the headings for the full final report (listed below), providing complete information on the Project, including a summary of costs and match.
- The ES should include its own title or cover page so that it can be easily separated from the rest of the report. This may be a general, illustrated cover for the entire report that doubles as a cover for the ES.
- Consider your audience. You may choose to write for a general audience – for example, all adult residents of a particular municipality. Or, you may gear the ES toward a more professional audience – for example, water resources managers throughout the SNEP region. In every case, however, it should be written for a broader audience than simply the Project team and grant managers. If it is written for a more technical audience, it should still be written in such a way that an informed general reader – for example, a newspaper reporter – can make sense of it. If you use acronyms or technical terms, for example, provide a glossary if need be to define them.
- Communicate the story of the Project. The reader should understand, not just what you did, but why you did it – why it is important, and how it will positively affect ecosystems and communities in Southeast New England. If it pertains to a specific resource, thoroughly describe its impact on that resource, and also explain its broader impact. For example, for a Project that restores water quality, the ES should describe the specific parameters of that restoration, but should also discuss the importance of the improvement to the community, such as beach use, shellfishing or the local tourism economy, and describe the area (watershed, estuary, community, etc.) affected by the work.

- Use images to help tell that story. The ES should include the best and most informative maps, photos or other images from among the supplemental materials (Section 4, below). At the very least, the ES should include a map of the Project area and some high-resolution photos of the Project area, community meetings, construction work if any, researchers performing sampling, etc. The ES should include enough images to convey the outcomes of the Project while maintaining an easily readable summary and convenient digital file size.
- Include an overview of Project costs and match. Describe volunteer participation.
- In general, the ES should be about 3-5 pages of text, and 5-10 pages complete with images.
- The ES must prominently acknowledge SNEP support of the Project. Suggested language for this acknowledgement is provided in the subrecipient agreement.

1. Cover Information

The cover information for the final report is identical to that for a progress report, except that the reporting period is the entire (actual) grant period, as follows:

Project Name
 Contract Number (SNEPWG18-###)
 Grant and Reporting Period (actual, completed)

Grantee Organization
 Report Contact Person, with telephone & email
 Project Leader (if different)

Report Type: Final

2. Project Report Narrative

Summarize the Project activities undertaken during the course of the Project. Unlike progress reports, the final report *does not* build upon the narrative from previous reports, but should be a stand-alone report, describing the Project from beginning to end.

2.A. Project Results

Describe in sufficient detail the goals of the Project, and the progress and results achieved over the course of the Project. Report accomplishments or setbacks on specific tasks as described in the scope of work, Attachment 3. This should include information such as:

- problems that the Project addressed;
- short and long term objectives, and how they are being or have been met;
- relevance of the Project to restoring and protecting coastal and watershed ecosystems in the Southeast New England Region;
- geographic area(s) affected by the Project;

- activities carried out to complete the Project, including specific techniques and materials used;
- deliverables or milestones completed;
- findings to date or lessons learned during this reporting period;
- changes made to the Project plan over the course of the Project, why they were made and how they worked out;
- next steps for future progress;
- challenges for future progress.

2.C. Compliance

List or summarize any compliance activities completed – Quality Assurance Project Plan (QAPP), permits, etc.

2.D. Project Partners

List major Project partners, and note their contributions in detail.

2.E. Volunteer and Community Involvement

Describe community support and any public involvement in the Project, including the specific roles of volunteers in Project activities. List the number of volunteers and hours that were contributed during the Project. If used as match, report the match figures under the budget section described below.

2.F. Outreach & Communications

Describe any outreach or educational activities (e.g. training, brochures, videos, press releases or public events) related to the Project. **Include PDF copies of press releases, outreach documents, newspaper articles, etc. as described under “Supporting Materials,” below.**

3. Project Budget Report

The budget report must provide sufficient information and detail to explain Project expenses for the entire Project, in the context of the objectives, tasks, and categories provided in the Project narrative and budget under Attachment 3. The budget report should be organized so that a reviewer can easily judge whether expenditures tracked the original Project budget and, if not, to understand why.

3.A. Summary Budget Table

Provide a summary budget table to show overall expenditures and match over the course of the entire Project, using the following format. Be sure to fully document match and match sources.

Summary Budget Table

	Budget Category	Total Budgeted Funds	Total Budgeted Match	Total Budgeted Grant + Match	Actual Grant Funds Expended	Actual Match Funds Expended	Actual Expended Grant + Match	Match Source
a	Personnel							
b	Fringe							
c	Travel							
d	Equipment							
e	Supplies							
f	Contractual							
g	Other							
h	Total Direct							
i	Indirect							
j	Total							

3.B. Detailed Project Budget Table

As with progress reports, the centerpiece of the final budget report is a budget table or tables utilizing the same cost categories and level of detail as the Project budget under Attachment 3. Report expenditures by category and, if applicable, task. Where a category is very broad, provide sufficient breakdown detail – for example, where “personnel” covers a number of individuals, show expenses for each individual; under “subcontracts” show expenses for each subcontract, etc. This table will report expenditures over the course of the entire Project. Add additional tables if need be to provide sufficient detail, or to summarize costs by task. **Where additional tables are used, ensure that the reviewer can easily understand how they relate to one another and the summary budget table.**

3.C. Budget Narrative

Use a budget narrative, keyed to the budget tables where necessary, to provide sufficient detail on expenditures and match. The budget narrative in the report may follow the format of the budget narrative in the Project budget under Attachment 3. Be sure to explain any deviations from the approved budget. The Subrecipient Agreement details requirements for prior approval for changes to Project budgets.

4. Supporting Materials

Include high-resolution digital copies, using PDF format for documents and JPG or TIFF format for images, of supporting materials related to the Project, including:

- Project maps and drawings;
- Maps of Project results or outcomes if applicable;
- Technical memoranda, data analyses and modeling reports;
- Project photographs, including photos depicting implementation sites before, during, and after implementation; photos of Project signs, etc.;
- Press releases, news articles, brochures, educational curricula, etc.

In the event that file sizes for supporting materials are too large to attach, contact RAE to set up a shared cloud file.

5. Certification

Include this language: *The undersigned verifies that the descriptions of activities and expenditures in this final report are accurate to the best of my knowledge; and that the activities were conducted in agreement with the grant contract. I also understand that matching fund levels established in the grant contract must be met.*

Grantee Signature:

Name:

Job Title

Date:

Organization:

Attach. 3

3225 MAIN STREET • P.O. BOX 226
BARNSTABLE, MASSACHUSETTS 02630



CAPE COD
COMMISSION

(508) 362-3828 • Fax (508) 362-3136 • www.capecodcommission.org

August 29, 2018

The following details our proposed project, partner organizations, and project costs.

Project Title: Regional Collection and Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making

Location of Project: Cape Cod, Massachusetts

Applicant: Cape Cod Commission (Barnstable County)
3225 Main Street
Barnstable, MA 02630

Nature of Organization: Regional Planning Agency, Department of Barnstable County

Project Lead/Point of Contact: Erin Perry, Special Projects Manager
eperry@capecodcommission.org
508-744-1236

Partner Organizations: Association to Preserve Cape Cod
Center for Coastal Studies
UMass Dartmouth School for Marine Science and Technology
Waquoit Bay National Estuarine Research Reserve
Woods Hole Oceanographic Institution

Total Request: \$399,998
Total Non-Federal Match: \$145,665
Total Project Cost: \$545,663
Match Percentage: 36.42%

We look forward to the opportunity to complete the proposed work.

Sincerely,

Kristy Senatori
Executive Director

PROJECT NARRATIVE

Problem Statement: Cape Cod's 53 coastal embayments, nearly 1,000 ponds, and sole source aquifer are ecologically rich and extremely fragile (see project area map in attachment A). Human activity and land use – primarily nutrient pollution from septic systems – have significantly degraded estuarine and freshwater quality. Cape Cod communities struggling to find cost-effective strategies to reduce nitrogen can turn to the Area Wide Water Quality Management Plan for Cape Cod (208 Plan), recently updated by the Cape Cod Commission (Commission). Although the 208 Plan focuses on nitrogen as the major target for improving water quality in estuaries, phosphorus loading to freshwater ponds and streams must be targeted for pollution control measures. The 208 Plan provides a framework of traditional and non-traditional strategies for estuarine and freshwater quality improvement.

Towns are responsible for implementing strategies to reduce nutrients. In many areas across the region development density is not adequate to support cost-effective traditional collection and treatment of wastewater; therefore, towns are relying on the 208 Plan framework as a pathway for non-traditional strategies. Performance of these strategies is less certain, and implementation relies heavily on adaptive management. In addition to nutrients from septic systems, stormwater runoff is also a concern – one that all Cape Cod communities within the Southeast New England Program region are required to address through Municipal Separate Storm Sewer System (MS4) permits.

The 208 Plan's efficacy as a framework for local water quality management depends on the ability to ground-truth and record if strategies enacted in the field are effective and if the environment is responding with water quality improvements. Towns must revisit implementation plans periodically, as required as a condition of consistency with the 208 Plan and MS4 permits, and to maintain compliance with Watershed Permits issued by the Massachusetts Department of Environmental Protection. In most cases, towns must revisit plans at least every five years, and adjust their approaches as necessary. Towns, Barnstable County and partner organizations are collecting data annually and as nutrient management alternatives are implemented. Data analyses are needed to evaluate and determine success – or failure – of approaches.

This proposal seeks support to improve recording, management and translation of monitoring data, so towns better understand if management strategies are successful. It includes new methods for data analysis, evaluation, reporting, and translation to improve understanding of water quality trends and better integrate results into local planning and policy development, creating a path forward for the provision of data and information that will serve the 15 Cape Cod communities and the region well into the future.

Project Description: The Commission has developed a regional water quality database to centralize water quality data historically collected by multiple organizations and agencies. The project team proposes to enhance this framework by integrating additional data and adding tools to ensure data accuracy and assess nutrient mitigation strategies. Funding will help develop a user-friendly interface that analyzes estuarine monitoring data for each estuary with an existing long-term dataset. One watershed will be selected to pilot the interface in order to demonstrate and assess its effectiveness as a decision-support tool. In addition, the project team will compile and analyze existing data associated with freshwater resources, including ponds, lakes, and drinking water; and develop information products to improve understanding of the interconnection of all water resources to Cape Cod's Sole Source Aquifer. Together, these improvements will create a feedback-loop so that the effect of nutrient reduction strategies on a resource can be understood, captured, and used in real-time strategic decisions for nutrient reduction. Recognizing the importance of clean water and supporting all aspects of the environment on Cape Cod, information compiled and analyzed as part of this project will also be made more widely available through a variety of outreach initiatives.

A key feature of this program is that data analysis will provide a measure of the health of the water body and watershed to guide investment in nutrient reduction strategies. Another feature of this program is its

collaborative approach to water resources data aggregation, providing a platform that makes it possible for towns to have a comprehensive picture of the benefits of their investments across all gradients of the watershed. End user engagement is woven into each proposed task ensuring that the products provided at the end of the project will be easily applied and readily utilized by the research and management communities on Cape Cod. The goal is to provide towns with the best available science-based information, so investments in nutrient reduction and groundwater protection have the best possible effect on resources. This goal will be reached through the expertise of the project team, End User Group established as part of the project, and the State of the Waters: Cape Cod Advisory Committee established by the Association to Preserve Cape Cod (APCC). The project team includes experts in water resources, database management, data collection and analysis, collaboration and outreach and project management. The proposed work will be achieved through the following project tasks:

- Task 1: Data integration, quality assurance and control
- Task 2: Collaboration with end users and pilot project
- Task 3: Data analysis and development of a processing script
- Task 4: Integration with web-based user interface and other information products
- Task 5: Targeted outreach to inform local action
- Task 6: Final report

Task 1: Data integration, quality assurance and control

Water quality data as available through project partners and collaborators from all regions of Cape Cod, including estuarine and freshwater environments, will be inventoried and entered into the regional database. The Commission maintains data in an SQL database and will work with project partners to expand the existing database, as needed.

Estuarine Data: Commission staff will work with partner monitoring organizations to compile estuarine water quality data not currently in the regional database. The original effort to compile and integrate data into the database occurred in 2016 and included development of the database infrastructure, identification of data fields and compilation of historical data through 2015. The database will be updated to include all available data through to the present time. The monitoring organizations contributing data include the Center for Coastal Studies (CCS), Buzzards Bay Coalition (BBC), University of Massachusetts Dartmouth School for Marine Science and Technology (SMAST), and the Waquoit Bay National Estuarine Research Reserve (WBNERR). Data collection for these water quality monitoring programs began in 2006, 1992, 1987, and 1993, respectively.

To take advantage of all available long-term monitoring data, while also establishing quality control standards, any historic data generated before or without an approved Quality Assurance Project Plan (QAPP) will be flagged accordingly in the database as part of the quality assurance and quality control (QA/QC) process. Metadata will accompany the database, as well as any final reports acknowledging the use and confidence level of non-QAPP approved data. Three of the four contributing monitoring organizations (CCS, BBC, SMAST) hold current EPA-approved QAPPs. While BBC is not an official partner on this project, they have provided data for use in the database and agree to continue doing so. WBNERR will develop a QAPP in the first year of this proposed project. WBNERR currently sends samples to CCS and SMAST for nutrient analyses under two different water quality monitoring programs; therefore, those nutrient data are covered under approved QAPPs. WBNERR also maintains long-term data (1998 – present) collected using automatic YSI loggers (i.e., sondes) as part of the NOAA National Estuarine Research Reserve System-Wide Monitoring Program (SWMP), but the standard operating procedures for this program are not covered under previously approved QAPPs.

By developing a comprehensive QAPP for WBNERR, records with high (15-minute) temporal resolution of temperature, salinity, pH, dissolved oxygen, turbidity, and chlorophyll *a* fluorescence can be incorporated into the regional database and used in correlation with nutrient dynamics to model changes. The QAPP will strengthen WBNERR's data collection process and enhance its ability to share

and integrate data across private and academic institutions and state and federal agencies. This increased capacity for standardized data sharing is significant for this project but also for future collaborations.

Freshwater Data: Extensive data is available on the quality of Cape Cod's freshwater resources. APCC staff, working with the project team and trained volunteers, will identify and compile freshwater quality data to suitable standards, including state and federal Clean Water Act standards for surface waters and drinking water. An inventory of data will be developed to ensure data sources can be tracked and recorded. Data will be maintained in the regional database.

Data sources will be identified by the project team, guided by standards set by the State of the Waters Advisory Committee to ensure evaluation of all important and credible sources. Data will be compiled for lakes, rivers, public drinking water supplies, and groundwater. This effort will leverage the existing water resources data compiled and maintained by each project partner and will evaluate and compile appropriate data from other sources as an initial step in the project. Data utilized will include, but not be limited to, the 17 years of data collected by the Pond and Lake Stewardship (PALS) Program, as well as data collected from detailed pond assessments and water use and drinking water quality data from the 17 individual water purveyors on Cape Cod, all of which has been compiled by Commission staff.

The Commission and project partners will work with a consultant to develop a QAPP for pond and lake data. In the past, the Massachusetts Department of Environmental Protection (DEP) has declined to accept the existing PALS data for use in identifying and listing impaired waters. As with estuarine data, any historic data generated before or without an approved QAPP will be flagged accordingly and metadata will accompany the database.

Database Quality Assurance and Quality Control (QA/QC): A system for identifying potential errors in source data and/or inconsistencies in database formatting will be established.

The Commission and project partners will work with a consultant to complete the following tasks: 1) develop and agree upon a set of "filter rules" for both historic and future water quality data sets to identify potential errors in the source data; 2) implement a system for performing QA/QC on historical data sets and new data sets, as provided; 3) identify and address database formatting inconsistencies, such as inconsistent station IDs, that impact importing data sets and searchability of the database

As previously described, data not covered by a previously approved QAPP will be flagged accordingly and metadata accompanying the database, as well as final reports, will acknowledge the confidence level of non-QAPP approved data.

Task 1 Outputs: 1) Inventory of water quality data, including sources, parameters and dates; 2) Identification of data gaps; 3) Complete, up-to-date regional estuarine and freshwater quality databases; 4) WBNERR QAPP; 5) Ponds QAPP

Task 2: Collaboration with end users

The goal of this project is to make information more accessible and useable by towns and the region, all of whom are working to meet a regional goal of improving the quality of water resources. Social science research shows that to increase the likelihood of science and data being applied, managers and decision-makers must understand the science and find it to be legitimate and credible (Cash et al. 2003). To enhance the likelihood that data and products from this project are used and trusted, the project team intends to create deliberate processes that engage end users (those in a position to apply the project deliverables), ensuring they understand the data and that data products and analyses meet their information needs.

To this end we have designed a collaborative end user engagement process to enable this project to bridge the science to management divide and achieve desired outcomes. The project approach includes

integrating defined steps that will link the technical aspects of data collection and analysis to development of decision-support tools that meet end user needs and are able to help guide management decisions. The collaborative process is designed to be iterative and end user driven and builds in meaningful and deliberate opportunities for regional and local decision-makers to contribute to project outcomes. End user collaboration will be integrated in every aspect of the project, initiated at the beginning and sustained to the end. Utilizing this collaborative approach will set up the project for greater success by strengthening partner relationships as well as data sharing mechanisms that will continue beyond the life of the project. The impact of the collaboration process will also be evaluated as part of our project activities.

Key end users fall into four main groups: 1) water quality managers, regulators and policymakers who will draw on information and decision-support tools created from this effort to inform their work and management decisions, 2) water quality monitoring organizations who collect, analyze and contribute data to the regional database, 3) decision-makers from one watershed who will work with the project team to pilot test applying information to their local management needs and interests, and 4) researchers who can use information from the regional database as a platform for supporting local studies on the effectiveness of water quality approaches applied in the Cape Cod setting.

The seven groups of end users identified include: 1) The Cape Cod Water Protection Collaborative (CCWPC), which includes representatives from all fifteen Cape Cod towns and two County representatives. The mission of this body is to protect Cape Cod's shared water resources by promoting and supporting the coordinated, cost-effective and environmentally sound development and implementation of local water quality initiatives; 2) The Cape Cod Commission; 3) DEP; 4) The Environmental Protection Agency (EPA); 5) Monitoring organizations – CCS, APCC, WBNERR, BBC, pond associations; 6) Water quality committees, water resource managers and local officials from one pilot watershed; 7) Researchers (SMASST).

Engagement with end users will be structured and facilitated by a trained engagement specialist from WBNERR. Facilitators will ensure that open and regular communication is established and sustained with end users over the course of the project. The collaborative process has been broken into five objectives:

Collaboration Objective 1: Establish an End User Group to provide guidance to the project team and help make key decisions on different aspects of work products.

Process: The End User Group will be established at the beginning of the project and will be comprised of the membership of the Cape Cod Water Protection Collaborative and one designated representative from each of the other end user groups, including the project team organizations. The End User Group will meet on a quarterly basis. Meeting will be structured and professionally facilitated.

Anticipated Outcomes: Strengthened relationships among project partners, monitoring organizations, and end users, which is essential for increasing project impact and achievement of objectives.

Collaboration Objective 2: Work with water quality monitoring organizations to discuss database interface, data needs, reporting procedures, data QA/QC protocols, and all related processes necessary to establish a database that is as complete as possible and trusted by partners.

Process: The project team will hold a workshop soon after project start-up to bring key monitoring groups together to discuss all aspects of database set-up and use including data access, delivery, archiving, and quality control, as well as individual agency roles necessary to sustain the effort beyond the life of the project.

Anticipated Outcomes: Clear list of action items and responsible parties to strengthen database refinement and roll-out.

Collaboration Objective 3: Work with the End User Group to identify priority water quality information needs that can be addressed by accessing data from the regional database, as well as desired data outputs.

Process: Through facilitated meetings, WBNERR will work with end users to identify the key types of information and data outputs decision-makers need. Feedback will be summarized and shared with the project team. This feedback will be used to guide Task 3 and development of a data analysis processing script.

Anticipated Outcomes: Prioritized list of data analyses and desired outputs, as well as a list of data gaps.

Collaboration Objective 4: Work with pilot watershed group to conduct further analyses, interpret and translate results, and identify opportunities for applying data within the watershed to help inform water quality management decisions.

Process: Drawing on a review of available data by watershed, as well as the data needed to effectively run the processing script, the project team will select a pilot watershed. This decision will be made as part of the project implementation process and with consideration to areas where use of the regional database and processing script may be illustrated most effectively. This will inform lessons learned and serve as a template for other watersheds. Two meetings with key decision-makers within the pilot watershed, as well as database developers and technical data experts will take place. The purpose of these meetings will be to unpack and illustrate how municipalities can apply project outputs to decision-making, as part of local planning and management efforts. Where and how analyses can help decision-makers evaluate implementation of local water quality plans will be a focus of these deliberations. After the pilot process has been completed WBNERR will convene a regional workshop to share results of what was learned and transfer lessons to decision-makers in other watersheds on Cape Cod. Lessons and results from the process will be captured in the final project report.

Anticipated Outcomes: Decision-makers from pilot watershed receive analyzed and interpreted watershed specific data to inform management efforts. Decision-makers understand, trust and can apply the project outputs.

Collaboration Objective 5: Work with monitoring organizations and selected researchers from the pilot watershed to identify monitoring and research gaps. This is essential to create a feedback loop that allows the project team to identify how the regional database can be used to help improve monitoring.

Process: Given the range of approaches being considered across the region to help improve water quality, it is critical that a component of this project is geared toward better understanding outstanding monitoring needs. A workshop will be held to identify (i) if and where monitoring should/can be enhanced or streamlined, (ii) if previously uncollected parameters are needed to capture key trends, (iii) gaps in current monitoring efforts and resources needed to meet these gaps, (iv) opportunities where monitoring groups can work together more effectively to achieve shared goals and strengthen the regional database.

Anticipated Outcome: Recommendations developed to help guide future monitoring efforts. Identification of key research needs that is shared with regional research entities.

Task 2 Outputs: 1) Guidance on database QA/QC; 2) List of priority data outputs for Task 3; 3) Final report for one pilot watershed; 4) Key recommendations to guide future monitoring efforts; 4) List of key research needs to help inform local management efforts

Task 3: Data analysis and development of a processing script

As previously described and as will be further developed and defined by the collaborative process, data analysis tools summarizing water quality data into metrics that are easy to digest, and representative of trends and patterns are needed. Information is needed at spatial scales ranging from the sampling station to the watershed to the region. In response to this regional management need the project team will analyze spatial and temporal trends in water quality across the coastal and fresh waters of Cape Cod.

Location-specific water quality monitoring is necessary to identify problems and develop and evaluate management solutions because underlying drivers of declining water quality may be dramatically different from one watershed to another. Broader spatial and temporal scale analyses are often not available when water quality monitoring focuses on a single watershed or water body. The project team plans to utilize the regional database to generate a region-wide dataset, which will be critical to understanding both local and broader scale patterns in water quality and climate indicators. For example: water quality, indicated by chlorophyll *a* pigments, has declined across Buzzards Bay and other Cape Cod coastal embayments over the past several decades. The decline in water quality observed across Buzzards Bay is more consistent with regional climate warming, rather than trends in nutrient loading or nitrogen concentration (Rheuban et al. 2016, Williamson et al. 2017). Using this database, the following question can be answered: do our observations in Buzzards Bay represent a similar pattern across the all the coastal and fresh waters of Cape Cod?

Woods Hole Oceanographic Institution (WHOI) will develop a processing script for data trend analyses. Detailed data analyses will allow end users to discern if implemented mitigation strategies are effective or if other factors beyond traditional management tools have impacted local and regional water quality. The proposed work will make data analysis accessible to local stakeholders by combining modern, open source data analytics toolboxes with web-based dashboards and GIS. The data analysis will be designed such that metrics will be generated upon request at user-defined spatial and temporal scales. Data analyses will utilize QA/QC protocols and will have the ability to integrate new data into analyses as the database is updated, providing long-term benefit to end users beyond the period of the grant.

In conjunction with the collaborative process, the project team will generate a detailed interpretation of historical water quality data for one pilot watershed. This detailed interpretation will also include an analysis of nitrogen loading history based on published nitrogen loading models. Project partners at WHOI completed a nitrogen loading trend analysis of 28 embayments within the Buzzards Bay watershed (Williamson et al. 2017) and propose a similar analysis for the detailed interpretation of a chosen embayment. Data needs for the historical nitrogen loading trend analysis, such as land use and MA level III assessors' data, have already been compiled by project partners. This historical nitrogen loading trend analysis will allow us to compare nutrient input trends with water quality trends and will provide a framework of analyses for other regional watersheds.

APCC staff will analyze and compare freshwater quality data to suitable water quality standards, including state and federal Clean Water Act standards for surface waters and drinking water. Work will take advantage of existing resources, such as the Cape Cod Pond and Lake Atlas, which includes freshwater standards for evaluating pond water quality that consultants have been using for most detailed pond studies since 2003.

All analyses will be used in development of water resources report cards and the “State of the Waters: Cape Cod” report, which will grade and characterize water resources (described as part of task 4).

Task 3 Outputs: 1) Complete and annotated processing script for estuarine data analyses; 2) Data trend analyses for currently available estuarine and freshwater data sets; 3) Data interpretation for one pilot watershed; 4) Evaluation of current water quality relative to known standards (ex. nitrogen TMDLs); 5) Comparison of water quality across regions to identify trends and commonalities; 6) Summary of results and needs assessment.

Task 4: Integration with web-based user interface and other information products

Data and analyses will be made available through a web-based user interface, water resources report cards, the “State of the Waters: Cape Cod” annual reports, and other information products.

The processing script will be integrated into the regional database and website user interface. Commission staff will review the data processing script developed by WHOI, work with WHOI staff to integrate the script into an SQL procedure, and verify script functionality through testing of the procedure. Commission staff will edit existing SQL tables or create new tables for processed data from the SQL procedure to interface with the web-based interface.

Estuarine data analyses that result from the processing script and that are consistent with the end user needs established in task 2 will be displayed on the regional database website. To ensure ease of access and use, Commission staff will work with project partners and the End User Group to assess the suitability of the current web interface. Charts and visuals will be edited and/or created, as needed, to display appropriate analyses.

Estuarine and freshwater data analyses will be used to develop the “State of the Waters: Cape Cod” report, which will be an organized compilation of report cards. All data and analyses from task 3 will be integrated into water resources report cards that characterize issues and form the basis of the report. APCC will characterize water resources based on analyses completed. Report cards will describe and grade watersheds, ponds and lakes, drinking water, coastal waters, and groundwater on Cape Cod.

To develop report cards, APCC will use a methodology that has been used effectively to raise public awareness and promote action in areas such as California, Florida, Maine, New Hampshire, New York, Oregon, Texas, Washington, the Great Lakes, Chesapeake Bay, U.S. waters and internationally. In Massachusetts, report cards have highlighted water quality problems and improvements in at least five water bodies, including the Blackstone River, Charles River, Mystic River, Buzzards Bay, and Taunton River. Report cards were also used to highlight beach water quality issues at 15 public beaches in metropolitan Boston. A list of the report cards referenced can be found in attachment B.

Aside from Buzzards Bay communities, Cape Cod does not have any water resources report cards to help the public and decision makers understand problems and encourage action. Most report cards assign a letter grade using defined criteria and sometimes the grade is combined with a color scale to indicate degree of severity. The result is powerful, graphic, and easy to comprehend.

The “State of the Waters: Cape Cod” Report will integrate the report cards and be easily understood by the general public yet developed with sufficient rigor to be accepted by experts and regulators. The report will be publicly available through digital and conventional media and will become a regular and prominent feature released at the APCC annual meetings and promoted in other venues. In subsequent years, the report will be updated to reflect the latest data.

The report will be used as an educational resource, but also to identify themes and issues and inform better public policy regarding the improvement and preservation of Cape Cod’s water resources.

Task 4 Outputs: 1) Updated web-based user interface to display and make publicly accessible all data and analyses; 2) Water resources report cards that provide letter grades for water quality of lakes, rivers, estuaries and coastal waters, groundwater, drinking water and watersheds; 3) “State of the Waters: Cape Cod” Report

Task 5: Targeted Outreach to Inform Local Action

Results will be delivered and translated to local-decision-makers best positioned to apply and integrate findings into local planning and management.

In addition to the workshops and meetings identified above, WBNERR will conduct two additional workshops to share results from this work with the full End User Group, other regional decision-makers, and the public. The purpose of these workshops is to share results of data analysis and information products with those who need the information to make decisions. Depending on timing and feedback from the End User Group and project team, these workshops may be stand alone or combined and/or coordinated with other long standing regional outreach events that are well known and well attended. Three of these include the One Cape Summit (led by the Commission), the Cape Coastal Conference (led by WBNERR and several partner organizations and agencies) and the APCC Annual Meeting. Linking the project outreach and communication plan with these established regional events will help to strengthen overall impact and enhance cohesiveness.

Annual Meetings: APCC will release the “State of the Waters: Cape Cod” Report at its annual meeting, in August/September of each year. Most meetings draw approximately 150 people. The Commission will showcase this project at the OneCape Summit, which focuses on both the environment and the economy, but was originally established to address progress on water quality improvement. The Summit attracts between 200 and 300 attendees each year. The annual Cape Coastal Conference will also be an opportunity for the distribution of project information. It typically draws between 300 and 400 attendees. This established pattern of annual regional events will help draw attention to the project and set the stage for utilizing project outputs to inform restoration and protection of water resources over the long term.

Social media: APCC will design and implement a social media campaign that will publicize the “State of the Waters: Cape Cod” Report. Planned work includes: 1) a blog with short articles and photos about water quality, natural history information on marine and freshwater systems, and best management practices for protecting water resources. 2) social media posts related to water quality and relaying specific information on issues and events to generate interest in this project.

During the first year of the project, the project team will establish a schedule for targeted outreach that takes into consideration annual meeting dates that are not known at the time of this submission.

Task 5 Outputs: 1) Presentation of project results and resources and additional engagement with end users at regional outreach events, including, but not limited to the OneCape Summit, Cape Cod Coastal Conference and the APCC Annual Meeting; 2) Social media posts to share information about the project and project outputs

Task 6: Final Report

The project team will provide a final report that summarizes the data collected, the collaborative process and key outputs and outcomes of the process, data analyses, and information products.

The final report will be available through the Commission’s website and partner websites. Information in the report will be shared at existing regional outreach events, as described in task 5, and sections of the final report will be shared individually. For example, water resources report cards and the “State of the Waters” Cape Cod report will be issued annually and serve as standalone documents. The watershed interpretation will serve a localized purpose, as well as be used as a framework for moving forward in other watersheds across the region. The water quality database will be accessible through the web-based interface and will be used by a wider audience than may utilize the final report.

Task 6 Outputs: Final report that includes, at a minimum, 1) Documentation of data collected and aggregated; 2) Database QA/QC procedures; 3) Annotated processing script; 4) Data analysis methods; 4) Detailed interpretation of one or more watersheds; 5) Water resources report cards; 6) “State of the Waters: Cape Cod” Report; 7) Documentation of public outreach and workshops

Project Timeline and Milestones:

	2018					2019												2020						
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Task 1																								
Data Compilation																								
Database QA/QC																								
WBNERR QAPP Development																								
Ponds and Lakes QAPP Development																								
Task 2																								
End User Group Mtgs																								
Monitoring Group Workshop																								
Identify Data Outputs/Analysis Needs																								
Pilot Watershed Interpretation																								
Identify Monitoring/Research Gaps																								
Task 3																								
Data Analysis/Script Development																								
Pilot Watershed Analysis/Interpretation																								
Task 4																								
Development of Report Card Template																								
Report Cards Released																								
"State of the Waters: Cape Cod" Released																								
Integrate Script with Database/Website																								
Task 5																								
Develop Targeted Outreach Schedule																								
Targeted Outreach/Workshops/Meetings																								
Task 6																								
Final Report																								

Local Impact: This project is in direct support of the 15 Cape Cod towns implementing local water quality plans, 11 of which are located within the SNEP region. Successful development of consistent and comparable data analyses will track trends in response to plan implementation, provide post-implementation information, help refine local decision-making, and facilitate management to improve water quality. The proposed processing script will be designed to allow for future automated analyses as new estuarine data are available, creating long-term capacity for embayment specific interpretation and informed local water quality decisions past the grant period. The proposed collection and analysis of freshwater data is consistent with the effort initiated for estuarine data in 2016 and will provide for a long-term, consistent database of all water resources information. The Commission is committed to maintaining the data, working with project partners to integrate new data into the future, and utilizing the QA/QC procedures developed as part of this project. APCC is committed to issuing the “State of the Waters: Cape Cod” Report on an annual basis to ensure ongoing evaluation of Cape Cod’s important water resources and responsive and responsible public policy decisions.

Regional Impact: The strong cooperative relationship among monitoring, management and non-profit organizations builds regional capacity to solve water quality challenges through collaborative and innovative restoration techniques. The combined, downloadable dataset allows for regional scale analyses to identify the impacts of climate and tidal variability on water quality management. The database structure, analyses, and information products will be transferable to other areas within the SNEP region and beyond that seek to collect and analyze long-term data sets and translate them into helpful information products.

The project team recognizes the importance of tracking both the impact of the project process and outcomes to inform future learning across the region and increase overall effectiveness. WBNERR has significant experience in project evaluation and will conduct evaluations of workshops held with managers and decision-makers to determine how well objectives were met and where efforts can be improved. WBNERR will also assess the impact of the collaborative process with the End User Group.

Results of these evaluations will be incorporated in the final project report as part of the body of learning related to this project.

Project Team (See attachment C): The project will be led by the Commission, with expertise in water resources, database development and project management. The Commission will lead project activities, coordinate project tasks, track progress, and maintain communication with project partners. Partner monitoring organizations include the CCS, SMAST and WBNERR. Each will provide data as well as guidance on quality assurance/control and serve as an advisor for data analysis. WBNERR will lead collaborative process, plan outreach workshops to decision-makers and researchers and facilitate end user meetings. WHOI will complete the processing script development and data analysis. APCC will expand upon existing freshwater databases and integrate estuarine and freshwater data and analyses into information products, including water resources report cards and the “State of the Waters: Cape Cod” Report, to increase knowledge and understanding of the health of water resources and identify water restoration needs. An End User Group will be established, consisting of project team members, the CCWPC, and other key end users identified in task 2 to assist in defining data outputs.

Integration and Multiple Benefits: This project takes a holistic approach to water resource issues, addressing both estuarine and freshwater quality. It seeks to advance several SNEP priorities, not limited to, fostering integrated approaches to restoring water quality, habitats and ecosystems; building local and regional capacity, tools and knowledge; strengthening sustainable partnerships; and improving the utility of environmental monitoring for ecosystem management. In addition to data collection and analysis, a program script, and information products, outputs will include a thoroughly vetted, downloadable database and metadata file for research and management applications consistent with DEP and EPA water quality monitoring strategies. This robust water quality database can be used by coastal scientists against other large datasets for future research projects. (e.g. marine fish and mammal migrations, coastal bird migrations, the spread of harmful algal blooms, etc.)

Leveraging: This project leverages work completed by each project partner and work completed by DEP and SMAST to develop total maximum daily loads for nitrogen and seeks to expand the effect of this research and long-term data accumulation on local management decisions. The Commission has developed databases and a web interface to store and share a regional data set. This project will take these efforts one step further to be responsive to local needs, fulfill the recommendations of the 208 Plan, and support existing management efforts to improve water quality, habitats and ecosystems.

Outreach and Communications: All work completed for this project will be included in a web-based interface. The program script will be integrated with the database and will be used on a regular basis, as additional data are available. The data and analyses will be used in water resources report cards and an annual “State of the Waters: Cape Cod” report created by APCC. APCC will build on the report cards and State of the Waters report to develop an “action agenda” that provides recommendations for actions to protect and restore water, along with measures for gauging success in implementing actions. The broad-based and diverse target audience will include the public as well as decisionmakers. Through the CCWPC, the Commission will work to share project outputs with each town. In addition, WBNERR will conduct targeted watershed-based workshops to translate information to local decision-makers. Other target audiences include full- and part-time residents, pond associations, municipal boards, departments and water quality/wastewater committees, fisheries stakeholders, other restoration partners, non-governmental organizations, elected officials, and others. Additional outreach materials will be developed, as needed, and project components will be included in presentations by the Commission and partners, as appropriate, at local, state, regional and national meetings to allow for knowledge transfer.

Literature cited can be found in attachment D.

BUDGET DESCRIPTION

Budget Table

Cost Item or Category	Cost Basis	RAE SNEP Request	Non-Federal Match	Match Source	Total Project Cost
Personnel					
Erin Perry, CCC	364 hrs. @ \$43.27	11,812.71	3,937.57	CCC	15,750.28
Tom Cambareri, CCC	153 hrs. @ \$49.53	5,683.57	1,894.52	CCC	7,578.09
Phil Detjens, CCC	208 hrs. @ \$44.45	6,934.20	2,311.40	CCC	9,245.60
Mario Carloni, CCC	364 hrs. @ \$37.18	10,150.14	3,383.38	CCC	13,533.52
Jo Ann Muramoto, APCC	500 hrs. @ \$48.00	18,000.00	6,000.00	APCC-MET	24,000.00
Don Keeran, APCC	502 hrs. @ \$43.20	16,264.80	5,421.60	APCC-MET	21,686.40
Kristin Andres, APCC	502 hrs. @ \$40.00	15,060.00	5,020.00	APCC-MET	20,080.00
Brian Horsley, APCC	416 hrs. @ \$32.00	9,984.00	3,328.00	APCC-MET	13,312.00
Amy Costa, CCS	390 hrs @ \$34.60	11,072.00	2,422.00	CCS	13,494.00
Brian Howes, PI SMAST	70 hrs. @ \$68.46	4,792.20	-		4,792.20
Roland Samimy, SMAST	70 hrs @ \$54.07	3,784.90	-		3,784.90
Outreach Asst., WBNERR	850 hrs. @ \$25.00	21,250.00	-		21,250.00
WQ Monitoring Asst., WBNERR	206 hrs. @ \$20.12	4,144.72	-		4,144.72
Wauquoit Bay Volunteers, WBNERR	546 hrs. @ \$24.69	-	13,480.74	WBNERR	13,480.74
Jennie Rheuban, WHOI	1216 hrs. @ \$42.625	51,832.00	-		51,832.00
Total Personnel		190,765.24	47,199.21		237,964.45
Fringe					
Fringe, CCC	66.36%	22,947.70	7,649.23	CCC	30,596.93
Fringe, APCC	25.00%	14,827.20	4,942.40	APCC	19,769.60
Fringe, CCS	20.00%	2,214.40	484.40	CCS	2,698.80
Fringe, SMAST (+\$16.5/wk)	36.27%	3,176.91	-		3,176.91
Fringe, WBNERR	N/A	-	-		-
Fringe, WHOI	45.99%	23,837.54	-		23,837.54
Total Fringe		67,003.74	13,076.03		80,079.78
Travel					
In-state travel (APCC)	2,000 mi @ \$0.545	730.30	359.70	APCC-MET	1,090.00
Out-of-state (RAE Summit 2018; 2 CCC staff)	See Narrative	4,000.00	-		4,000.00
Out-of-state (RAE Summit 2018; 1 APCC staff)	See Narrative	1,340.00	660.00	APCC-MET	2,000.00
Out-of-state travel (WHOI - S. Doney)	See Narrative	4,798.00	-		4,798.00
Total Travel		10,868.30	1,019.70		11,888.00
Equipment					
WQ Monitoring Equipment	See Narrative	6,500.00	-		6,500.00
Total Equipment		6,500.00	-		6,500.00
Supplies					
Software (APCC)	See Narrative	335.00	165.00	APCC-MET	500.00
Workshop Supplies (APCC)	See Narrative	502.50	247.50	APCC-MET	750.00
Workshop Supplies (WBNERR)	See Narrative	1,500.00	-		1,500.00
Total Supplies		2,337.50	412.50		2,750.00
Contractual					
QAQC Database (CCC)	See Narrative	20,000.00	-		20,000.00
QAPP Development (CCC)	See Narrative	-	7,500.00	CCC	7,500.00
OneCape Conferences (Venues & AV equipment)	See Narrative	10,000.00	10,000.00	CCC	20,000.00
Workshop & Coastal Conference expenses (Venues & AV equipment; WBNERR)	See Narrative	6,000.00	-		6,000.00
Web Design (APCC)	See Narrative	13,400.00	6,600.00	APCC-MET	20,000.00
TMDL Solutions (SMAST)	See Narrative	3,500.00	-		3,500.00
Dr. Scott Doney	See Narrative	-	12,339.00	WHOI	12,339.00
Total Contractual		52,900.00	36,439.00		89,339.00
TOTAL DIRECT		\$ 330,375	\$ 98,146		\$ 428,521
CCC Indirect Cost (applied to direct labor only)	71.90%	24,863.46	8,287.82		33,151.29
APCC Indirect Cost	10.00%	9,044.38	3,274.42		12,318.80
CCS Indirect Cost (NICRA)	50.31%	4,428.80	3,717.80		8,146.60
SMAST Indirect Cost (NICRA)	59.00%	1,175.40	7,824.47		8,999.87
WBNERR Indirect Cost	10.00%	3,289.47	1,348.07		4,637.55
WHOI Indirect Cost (NICRA)	62.00%	26,822.00	23,066.00		49,888.00
Total Indirect Cost		\$ 69,624	\$ 47,519		\$ 117,142
TOTAL (Total Direct+Indirect)		\$ 399,998	\$ 145,665		\$ 545,663
Non-Federal Match as a Percentage of the Request:			36.42%		

Budget Table cont.

Grant Totals Per Partner

SNEP Watershed Grant Proposal - Grant Totals per Partner					
Project Partners		RAE SNEP Request	Non-Federal Match	Match Source	Total Project Cost
Cape Cod Commission	Direct Costs	91,528	36,676	CCC	\$ 128,204
	Indirect Costs	24,863	8,288	CCC	\$ 33,151
	Total:	116,392	44,964	CCC	\$ 161,356
Association to Preserve Cape Cod	Direct Costs	90,444	32,744	APCC-MET	\$ 123,188
	Indirect Costs	9,044	3,274	APCC-MET	\$ 12,319
	Total:	99,488	36,019	APCC-MET	\$ 135,507
Center for Coastal Studies	Direct Costs	13,286	2,906	CCS	\$ 16,193
	Indirect Costs	4,429	3,718	CCS	\$ 8,147
	Total:	17,715	6,624	CCS	\$ 24,339
Umass Dartmouth SMAST	Direct Costs	15,254	-	-	\$ 15,254
	Indirect Costs	1,175	7,824	SMAST	\$ 9,000
	Total:	16,429	7,824	SMAST	\$ 24,254
Waquoit Bay National Estuarine Research Reserve	Direct Costs	39,395	13,481	WBNERR	\$ 52,875
	Indirect Costs	3,289	1,348	WBNERR	\$ 4,638
	Total:	42,684	14,829	WBNERR	\$ 57,513
Woods Hole Oceanographic Institute	Direct Costs	80,467	12,339	WHOI	\$ 92,806
	Indirect Costs	26,822	23,066	WHOI	\$ 49,888
	Total:	107,289	35,405	WHOI	\$ 142,694
TOTAL:	Direct Cost	330,374	98,146		\$ 428,521
	Indirect Cost	69,624	47,518		\$ 117,142
	TOTAL:	\$ 399,998	\$ 145,665		\$ 545,663

Budget Narrative

Personnel

Cape Cod Commission

Thomas Cambareri, Water Resources Technical Services Director: Mr. Cambareri will assist with identification of water resources data sources, data compilation, identifying data analysis needs, and development of the pilot watershed interpretation (Task 1, Task 2, Task 3). 153 hrs. @ \$49.53/hr., total \$7,578.09.

Mario Carloni, Geospatial Developer: Mr. Carloni will be responsible for the database web interface and integrating the processing script with the SQL database and web interface (Task 4). 364 hrs. @ \$37.18/hr., total \$13,533.52.

Phil Detjens, Applications Manager: Mr. Detjens will oversee database development and management, integration of the processing script into an SQL procedure and creating and editing SQL tables (Task 4). 208 hrs. @ \$44.45/hr., total \$9,245.60.

Erin Perry, Special Projects Manager: Ms. Perry will serve as project lead for the grant and is responsible for oversight of the project, coordinating with project partners and reporting (Tasks 1-6). 364 hrs. @ \$43.27/hr., total \$15,750.28.

CCC will provide match of in-kind labor. Fringe benefits are allocated as a percentage applied to total direct salaries. The audited FY17 fringe rate is 66.36% and is broken out as: Retirement (23.40%), Paid Leave Benefits (23.21%), Health Insurance (18.12%), and Medicare (1.63%).

Association to Preserve Cape Cod

Jo Ann Muramoto, Director of Science Programs: Dr. Muramoto will be responsible for freshwater data compilation and data analysis and she will prepare the report cards (Task 1, Task 4). 500 hrs. @ \$48/hr., total \$24,000.

Don Keeran, Assistant Director: Mr. Keeran will serve in an advisory capacity and provide guidance on data compilation and development of report cards and State of the Waters Report (Task 1, Task 4). 502 hrs. @ \$43.20/hr., total \$21,686.40.

Kristin Andres, Director of Education and Outreach: Ms. Andres will oversee development of outreach products and activities for development and promotion of State of the Waters Annual Report (Task 4, Task 5). 502 hrs. @ \$40/hr., total \$20,080.

Bryan Horsley, Restoration Technician: Mr. Horsley will assist with GIS mapping and other technical assistance (Task 4, Task 5). 416 hrs. at \$32/hr., total, \$13,312.

APCC match is in-kind labor funded by a 2018 Massachusetts Environmental Trust grant.

Waquoit Bay National Estuarine Research Reserve

Outreach and Engagement Assistant: The Outreach and Engagement Assistant will work with and be supervised by Tonna-Marie Rogers, WBNERR Coastal Training Program Coordinator, and will provide support in collaborative process design, meeting planning and facilitation and overall coordination of WBNERR tasks. Working with the project team and the Commission as lead, the assistant will develop process agendas for end user meetings, design effective processes to meet meeting goals and record action items and decisions (Task 2, Task 5). 850 hrs. @ \$25/hr., total \$21,250.

Water Quality Monitoring Assistant: The Water Quality Assistant will be trained by the WBNERR Research Associate, Jordan Mora, to maintain water quality stations, including but not limited to, collecting and filtering water samples, calibrating equipment, deploying units, and managing downloaded data. The assistant will support Ms. Mora with QAPP development through research and writing (Task 1). 206 hrs. @ \$20.12/hr., total \$4,144.72.

Fringe benefits are not included in proposal, as staff identified are not benefit eligible.

Waquoit Bay Watcher volunteer hours are contributed as match. Volunteer hours are associated with the Waquoit Bay Watchers Citizen Science Water Quality Monitoring Program (SWMP). The SWMP and Waquoit Bay Watcher programs are ongoing and all past and future data collected will be submitted to the Cape Cod Commission's regional database (Task 1). 546 hrs. @ \$24.69/hr., total \$13,480.74.

APCC will act as the fiscal agent for WBNERR.

Woods Hole Oceanographic Institution

Jennie Rheuban, Research Associate III: Ms. Rheuban will be responsible for data analysis and development of processing scripts, providing advice and direction on the selection of a pilot watershed and working with the project team on database quality assurance and control and to complete the detailed interpretation in the pilot watershed. Ms. Rheuban will work with Commission staff to integrate the processing script with the existing SQL database (Task 2, Task 3, Task 4). 1,216 hrs. @ 42.625/hr., total \$51,832.

WHOI match is in-kind labor provided by Dr. Scott Doney in the amount of \$12,339 and a WHOI contribution of \$23,066 for indirect costs in excess of 25% of the requested amount. Dr. Doney will advise Ms. Rheuban on data analysis and assist with data interpretation. WHOI's fringe rate is included in their Negotiated Agreement with Department of Navy. Fringe benefits are allocated as percentage to

total assignable salaries and allocated paid leave benefits, excluding overtime salaries. The provisional fringe rate of 45.99% for calendar year 2018 is broken out as: Retirement (23.19%), Health/Dental (11.55%), FICA (7.72%), Workers Comp (0.38%), Disability (1.00%), and Other Benefits (2.15%).

Center for Coastal Studies

Amy Costa, Associate Scientist: Dr. Costa will assist with quality assurance and control of the database and provide advice and guidance on data outputs and analysis needs (Task 1, Task 2). 390 hrs. @ \$34.60/hr., total \$13,494.

CCS match is 70 hours of in-kind labor provided by Dr. Costa and \$3,718 in indirect cost (\$2,256 for indirect cost in excess of 25% of the requested amount and \$1,462 for indirect cost applied to the in-kind labor)

UMass Dartmouth School for Marine Science and Technology

Brian Howes, Coastal Systems Program Director: Dr. Howes will assist with quality assurance and control of the database and provide advice and guidance on data outputs and analysis needs (Task 1, Task 2). 70 hours @ \$68.46/hr., total \$4,792.20.

Roland Samimy, Senior Research Manager: Dr. Samimy will assist with quality assurance and control of the database and provide advice and guidance on data outputs and analysis needs (Task 1, Task 2). 70 hrs. @ \$54.07/hr., total \$3,784.90.

SMAST will provide match of \$7,824 in indirect costs. The fringe rate is broken out as: 34.68% fringe benefit, 1.41% FICA, plus an additional \$16.50 per week Health and Welfare.

Travel

In-State Travel

In-State Travel is budgeted for attendance at project partner meetings, advisory committee meetings, and SNEP grantee meetings. Total budgeted is \$1,090. APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$730.30. APCC's match: \$359.70.

Out-of-State Travel

RAE Summit: As suggested in the RFP, travel is budgeted for four staff to attend the 2018 RAE Summit. An estimate of \$6,000 includes conference registration fees, travel to/from airport, hotel, flight, and meals. APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$5,340. APCC's match: \$660.

Dr. Scott Doney: Travel is budgeted for Dr. Scott Doney to attend annual meetings on project results. Dr. Doney will provide guidance on data analysis and assist with data interpretation (Task 3). The total amount budgeted is \$4,798. This estimate includes travel from the University of Virginia to WHOI, lodging for one week per year for each of the two years of the proposed project, car rental and per diem.

Equipment

Water Quality Monitoring Equipment

WBNERR will purchase monitoring equipment needed to upgrade the WBNERR water quality monitoring program to data standards comparable to other partner organizations (Task 1). Currently, one of the four SWMP stations is still occupied by an older model sonde, the YSI 6600-series. This station will be upgraded consistent with other sites in Waquoit Bay. The equipment request is for a YSI EXO2 sonde in the amount of \$6,500 (Item #599502-01). The purchase will be made in advance of the 2019 sampling season.

Supplies

Software

APCC will purchase software for data analysis, statistical analysis and plotting. An estimate of \$500 is budgeted (Task 3). APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$335. APCC's match: \$165.

Workshop Supplies

APCC plans meetings to announce the State of the Waters report and has included an estimate of \$750 for supplies (Task 5). Source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$502.50. APCC's match: \$247.50.

WBNERR has budgeted \$1,500 in supplies to support end user meetings and watershed-based workshops to translate data to decision-makers (Task 2, Task 5).

Contractual

Database QA/QC

The Commission will advertise and competitively award a contract to a qualified firm to perform quality assurance and control on the existing database and develop procedures for ensuring quality assurance and control on data loaded to the database in the future (Task 1). A budget estimate of \$20,000 is based on previous experience.

QAPP Development

The Commission will comply with State law, County policies and Uniform Guidance related to procurement and competitively award a contract to a qualified firm to develop a QAPP for pond and lake data (Task 1). A budget estimate of \$7,500 is based on previous experience and funds for the QAPP Development will be provided by the Cape Cod Commission.

OneCape Summits

The Commission will hold two OneCape Summits during the project period. The work proposed in this project will be highlighted at each and each will be used as an opportunity to share data outputs, analyses and available information products. A budget estimate of \$20,000 for venue and audio-visual equipment for two conferences is based on previous experience. The Commission will comply with State law, County policies and Uniform Guidance related to procurement and competitively award a contract to a venue to host the Summits. SNEP request: \$10,000. Commission's match: \$10,000.

Cape Coastal Conference and Workshops

Venue rental fees and fees associated with audio visual equipment are anticipated to support watershed-based workshops and other outreach initiatives, including the Cape Coastal Conference, where project outputs, analyses and information products will be highlighted (Task 2, Task 5). An estimate of \$6,000 is budgeted based on previous experience.

Web Design

APCC will comply with State law and Uniform Guidance related to procurement and competitively award a contract to a qualified web design firm to create a State of Waters website (Task 4). A budget estimate of \$20,000 is based on previous experience. APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$13,400. APCC's match: \$6,600.

TMDL Solutions

TMDL Solutions will work with SMAST to support and provide guidance on data analysis and interpretation (Task 2). SNEP request: \$3,500.

Dr. Scott Doney

Dr. Doney will advise Ms. Rheuban and project partners on biogeochemical data analysis and assist with data interpretation (Task 3). \$12,339 in consulting charges is provided as in-kind match by WHOI.

Indirect Cost

Cape Cod Commission

In accordance with 2 CFR Part 200 App. VII D1b, the Commission, a local government agency that receives less than \$35 million in direct Federal funding, is not required to obtain NICRA. The Commission's audited FY17 indirect rate is 71.90% and is applied to direct labor only. CCC indirect costs included in the SNEP request (\$24,863) are within 25% indirect cost limit. This indirect cost rate equals to 27.16% rate if applied to the Commission's Modified Total Direct Costs of \$91,528.

Association to Preserve Cape Cod

Association to Preserve Cape Cod does not have Negotiated Indirect Cost Rate Agreement and de minimis indirect cost rate of 10% was applied to APCC's Modified Total Direct Costs of \$123,188. Total Indirect Cost: \$12,318.80. SNEP Request: \$9,044. APCC's match: \$3,274.

Waquoit Bay National Estuarine Research Reserve

Waquoit Bay National Estuarine Research Reserve does not have Negotiated Indirect Cost Rate Agreement and de minimis indirect cost rate of 10% was applied to WBNERR's Modified Total Direct Costs. Total Direct cost amount of \$52,875 was reduced by the estimated cost of equipment (\$6,500) for Modified Total Direct Costs of \$46,375. Total Indirect Cost: \$4,637. SNEP Request: \$3,289. WBNERR's match: \$1,348.

Woods Hole Oceanographic Institution

Woods Hole Oceanographic Institution has a Negotiated Indirect Cost Rate Agreement with Department of the Navy, Office of Naval Research, dated January 5, 2018, for the period of 1/1/18 – 12/31/18 (attached) The provisional indirect cost rate for 2018 is 62% and is allocated to Modified Total Direct Costs. Total Indirect Costs: \$49,889 (MTDC base of \$80,467). SNEP request: \$26,822 (25% of the agency request of \$107,289). WHOI's match: \$23,066.

Center for Coastal Studies

Center for Coastal Studies has submitted their Indirect Cost Proposal dated November 30, 2017 to the US Department of Commerce, NOAA Grants Division. CCS has received a letter from NOAA, dated January 31, 2018, stating that Center for Coastal Studies may use their indirect cost rate of 50.31% cited in its Indirect Rate Cost Proposal until the Proposal evaluation process is completed (attached). Indirect Cost rate of 50.31% was applied to MTDC of \$16,192.80. Total Indirect Cost: \$8,147. SNEP Request: \$4,429 (25% of the CCS request of \$17,715). CCS's match: 3,718.

UMass Dartmouth School for Marine Science and Technology

UMass Dartmouth has a Negotiated Indirect Cost Rate Agreement with the Department of Health and Human Services, dated March 10, 2017 (attached). The predetermined rate of 59% is effective for the period of 7/1/18 – 6/30/2010 and has been applied to MTDC of \$15,254. UMass Dartmouth SMAST has elected to include only \$1,175.40 of the indirect costs in their SNEP request and to apply the difference towards their match. Total Indirect Cost: \$9,000. SNEP request: \$1,175. UMass Dartmouth SMAST's match: \$7,825.

Total Indirect Costs included in the SNEP request (\$69,624) equal to 17.41% of the total amount of \$399,998 requested from SNEP for the proposed project.

Grant Totals Per Task

	Total Project Cost Per Task			
	Cost Item	SNEP	Non-Federal Match	Total
Task 1	Salaries & Fringes	46,558.28	24,898.39	71,456.68
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	QA/QC Database	20,000.00	-	20,000.00
	QAPP Development	-	7,500.00	7,500.00
	Equipment	6,500.00	-	6,500.00
	Indirect Cost	10,314.72	8,460.99	18,775.71
Subtotal:		\$ 84,557	\$ 41,114	\$ 125,672
Task 2	Salaries & Fringes	42,847.38	3,601.53	46,448.92
	RAE Summit	666.67	-	666.67
	Workshop Supplies	750.00	-	750.00
	Cape Coastal Conference	2,500.00	-	2,500.00
	Indirect Cost	11,248.60	9,288.09	20,536.68
Subtotal:		\$ 58,013	\$ 12,890	\$ 70,902
Task 3	Salaries & Fringes	64,364.61	4,653.33	69,017.95
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	Software	335.00	165.00	500.00
	TMDL Solutions	3,500.00	-	3,500.00
	Dr. Scott Donney & Travel	4,798.00	12,339.00	17,137.00
	Indirect Cost	22,022.25	19,109.62	41,131.87
Subtotal:		\$ 96,204	\$ 36,522	\$ 132,726
Task 4	Salaries & Fringes	71,867.10	19,744.97	91,612.07
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	Web Design	13,400.00	6,600.00	20,000.00
	Indirect Cost	20,145.69	9,154.09	29,299.78
Subtotal:		\$ 106,597	\$ 35,754	\$ 142,351
Task 5	Salaries & Fringes	28,891.78	6,297.26	35,189.04
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	Workshop Supplies	1,252.50	247.50	1,500.00
	OneCape Conferences	10,000.00	10,000.00	20,000.00
	Cape Coastal Conference	3,500.00	-	3,500.00
	Indirect Cost	4,492.26	1,038.66	5,530.92
Subtotal:		\$ 49,321	\$ 17,838	\$ 67,159
Task 6	Salaries & Fringes	3,239.28	1,079.76	4,319.04
	RAE Summit	666.67	-	666.67
	Indirect Cost	1,400.00	466.67	1,866.67
Subtotal:		\$ 5,306	\$ 1,546	\$ 6,852
TOTAL:		\$ 399,998	\$ 145,665	\$ 545,663

LIST OF ATTACHMENTS

Maps, photos, drawings, and additional information

- Attachment A: Map of Project Area
- Attachment B: Report Card Examples
- Attachment C: Project Team
- Attachment D: Literature Cited

Letters of Commitment

- Association to Preserve Cape Cod
- Buzzards Bay Coalition
- Cape Cod Water Protection Collaborative
- Center for Coastal Studies
- UMass Dartmouth School for Marine Science and Technology
- Waquoit Bay National Estuarine Research Reserve
- Woods Hole Oceanographic Institution

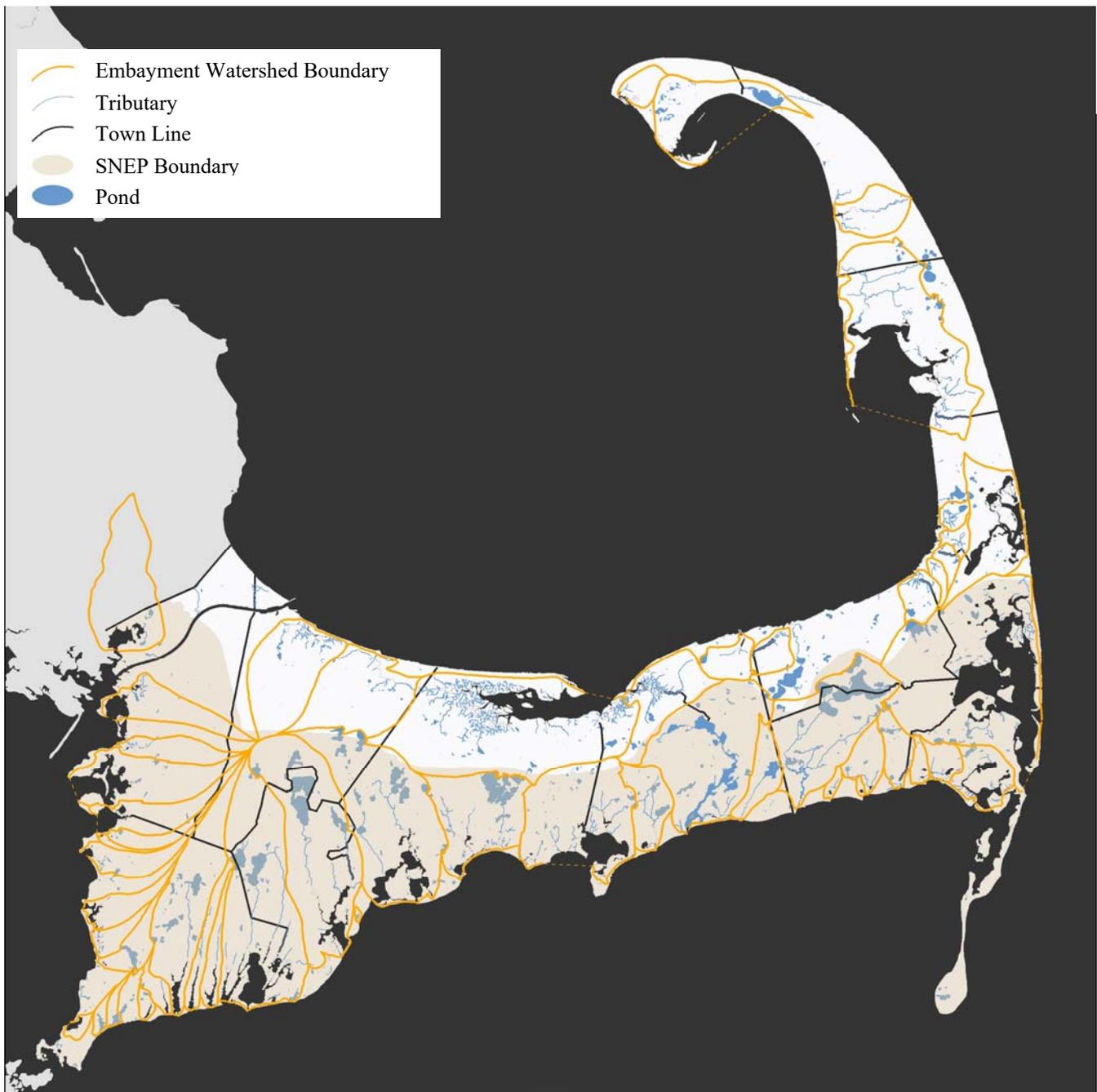
Organizational Budget and Statement of Financial Position

- Barnstable County Approved FY19 Operating and Capital Budget – Cape Cod Commission
- Barnstable County's Basic Financial Statements
 - Summary of Auditor's Results, Schedule of Findings and Questioned Costs
 - Expenditures and Changes in Fund Balances
 - Schedule of Fringe and Indirect Cost Rate – Cape Cod Commission

Negotiated Indirect Cost Rate Agreements

- Center for Coastal Studies
- UMass Dartmouth School for Marine Science and Technology
- Woods Hole Oceanographic Institution

Attachment A: Map of Project Area



Map of Project Area: The proposed project area includes all of Barnstable County. Approximately 60% of Cape Cod is within the SNEP boundary. Almost all the watersheds on Cape Cod that fall within the SNEP boundary are nitrogen impaired and have established total maximum daily loads or Massachusetts Estuaries Project Technical Reports documenting degradation and nitrogen thresholds.

Attachment B: Report Card Examples

California

- Elkhorn Slough National Estuarine Research Reserve. Elkhorn Slough Water Quality Report Card. <http://www.elkhornslough.org/waterquality-reportcard/>.
- California Environmental Protection Agency, State Water Resources Control Board. 2014-2015. https://www.waterboards.ca.gov/about_us/performance_report_1415/plan_assess/11112_tmdl_outcomes.shtml.
- Heal the Bay. Beach Report Cards for California beach water quality. <http://beachreportcard.org/default.aspx?tabid=4>.

Chesapeake Bay

- Chesapeake Bay Report Card. <https://ecoreportcard.org/report-cards/chesapeake-bay> .

Florida

- Florida Department of Environmental Protection. Interactive Water Quality Report Cards. <https://floridadep.gov/dear/watershed-monitoring-section/content/interactive-water-quality-report-cards>

Great Lakes

- Donahue, Michael J. January 2002. The Great Lakes: A Report Card. <https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1451&context=cuslj>.
- Mills County Watershed Report Card. http://erieconserves.org/wp-content/uploads/mills_report_card.pdf.

Maine

- Natural Resources Council of Maine. 2014 Report Card for Maine. https://www.nrcm.org/wp-content/uploads/2013/09/2014_legislative_reportcard.pdf.

Massachusetts

- Blackstone River Watershed Interactive Water Quality Map. http://zaptheblackstone.org/interactive_map/index.php.
- Environmental Protection Agency, Region 1. 2017. Charles River water quality earns a “B” in 2015. <https://www.epa.gov/newsreleases/charles-river-water-quality-earns-b-grade-2016>.
- Massachusetts Water Resources Authority. 2014. EPA’s annual report card gives the Charles River an A- . <http://www.mwra.com/01news/2014/091114-epa-report-card-charles-river-a-.html>.
- Mystic River Report Card. 2016. <https://mysticriver.org/epa-grade/>.
- Mystic River Watershed Report Card. 2016. 2016 Mystic River Watershed Report Card Frequently Asked Questions. <https://www.epa.gov/mysticriver/2016-mystic-river-watershed-report-card-frequently-asked-questions>.
- Report of the Buzzards Bay Citizens’ Water Quality Monitoring Program 1992-1995. <http://buzzardsbay.org/bbpreports/1996-buzzards-bay-water-quality-monitoring-report.pdf>.
- Save the Harbor/Save the Bay. Annual Beach Water Quality Report Card on the Metropolitan Region’s public beaches. 2017. Report on 2016 beach water quality at 15 public beaches in 10 communities in the Boston area (Lynn, Swampscott, Nahant, Revere, Winthrop, East Boston, South Boston, Dorchester, Quincy and Hull). <http://www.savetheharbor.org/Content/beachesreportcard/>.
- Taunton River Watershed Alliance. 2017. 2016 Water Quality Report Card. <https://savethetaunton.org/2017/02/15/2016-water-quality-report-card/>.

New Hampshire

- New Hampshire Department of Environmental Services. Watershed Report Cards. https://www.des.nh.gov/organization/divisions/water/wmb/swqa/report_cards.htm.

New York

- Long Island Sound Water Report Cards. <https://ecoreportcard.org/report-cards/long-island-sound/>.

Oregon

- City of Portland, Oregon, Watershed Report Card. <https://www.portlandoregon.gov/bes/62109>.
- State of Oregon. Water Quality Index. <http://www.oregon.gov/deq/wq/Pages/WQI.aspx>.
- Willamette River (Oregon) Report Card. <http://www.oregon.gov/deq/wq/Pages/Willamette-River-Report.aspx>.
- Heal the Bays. Beach Report Card for Oregon. <http://beachreportcard.org/?st=OR&f=1>.

Texas

- Mission-Aransas National Estuarine Research Reserve. Little Bay Report Card. <https://missionaransas.org/little-bay-report-card>.

U.S.

- Environmental Working Group. 2017. Clean Water Report Card: Failing Grades. https://static.ewg.org/reports/2000/FailingGrades.pdf?_ga=2.72469146.882043222.1512587101-937361266.1512587101.

Washington State

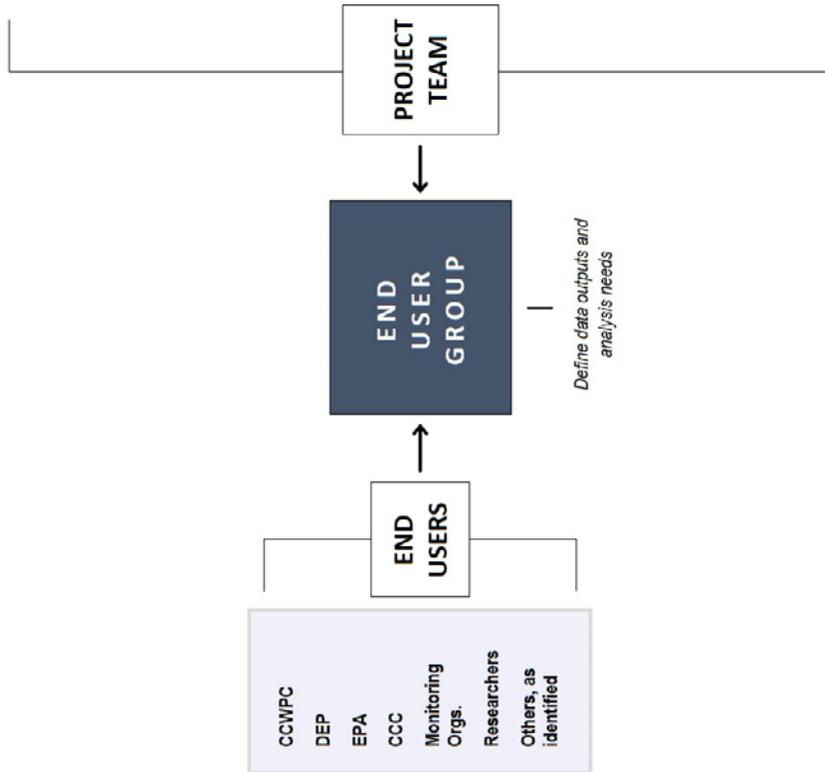
- Pierce County, Washington. 2016 Report Card on Surface Water Health. <https://www.piercecountywa.org/ArchiveCenter/ViewFile/Item/5481>.

International

- World Wildlife Fund. Healthy Rivers for All. <https://www.worldwildlife.org/initiatives/healthy-rivers-for-all>.

Attachment C: Project Team

Woods Hole Oceanographic Institution	<p>Analysis Lead</p> <ul style="list-style-type: none"> Data analysis Processing script development Pilot watershed implementation Integration with database for future analysis and reporting
Waquoit Bay National Estuarine Research Reserve	<p>Collaboration Lead Data and Analysis Advisor</p> <ul style="list-style-type: none"> Provide data Project advisor Quality assurance/control guidance Data analysis advisor Structure collaboration process Facilitate end user meetings
UMass Dartmouth School for Marine Science and Technology	<p>Data and Analysis Advisor</p> <ul style="list-style-type: none"> Provide data Project advisor Quality assurance/control guidance Data analysis advisor
Center for Coastal Studies	<p>Data and Analysis Advisor</p> <ul style="list-style-type: none"> Provide data Project advisor Quality assurance/control guidance Data analysis advisor
Association to Preserve Cape Cod	<p>Information Products Lead</p> <ul style="list-style-type: none"> Integrate water resources data and analyses into information products Create water resources report cards Develop regional State of the Waters report Complete Freshwater data
Cape Cod Commission	<p>Project Lead</p> <ul style="list-style-type: none"> Lead project activities Coordinate tasks and track progress with project partners Database management Lead communication with project partners Data compilation and analysis



COMMONWEALTH OF MASSACHUSETTS

BARNSTABLE, SS.

At a Regular Meeting of the Barnstable County Board of Regional Commissioners, at the Superior Courthouse Building, on the tenth day of October, A.D. 2018, motion by Commissioner Beaty to the execution of subaward agreement, through the Cape Cod Commission, with the Association to Preserve Cape Cod, under the Cape Cod Commission's Restore America's Estuaries project titled "Regional Collection & Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making" in the amount of \$99,488.00, for a period from October 1, 2018 through July 31, 2020, as presented, 2nd by Commissioner Flynn, approved 3-0-0

Leo G. Cakounes, Chair: Y

Ronald R. Beaty, Vice-Chair: Y

Mary Pat Flynn, Commissioner: Y

A true copy, Attest, October *10*, 2018



Janice O'Connell
Barnstable County Regional Clerk

SUBAWARD AGREEMENT
BETWEEN

Barnstable County through
Cape Cod Commission
3225 Main Street
Barnstable, MA 02630

and

Waquoit Bay Reserve Foundation
P.O. Box 3522
Waquoit, MA 02536

Federal Award Identification Number: 00A00370
Federal Award Date: October 1, 2017
Federal Award Amount: \$7,361,002
Federal Awarding Agency: U.S. Environmental Protection Agency through Restore America's Estuaries
Subaward Date: September 1, 2018
Subaward to the Cape Cod Commission: \$399,998
Subaward Number: SNEPWG18-9-CCC
CFDA Number/Name: 66.129 – Southeast New England Coastal Watershed Restoration
FFATA Reportable: yes
Research & Development: no

Subaward Start Date: October 1, 2018
Subaward Amount: \$42,684
Subrecipient NICRA: N/A
Subrecipient Match: \$14,829
Subrecipient DUNS:
Subaward Expiration Date: July 31, 2020

Project Contacts:

Erin Perry, Special Projects Manager
eperry@capecodcommission.org
508-744-1236

Gail Coyne, Chief Fiscal Officer
gcoyne@capecodcommission.org

Subrecipient Project Contacts:

Tonna-Marie Rogers, Acting Manager /
Coastal Training Program Coordinator
tonna-marie.surgeon-rogers@state.ma.us
508-457-0495 ext. 110

THIS SUBAWARD AGREEMENT (the "Agreement") is being entered into by and between Barnstable County, acting by and through the Cape Cod Commission (the "Recipient") and Woods Hole Oceanographic Institution (the "Subrecipient") so that the Subrecipient may partner with the Recipient in a project titled "Regional Collection & Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making" (the "Project") funded through the Southeast New England Program (SNEP) Watershed Grants.

1. Background and Prime Award. U.S. Environmental Protection Agency and Restore America's Estuaries entered into Cooperative Agreement #00A00370 (hereafter referred to as Prime Award) to fund the Southeast New England Watershed Grants Projects. Restore America's Estuaries and the Cape Cod Commission entered into a subrecipient agreement #SNEPWG18-9-CCC to fund the Project. Under the terms of this Agreement, the Recipient awards funds to the Subrecipient for its participation in the Project. Although funds to be provided to the Subrecipient under this Agreement will come ultimately from the U.S. Environmental Protection Agency and Restore America's Estuaries, Subrecipient acknowledges that U.S. Environmental Agency and Restore America's Estuaries are not Parties to this Agreement and have no obligations directly to Subrecipient under this Agreement. Notwithstanding the above, Subrecipient will be subject to and will comply with the terms and conditions contained in the Prime Award which are applicable to the Subrecipient, which are attached hereto as Attachment B and incorporated herein by reference.

2. Scope of Services/Budget. The Subrecipient will perform the scope of services for a maximum subaward of \$42,684 as set forth in Attachment A. The Subrecipient agrees to provide a non-federal match of \$14,829 in project-related costs as described in the budget.

3. Disbursements and Accounting. The Subrecipient will separately account for expenditures made and payments received under this Subaward in its accounting records. The Recipient will not be obligated to pay Subrecipient for any costs not detailed in Attachment A and will be under no obligation to disburse funds to the Subrecipient under the Agreement, except to the extent that funds are disbursed to the Recipient under the Prime Award. Disbursements will be made to Subrecipient on a reimbursement basis no more frequently than quarterly, based upon receipt of a complete and accurate Financial Report for the applicable period. Payments will be sent to Subrecipient via check.

4. Administration: The Subrecipient agrees to comply with the Prime Award Terms and Conditions detailed in Attachment B and with 2 CFR 200 Uniform Guidance.

5. Reporting:

- Performance/Progress Reports – deliverables and progress reports per Attachment A are due 10 days after the quarters ending March 31, June 30, September 30, and December 31. A final report due within 30 days of Project completion (no later than August 31, 2020). The Subrecipient should refer to the detailed progress report requirements in Attachment B, Prime Award Conditions and its Attachment 1: Progress Report Requirements and Attachment 2: Final Report Requirements.
- Financial Reports – quarterly financial reports are due 10 days after the quarters ending March 31, June 30, September 30, and December 31. A final financial report is due within 30 days of project completion (no later than August 31, 2020). The Subrecipient should refer to the Summary Budget Table reporting requirements also in Attachment B, Prime Award Conditions and its Attachment 1: Progress Report Requirements and Attachment 2: Final Report Requirements.

6. Termination or Suspension of Agreement for Cause. If through any sufficient cause, the Subrecipient or the Recipient fails to fulfill or perform its duties and obligations under this Agreement, or if either party violates or breaches any of the provisions of this Agreement, either party will thereupon have the right to terminate or suspend this Agreement, by giving written notice to the

other party of such termination or suspension and specifying the effective date thereof. Such notice will be given at least fifteen (15) calendar days before such effective date.

7. Termination for Convenience of Recipient. The Recipient will have the right to discontinue the work of the Subrecipient and cancel this Agreement by written notice to the Subrecipient of such termination and specifying the effective date of such termination. In the event of such termination or suspension of this Agreement, the Subrecipient will be entitled to just and equitable compensation for satisfactory work completed, for services performed and for reimbursable expenses necessarily incurred in the performance of this Agreement up to and including the date of termination or suspension.

8. Recordkeeping, Audit, and Inspection of Records. The Subrecipient agrees to maintain books, records, documents and other evidence pertaining to all costs and expenses incurred and revenues acquired under this Subaward (collectively "Records") to the extent and in such detail as will properly reflect all costs and expenses for which reimbursement is claimed. The Records will be maintained in accordance with 2 CFR 200.333. As may be requested, the Subrecipient will provide timely and unrestricted access to its books and accounts, files and other Records with respect to the Project for inspection, review and audit by the Recipient, Restore America's Estuaries, U.S. Environmental Protection Agency and their authorized representatives. Upon inspection, review or audit, if the Recipient, Restore America's Estuaries, or U.S. Environmental Protection Agency disallows any costs claimed by the Subrecipient related to this Agreement, the Subrecipient will be responsible for reimbursing the Commission for any of those costs.

If the Subrecipient has a single audit performed in accordance with Uniform Guidance, the Subrecipient must electronically submit (within the earlier of 30 calendar days after receipt of the auditor's report, or nine months after the end of the audit period) to the Federal Audit Clearinghouse (FAC) the data collection form and the reporting package. The collection form must be obtained from the FAC webpage. The reporting package must include the Financial Statements and Schedule of Expenditures of Federal awards, the summary schedule of prior audit findings, the auditors reports and a corrective action plan. If the Subrecipient does not submit the form and package within the required timeframe, the Recipient may perform additional monitoring of the award.

9. Title to and Use of Work Products and Data. Except to the extent otherwise provided in the Prime Award, all completed work products funded by this Agreement are in the public domain, free of copyright or other intellectual property protections.

10. Announcements and Acknowledgments. All public announcements or news stories concerning the Project will be subject to the prior approval of the Recipient and will indicate the participation of the Recipient, SNEP, Restore America's Estuaries, and U.S. Environmental Protection Agency in the funding of the Project.

11. Liability and Indemnification. The work done by or for the Subrecipient under this Agreement will be performed entirely at the risk of Subrecipient. The Subrecipient will be solely responsible for the payment of any and all claims with respect to, any loss, personal injury, death, property damage, or otherwise, arising out of any act or omission of its employees or agents in connection with the performance of its work, and Subrecipient will indemnify and defend the Recipient, Restore America's Estuaries, and U.S. Environmental Protection Agency, and each of its officers, directors, employees, and agents (in each case, an "Indemnified Party") against, and shall hold each Indemnified Party harmless of and from, any and all claims, liabilities, losses, costs, damages, and other expenses of any kind or nature whatsoever (including, but not limited to, attorneys' fees and expenses, as well as costs of suit, which any Indemnified Party may incur as a result of or in connection with the Project, or which may cause the Commission to be in default under the Prime Award.

12. Choice of Law. This Agreement will be construed under and governed by the laws of the Commonwealth of Massachusetts. The Subrecipient and the agents thereof, agree to bring any federal or state legal proceedings arising under this Agreement, in which the Commission is a party, in a court of competent jurisdiction within the Commonwealth of Massachusetts. This paragraph will not be construed to limit any rights a party may have to intervene in any action, wherever pending, in which the other is a party.

13. Force Majeure. Neither party will be liable to the other nor be deemed to be in breach of this Agreement for failure or delay in rendering performance arising out of causes factually beyond its control and without its fault or negligence. Such causes may include but are not limited to: acts of God or the public enemy, wars, fires, floods, epidemics, strikes, or unusually severe weather. Dates or times of performance will be extended to the extent of delays excused by this section, provided that the party whose performance is affected notifies the other promptly of the existence and nature of such delay.

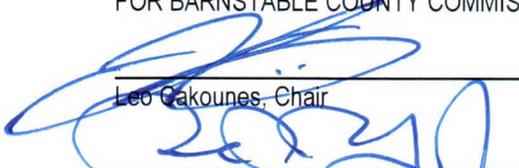
14. Compliance with Laws. The Subrecipient will promptly comply with all applicable laws, rules, regulations, ordinances, orders and requirements of the Commonwealth and any state or federal governmental authority relating to the delivery of the services described in this Agreement.

15. Headings, Interpretation and Severability. The headings used herein are for reference and convenience only and will not be a factor in the interpretation of the Agreement. If any provision of this Agreement is declared or found to be illegal, unenforceable, or void, then both parties will be relieved of all obligations under that provision. The remainder of the Agreement will be enforced to the fullest extent permitted by law.

IN WITNESS WHEREOF, Recipient and Subrecipient have executed this Agreement this _____ day of _____ in the year two thousand and eighteen.

FOR BARNSTABLE COUNTY COMMISSIONERS:

FOR WAQUOIT BAY RESERVE FOUNDATION:



Leo Gakounes, Chair



Ron Beaty, Vice-Chair



Mary Pat Flynn, Commissioner

Date

10-10-18

Date

FOR THE COMMISSION:

Kristy Senatori, Executive Director

Date

ATTACHMENT A SCOPE OF WORK/DELIVERABLES/BUDGET

TASKS

WBNERR staff will work with Cape Cod Commission staff and other project partners to complete tasks associated with the project titled “Regional Collection and Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making”. Project tasks include:

- Task 1: Data integration, quality assurance and control
- Task 2: Collaboration with end users and pilot project
- Task 3: Data analysis and development of a processing script
- Task 4: Integration with web-based user interface and other information products
- Task 5: Targeted outreach to inform local action
- Task 6: Final report

WBNERR staff will work with the project team on tasks associated with refining the regional water quality database to ensure quality assurance and control, providing advice on region-wide data analyses, and developing and implementing a collaborative end user process that engages those in a position to apply the overall project deliverables.

The following work will be completed by WBNERR staff (in parenthesis is the project task each is associated with):

- Working with the project partners and consultants to develop and agree upon quality assurance and control procedures for both historic and future water quality data (Task 1)
- Development of a Quality Assurance Project Plan (QAPP) for Waquoit Bay water quality monitoring data (Task 1)
- Providing historical water quality monitoring data for integration into the regional water quality monitoring database (Task 1)
- Working with water quality monitoring organizations to discuss the database interface, data needs, reporting procedures, data quality assurance and control protocols, and other processes necessary to complete the project (Task 1 and Task 2)
- Attending and participating in End User Group meetings on an approximately quarterly basis (Task 2)
- Coordinating with project partners during regularly scheduled project team meetings (Task 2)
- Working with project partners to ensure that end user collaboration is integrated throughout the project (Task 2)
- Designing an iterative and end user driven process that includes deliberate and diverse opportunities for decision-makers to contribute to project outcomes (Task 2)
- Establishing and coordinating with the End User Group and a pilot watershed group, including but not limited to coordinating their participation, meeting schedules and other logistics (Task 2)
- Facilitating quarterly End User Group meetings and two meetings of a pilot watershed group (Task 2)
- Working with a pilot watershed group to apply data and project outputs to inform decision-making (Task 2)
- Summarizing feedback from End User Group meetings and meetings of a pilot watershed group (Task 2)
- Holding a workshop to identify monitoring research gaps, including but not limited to areas where monitoring should or could be enhanced or streamlined, if new parameters are needed to capture key trends, if there are gaps in current monitoring efforts and what resources are needed to meet these gaps, and opportunities for more effective collaboration (Task 2)
- Working with the End User Group to define the metrics needed to inform local water quality planning (Task 2 and Task 3)

- Serving in an advisory capacity on data analysis (Task 3)

DELIVERABLES

- Historical Waquoit Bay water quality monitoring data
- QAPP for Waquoit Bay monitoring
- Documented collaborative process design
- Established End User Group
- End User and Pilot Watershed meeting summaries

TIMELINE

The project timeline is as follows:

	2018			2019												2020							
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Task 1																							
Data Compilation																							
Database QA/QC																							
WBNERR QAPP Development																							
Ponds and Lakes QAPP Development																							
Task 2																							
End User Group Mtgs																							
Monitoring Group Workshop																							
Identify Data Outputs/Analysis Needs																							
Pilot Watershed Interpretation																							
Identify Monitoring/Research Gaps																							
Task 3																							
Data Analysis/Script Development																							
Pilot Watershed Analysis/Interpretation																							
Task 4																							
Development of Report Card Template																							
Report Cards Released																							
"State of the Waters: Cape Cod" Released																							
Integrate Script with Database/Website																							
Task 5																							
Develop Targeted Outreach Schedule																							
Targeted Outreach/Workshops/Meetings																							
Task 6																							
Final Report																							

To maintain the proposed timeline and achieve associated milestones, WBNERR deliverables should be delivered no later than the following:

- Historical Waquoit Bay water quality monitoring data – December 31, 2018
- QAPP for Waquoit Bay monitoring – May 31, 2019
- Documented collaborative process design – November 30, 2018
- Established End User Group – November 30, 2018
- End User and Pilot Watershed meeting summaries – No more than 30 days following each meeting

WBNERR - SNEP Watershed Grant Budget					
Cost Item or Category	Cost Basis	RAE SNEP Request	Non-Federal Match	Match Source	Total Project Cost
Personnel					
Outreach & Engagement As	850 hrs. @ \$25.00	21,250.00	-		21,250.00
WQ Monitoring Assistant	206 hrs. @ \$20.12	4,144.72	-		4,144.72
Waquoit BayWatcher Volun	546 hrs. @ \$24.69	-	13,480.74	WBNERR	13,480.74
					-
					-
					-
Total Personnel		25,394.72	13,480.74		38,875.46
Fringe					
Fringe, CCC		-	-		-
Fringe, APCC					-
Fringe, CCS					-
Fringe, SMAST					-
Fringe, WBNERR/FMNWR					-
Fringe, WHOI					-
Total Fringe		-	-		-
Travel					
In-state travel	xxx mi @ \$0.545				-
Out-of-state travel (RAE Summit 2018)			-		-
					-
Total travel		-	-		-
Equipment					
WQ Monitoring Equipment		6,500.00			6,500.00
					-
Total Equipment		6,500.00	-		6,500.00
Supplies					
Workshop Supplies		1,500.00	-		1,500.00
					-
Total Supplies		1,500.00	-		1,500.00
Contractual					
QAQC Database					-
Workshop Expenses (Venues and AV equip.)		6,000.00	-		6,000.00
					-
Total Contractual		6,000.00	-		6,000.00
TOTAL DIRECT		\$ 39,394.72	\$ 13,480.74		\$ 52,875.46
Modified Total Direct Costs		32,894.72	13,480.74		46,375.46
Indirect 10% of TMDC	10%	3,289.47	1,348.07		4,637.55
TOTAL (Total Direct + 10%TMDC)		\$ 42,684	\$ 14,829		\$ 57,513
Match Rate			34.74%		



2018 SNEP WATERSHED GRANTS

Subrecipient Agreement Between Restore America's Estuaries and Cape Cod Commission (Barnstable County)

September 1, 2018 – September 30, 2020

Contract #SNEPWG18-9-CCC

Points of Contact

For Restore America's Estuaries:

Thomas Ardito
401-575-6109
tardito@estuaries.org
P.O. Box 476, Saunderstown, RI 02874

For Cape Cod Commission (Barnstable County):

Erin Perry, Special Projects Manager
3225 Main St., Barnstable, MA 02630
508-744-1236
eperry@capecodcommission.org

This constitutes an agreement between Restore America's Estuaries (RAE or the Recipient) and Cape Cod Commission (Barnstable County) (CCC or the Subrecipient), regarding the responsibilities of each in their roles as Recipient and Subrecipient under the 2018 round of Southeast New England Program (SNEP) Watershed Grants, **EPA FAIN Grant #00A00370**, and its amendments and supplements.

1. Contract Documents: Contract documents shall consist of this agreement and the following attachments, all of which are incorporated by reference into this agreement.

Attachment 1: Progress Report Requirements

Attachment 2: Final Report Requirements

Attachment 3: Project workplan and budget.

2. Services: CCC agrees to perform services as described in the scope and budget provided in Attachment 3 of this agreement (hereinafter the “Project.”)

3. Contract Amount: Restore America’s Estuaries agrees to make available \$399,998 for use by CCC for the contract period. CCC agrees to expend this money in conformity with the scope and budget in Attachment 3 (the Project.) CCC agrees to provide \$145,665 in Project-related matching costs as described in the budget. Matching funds must be from non-federal sources and must be expended during the period of this agreement.

4. Contract Period: This agreement covers the period **September 1, 2018 through September 30, 2020**. Work shall be completed and all reimbursable expenses incurred by **August 31, 2020**.

5. Alterations: Any alterations in the scope of the work performed shall be submitted by the Subrecipient in writing to RAE, and must be approved in advance in writing by RAE. Cumulative transfers of funds among approved direct cost categories that exceed 10% of the total award must be approved by RAE in writing in advance.

For Subrecipients with a current Negotiated Indirect Cost Rate Agreement (NICRA) on file with a federal agency, amended budgets must maintain consistency with the NICRA and the requirements of the 2018 SNEP Watershed Grants Request for Proposals (RFP). For these Subrecipients, indirect costs may not exceed 25% of the award amount.

For Subrecipients without a current NICRA, amended budgets must maintain consistency with the requirements of the 2018 SNEP Watershed Grants RFP, and may not exceed 10% of Modified Total Direct Costs as described in the RFP.

6. Progress & Final Reports: The Subrecipient agrees to submit progress reports twice yearly, and a final report upon completion of the Project, according to the following schedule:

Report	Period Covered	Due Date
Progress #1	Sep. 1, 2018 – Dec. 31, 2018	Jan. 31, 2019
Progress #2	Jan. 1, 2019 – Jun. 30, 2019	Jul. 31, 2019
Progress #3	Jul. 1, 2019 – Dec. 31, 2019	Jan. 31, 2020
Progress #4	Jan. 1, 2020 – Jun. 30, 2020	Jul. 31, 2020
Final Report	Entire Project period (completion no later than Aug. 31, 2020)	30 days following completion of Project and no later than Sept. 30, 2020.

Progress and final reports will reference the goals and objectives included in Attachment 3 and indicate the progress that has been made toward each during the reporting period. Subrecipient agrees to prepare and submit progress and final reports as described above and in Attachments 1 & 2. RAE reserves the right to withhold payments if the Subrecipient has not submitted the reports on schedule or if reports are unsatisfactory in meeting the requirements of this agreement. See Attachments 1 & 2 for more information on reporting formats.

Final reports should be geared toward an audience broader than simply RAE – in other words, it should be designed to communicate Project outcomes and results in a meaningful way to end users, stakeholders and others who may be able to learn from or take advantage of, or learn from Project outcomes and results. In all cases the final report should include an executive summary providing a brief but complete overview of Project outcomes and results, as specified in Attachment 1. In the event that the final report is intended for a technical audience, the executive summary should be written for a general audience and suitable for such purposes as reporting to funding agencies, elected officials, general-interest media outlets, etc. See Attachment 2 for more information.

Be sure to take plenty of high-resolution photographs throughout the course of the Project for use in progress reporting and, most importantly, the final report and executive summary. See Attachments 1 & 2 for more information.

7. Collaboration and Communication: SNEP Watershed Grants Program supports the Southeast New England Program (SNEP), an initiative of the U.S. Environmental Protection Agency (EPA), Region 1. The mission of SNEP is to:

Foster collaboration among regional partners across southeast New England’s coastal watersheds to protect and restore water quality, ecological health and diverse habitats by sharing knowledge and resources, promoting innovative approaches, and leveraging economic and environmental investments to meet the needs of current and future generations.

More information about SNEP is available at

<https://www.epa.gov/snecwrp>

Strong local and regional partnerships are essential in carrying out the mission of SNEP. Subrecipient agrees to participate in SNEP through at least two workshops or conferences over the course of the Project.

Subrecipient agrees to acknowledge SNEP and RAE in communications with the media, the public, and elected officials about the Project, including all publications, work products, academic and general publications, videos, signage, press releases, etc. Signs, printed reports and similar materials should include the SNEP logo where practicable. Subrecipients may download high-resolution digital files of the SNEP logo at www.snepgrants.org.

Example acknowledgement language:

[Project name] is supported by the Southeast New England Program (SNEP) Watershed Grants. SNEP Watershed Grants are funded by the U.S. Environmental Protection Agency (EPA) through a collaboration with Restore America's Estuaries (RAE). For more on SNEP Watershed Grants, see www.snepgrants.org

Subrecipient will coordinate with RAE on outreach plans, events, products, and media coverage associated with the Project, so that RAE may assist with the development of outreach communications and messaging. Subrecipient should provide drafts of any outreach plans to RAE staff for review and input. In particular, all press releases should be shared with RAE in draft at least one week in advance of release to allow RAE the opportunity to provide comments, and a quote if requested.

Subrecipient agrees to provide copies of final outreach products, website mentions, press materials, photos, etc. via the standard progress reports to RAE, or when available throughout the award period.

Subrecipient will provide RAE with high-resolution before, during, and post-implementation photos of the Project. Photos of Project sites prior to construction and during Project implementation should be submitted with progress reporting or as requested by RAE.

Subrecipient will notify RAE of all significant Project-related meetings and events (Project team meetings, public meetings, public hearings and presentations, press events, commencement of construction, ribbon-cuttings, etc.) at least one week prior to the event.

SNEP Watershed Grants are federal funds. RAE will assume, therefore, that all completed work products funded by SNEP are in the public domain, free of copyright or other intellectual property protections, unless covered by another applicable agreement or requirement (e.g., university intellectual property policies). In the event that Project work

products are subject to other intellectual property requirements, the Subrecipient shall inform RAE of such requirements ***prior to signature*** of this grant.

Project implementation sites (e.g., best management practice (BMP) installations, construction areas, etc.) must display, where appropriate and practicable, a permanent sign indicating that the Project has received funding through the U.S. Environmental Protection Agency, Southeast New England Program, and Restore America's Estuaries, and including the SNEP logo. Signage should also identify other contributing partners.

8. Permits & Compliance: Subrecipient will ensure that implementation of the Project meets all federal, state and local environmental laws and consistency requirements, including EPA Quality Assurance Project Plan (QAPP) requirements.

9. Invoices: Subrecipient will invoice RAE at least quarterly and at most monthly for reimbursable Project expenses. Generally, payment of approved expenses will be by reimbursement by RAE; however, the Subrecipient may request advance payment if necessary.

In the event that advance funds are needed, requests should be made at least one month prior to the anticipated need for the funds.

Invoices must follow the following format:

- The invoice must be on organization letterhead.
- Reference the contract number.
- Include date of invoice and period covered.
- List the total amount of expenses and match incurred during the invoice period by approved grant budget categories, as contained in the line item budget in Attachment 3.
- Indicate the amount of cumulative expenses and match from the beginning of the budget period and the balance still available. This information should also be listed by approved grant budget categories, as contained in the line item budget in Attachment 3.
- Include a general description of work performed or costs incurred.
- List the Project task that the requested amount applies to. If the requested remittance amount applies to two or more Project tasks, the invoice must list the amount that will be applied to each.
- Cash and in-kind matching funds should be listed separately, and the source of all match identified.
- Include organization name, mailing address for payment, and any cost codes that should be included on the check.
- Invoices must be signed by an authorized representative of the organization.

Submit invoices in PDF format to:

snepgrants@estuaries.org

Note: Variances among approved direct cost categories that cumulatively exceed 10% of the total award must be approved by RAE in advance in writing.

10. Financial Records: Subrecipient agrees to maintain accurate records of all costs incurred in the performance of this work, including matching funds, and agrees to allow Restore America’s Estuaries, EPA, and their duly authorized representatives reasonable access to their records to verify the validity of expenses reimbursed under this agreement. Subrecipient agrees to maintain financial records, supporting documents and other records pertaining to this agreement for a period of three (3) years from the termination date of this agreement.

To comply with federal regulations, Subrecipient agrees to maintain a financial management system that provides accurate, current and complete disclosure of the financial status of the subaward. This means the financial system must be capable of generating regular financial status reports which indicate the dollar amount allocated for the award (including any budget revisions), the amount obligated, and the amount expended for each activity. The system must permit the comparison of actual expenditures and revenues against budgeted amounts.

Accounting records must be supported by source documentation. Invoices, bills of lading, purchase vouchers, payrolls and the like must be secured and retained for three (3) years in order to show for what purpose funds were spent. Payments should not be made without invoices and vouchers physically in hand. All vouchers and invoices should be on vendors' letterheads.

All employees paid in whole or in part from funds provided under this agreement must prepare a time sheet indicating the hours worked for each pay period. Personnel activity reports (i.e. timesheets) reflect an after-the-fact determination of the actual activity of each employee charging time to the agreement and must reflect all time spent by an employee and be signed by the employee or a supervisor. “Timesheets” are required only for those employees charging time to the Project, and then must reflect all time spent by the employee.

Subrecipient should keep records, based on these time sheets and the hourly payroll costs for each employee, indicating the distribution of payroll charges.

Subrecipient must maintain in its records documentation of non-federal Project-related matching costs in the amount specified in the budget under Attachment 3. Subrecipient agrees to adhere to federal rules and guidelines governing documentation and acceptability of Project-related matching costs.

Matching Contributions, whether in the form of cash, goods and services, or property, must be:

- 1) Non-federal in nature (Federally appropriated or managed funds are ineligible.);
- 2) Utilized for work in support of the Project;
- 3) Expended within the timeframe of this contract; and,

4) Voluntary in nature (Funds presented for fulfillment of mitigation, restitution, or other permit or court-ordered settlements are not eligible.). Subrecipients must document and maintain all records of matching contributions.

11. Audits: RAE reserves the right to audit some or all of the Project costs, expenses, payments, etc., either formally or informally, as the Project proceeds and/or upon completion.

In the event that the Subrecipient's total expenditures under federal awards exceed \$750,000 in a fiscal year, an audit meeting the requirements of 2 CFR 200 is required. It is the Subrecipient's responsibility to contract for this audit and to submit a copy to RAE no later than thirteen months after the close of the fiscal year to which the audit pertains, for fiscal years that fall in whole or in part within the period of this agreement. If an audit discloses findings or recommendations, Subrecipient agrees to include with the audit report a corrective action plan containing the following:

- The name and number of the person responsible for the corrective action plan.
- Specific steps to be taken to comply with the recommendations.
- A timetable for performance and/or implementation dates for each recommendation.
- Descriptions of monitoring to be conducted to ensure implementation.

In the event that the Subrecipient completes any other routine or required audits during the period of this grant (for example, an annual independent audit), the Subrecipient will inform RAE of the availability of the audit within 30 days of completion, and will provide RAE with a copy of the audit *if requested by RAE*.

12. Allowable and Unallowable Costs: SNEP Watershed Grants are federal funds. Subrecipient agrees to follow federal regulations as put forth in 2 CFR 200 and applicable OMB Circulars in determining allowable costs under this agreement. Subrecipient agrees not to use funds provided under this agreement for any cost that is unallowable under these regulations. Reimbursement by RAE for any cost that is later determined to be unallowable does not constitute sanction by RAE for the unallowable use of these funds.

13. Indemnification: The Subrecipient agrees to indemnify RAE against all losses for expenses incurred by the Subrecipient that are, or are later held to be, unallowable. Reimbursement by RAE to the Subrecipient for such costs does not negate nor in any way nullify the Subrecipient's responsibility under this provision.

As the direct Recipient of funds under this Award, RAE is responsible for the management of the award and is ultimately responsible for ensuring compliance with all federal requirements. The Subrecipient will cooperate with RAE in achieving compliance with the specific terms and conditions of the award, as well as the other terms and conditions specified in this agreement.

14. Project Data and Results: Sharing of Project data and results, including environmental data and analysis, is a SNEP priority. All information collected and/or created under this grant/cooperative agreement will be made visible, accessible and independently understandable to users in a timely manner (typically no later than one (1) year after the data are collected or created) free of charge or at minimal cost that is no more than the cost of distribution to the user.

Project results will similarly be made available in a timely manner, typically via the final report described above and in Attachment 2.

15. Signatures

For Restore America's Estuaries

By:  _____
Jeff Benoit, President & CEO

Date: 9-4-18

For Cape Cod Commission (Barnstable County):

By:  _____
Name & Title: Leo Cakounes, Ron Beaty, Mary Pat Flynn,
Barnstable County Commissioners

Date: 09/12/18

Attachments

- Attachment 1: Progress Report Requirements
- Attachment 2: Final Report Requirements
- Attachment 3: Project workplan and budget.



2018 SNEP WATERSHED GRANTS Subrecipient Agreement

Attachment 1: Progress Report Requirements

General Instructions

The Progress Report consists of:

1. Cover Information;
2. Project Report Narrative;
3. Project Budget Report;
4. Supporting Materials;
5. Certification.

Progress reports shall be completed and returned within one month of the end of a reporting period, using the following calendar:

Report	Period Covered	Due Date
Progress #1	Sep. 1, 2018 – Dec. 31, 2018	Jan. 31, 2019
Progress #2	Jan. 1, 2019 – Jun. 30, 2019	Jul. 31, 2019
Progress #3	Jul. 1, 2019 – Dec. 31, 2019	Jan. 31, 2020
Progress #4	Jan. 1, 2020 – Jun. 30, 2020	Jul. 31, 2020
Final Report	Entire Project period (completion no later than Aug. 31, 2020)	30 days following completion of Project and no later than Sept. 30, 2020.

If there was no Project activity during the period, a report should still be filed, explaining why there was no activity. Please use the template attached to these instructions to complete the progress report. The report should be submitted via email in PDF format to:

snepgrants@estuaries.org

The form may be signed electronically.

The following pages provide a template and instructions for progress reports. Use this format.

(Attach. 1 Cont'd)

**SNEP Watershed Grants
Progress Report Template**
Annotated with Instructions

1. Cover Information

Date

Project Name

Contract Number (SNEPWG18-###)

Grant Period (for entire Project)

Grantee Organization

Report Contact Person, with telephone & email

Project Leader (if different)

Reporting Period

Report Type and Number (e.g., Progress #2)

2. Project Report Narrative

Summarize the Project activities undertaken during the current reporting period within the following headings, building upon the narrative from previous reports, if any.

2.A. Results & Progress to Date

Describe in sufficient detail the goals of the Project, and the progress and results achieved during the current reporting period, building on the narrative from previous reports, if any. Report accomplishments or setbacks on specific tasks as described in the scope of work, Attachment 3. This should include information such as:

- problems that the Project is addressing;
- short and long term objectives, and how they are being or have been met;
- relevance of the Project to restoring and protecting coastal and watershed ecosystems in the Southeast New England Region;
- activities carried out in this reporting period, including specific techniques and materials used;
- deliverables or milestones completed or partially completed during the reporting period (if partially completed, describe current status, percentage completion, etc.);
- findings to date or lessons learned during this reporting period;

- challenges or potential roadblocks to future progress (Note: If you have immediate concerns about the Project, please contact RAE to discuss the issue as soon as possible.)

2.B. Work Remaining Under Current Contract

Describe in sufficient detail the activities remaining and next steps to be completed under the current contract. Provide an updated timeline of major Project tasks, as applicable.

2.C. Compliance

Describe the status of Quality Assurance Project Plan (QAPP) completion, submittal and approval. List any permits required for the Project, and their status (e.g., not yet applied for, submitted and under review, approved on [date], etc.).

2.D. Project Partners

List major Project partners, and briefly note their contributions.

2.E. Volunteer and Community Involvement

Describe community support and any public involvement in the Project, including the specific roles of volunteers in Project activities. List the number of volunteers and hours that were contributed during this period. If volunteer time is being used as match, report this in the budget section, described below.

2.F. Outreach & Communications

Describe any outreach or educational activities (e.g. training, brochures, videos, press releases or public events) related to the Project. **Include PDF copies of press releases, outreach documents, newspaper articles, etc. as described under “Supporting Materials,” below.**

3. Project Budget Report

The budget report must provide sufficient information and detail to explain Project expenses, for the reporting period *and* cumulative-to-date, in the context of the objectives, tasks, and categories provided in the Project narrative and budget under Attachment 3. The budget report should be organized so that a reviewer can easily judge whether expenditures to date for the Project are tracking well with progress toward objectives and, if not, to understand why.

3.A. Summary Budget Table

Provide a summary budget table to show overall expenditures and match during the reporting period and cumulative-to-date, using the following format. Be sure to fully document match and match sources.

Summary Budget Table

	Budget Category	Total Budgeted Funds	Total Budgeted Match	Grant Funds Expended this period	Grant Funds Expended Cumulative	Match Funds Expended this period	Match Funds Expended Cumulative	Match Source
a	Personnel							
b	Fringe							
c	Travel							
d	Equipment							
e	Supplies							
f	Contractual							
g	Other							
h	Total Direct							
i	Indirect							
j	Total							

3.B. Detailed Project Budget Table

The centerpiece of the Project budget report is a budget table or tables utilizing the same cost categories and level of detail as the Project budget under Attachment 3. Report expenditures by category and, if applicable, task. Where a category is very broad, provide sufficient breakdown detail – for example, where “personnel” covers a number of individuals, show expenses for each individual; under “subcontracts” show expenses for each subcontract, etc. The table need only describe expenditures during the reporting period, rather than cumulatively. Add additional tables if need be to provide sufficient detail, or to summarize costs by task. **Where additional tables are used, ensure that the reviewer can easily understand how they relate to one another and the summary budget table.**

3.C. Budget Narrative

Use a budget narrative, keyed to the budget tables where necessary, to provide sufficient detail on expenditures and match. The budget narrative in the report may follow the format of the budget narrative in the Project budget under Attachment 3. Be sure to explain any deviations from the approved budget. The Subrecipient Agreement details requirements for prior approval for changes to Project budgets.

4. Supporting Materials

Include high-resolution digital copies, using PDF format for documents and JPG or TIFF format for images, of supporting materials related to the Project, including:

- Project maps and drawings;
- Technical memoranda, data analyses and modeling reports;
- Project photographs, including photos depicting implementation sites before, during, and after implementation; photos of Project signs, etc.;
- Press releases, news articles, brochures, educational curricula, etc.

In the event that file sizes for supporting materials are too large to attach, contact RAE to set up a shared cloud file.

5. Certification

Include this language: *The undersigned verifies that the descriptions of activities and expenditures in this progress report are accurate to the best of my knowledge; and that the activities were conducted in agreement with the grant contract. I also understand that matching fund levels established in the grant contract must be met.*

Grantee Signature:

Name:

Job Title

Date:

Organization:



2018 SNEP WATERSHED GRANTS Subrecipient Agreement

Attachment 2: Final Report Requirements

General Instructions

The Project final report follows the same format as interim progress reports, with several important differences:

- The final report covers the Project from beginning to end, describing the entire course of the Project, and presenting all expenditures and results;
- It includes lessons learned from the vantage point of the completed Project;
- It provides greater detail on both process and outcomes; and
- It includes an executive summary written for a general or general professional audience (more on this below).

The Final Report consists of:

0. Executive Summary;
1. Cover Information;
2. Project Report Narrative;
3. Project Budget Report;
4. Supporting Materials;
5. Certification.

The Final Report covers the entire Project period (completion no later than Aug. 31, 2020) and must be submitted within 30 days following completion of the Project (no later than Sept. 30, 2020.)

The report should be submitted via email in PDF format to:

snepgrants@estuaries.org

The form may be signed electronically.

The following pages provide a template and instructions for final reports. Use this format.

(Attach. 2 Cont'd)

**SNEP Watershed Grants
Final Report Template**
Annotated with Instructions

O. Executive Summary

The executive summary (ES) is most easily completed after the rest of the final report has been written; however, it is an essential component of the report and should not be treated as an afterthought. Communication, collaboration, learning and technology transfer are fundamental to the mission of the Southeast New England Program (SNEP). The executive summary will be a principal means by which outcomes of the Project are communicated; therefore, it should adhere to the following guidelines:

- The executive summary should be written and formatted so it can be used as a stand-alone report. It should make sense to a reader with no prior knowledge of the Project, and should be fully understandable independent of the rest of the final report or any other Project information or documentation.
- Follow the format and utilize the headings for the full final report (listed below), providing complete information on the Project, including a summary of costs and match.
- The ES should include its own title or cover page so that it can be easily separated from the rest of the report. This may be a general, illustrated cover for the entire report that doubles as a cover for the ES.
- Consider your audience. You may choose to write for a general audience – for example, all adult residents of a particular municipality. Or, you may gear the ES toward a more professional audience – for example, water resources managers throughout the SNEP region. In every case, however, it should be written for a broader audience than simply the Project team and grant managers. If it is written for a more technical audience, it should still be written in such a way that an informed general reader – for example, a newspaper reporter – can make sense of it. If you use acronyms or technical terms, for example, provide a glossary if need be to define them.
- Communicate the story of the Project. The reader should understand, not just what you did, but why you did it – why it is important, and how it will positively affect ecosystems and communities in Southeast New England. If it pertains to a specific resource, thoroughly describe its impact on that resource, and also explain its broader impact. For example, for a Project that restores water quality, the ES should describe the specific parameters of that restoration, but should also discuss the importance of the improvement to the community, such as beach use, shellfishing or the local tourism economy, and describe the area (watershed, estuary, community, etc.) affected by the work.

- Use images to help tell that story. The ES should include the best and most informative maps, photos or other images from among the supplemental materials (Section 4, below). At the very least, the ES should include a map of the Project area and some high-resolution photos of the Project area, community meetings, construction work if any, researchers performing sampling, etc. The ES should include enough images to convey the outcomes of the Project while maintaining an easily readable summary and convenient digital file size.
- Include an overview of Project costs and match. Describe volunteer participation.
- In general, the ES should be about 3-5 pages of text, and 5-10 pages complete with images.
- The ES must prominently acknowledge SNEP support of the Project. Suggested language for this acknowledgement is provided in the subrecipient agreement.

1. Cover Information

The cover information for the final report is identical to that for a progress report, except that the reporting period is the entire (actual) grant period, as follows:

Project Name
 Contract Number (SNEPWG18-###)
 Grant and Reporting Period (actual, completed)

Grantee Organization
 Report Contact Person, with telephone & email
 Project Leader (if different)

Report Type: Final

2. Project Report Narrative

Summarize the Project activities undertaken during the course of the Project. Unlike progress reports, the final report *does not* build upon the narrative from previous reports, but should be a stand-alone report, describing the Project from beginning to end.

2.A. Project Results

Describe in sufficient detail the goals of the Project, and the progress and results achieved over the course of the Project. Report accomplishments or setbacks on specific tasks as described in the scope of work, Attachment 3. This should include information such as:

- problems that the Project addressed;
- short and long term objectives, and how they are being or have been met;
- relevance of the Project to restoring and protecting coastal and watershed ecosystems in the Southeast New England Region;
- geographic area(s) affected by the Project;

- activities carried out to complete the Project, including specific techniques and materials used;
- deliverables or milestones completed;
- findings to date or lessons learned during this reporting period;
- changes made to the Project plan over the course of the Project, why they were made and how they worked out;
- next steps for future progress;
- challenges for future progress.

2.C. Compliance

List or summarize any compliance activities completed – Quality Assurance Project Plan (QAPP), permits, etc.

2.D. Project Partners

List major Project partners, and note their contributions in detail.

2.E. Volunteer and Community Involvement

Describe community support and any public involvement in the Project, including the specific roles of volunteers in Project activities. List the number of volunteers and hours that were contributed during the Project. If used as match, report the match figures under the budget section described below.

2.F. Outreach & Communications

Describe any outreach or educational activities (e.g. training, brochures, videos, press releases or public events) related to the Project. **Include PDF copies of press releases, outreach documents, newspaper articles, etc. as described under “Supporting Materials,” below.**

3. Project Budget Report

The budget report must provide sufficient information and detail to explain Project expenses for the entire Project, in the context of the objectives, tasks, and categories provided in the Project narrative and budget under Attachment 3. The budget report should be organized so that a reviewer can easily judge whether expenditures tracked the original Project budget and, if not, to understand why.

3.A. Summary Budget Table

Provide a summary budget table to show overall expenditures and match over the course of the entire Project, using the following format. Be sure to fully document match and match sources.

Summary Budget Table

	Budget Category	Total Budgeted Funds	Total Budgeted Match	Total Budgeted Grant + Match	Actual Grant Funds Expended	Actual Match Funds Expended	Actual Expended Grant + Match	Match Source
a	Personnel							
b	Fringe							
c	Travel							
d	Equipment							
e	Supplies							
f	Contractual							
g	Other							
h	Total Direct							
i	Indirect							
j	Total							

3.B. Detailed Project Budget Table

As with progress reports, the centerpiece of the final budget report is a budget table or tables utilizing the same cost categories and level of detail as the Project budget under Attachment 3. Report expenditures by category and, if applicable, task. Where a category is very broad, provide sufficient breakdown detail – for example, where “personnel” covers a number of individuals, show expenses for each individual; under “subcontracts” show expenses for each subcontract, etc. This table will report expenditures over the course of the entire Project. Add additional tables if need be to provide sufficient detail, or to summarize costs by task. **Where additional tables are used, ensure that the reviewer can easily understand how they relate to one another and the summary budget table.**

3.C. Budget Narrative

Use a budget narrative, keyed to the budget tables where necessary, to provide sufficient detail on expenditures and match. The budget narrative in the report may follow the format of the budget narrative in the Project budget under Attachment 3. Be sure to explain any deviations from the approved budget. The Subrecipient Agreement details requirements for prior approval for changes to Project budgets.

4. Supporting Materials

Include high-resolution digital copies, using PDF format for documents and JPG or TIFF format for images, of supporting materials related to the Project, including:

- Project maps and drawings;
- Maps of Project results or outcomes if applicable;
- Technical memoranda, data analyses and modeling reports;
- Project photographs, including photos depicting implementation sites before, during, and after implementation; photos of Project signs, etc.;
- Press releases, news articles, brochures, educational curricula, etc.

In the event that file sizes for supporting materials are too large to attach, contact RAE to set up a shared cloud file.

5. Certification

Include this language: *The undersigned verifies that the descriptions of activities and expenditures in this final report are accurate to the best of my knowledge; and that the activities were conducted in agreement with the grant contract. I also understand that matching fund levels established in the grant contract must be met.*

Grantee Signature:

Name:

Job Title

Date:

Organization:

Attach. 3

3225 MAIN STREET • P.O. BOX 226
BARNSTABLE, MASSACHUSETTS 02630



CAPE COD
COMMISSION

(508) 362-3828 • Fax (508) 362-3136 • www.capecodcommission.org

August 29, 2018

The following details our proposed project, partner organizations, and project costs.

Project Title: Regional Collection and Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making

Location of Project: Cape Cod, Massachusetts

Applicant: Cape Cod Commission (Barnstable County)
3225 Main Street
Barnstable, MA 02630

Nature of Organization: Regional Planning Agency, Department of Barnstable County

Project Lead/Point of Contact: Erin Perry, Special Projects Manager
eperry@capecodcommission.org
508-744-1236

Partner Organizations: Association to Preserve Cape Cod
Center for Coastal Studies
UMass Dartmouth School for Marine Science and Technology
Waquoit Bay National Estuarine Research Reserve
Woods Hole Oceanographic Institution

Total Request: \$399,998
Total Non-Federal Match: \$145,665
Total Project Cost: \$545,663
Match Percentage: 36.42%

We look forward to the opportunity to complete the proposed work.

Sincerely,

Kristy Senatori
Executive Director

PROJECT NARRATIVE

Problem Statement: Cape Cod's 53 coastal embayments, nearly 1,000 ponds, and sole source aquifer are ecologically rich and extremely fragile (see project area map in attachment A). Human activity and land use – primarily nutrient pollution from septic systems – have significantly degraded estuarine and freshwater quality. Cape Cod communities struggling to find cost-effective strategies to reduce nitrogen can turn to the Area Wide Water Quality Management Plan for Cape Cod (208 Plan), recently updated by the Cape Cod Commission (Commission). Although the 208 Plan focuses on nitrogen as the major target for improving water quality in estuaries, phosphorus loading to freshwater ponds and streams must be targeted for pollution control measures. The 208 Plan provides a framework of traditional and non-traditional strategies for estuarine and freshwater quality improvement.

Towns are responsible for implementing strategies to reduce nutrients. In many areas across the region development density is not adequate to support cost-effective traditional collection and treatment of wastewater; therefore, towns are relying on the 208 Plan framework as a pathway for non-traditional strategies. Performance of these strategies is less certain, and implementation relies heavily on adaptive management. In addition to nutrients from septic systems, stormwater runoff is also a concern – one that all Cape Cod communities within the Southeast New England Program region are required to address through Municipal Separate Storm Sewer System (MS4) permits.

The 208 Plan's efficacy as a framework for local water quality management depends on the ability to ground-truth and record if strategies enacted in the field are effective and if the environment is responding with water quality improvements. Towns must revisit implementation plans periodically, as required as a condition of consistency with the 208 Plan and MS4 permits, and to maintain compliance with Watershed Permits issued by the Massachusetts Department of Environmental Protection. In most cases, towns must revisit plans at least every five years, and adjust their approaches as necessary. Towns, Barnstable County and partner organizations are collecting data annually and as nutrient management alternatives are implemented. Data analyses are needed to evaluate and determine success – or failure – of approaches.

This proposal seeks support to improve recording, management and translation of monitoring data, so towns better understand if management strategies are successful. It includes new methods for data analysis, evaluation, reporting, and translation to improve understanding of water quality trends and better integrate results into local planning and policy development, creating a path forward for the provision of data and information that will serve the 15 Cape Cod communities and the region well into the future.

Project Description: The Commission has developed a regional water quality database to centralize water quality data historically collected by multiple organizations and agencies. The project team proposes to enhance this framework by integrating additional data and adding tools to ensure data accuracy and assess nutrient mitigation strategies. Funding will help develop a user-friendly interface that analyzes estuarine monitoring data for each estuary with an existing long-term dataset. One watershed will be selected to pilot the interface in order to demonstrate and assess its effectiveness as a decision-support tool. In addition, the project team will compile and analyze existing data associated with freshwater resources, including ponds, lakes, and drinking water; and develop information products to improve understanding of the interconnection of all water resources to Cape Cod's Sole Source Aquifer. Together, these improvements will create a feedback-loop so that the effect of nutrient reduction strategies on a resource can be understood, captured, and used in real-time strategic decisions for nutrient reduction. Recognizing the importance of clean water and supporting all aspects of the environment on Cape Cod, information compiled and analyzed as part of this project will also be made more widely available through a variety of outreach initiatives.

A key feature of this program is that data analysis will provide a measure of the health of the water body and watershed to guide investment in nutrient reduction strategies. Another feature of this program is its

collaborative approach to water resources data aggregation, providing a platform that makes it possible for towns to have a comprehensive picture of the benefits of their investments across all gradients of the watershed. End user engagement is woven into each proposed task ensuring that the products provided at the end of the project will be easily applied and readily utilized by the research and management communities on Cape Cod. The goal is to provide towns with the best available science-based information, so investments in nutrient reduction and groundwater protection have the best possible effect on resources. This goal will be reached through the expertise of the project team, End User Group established as part of the project, and the State of the Waters: Cape Cod Advisory Committee established by the Association to Preserve Cape Cod (APCC). The project team includes experts in water resources, database management, data collection and analysis, collaboration and outreach and project management. The proposed work will be achieved through the following project tasks:

- Task 1: Data integration, quality assurance and control
- Task 2: Collaboration with end users and pilot project
- Task 3: Data analysis and development of a processing script
- Task 4: Integration with web-based user interface and other information products
- Task 5: Targeted outreach to inform local action
- Task 6: Final report

Task 1: Data integration, quality assurance and control

Water quality data as available through project partners and collaborators from all regions of Cape Cod, including estuarine and freshwater environments, will be inventoried and entered into the regional database. The Commission maintains data in an SQL database and will work with project partners to expand the existing database, as needed.

Estuarine Data: Commission staff will work with partner monitoring organizations to compile estuarine water quality data not currently in the regional database. The original effort to compile and integrate data into the database occurred in 2016 and included development of the database infrastructure, identification of data fields and compilation of historical data through 2015. The database will be updated to include all available data through to the present time. The monitoring organizations contributing data include the Center for Coastal Studies (CCS), Buzzards Bay Coalition (BBC), University of Massachusetts Dartmouth School for Marine Science and Technology (SMAST), and the Waquoit Bay National Estuarine Research Reserve (WBNERR). Data collection for these water quality monitoring programs began in 2006, 1992, 1987, and 1993, respectively.

To take advantage of all available long-term monitoring data, while also establishing quality control standards, any historic data generated before or without an approved Quality Assurance Project Plan (QAPP) will be flagged accordingly in the database as part of the quality assurance and quality control (QA/QC) process. Metadata will accompany the database, as well as any final reports acknowledging the use and confidence level of non-QAPP approved data. Three of the four contributing monitoring organizations (CCS, BBC, SMAST) hold current EPA-approved QAPPs. While BBC is not an official partner on this project, they have provided data for use in the database and agree to continue doing so. WBNERR will develop a QAPP in the first year of this proposed project. WBNERR currently sends samples to CCS and SMAST for nutrient analyses under two different water quality monitoring programs; therefore, those nutrient data are covered under approved QAPPs. WBNERR also maintains long-term data (1998 – present) collected using automatic YSI loggers (i.e., sondes) as part of the NOAA National Estuarine Research Reserve System-Wide Monitoring Program (SWMP), but the standard operating procedures for this program are not covered under previously approved QAPPs.

By developing a comprehensive QAPP for WBNERR, records with high (15-minute) temporal resolution of temperature, salinity, pH, dissolved oxygen, turbidity, and chlorophyll *a* fluorescence can be incorporated into the regional database and used in correlation with nutrient dynamics to model changes. The QAPP will strengthen WBNERR's data collection process and enhance its ability to share

and integrate data across private and academic institutions and state and federal agencies. This increased capacity for standardized data sharing is significant for this project but also for future collaborations.

Freshwater Data: Extensive data is available on the quality of Cape Cod's freshwater resources. APCC staff, working with the project team and trained volunteers, will identify and compile freshwater quality data to suitable standards, including state and federal Clean Water Act standards for surface waters and drinking water. An inventory of data will be developed to ensure data sources can be tracked and recorded. Data will be maintained in the regional database.

Data sources will be identified by the project team, guided by standards set by the State of the Waters Advisory Committee to ensure evaluation of all important and credible sources. Data will be compiled for lakes, rivers, public drinking water supplies, and groundwater. This effort will leverage the existing water resources data compiled and maintained by each project partner and will evaluate and compile appropriate data from other sources as an initial step in the project. Data utilized will include, but not be limited to, the 17 years of data collected by the Pond and Lake Stewardship (PALS) Program, as well as data collected from detailed pond assessments and water use and drinking water quality data from the 17 individual water purveyors on Cape Cod, all of which has been compiled by Commission staff.

The Commission and project partners will work with a consultant to develop a QAPP for pond and lake data. In the past, the Massachusetts Department of Environmental Protection (DEP) has declined to accept the existing PALS data for use in identifying and listing impaired waters. As with estuarine data, any historic data generated before or without an approved QAPP will be flagged accordingly and metadata will accompany the database.

Database Quality Assurance and Quality Control (QA/QC): A system for identifying potential errors in source data and/or inconsistencies in database formatting will be established.

The Commission and project partners will work with a consultant to complete the following tasks: 1) develop and agree upon a set of "filter rules" for both historic and future water quality data sets to identify potential errors in the source data; 2) implement a system for performing QA/QC on historical data sets and new data sets, as provided; 3) identify and address database formatting inconsistencies, such as inconsistent station IDs, that impact importing data sets and searchability of the database

As previously described, data not covered by a previously approved QAPP will be flagged accordingly and metadata accompanying the database, as well as final reports, will acknowledge the confidence level of non-QAPP approved data.

Task 1 Outputs: 1) Inventory of water quality data, including sources, parameters and dates; 2) Identification of data gaps; 3) Complete, up-to-date regional estuarine and freshwater quality databases; 4) WBNERR QAPP; 5) Ponds QAPP

Task 2: Collaboration with end users

The goal of this project is to make information more accessible and useable by towns and the region, all of whom are working to meet a regional goal of improving the quality of water resources. Social science research shows that to increase the likelihood of science and data being applied, managers and decision-makers must understand the science and find it to be legitimate and credible (Cash et al. 2003). To enhance the likelihood that data and products from this project are used and trusted, the project team intends to create deliberate processes that engage end users (those in a position to apply the project deliverables), ensuring they understand the data and that data products and analyses meet their information needs.

To this end we have designed a collaborative end user engagement process to enable this project to bridge the science to management divide and achieve desired outcomes. The project approach includes

integrating defined steps that will link the technical aspects of data collection and analysis to development of decision-support tools that meet end user needs and are able to help guide management decisions. The collaborative process is designed to be iterative and end user driven and builds in meaningful and deliberate opportunities for regional and local decision-makers to contribute to project outcomes. End user collaboration will be integrated in every aspect of the project, initiated at the beginning and sustained to the end. Utilizing this collaborative approach will set up the project for greater success by strengthening partner relationships as well as data sharing mechanisms that will continue beyond the life of the project. The impact of the collaboration process will also be evaluated as part of our project activities.

Key end users fall into four main groups: 1) water quality managers, regulators and policymakers who will draw on information and decision-support tools created from this effort to inform their work and management decisions, 2) water quality monitoring organizations who collect, analyze and contribute data to the regional database, 3) decision-makers from one watershed who will work with the project team to pilot test applying information to their local management needs and interests, and 4) researchers who can use information from the regional database as a platform for supporting local studies on the effectiveness of water quality approaches applied in the Cape Cod setting.

The seven groups of end users identified include: 1) The Cape Cod Water Protection Collaborative (CCWPC), which includes representatives from all fifteen Cape Cod towns and two County representatives. The mission of this body is to protect Cape Cod's shared water resources by promoting and supporting the coordinated, cost-effective and environmentally sound development and implementation of local water quality initiatives; 2) The Cape Cod Commission; 3) DEP; 4) The Environmental Protection Agency (EPA); 5) Monitoring organizations – CCS, APCC, WBNERR, BBC, pond associations; 6) Water quality committees, water resource managers and local officials from one pilot watershed; 7) Researchers (SMASST).

Engagement with end users will be structured and facilitated by a trained engagement specialist from WBNERR. Facilitators will ensure that open and regular communication is established and sustained with end users over the course of the project. The collaborative process has been broken into five objectives:

Collaboration Objective 1: Establish an End User Group to provide guidance to the project team and help make key decisions on different aspects of work products.

Process: The End User Group will be established at the beginning of the project and will be comprised of the membership of the Cape Cod Water Protection Collaborative and one designated representative from each of the other end user groups, including the project team organizations. The End User Group will meet on a quarterly basis. Meeting will be structured and professionally facilitated.

Anticipated Outcomes: Strengthened relationships among project partners, monitoring organizations, and end users, which is essential for increasing project impact and achievement of objectives.

Collaboration Objective 2: Work with water quality monitoring organizations to discuss database interface, data needs, reporting procedures, data QA/QC protocols, and all related processes necessary to establish a database that is as complete as possible and trusted by partners.

Process: The project team will hold a workshop soon after project start-up to bring key monitoring groups together to discuss all aspects of database set-up and use including data access, delivery, archiving, and quality control, as well as individual agency roles necessary to sustain the effort beyond the life of the project.

Anticipated Outcomes: Clear list of action items and responsible parties to strengthen database refinement and roll-out.

Collaboration Objective 3: Work with the End User Group to identify priority water quality information needs that can be addressed by accessing data from the regional database, as well as desired data outputs.

Process: Through facilitated meetings, WBNERR will work with end users to identify the key types of information and data outputs decision-makers need. Feedback will be summarized and shared with the project team. This feedback will be used to guide Task 3 and development of a data analysis processing script.

Anticipated Outcomes: Prioritized list of data analyses and desired outputs, as well as a list of data gaps.

Collaboration Objective 4: Work with pilot watershed group to conduct further analyses, interpret and translate results, and identify opportunities for applying data within the watershed to help inform water quality management decisions.

Process: Drawing on a review of available data by watershed, as well as the data needed to effectively run the processing script, the project team will select a pilot watershed. This decision will be made as part of the project implementation process and with consideration to areas where use of the regional database and processing script may be illustrated most effectively. This will inform lessons learned and serve as a template for other watersheds. Two meetings with key decision-makers within the pilot watershed, as well as database developers and technical data experts will take place. The purpose of these meetings will be to unpack and illustrate how municipalities can apply project outputs to decision-making, as part of local planning and management efforts. Where and how analyses can help decision-makers evaluate implementation of local water quality plans will be a focus of these deliberations. After the pilot process has been completed WBNERR will convene a regional workshop to share results of what was learned and transfer lessons to decision-makers in other watersheds on Cape Cod. Lessons and results from the process will be captured in the final project report.

Anticipated Outcomes: Decision-makers from pilot watershed receive analyzed and interpreted watershed specific data to inform management efforts. Decision-makers understand, trust and can apply the project outputs.

Collaboration Objective 5: Work with monitoring organizations and selected researchers from the pilot watershed to identify monitoring and research gaps. This is essential to create a feedback loop that allows the project team to identify how the regional database can be used to help improve monitoring.

Process: Given the range of approaches being considered across the region to help improve water quality, it is critical that a component of this project is geared toward better understanding outstanding monitoring needs. A workshop will be held to identify (i) if and where monitoring should/can be enhanced or streamlined, (ii) if previously uncollected parameters are needed to capture key trends, (iii) gaps in current monitoring efforts and resources needed to meet these gaps, (iv) opportunities where monitoring groups can work together more effectively to achieve shared goals and strengthen the regional database.

Anticipated Outcome: Recommendations developed to help guide future monitoring efforts. Identification of key research needs that is shared with regional research entities.

Task 2 Outputs: 1) Guidance on database QA/QC; 2) List of priority data outputs for Task 3; 3) Final report for one pilot watershed; 4) Key recommendations to guide future monitoring efforts; 4) List of key research needs to help inform local management efforts

Task 3: Data analysis and development of a processing script

As previously described and as will be further developed and defined by the collaborative process, data analysis tools summarizing water quality data into metrics that are easy to digest, and representative of trends and patterns are needed. Information is needed at spatial scales ranging from the sampling station to the watershed to the region. In response to this regional management need the project team will analyze spatial and temporal trends in water quality across the coastal and fresh waters of Cape Cod.

Location-specific water quality monitoring is necessary to identify problems and develop and evaluate management solutions because underlying drivers of declining water quality may be dramatically different from one watershed to another. Broader spatial and temporal scale analyses are often not available when water quality monitoring focuses on a single watershed or water body. The project team plans to utilize the regional database to generate a region-wide dataset, which will be critical to understanding both local and broader scale patterns in water quality and climate indicators. For example: water quality, indicated by chlorophyll *a* pigments, has declined across Buzzards Bay and other Cape Cod coastal embayments over the past several decades. The decline in water quality observed across Buzzards Bay is more consistent with regional climate warming, rather than trends in nutrient loading or nitrogen concentration (Rheuban et al. 2016, Williamson et al. 2017). Using this database, the following question can be answered: do our observations in Buzzards Bay represent a similar pattern across the all the coastal and fresh waters of Cape Cod?

Woods Hole Oceanographic Institution (WHOI) will develop a processing script for data trend analyses. Detailed data analyses will allow end users to discern if implemented mitigation strategies are effective or if other factors beyond traditional management tools have impacted local and regional water quality. The proposed work will make data analysis accessible to local stakeholders by combining modern, open source data analytics toolboxes with web-based dashboards and GIS. The data analysis will be designed such that metrics will be generated upon request at user-defined spatial and temporal scales. Data analyses will utilize QA/QC protocols and will have the ability to integrate new data into analyses as the database is updated, providing long-term benefit to end users beyond the period of the grant.

In conjunction with the collaborative process, the project team will generate a detailed interpretation of historical water quality data for one pilot watershed. This detailed interpretation will also include an analysis of nitrogen loading history based on published nitrogen loading models. Project partners at WHOI completed a nitrogen loading trend analysis of 28 embayments within the Buzzards Bay watershed (Williamson et al. 2017) and propose a similar analysis for the detailed interpretation of a chosen embayment. Data needs for the historical nitrogen loading trend analysis, such as land use and MA level III assessors' data, have already been compiled by project partners. This historical nitrogen loading trend analysis will allow us to compare nutrient input trends with water quality trends and will provide a framework of analyses for other regional watersheds.

APCC staff will analyze and compare freshwater quality data to suitable water quality standards, including state and federal Clean Water Act standards for surface waters and drinking water. Work will take advantage of existing resources, such as the Cape Cod Pond and Lake Atlas, which includes freshwater standards for evaluating pond water quality that consultants have been using for most detailed pond studies since 2003.

All analyses will be used in development of water resources report cards and the “State of the Waters: Cape Cod” report, which will grade and characterize water resources (described as part of task 4).

Task 3 Outputs: 1) Complete and annotated processing script for estuarine data analyses; 2) Data trend analyses for currently available estuarine and freshwater data sets; 3) Data interpretation for one pilot watershed; 4) Evaluation of current water quality relative to known standards (ex. nitrogen TMDLs); 5) Comparison of water quality across regions to identify trends and commonalities; 6) Summary of results and needs assessment.

Task 4: Integration with web-based user interface and other information products

Data and analyses will be made available through a web-based user interface, water resources report cards, the “State of the Waters: Cape Cod” annual reports, and other information products.

The processing script will be integrated into the regional database and website user interface. Commission staff will review the data processing script developed by WHOI, work with WHOI staff to integrate the script into an SQL procedure, and verify script functionality through testing of the procedure. Commission staff will edit existing SQL tables or create new tables for processed data from the SQL procedure to interface with the web-based interface.

Estuarine data analyses that result from the processing script and that are consistent with the end user needs established in task 2 will be displayed on the regional database website. To ensure ease of access and use, Commission staff will work with project partners and the End User Group to assess the suitability of the current web interface. Charts and visuals will be edited and/or created, as needed, to display appropriate analyses.

Estuarine and freshwater data analyses will be used to develop the “State of the Waters: Cape Cod” report, which will be an organized compilation of report cards. All data and analyses from task 3 will be integrated into water resources report cards that characterize issues and form the basis of the report. APCC will characterize water resources based on analyses completed. Report cards will describe and grade watersheds, ponds and lakes, drinking water, coastal waters, and groundwater on Cape Cod.

To develop report cards, APCC will use a methodology that has been used effectively to raise public awareness and promote action in areas such as California, Florida, Maine, New Hampshire, New York, Oregon, Texas, Washington, the Great Lakes, Chesapeake Bay, U.S. waters and internationally. In Massachusetts, report cards have highlighted water quality problems and improvements in at least five water bodies, including the Blackstone River, Charles River, Mystic River, Buzzards Bay, and Taunton River. Report cards were also used to highlight beach water quality issues at 15 public beaches in metropolitan Boston. A list of the report cards referenced can be found in attachment B.

Aside from Buzzards Bay communities, Cape Cod does not have any water resources report cards to help the public and decision makers understand problems and encourage action. Most report cards assign a letter grade using defined criteria and sometimes the grade is combined with a color scale to indicate degree of severity. The result is powerful, graphic, and easy to comprehend.

The “State of the Waters: Cape Cod” Report will integrate the report cards and be easily understood by the general public yet developed with sufficient rigor to be accepted by experts and regulators. The report will be publicly available through digital and conventional media and will become a regular and prominent feature released at the APCC annual meetings and promoted in other venues. In subsequent years, the report will be updated to reflect the latest data.

The report will be used as an educational resource, but also to identify themes and issues and inform better public policy regarding the improvement and preservation of Cape Cod’s water resources.

Task 4 Outputs: 1) Updated web-based user interface to display and make publicly accessible all data and analyses; 2) Water resources report cards that provide letter grades for water quality of lakes, rivers, estuaries and coastal waters, groundwater, drinking water and watersheds; 3) “State of the Waters: Cape Cod” Report

Task 5: Targeted Outreach to Inform Local Action

Results will be delivered and translated to local-decision-makers best positioned to apply and integrate findings into local planning and management.

In addition to the workshops and meetings identified above, WBNERR will conduct two additional workshops to share results from this work with the full End User Group, other regional decision-makers, and the public. The purpose of these workshops is to share results of data analysis and information products with those who need the information to make decisions. Depending on timing and feedback from the End User Group and project team, these workshops may be stand alone or combined and/or coordinated with other long standing regional outreach events that are well known and well attended. Three of these include the One Cape Summit (led by the Commission), the Cape Coastal Conference (led by WBNERR and several partner organizations and agencies) and the APCC Annual Meeting. Linking the project outreach and communication plan with these established regional events will help to strengthen overall impact and enhance cohesiveness.

Annual Meetings: APCC will release the “State of the Waters: Cape Cod” Report at its annual meeting, in August/September of each year. Most meetings draw approximately 150 people. The Commission will showcase this project at the OneCape Summit, which focuses on both the environment and the economy, but was originally established to address progress on water quality improvement. The Summit attracts between 200 and 300 attendees each year. The annual Cape Coastal Conference will also be an opportunity for the distribution of project information. It typically draws between 300 and 400 attendees. This established pattern of annual regional events will help draw attention to the project and set the stage for utilizing project outputs to inform restoration and protection of water resources over the long term.

Social media: APCC will design and implement a social media campaign that will publicize the “State of the Waters: Cape Cod” Report. Planned work includes: 1) a blog with short articles and photos about water quality, natural history information on marine and freshwater systems, and best management practices for protecting water resources. 2) social media posts related to water quality and relaying specific information on issues and events to generate interest in this project.

During the first year of the project, the project team will establish a schedule for targeted outreach that takes into consideration annual meeting dates that are not known at the time of this submission.

Task 5 Outputs: 1) Presentation of project results and resources and additional engagement with end users at regional outreach events, including, but not limited to the OneCape Summit, Cape Cod Coastal Conference and the APCC Annual Meeting; 2) Social media posts to share information about the project and project outputs

Task 6: Final Report

The project team will provide a final report that summarizes the data collected, the collaborative process and key outputs and outcomes of the process, data analyses, and information products.

The final report will be available through the Commission’s website and partner websites. Information in the report will be shared at existing regional outreach events, as described in task 5, and sections of the final report will be shared individually. For example, water resources report cards and the “State of the Waters” Cape Cod report will be issued annually and serve as standalone documents. The watershed interpretation will serve a localized purpose, as well as be used as a framework for moving forward in other watersheds across the region. The water quality database will be accessible through the web-based interface and will be used by a wider audience than may utilize the final report.

Task 6 Outputs: Final report that includes, at a minimum, 1) Documentation of data collected and aggregated; 2) Database QA/QC procedures; 3) Annotated processing script; 4) Data analysis methods; 4) Detailed interpretation of one or more watersheds; 5) Water resources report cards; 6) “State of the Waters: Cape Cod” Report; 7) Documentation of public outreach and workshops

Project Timeline and Milestones:

	2018					2019												2020						
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Task 1																								
Data Compilation																								
Database QA/QC																								
WBNERR QAPP Development																								
Ponds and Lakes QAPP Development																								
Task 2																								
End User Group Mtgs																								
Monitoring Group Workshop																								
Identify Data Outputs/Analysis Needs																								
Pilot Watershed Interpretation																								
Identify Monitoring/Research Gaps																								
Task 3																								
Data Analysis/Script Development																								
Pilot Watershed Analysis/Interpretation																								
Task 4																								
Development of Report Card Template																								
Report Cards Released																								
"State of the Waters: Cape Cod" Released																								
Integrate Script with Database/Website																								
Task 5																								
Develop Targeted Outreach Schedule																								
Targeted Outreach/Workshops/Meetings																								
Task 6																								
Final Report																								

Local Impact: This project is in direct support of the 15 Cape Cod towns implementing local water quality plans, 11 of which are located within the SNEP region. Successful development of consistent and comparable data analyses will track trends in response to plan implementation, provide post-implementation information, help refine local decision-making, and facilitate management to improve water quality. The proposed processing script will be designed to allow for future automated analyses as new estuarine data are available, creating long-term capacity for embayment specific interpretation and informed local water quality decisions past the grant period. The proposed collection and analysis of freshwater data is consistent with the effort initiated for estuarine data in 2016 and will provide for a long-term, consistent database of all water resources information. The Commission is committed to maintaining the data, working with project partners to integrate new data into the future, and utilizing the QA/QC procedures developed as part of this project. APCC is committed to issuing the “State of the Waters: Cape Cod” Report on an annual basis to ensure ongoing evaluation of Cape Cod’s important water resources and responsive and responsible public policy decisions.

Regional Impact: The strong cooperative relationship among monitoring, management and non-profit organizations builds regional capacity to solve water quality challenges through collaborative and innovative restoration techniques. The combined, downloadable dataset allows for regional scale analyses to identify the impacts of climate and tidal variability on water quality management. The database structure, analyses, and information products will be transferable to other areas within the SNEP region and beyond that seek to collect and analyze long-term data sets and translate them into helpful information products.

The project team recognizes the importance of tracking both the impact of the project process and outcomes to inform future learning across the region and increase overall effectiveness. WBNERR has significant experience in project evaluation and will conduct evaluations of workshops held with managers and decision-makers to determine how well objectives were met and where efforts can be improved. WBNERR will also assess the impact of the collaborative process with the End User Group.

Results of these evaluations will be incorporated in the final project report as part of the body of learning related to this project.

Project Team (See attachment C): The project will be led by the Commission, with expertise in water resources, database development and project management. The Commission will lead project activities, coordinate project tasks, track progress, and maintain communication with project partners. Partner monitoring organizations include the CCS, SMAST and WBNERR. Each will provide data as well as guidance on quality assurance/control and serve as an advisor for data analysis. WBNERR will lead collaborative process, plan outreach workshops to decision-makers and researchers and facilitate end user meetings. WHOI will complete the processing script development and data analysis. APCC will expand upon existing freshwater databases and integrate estuarine and freshwater data and analyses into information products, including water resources report cards and the “State of the Waters: Cape Cod” Report, to increase knowledge and understanding of the health of water resources and identify water restoration needs. An End User Group will be established, consisting of project team members, the CCWPC, and other key end users identified in task 2 to assist in defining data outputs.

Integration and Multiple Benefits: This project takes a holistic approach to water resource issues, addressing both estuarine and freshwater quality. It seeks to advance several SNEP priorities, not limited to, fostering integrated approaches to restoring water quality, habitats and ecosystems; building local and regional capacity, tools and knowledge; strengthening sustainable partnerships; and improving the utility of environmental monitoring for ecosystem management. In addition to data collection and analysis, a program script, and information products, outputs will include a thoroughly vetted, downloadable database and metadata file for research and management applications consistent with DEP and EPA water quality monitoring strategies. This robust water quality database can be used by coastal scientists against other large datasets for future research projects. (e.g. marine fish and mammal migrations, coastal bird migrations, the spread of harmful algal blooms, etc.)

Leveraging: This project leverages work completed by each project partner and work completed by DEP and SMAST to develop total maximum daily loads for nitrogen and seeks to expand the effect of this research and long-term data accumulation on local management decisions. The Commission has developed databases and a web interface to store and share a regional data set. This project will take these efforts one step further to be responsive to local needs, fulfill the recommendations of the 208 Plan, and support existing management efforts to improve water quality, habitats and ecosystems.

Outreach and Communications: All work completed for this project will be included in a web-based interface. The program script will be integrated with the database and will be used on a regular basis, as additional data are available. The data and analyses will be used in water resources report cards and an annual “State of the Waters: Cape Cod” report created by APCC. APCC will build on the report cards and State of the Waters report to develop an “action agenda” that provides recommendations for actions to protect and restore water, along with measures for gauging success in implementing actions. The broad-based and diverse target audience will include the public as well as decisionmakers. Through the CCWPC, the Commission will work to share project outputs with each town. In addition, WBNERR will conduct targeted watershed-based workshops to translate information to local decision-makers. Other target audiences include full- and part-time residents, pond associations, municipal boards, departments and water quality/wastewater committees, fisheries stakeholders, other restoration partners, non-governmental organizations, elected officials, and others. Additional outreach materials will be developed, as needed, and project components will be included in presentations by the Commission and partners, as appropriate, at local, state, regional and national meetings to allow for knowledge transfer.

Literature cited can be found in attachment D.

BUDGET DESCRIPTION

Budget Table

Cost Item or Category	Cost Basis	RAE SNEP Request	Non-Federal Match	Match Source	Total Project Cost
Personnel					
Erin Perry, CCC	364 hrs. @ \$43.27	11,812.71	3,937.57	CCC	15,750.28
Tom Cambareri, CCC	153 hrs. @ \$49.53	5,683.57	1,894.52	CCC	7,578.09
Phil Detjens, CCC	208 hrs. @ \$44.45	6,934.20	2,311.40	CCC	9,245.60
Mario Carloni, CCC	364 hrs. @ \$37.18	10,150.14	3,383.38	CCC	13,533.52
Jo Ann Muramoto, APCC	500 hrs. @ \$48.00	18,000.00	6,000.00	APCC-MET	24,000.00
Don Keeran, APCC	502 hrs. @ \$43.20	16,264.80	5,421.60	APCC-MET	21,686.40
Kristin Andres, APCC	502 hrs. @ \$40.00	15,060.00	5,020.00	APCC-MET	20,080.00
Brian Horsley, APCC	416 hrs. @ \$32.00	9,984.00	3,328.00	APCC-MET	13,312.00
Amy Costa, CCS	390 hrs @ \$34.60	11,072.00	2,422.00	CCS	13,494.00
Brian Howes, PI SMAST	70 hrs. @ \$68.46	4,792.20	-		4,792.20
Roland Samimy, SMAST	70 hrs @ \$54.07	3,784.90	-		3,784.90
Outreach Asst., WBNERR	850 hrs. @ \$25.00	21,250.00	-		21,250.00
WQ Monitoring Asst., WBNERR	206 hrs. @ \$20.12	4,144.72	-		4,144.72
Waquoit Bay Volunteers, WBNERR	546 hrs. @ \$24.69	-	13,480.74	WBNERR	13,480.74
Jennie Rheuban, WHOI	1216 hrs. @ \$42.625	51,832.00	-		51,832.00
Total Personnel		190,765.24	47,199.21		237,964.45
Fringe					
Fringe, CCC	66.36%	22,947.70	7,649.23	CCC	30,596.93
Fringe, APCC	25.00%	14,827.20	4,942.40	APCC	19,769.60
Fringe, CCS	20.00%	2,214.40	484.40	CCS	2,698.80
Fringe, SMAST (+\$16.5/wk)	36.27%	3,176.91	-		3,176.91
Fringe, WBNERR	N/A	-	-		-
Fringe, WHOI	45.99%	23,837.54	-		23,837.54
Total Fringe		67,003.74	13,076.03		80,079.78
Travel					
In-state travel (APCC)	2,000 mi @ \$0.545	730.30	359.70	APCC-MET	1,090.00
Out-of-state (RAE Summit 2018; 2 CCC staff)	See Narrative	4,000.00	-		4,000.00
Out-of-state (RAE Summit 2018; 1 APCC staff)	See Narrative	1,340.00	660.00	APCC-MET	2,000.00
Out-of-state travel (WHOI - S. Doney)	See Narrative	4,798.00	-		4,798.00
Total Travel		10,868.30	1,019.70		11,888.00
Equipment					
WQ Monitoring Equipment	See Narrative	6,500.00	-		6,500.00
Total Equipment		6,500.00	-		6,500.00
Supplies					
Software (APCC)	See Narrative	335.00	165.00	APCC-MET	500.00
Workshop Supplies (APCC)	See Narrative	502.50	247.50	APCC-MET	750.00
Workshop Supplies (WBNERR)	See Narrative	1,500.00	-		1,500.00
Total Supplies		2,337.50	412.50		2,750.00
Contractual					
QAQC Database (CCC)	See Narrative	20,000.00	-		20,000.00
QAPP Development (CCC)	See Narrative	-	7,500.00	CCC	7,500.00
OneCape Conferences (Venues & AV equipment)	See Narrative	10,000.00	10,000.00	CCC	20,000.00
Workshop & Coastal Conference expenses (Venues & AV equipment; WBNERR)	See Narrative	6,000.00	-		6,000.00
Web Design (APCC)	See Narrative	13,400.00	6,600.00	APCC-MET	20,000.00
TMDL Solutions (SMAST)	See Narrative	3,500.00	-		3,500.00
Dr. Scott Doney	See Narrative	-	12,339.00	WHOI	12,339.00
Total Contractual		52,900.00	36,439.00		89,339.00
TOTAL DIRECT		\$ 330,375	\$ 98,146		\$ 428,521
CCC Indirect Cost (applied to direct labor only)	71.90%	24,863.46	8,287.82		33,151.29
APCC Indirect Cost	10.00%	9,044.38	3,274.42		12,318.80
CCS Indirect Cost (NICRA)	50.31%	4,428.80	3,717.80		8,146.60
SMAST Indirect Cost (NICRA)	59.00%	1,175.40	7,824.47		8,999.87
WBNERR Indirect Cost	10.00%	3,289.47	1,348.07		4,637.55
WHOI Indirect Cost (NICRA)	62.00%	26,822.00	23,066.00		49,888.00
Total Indirect Cost		\$ 69,624	\$ 47,519		\$ 117,142
TOTAL (Total Direct+Indirect)		\$ 399,998	\$ 145,665		\$ 545,663
Non-Federal Match as a Percentage of the Request:			36.42%		

Budget Table cont.

Grant Totals Per Partner

SNEP Watershed Grant Proposal - Grant Totals per Partner					
Project Partners		RAE SNEP Request	Non-Federal Match	Match Source	Total Project Cost
Cape Cod Commission	Direct Costs	91,528	36,676	CCC	\$ 128,204
	Indirect Costs	24,863	8,288	CCC	\$ 33,151
	Total:	116,392	44,964	CCC	\$ 161,356
Association to Preserve Cape Cod	Direct Costs	90,444	32,744	APCC-MET	\$ 123,188
	Indirect Costs	9,044	3,274	APCC-MET	\$ 12,319
	Total:	99,488	36,019	APCC-MET	\$ 135,507
Center for Coastal Studies	Direct Costs	13,286	2,906	CCS	\$ 16,193
	Indirect Costs	4,429	3,718	CCS	\$ 8,147
	Total:	17,715	6,624	CCS	\$ 24,339
Umass Dartmouth SMAST	Direct Costs	15,254	-	-	\$ 15,254
	Indirect Costs	1,175	7,824	SMAST	\$ 9,000
	Total:	16,429	7,824	SMAST	\$ 24,254
Waquoit Bay National Estuarine Research Reserve	Direct Costs	39,395	13,481	WBNERR	\$ 52,875
	Indirect Costs	3,289	1,348	WBNERR	\$ 4,638
	Total:	42,684	14,829	WBNERR	\$ 57,513
Woods Hole Oceanographic Institute	Direct Costs	80,467	12,339	WHOI	\$ 92,806
	Indirect Costs	26,822	23,066	WHOI	\$ 49,888
	Total:	107,289	35,405	WHOI	\$ 142,694
TOTAL:	Direct Cost	330,374	98,146		\$ 428,521
	Indirect Cost	69,624	47,518		\$ 117,142
	TOTAL:	\$ 399,998	\$ 145,665		\$ 545,663

Budget Narrative

Personnel

Cape Cod Commission

Thomas Cambareri, Water Resources Technical Services Director: Mr. Cambareri will assist with identification of water resources data sources, data compilation, identifying data analysis needs, and development of the pilot watershed interpretation (Task 1, Task 2, Task 3). 153 hrs. @ \$49.53/hr., total \$7,578.09.

Mario Carloni, Geospatial Developer: Mr. Carloni will be responsible for the database web interface and integrating the processing script with the SQL database and web interface (Task 4). 364 hrs. @ \$37.18/hr., total \$13,533.52.

Phil Detjens, Applications Manager: Mr. Detjens will oversee database development and management, integration of the processing script into an SQL procedure and creating and editing SQL tables (Task 4). 208 hrs. @ \$44.45/hr., total \$9,245.60.

Erin Perry, Special Projects Manager: Ms. Perry will serve as project lead for the grant and is responsible for oversight of the project, coordinating with project partners and reporting (Tasks 1-6). 364 hrs. @ \$43.27/hr., total \$15,750.28.

CCC will provide match of in-kind labor. Fringe benefits are allocated as a percentage applied to total direct salaries. The audited FY17 fringe rate is 66.36% and is broken out as: Retirement (23.40%), Paid Leave Benefits (23.21%), Health Insurance (18.12%), and Medicare (1.63%).

Association to Preserve Cape Cod

Jo Ann Muramoto, Director of Science Programs: Dr. Muramoto will be responsible for freshwater data compilation and data analysis and she will prepare the report cards (Task 1, Task 4). 500 hrs. @ \$48/hr., total \$24,000.

Don Keeran, Assistant Director: Mr. Keeran will serve in an advisory capacity and provide guidance on data compilation and development of report cards and State of the Waters Report (Task 1, Task 4). 502 hrs. @ \$43.20/hr., total \$21,686.40.

Kristin Andres, Director of Education and Outreach: Ms. Andres will oversee development of outreach products and activities for development and promotion of State of the Waters Annual Report (Task 4, Task 5). 502 hrs. @ \$40/hr., total \$20,080.

Bryan Horsley, Restoration Technician: Mr. Horsley will assist with GIS mapping and other technical assistance (Task 4, Task 5). 416 hrs. at \$32/hr., total, \$13,312.

APCC match is in-kind labor funded by a 2018 Massachusetts Environmental Trust grant.

Waquoit Bay National Estuarine Research Reserve

Outreach and Engagement Assistant: The Outreach and Engagement Assistant will work with and be supervised by Tonna-Marie Rogers, WBNERR Coastal Training Program Coordinator, and will provide support in collaborative process design, meeting planning and facilitation and overall coordination of WBNERR tasks. Working with the project team and the Commission as lead, the assistant will develop process agendas for end user meetings, design effective processes to meet meeting goals and record action items and decisions (Task 2, Task 5). 850 hrs. @ \$25/hr., total \$21,250.

Water Quality Monitoring Assistant: The Water Quality Assistant will be trained by the WBNERR Research Associate, Jordan Mora, to maintain water quality stations, including but not limited to, collecting and filtering water samples, calibrating equipment, deploying units, and managing downloaded data. The assistant will support Ms. Mora with QAPP development through research and writing (Task 1). 206 hrs. @ \$20.12/hr., total \$4,144.72.

Fringe benefits are not included in proposal, as staff identified are not benefit eligible.

Waquoit Bay Watcher volunteer hours are contributed as match. Volunteer hours are associated with the Waquoit Bay Watchers Citizen Science Water Quality Monitoring Program (SWMP). The SWMP and Waquoit Bay Watcher programs are ongoing and all past and future data collected will be submitted to the Cape Cod Commission's regional database (Task 1). 546 hrs. @ \$24.69/hr., total \$13,480.74.

APCC will act as the fiscal agent for WBNERR.

Woods Hole Oceanographic Institution

Jennie Rheuban, Research Associate III: Ms. Rheuban will be responsible for data analysis and development of processing scripts, providing advice and direction on the selection of a pilot watershed and working with the project team on database quality assurance and control and to complete the detailed interpretation in the pilot watershed. Ms. Rheuban will work with Commission staff to integrate the processing script with the existing SQL database (Task 2, Task 3, Task 4). 1,216 hrs. @ 42.625/hr., total \$51,832.

WHOI match is in-kind labor provided by Dr. Scott Doney in the amount of \$12,339 and a WHOI contribution of \$23,066 for indirect costs in excess of 25% of the requested amount. Dr. Doney will advise Ms. Rheuban on data analysis and assist with data interpretation. WHOI's fringe rate is included in their Negotiated Agreement with Department of Navy. Fringe benefits are allocated as percentage to

total assignable salaries and allocated paid leave benefits, excluding overtime salaries. The provisional fringe rate of 45.99% for calendar year 2018 is broken out as: Retirement (23.19%), Health/Dental (11.55%), FICA (7.72%), Workers Comp (0.38%), Disability (1.00%), and Other Benefits (2.15%).

Center for Coastal Studies

Amy Costa, Associate Scientist: Dr. Costa will assist with quality assurance and control of the database and provide advice and guidance on data outputs and analysis needs (Task 1, Task 2). 390 hrs. @ \$34.60/hr., total \$13,494.

CCS match is 70 hours of in-kind labor provided by Dr. Costa and \$3,718 in indirect cost (\$2,256 for indirect cost in excess of 25% of the requested amount and \$1,462 for indirect cost applied to the in-kind labor)

UMass Dartmouth School for Marine Science and Technology

Brian Howes, Coastal Systems Program Director: Dr. Howes will assist with quality assurance and control of the database and provide advice and guidance on data outputs and analysis needs (Task 1, Task 2). 70 hours @ \$68.46/hr., total \$4,792.20.

Roland Samimy, Senior Research Manager: Dr. Samimy will assist with quality assurance and control of the database and provide advice and guidance on data outputs and analysis needs (Task 1, Task 2). 70 hrs. @ \$54.07/hr., total \$3,784.90.

SMAST will provide match of \$7,824 in indirect costs. The fringe rate is broken out as: 34.68% fringe benefit, 1.41% FICA, plus an additional \$16.50 per week Health and Welfare.

Travel

In-State Travel

In-State Travel is budgeted for attendance at project partner meetings, advisory committee meetings, and SNEP grantee meetings. Total budgeted is \$1,090. APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$730.30. APCC's match: \$359.70.

Out-of-State Travel

RAE Summit: As suggested in the RFP, travel is budgeted for four staff to attend the 2018 RAE Summit. An estimate of \$6,000 includes conference registration fees, travel to/from airport, hotel, flight, and meals. APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$5,340. APCC's match: \$660.

Dr. Scott Doney: Travel is budgeted for Dr. Scott Doney to attend annual meetings on project results. Dr. Doney will provide guidance on data analysis and assist with data interpretation (Task 3). The total amount budgeted is \$4,798. This estimate includes travel from the University of Virginia to WHOI, lodging for one week per year for each of the two years of the proposed project, car rental and per diem.

Equipment

Water Quality Monitoring Equipment

WBNERR will purchase monitoring equipment needed to upgrade the WBNERR water quality monitoring program to data standards comparable to other partner organizations (Task 1). Currently, one of the four SWMP stations is still occupied by an older model sonde, the YSI 6600-series. This station will be upgraded consistent with other sites in Waquoit Bay. The equipment request is for a YSI EXO2 sonde in the amount of \$6,500 (Item #599502-01). The purchase will be made in advance of the 2019 sampling season.

Supplies

Software

APCC will purchase software for data analysis, statistical analysis and plotting. An estimate of \$500 is budgeted (Task 3). APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$335. APCC's match: \$165.

Workshop Supplies

APCC plans meetings to announce the State of the Waters report and has included an estimate of \$750 for supplies (Task 5). Source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$502.50. APCC's match: \$247.50.

WBNERR has budgeted \$1,500 in supplies to support end user meetings and watershed-based workshops to translate data to decision-makers (Task 2, Task 5).

Contractual

Database QA/QC

The Commission will advertise and competitively award a contract to a qualified firm to perform quality assurance and control on the existing database and develop procedures for ensuring quality assurance and control on data loaded to the database in the future (Task 1). A budget estimate of \$20,000 is based on previous experience.

QAPP Development

The Commission will comply with State law, County policies and Uniform Guidance related to procurement and competitively award a contract to a qualified firm to develop a QAPP for pond and lake data (Task 1). A budget estimate of \$7,500 is based on previous experience and funds for the QAPP Development will be provided by the Cape Cod Commission.

OneCape Summits

The Commission will hold two OneCape Summits during the project period. The work proposed in this project will be highlighted at each and each will be used as an opportunity to share data outputs, analyses and available information products. A budget estimate of \$20,000 for venue and audio-visual equipment for two conferences is based on previous experience. The Commission will comply with State law, County policies and Uniform Guidance related to procurement and competitively award a contract to a venue to host the Summits. SNEP request: \$10,000. Commission's match: \$10,000.

Cape Coastal Conference and Workshops

Venue rental fees and fees associated with audio visual equipment are anticipated to support watershed-based workshops and other outreach initiatives, including the Cape Coastal Conference, where project outputs, analyses and information products will be highlighted (Task 2, Task 5). An estimate of \$6,000 is budgeted based on previous experience.

Web Design

APCC will comply with State law and Uniform Guidance related to procurement and competitively award a contract to a qualified web design firm to create a State of Waters website (Task 4). A budget estimate of \$20,000 is based on previous experience. APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$13,400. APCC's match: \$6,600.

TMDL Solutions

TMDL Solutions will work with SMAST to support and provide guidance on data analysis and interpretation (Task 2). SNEP request: \$3,500.

Dr. Scott Doney

Dr. Doney will advise Ms. Rheuban and project partners on biogeochemical data analysis and assist with data interpretation (Task 3). \$12,339 in consulting charges is provided as in-kind match by WHOI.

Indirect Cost

Cape Cod Commission

In accordance with 2 CFR Part 200 App. VII D1b, the Commission, a local government agency that receives less than \$35 million in direct Federal funding, is not required to obtain NICRA. The Commission's audited FY17 indirect rate is 71.90% and is applied to direct labor only. CCC indirect costs included in the SNEP request (\$24,863) are within 25% indirect cost limit. This indirect cost rate equals to 27.16% rate if applied to the Commission's Modified Total Direct Costs of \$91,528.

Association to Preserve Cape Cod

Association to Preserve Cape Cod does not have Negotiated Indirect Cost Rate Agreement and de minimis indirect cost rate of 10% was applied to APCC's Modified Total Direct Costs of \$123,188. Total Indirect Cost: \$12,318.80. SNEP Request: \$9,044. APCC's match: \$3,274.

Waquoit Bay National Estuarine Research Reserve

Waquoit Bay National Estuarine Research Reserve does not have Negotiated Indirect Cost Rate Agreement and de minimis indirect cost rate of 10% was applied to WBNERR's Modified Total Direct Costs. Total Direct cost amount of \$52,875 was reduced by the estimated cost of equipment (\$6,500) for Modified Total Direct Costs of \$46,375. Total Indirect Cost: \$4,637. SNEP Request: \$3,289. WBNERR's match: \$1,348.

Woods Hole Oceanographic Institution

Woods Hole Oceanographic Institution has a Negotiated Indirect Cost Rate Agreement with Department of the Navy, Office of Naval Research, dated January 5, 2018, for the period of 1/1/18 – 12/31/18 (attached) The provisional indirect cost rate for 2018 is 62% and is allocated to Modified Total Direct Costs. Total Indirect Costs: \$49,889 (MTDC base of \$80,467). SNEP request: \$26,822 (25% of the agency request of \$107,289). WHOI's match: \$23,066.

Center for Coastal Studies

Center for Coastal Studies has submitted their Indirect Cost Proposal dated November 30, 2017 to the US Department of Commerce, NOAA Grants Division. CCS has received a letter from NOAA, dated January 31, 2018, stating that Center for Coastal Studies may use their indirect cost rate of 50.31% cited in its Indirect Rate Cost Proposal until the Proposal evaluation process is completed (attached). Indirect Cost rate of 50.31% was applied to MTDC of \$16,192.80. Total Indirect Cost: \$8,147. SNEP Request: \$4,429 (25% of the CCS request of \$17,715). CCS's match: 3,718.

UMass Dartmouth School for Marine Science and Technology

UMass Dartmouth has a Negotiated Indirect Cost Rate Agreement with the Department of Health and Human Services, dated March 10, 2017 (attached). The predetermined rate of 59% is effective for the period of 7/1/18 – 6/30/2010 and has been applied to MTDC of \$15,254. UMass Dartmouth SMAST has elected to include only \$1,175.40 of the indirect costs in their SNEP request and to apply the difference towards their match. Total Indirect Cost: \$9,000. SNEP request: \$1,175. UMass Dartmouth SMAST's match: \$7,825.

Total Indirect Costs included in the SNEP request (\$69,624) equal to 17.41% of the total amount of \$399,998 requested from SNEP for the proposed project.

Grant Totals Per Task

	Total Project Cost Per Task			
	Cost Item	SNEP	Non-Federal Match	Total
Task 1	Salaries & Fringes	46,558.28	24,898.39	71,456.68
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	QA/QC Database	20,000.00	-	20,000.00
	QAPP Development	-	7,500.00	7,500.00
	Equipment	6,500.00	-	6,500.00
	Indirect Cost	10,314.72	8,460.99	18,775.71
Subtotal:		\$ 84,557	\$ 41,114	\$ 125,672
Task 2	Salaries & Fringes	42,847.38	3,601.53	46,448.92
	RAE Summit	666.67	-	666.67
	Workshop Supplies	750.00	-	750.00
	Cape Coastal Conference	2,500.00	-	2,500.00
	Indirect Cost	11,248.60	9,288.09	20,536.68
Subtotal:		\$ 58,013	\$ 12,890	\$ 70,902
Task 3	Salaries & Fringes	64,364.61	4,653.33	69,017.95
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	Software	335.00	165.00	500.00
	TMDL Solutions	3,500.00	-	3,500.00
	Dr. Scott Donney & Travel	4,798.00	12,339.00	17,137.00
	Indirect Cost	22,022.25	19,109.62	41,131.87
Subtotal:		\$ 96,204	\$ 36,522	\$ 132,726
Task 4	Salaries & Fringes	71,867.10	19,744.97	91,612.07
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	Web Design	13,400.00	6,600.00	20,000.00
	Indirect Cost	20,145.69	9,154.09	29,299.78
Subtotal:		\$ 106,597	\$ 35,754	\$ 142,351
Task 5	Salaries & Fringes	28,891.78	6,297.26	35,189.04
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	Workshop Supplies	1,252.50	247.50	1,500.00
	OneCape Conferences	10,000.00	10,000.00	20,000.00
	Cape Coastal Conference	3,500.00	-	3,500.00
	Indirect Cost	4,492.26	1,038.66	5,530.92
Subtotal:		\$ 49,321	\$ 17,838	\$ 67,159
Task 6	Salaries & Fringes	3,239.28	1,079.76	4,319.04
	RAE Summit	666.67	-	666.67
	Indirect Cost	1,400.00	466.67	1,866.67
Subtotal:		\$ 5,306	\$ 1,546	\$ 6,852
TOTAL:		\$ 399,998	\$ 145,665	\$ 545,663

LIST OF ATTACHMENTS

Maps, photos, drawings, and additional information

- Attachment A: Map of Project Area
- Attachment B: Report Card Examples
- Attachment C: Project Team
- Attachment D: Literature Cited

Letters of Commitment

- Association to Preserve Cape Cod
- Buzzards Bay Coalition
- Cape Cod Water Protection Collaborative
- Center for Coastal Studies
- UMass Dartmouth School for Marine Science and Technology
- Waquoit Bay National Estuarine Research Reserve
- Woods Hole Oceanographic Institution

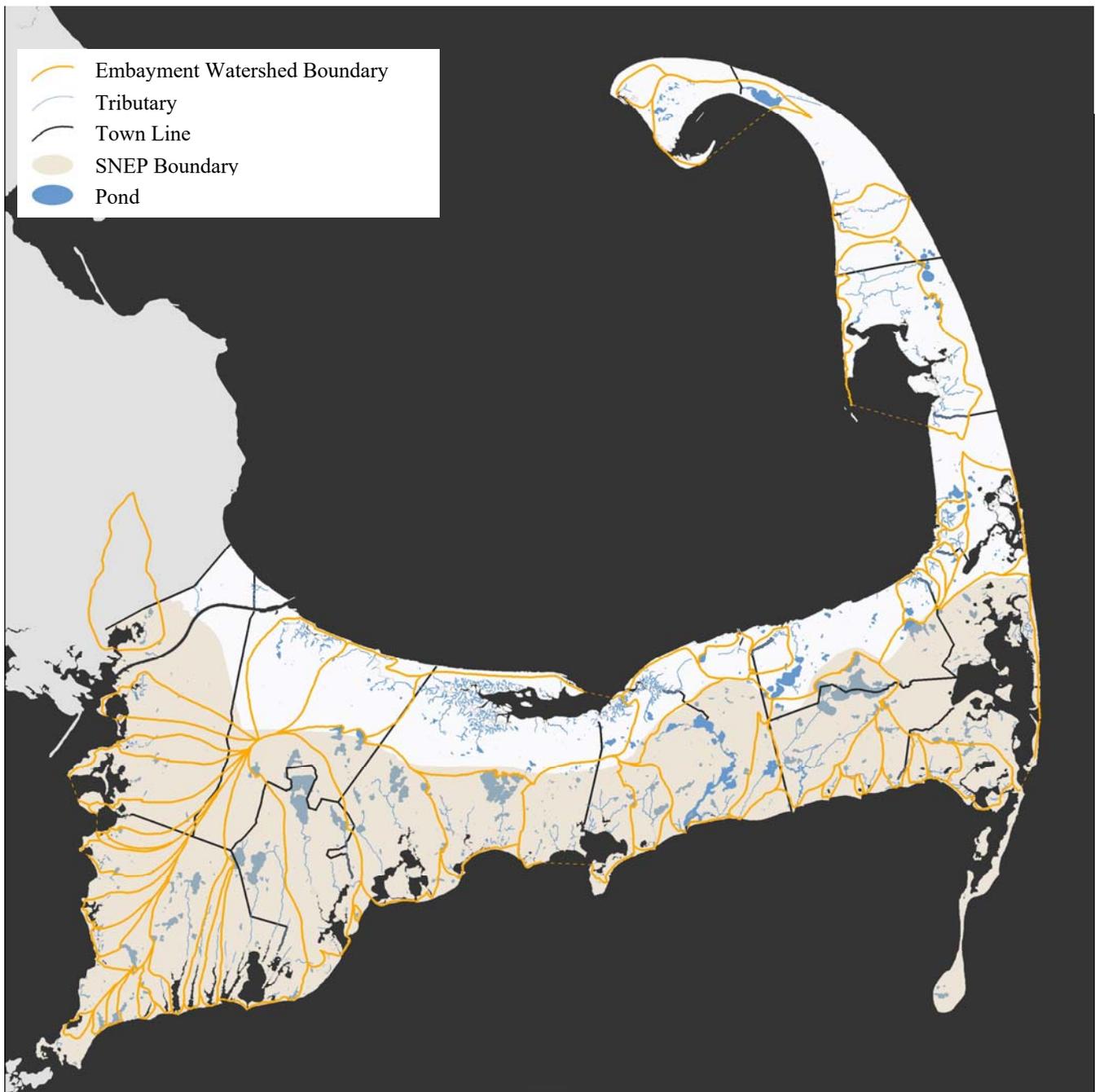
Organizational Budget and Statement of Financial Position

- Barnstable County Approved FY19 Operating and Capital Budget – Cape Cod Commission
- Barnstable County's Basic Financial Statements
 - Summary of Auditor's Results, Schedule of Findings and Questioned Costs
 - Expenditures and Changes in Fund Balances
 - Schedule of Fringe and Indirect Cost Rate – Cape Cod Commission

Negotiated Indirect Cost Rate Agreements

- Center for Coastal Studies
- UMass Dartmouth School for Marine Science and Technology
- Woods Hole Oceanographic Institution

Attachment A: Map of Project Area



Map of Project Area: The proposed project area includes all of Barnstable County. Approximately 60% of Cape Cod is within the SNEP boundary. Almost all the watersheds on Cape Cod that fall within the SNEP boundary are nitrogen impaired and have established total maximum daily loads or Massachusetts Estuaries Project Technical Reports documenting degradation and nitrogen thresholds.

Attachment B: Report Card Examples

California

- Elkhorn Slough National Estuarine Research Reserve. Elkhorn Slough Water Quality Report Card. <http://www.elkhornslough.org/waterquality-reportcard/>.
- California Environmental Protection Agency, State Water Resources Control Board. 2014-2015. https://www.waterboards.ca.gov/about_us/performance_report_1415/plan_assess/11112_tmdl_outcomes.shtml.
- Heal the Bay. Beach Report Cards for California beach water quality. <http://beachreportcard.org/default.aspx?tabid=4>.

Chesapeake Bay

- Chesapeake Bay Report Card. <https://ecoreportcard.org/report-cards/chesapeake-bay> .

Florida

- Florida Department of Environmental Protection. Interactive Water Quality Report Cards. <https://floridadep.gov/dear/watershed-monitoring-section/content/interactive-water-quality-report-cards>

Great Lakes

- Donahue, Michael J. January 2002. The Great Lakes: A Report Card. <https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1451&context=cuslj>.
- Mills County Watershed Report Card. http://erieconserves.org/wp-content/uploads/mills_report_card.pdf.

Maine

- Natural Resources Council of Maine. 2014 Report Card for Maine. https://www.nrcm.org/wp-content/uploads/2013/09/2014_legislative_reportcard.pdf.

Massachusetts

- Blackstone River Watershed Interactive Water Quality Map. http://zaptheblackstone.org/interactive_map/index.php.
- Environmental Protection Agency, Region 1. 2017. Charles River water quality earns a “B” in 2015. <https://www.epa.gov/newsreleases/charles-river-water-quality-earns-b-grade-2016>.
- Massachusetts Water Resources Authority. 2014. EPA’s annual report card gives the Charles River an A- . <http://www.mwra.com/01news/2014/091114-epa-report-card-charles-river-a-.html>.
- Mystic River Report Card. 2016. <https://mysticriver.org/epa-grade/>.
- Mystic River Watershed Report Card. 2016. 2016 Mystic River Watershed Report Card Frequently Asked Questions. <https://www.epa.gov/mysticriver/2016-mystic-river-watershed-report-card-frequently-asked-questions>.
- Report of the Buzzards Bay Citizens’ Water Quality Monitoring Program 1992-1995. <http://buzzardsbay.org/bbpreports/1996-buzzards-bay-water-quality-monitoring-report.pdf>.
- Save the Harbor/Save the Bay. Annual Beach Water Quality Report Card on the Metropolitan Region’s public beaches. 2017. Report on 2016 beach water quality at 15 public beaches in 10 communities in the Boston area (Lynn, Swampscott, Nahant, Revere, Winthrop, East Boston, South Boston, Dorchester, Quincy and Hull). <http://www.savetheharbor.org/Content/beachesreportcard/>.
- Taunton River Watershed Alliance. 2017. 2016 Water Quality Report Card. <https://savethetaunton.org/2017/02/15/2016-water-quality-report-card/>.

New Hampshire

- New Hampshire Department of Environmental Services. Watershed Report Cards. https://www.des.nh.gov/organization/divisions/water/wmb/swqa/report_cards.htm.

New York

- Long Island Sound Water Report Cards. <https://ecoreportcard.org/report-cards/long-island-sound/>.

Oregon

- City of Portland, Oregon, Watershed Report Card. <https://www.portlandoregon.gov/bes/62109>.
- State of Oregon. Water Quality Index. <http://www.oregon.gov/deq/wq/Pages/WQI.aspx>.
- Willamette River (Oregon) Report Card. <http://www.oregon.gov/deq/wq/Pages/Willamette-River-Report.aspx>.
- Heal the Bays. Beach Report Card for Oregon. <http://beachreportcard.org/?st=OR&f=1>.

Texas

- Mission-Aransas National Estuarine Research Reserve. Little Bay Report Card. <https://missionaransas.org/little-bay-report-card>.

U.S.

- Environmental Working Group. 2017. Clean Water Report Card: Failing Grades. https://static.ewg.org/reports/2000/FailingGrades.pdf?_ga=2.72469146.882043222.1512587101-937361266.1512587101.

Washington State

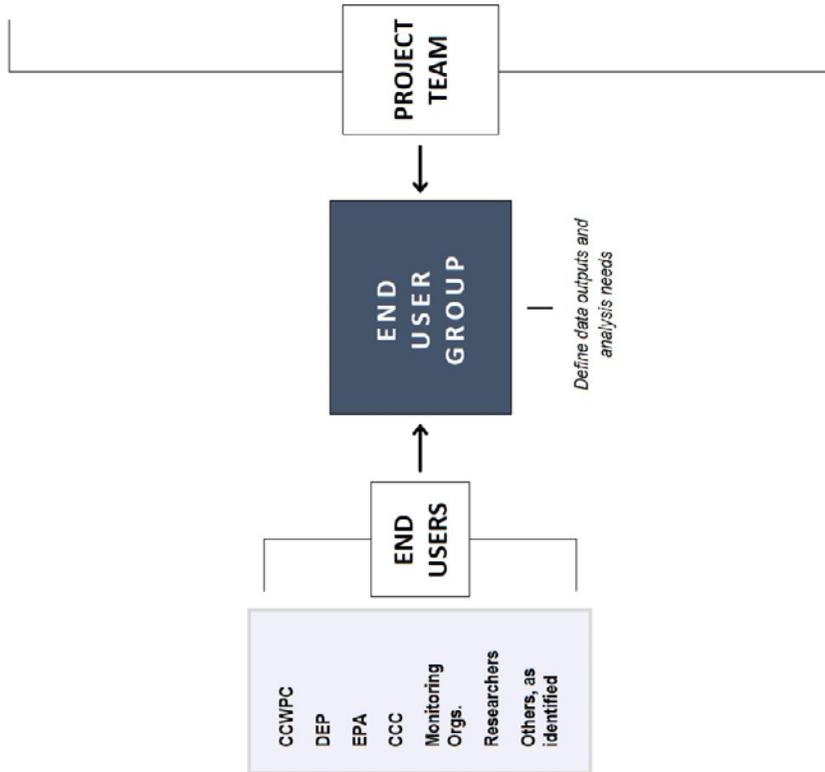
- Pierce County, Washington. 2016 Report Card on Surface Water Health. <https://www.piercecountywa.org/ArchiveCenter/ViewFile/Item/5481>.

International

- World Wildlife Fund. Healthy Rivers for All. <https://www.worldwildlife.org/initiatives/healthy-rivers-for-all>.

Attachment C: Project Team

Woods Hole Oceanographic Institution	<p>Analysis Lead</p> <ul style="list-style-type: none"> Data analysis Processing script development Pilot watershed implementation Integration with database for future analysis and reporting
Waquoit Bay National Estuarine Research Reserve	<p>Collaboration Lead Data and Analysis Advisor</p> <ul style="list-style-type: none"> Provide data Project advisor Quality assurance/control guidance Data analysis advisor Structure collaboration process Facilitate end user meetings
UMass Dartmouth School for Marine Science and Technology	<p>Data and Analysis Advisor</p> <ul style="list-style-type: none"> Provide data Project advisor Quality assurance/control guidance Data analysis advisor
Center for Coastal Studies	<p>Data and Analysis Advisor</p> <ul style="list-style-type: none"> Provide data Project advisor Quality assurance/control guidance Data analysis advisor
Association to Preserve Cape Cod	<p>Information Products Lead</p> <ul style="list-style-type: none"> Integrate water resources data and analyses into information products Create water resources report cards Develop regional State of the Waters report Complete Freshwater data
Cape Cod Commission	<p>Project Lead</p> <ul style="list-style-type: none"> Lead project activities Coordinate tasks and track progress with project partners Database management Lead communication with project partners Data compilation and analysis



COMMONWEALTH OF MASSACHUSETTS

BARNSTABLE, SS.

At a Regular Meeting of the Barnstable County Board of Regional Commissioners, at the Superior Courthouse Building, on the tenth day of October, A.D. 2018, motion by Commissioner Beaty to the execution of subaward agreement, through the Cape Cod Commission, with Waquoit Bay Reserve Foundation, under the Cape Cod Commission's Restore America's Estuaries project titled "Regional Collection & Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making" in the amount of \$42,684.00, for a period from October 1, 2018 through July 31, 2020, as presented, 2nd by Commissioner Flynn, approved 3-0-0

Leo G. Cakounes, Chair: Y

Ronald R. Beaty, Vice-Chair: Y

Mary Pat Flynn, Commissioner: Y

A true copy, Attest, October 10, 2018




Barnstable County Regional Clerk

SUBAWARD AGREEMENT
BETWEEN

Barnstable County through
Cape Cod Commission
3225 Main Street
Barnstable, MA 02630

and

Woods Hole Oceanographic Institution
266 Woods Hole Road
Woods Hole, MA 02543-1536

Federal Award Identification Number: 00A00370
Federal Award Date: October 1, 2017
Federal Award Amount: \$7,361,002
Federal Awarding Agency: U.S. Environmental Protection Agency through Restore America's Estuaries
Subaward Date: September 1, 2018
Subaward to the Cape Cod Commission: \$399,998
Subaward Number: SNEPWG18-9-CCC
CFDA Number/Name: 66.129 – Southeast New England Coastal Watershed Restoration
FFATA Reportable: yes
Research & Development: no

Subaward Start Date: October 1, 2018
Subaward Amount: \$107,289
Subrecipient NICRA: 62%
Subrecipient Match: \$35,405
Subrecipient DUNS: 001766682
Subaward Expiration Date: July 31, 2020

Project Contacts:

Erin Perry, Special Projects Manager
eperry@capecodcommission.org
508-744-1236

Gail Coyne, Chief Fiscal Officer
gcoyne@capecodcommission.org
508-744-1202

Subrecipient Project Contacts:

Jennie Rheuban, Research Associate III
jrheuban@whoi.edu
508-289-3782

THIS SUBAWARD AGREEMENT (the "Agreement") is being entered into by and between Barnstable County, acting by and through the Cape Cod Commission (the "Recipient") and Woods Hole Oceanographic Institution (the "Subrecipient") so that the Subrecipient may partner with the Recipient in a project titled "Regional Collection & Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making" (the "Project") funded through the Southeast New England Program (SNEP) Watershed Grants.

1. Background and Prime Award. U.S. Environmental Protection Agency and Restore America's Estuaries entered into Cooperative Agreement #00A00370 to fund the Southeast New England Watershed Grants Projects. Restore America's Estuaries and the Cape Cod Commission entered into a subrecipient agreement #SNEPWG18-9-CCC to fund the Project (hereafter referred to as Prime Award). Under the terms of this Agreement, the Recipient awards funds to the Subrecipient for its participation in the Project. Although funds to be provided to the Subrecipient under this Agreement will come ultimately from the U.S. Environmental Protection Agency and Restore America's Estuaries, Subrecipient acknowledges that U.S. Environmental Agency and Restore America's Estuaries are not Parties to this Agreement and have no obligations directly to Subrecipient under this Agreement. Notwithstanding the above, Subrecipient will be subject to and will comply with the terms and conditions contained in the Prime Award which are applicable to the Subrecipient, which are attached hereto as Attachment B and incorporated herein by reference.

2. Scope of Services/Budget. The Subrecipient will perform the scope of services for a maximum subaward of \$107,289 as set forth in Attachment A. The Subrecipient agrees to provide a non-federal match of \$35,405 in project-related costs as described in the budget.

3. Disbursements and Accounting. The Subrecipient will separately account for expenditures made and payments received under this Subaward in its accounting records. The Recipient will not be obligated to pay Subrecipient for any costs not detailed in Attachment A and will be under no obligation to disburse funds to the Subrecipient under the Agreement, except to the extent that funds are disbursed to the Recipient under the Prime Award. Disbursements will be made to Subrecipient on a reimbursement basis no more frequently than quarterly, based upon receipt of a complete and accurate Financial Report for the applicable period. Payments will be sent to Subrecipient via check.

4. Administration: The Subrecipient agrees to comply with the Prime Award Terms and Conditions detailed in Attachment B and with 2 CFR 200 Uniform Guidance.

5. Reporting:

- Performance/Progress Reports – deliverables and progress reports per Attachment A are due 10 days after the quarters ending March 31, June 30, September 30, and December 31. A final report due within 30 days of Project completion (no later than August 31, 2020). The Subrecipient should refer to the detailed progress report requirements in Attachment B, Prime Award Conditions and its Attachment 1: Progress Report Requirements and Attachment 2: Final Report Requirements.
- Financial Reports – quarterly financial reports are due 10 days after the quarters ending March 31, June 30, September 30, and December 31. A final financial report is due within 30 days of project completion (no later than August 31, 2020). The Subrecipient should refer to the Summary Budget Table reporting requirements also in Attachment B, Prime Award Conditions and its Attachment 1: Progress Report Requirements and Attachment 2: Final Report Requirements.

6. Termination or Suspension of Agreement for Cause. If through any sufficient cause, the Subrecipient or the Recipient fails to fulfill or perform its duties and obligations under this Agreement, or if either party violates or breaches any of the provisions of this Agreement, either party will thereupon have the right to terminate or suspend this Agreement, by giving written notice to the

other party of such termination or suspension and specifying the effective date thereof. Such notice will be given at least fifteen (15) calendar days before such effective date.

7. Termination for Convenience of Recipient. The Recipient will have the right to discontinue the work of the Subrecipient and cancel this Agreement by written notice to the Subrecipient of such termination and specifying the effective date of such termination. In the event of such termination or suspension of this Agreement, the Subrecipient will be entitled to just and equitable compensation for satisfactory work completed, for services performed and for reimbursable expenses necessarily incurred in the performance of this Agreement up to and including the date of termination or suspension.

8. Recordkeeping, Audit, and Inspection of Records. The Subrecipient agrees to maintain books, records, documents and other evidence pertaining to all costs and expenses incurred and revenues acquired under this Subaward (collectively "Records") to the extent and in such detail as will properly reflect all costs and expenses for which reimbursement is claimed. The Records will be maintained in accordance with 2 CFR 200.333. As may be requested, the Subrecipient will provide timely and unrestricted access to its books and accounts, files and other Records with respect to the Project for inspection, review and audit by the Recipient, Restore America's Estuaries, U.S. Environmental Protection Agency and their authorized representatives. Upon inspection, review or audit, if the Recipient, Restore America's Estuaries, or U.S. Environmental Protection Agency disallows any costs claimed by the Subrecipient related to this Agreement, the Subrecipient will be responsible for reimbursing the Commission for any of those costs.

If the Subrecipient has a single audit performed in accordance with Uniform Guidance, the Subrecipient must electronically submit (within the earlier of 30 calendar days after receipt of the auditor's report, or nine months after the end of the audit period) to the Federal Audit Clearinghouse (FAC) the data collection form and the reporting package. The collection form must be obtained from the FAC webpage. The reporting package must include the Financial Statements and Schedule of Expenditures of Federal awards, the summary schedule of prior audit findings, the auditors reports and a corrective action plan. If the Subrecipient does not submit the form and package within the required timeframe, the Recipient may perform additional monitoring of the award.

9. Title to and Use of Work Products and Data. Except to the extent otherwise provided in the Prime Award, all completed work products funded by this Agreement are in the public domain, free of copyright or other intellectual property protections.

10. Announcements and Acknowledgments. All public announcements or news stories concerning the Project will be subject to the prior approval of the Recipient and will indicate the participation of the Recipient, SNEP, Restore America's Estuaries, and U.S. Environmental Protection Agency in the funding of the Project.

11. Liability and Indemnification. The Recipient and Subrecipient mutually agree to hold each other harmless from the negligent acts of their own employees, subcontractors or agents, defend and indemnify the other Party and its subsidiaries, officers, directors, agents, employees, and assigns of each from and against losses, damages, demands, claims, suits and liabilities, including counsel fees and other expenses of litigation, arising out of and related to work on the Project under the Prime Award.

12. Choice of Law. This Agreement will be construed under and governed by the laws of the Commonwealth of Massachusetts. The Subrecipient and the agents thereof, agree to bring any federal or state legal proceedings arising under this Agreement, in which the Commission is a party, in a court of competent jurisdiction within the Commonwealth of Massachusetts. This paragraph will not be construed to limit any rights a party may have to intervene in any action, wherever pending, in which the other is a party.

13. Force Majeure. Neither party will be liable to the other nor be deemed to be in breach of this Agreement for failure or delay in rendering performance arising out of causes factually beyond its control and without its fault or negligence. Such causes may include but are not limited to: acts of God or the public enemy, wars, fires, floods, epidemics, strikes, or unusually severe

13. Force Majeure. Neither party will be liable to the other nor be deemed to be in breach of this Agreement for failure or delay in rendering performance arising out of causes factually beyond its control and without its fault or negligence. Such causes may include but are not limited to: acts of God or the public enemy, wars, fires, floods, epidemics, strikes, or unusually severe weather. Dates or times of performance will be extended to the extent of delays excused by this section, provided that the party whose performance is affected notifies the other promptly of the existence and nature of such delay.

14. Compliance with Laws. The Subrecipient will promptly comply with all applicable laws, rules, regulations, ordinances, orders and requirements of the Commonwealth and any state or federal governmental authority relating to the delivery of the services described in this Agreement.

15. Headings, Interpretation and Severability. The headings used herein are for reference and convenience only and will not be a factor in the interpretation of the Agreement. If any provision of this Agreement is declared or found to be illegal, unenforceable, or void, then both parties will be relieved of all obligations under that provision. The remainder of the Agreement will be enforced to the fullest extent permitted by law.

IN WITNESS WHEREOF, Recipient and Subrecipient have executed this Agreement this 10th day of October in the year two thousand and eighteen.

FOR BARNSTABLE COUNTY COMMISSIONERS:



Leo Gakounes, Chair



Ron Beaty, Vice-Chair



Mary Pat Flynn, Commissioner

Date

FOR THE COMMISSION:



Kristy Senatori, Executive Director

10/9/18

Date

FOR WOODS HOLE OCEANOGRAPHIC INSTITUTION:



10/31/2018

Date

ATTACHMENT A SCOPE OF WORK/DELIVERABLES/BUDGET

TASKS

WHOI researchers will work with Cape Cod Commission staff and other project partners to complete tasks associated with the project titled "Regional Collection and Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making". Project tasks include:

- Task 1: Data integration, quality assurance and control
- Task 2: Collaboration with end users and pilot project
- Task 3: Data analysis and development of a processing script
- Task 4: Integration with web-based user interface and other information products
- Task 5: Targeted outreach to inform local action
- Task 6: Final report

WHOI researchers will work with the project team on tasks associated with further refining the regional water quality database to ensure quality assurance and control and completing region-wide data analyses. Data analyses will be completed using water quality monitoring data collected by project partners and others and compiled into a regional and standardized database.

The following work will be completed by WHOI researchers (in parenthesis is the project task each is associated with):

- Coordinating with project partners during regularly scheduled project team meetings (Task 2)
- Attending and participating in End User Group meetings on an approximately quarterly basis (Task 2)
- Attending and participating in up to two workshops with a pilot watershed group (Task 2)
- Working with the project partners and consultants to develop and agree upon quality assurance and control procedures for both historic and future water quality data (Task 1)
- Working with project partners and an End User Group to define the metrics needed to inform local water quality planning (Task 2 and Task 3)
- Analyzing data included in the water quality database, consistent with the metrics identified (Task 3)
- Developing a processing script for data trend analyses designed to generate metrics upon request at user-defined spatial and temporal scales and capable of integrating new data as the database is updated (Task 3)
- Working with Commission staff to translate the processing script to ensure compatibility with a public facing user interface (Task 4)
- Working with project partners to develop a detailed interpretation of historical water quality data for one pilot watershed (Task 2 and Task 3)

DELIVERABLES

- Complete and annotated processing script for data analyses
- Data trend analyses for currently available data sets
- Data interpretation for one pilot watershed

TIMELINE

The project timeline is as follows:

	2018			2019												2020							
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Task 1																							
Data Compilation																							
Database QA/QC																							
WBNERR QAPP Development																							
Ponds and Lakes QAPP Development																							
Task 2																							
End User Group Mtgs																							
Monitoring Group Workshop																							
Identify Data Outputs/Analysis Needs																							
Pilot Watershed Interpretation																							
Identify Monitoring/Research Gaps																							
Task 3																							
Data Analysis/Script Development																							
Pilot Watershed Analysis/Interpretation																							
Task 4																							
Development of Report Card Template																							
Report Cards Released																							
"State of the Waters: Cape Cod" Released																							
Integrate Script with Database/Website																							
Task 5																							
Develop Targeted Outreach Schedule																							
Targeted Outreach/Workshops/Meetings																							
Task 6																							
Final Report																							

To maintain the proposed timeline and achieve associated milestones, WHOI deliverables should be delivered no later than the following:

- Complete and annotated processing script – May 31, 2020
- Data trend analyses for currently available data sets – May 31, 2020
- Data Interpretation for pilot watershed – June 30, 2020

WHOI - SNEP Watershed Grant Budget					
Cost Item or Category	Cost Basis	RAE SNEP Request	Non-Federal Match	Match Source	Total Project Cost
Personnel					
Jennie Rheuban	1216 hrs @ \$42.625	51,832.00	-		51,832.00
					-
					-
Total Personnel		51,832.00	-		51,832.00
Fringe					
Fringe, CCC			-		-
Fringe, APCC					-
Fringe, BBC					
Fringe, PCCS					
Fringe, SMAST					
Fringe, WBNERR					
Fringe, WHOI	45.99%	23,837.00			23,837.00
Total Fringe		23,837.00	-		23,837.00
Travel					
In-state travel	xxx mi @ \$0.545				-
Out-of-state travel (S. Doney)		4,798.00			4,798.00
					-
Total travel		4,798.00	-		4,798.00
Equipment					
					-
					-
Total Equipment		-	-		-
Supplies					
					-
					-
Total Supplies		-	-		-
Contractual					
QAQC Database					-
Dr. Scott Doney			12,339.00	Dr. Scott Doney	12,339.00
Total Contractual		-	12,339.00		12,339.00
Other					
					-
					-
Total Other		-	-		-
TOTAL DIRECT		80,467	12,339		92,806
Total Modified Direct Costs		80,467			
Indirect 62% of TMDC	62%	49,889.54			
Indirect Cost Limit	(25% of award amou	26,822	23,066		49,889
TOTAL (Total Direct + 10%TMDC)		107,289	35,405		142,694
Match			33.00%		



2018 SNEP WATERSHED GRANTS

Subrecipient Agreement Between Restore America's Estuaries and Cape Cod Commission (Barnstable County)

September 1, 2018 – September 30, 2020

Contract #SNEPWG18-9-CCC

Points of Contact

For Restore America's Estuaries:

Thomas Ardito
401-575-6109
tardito@estuaries.org
P.O. Box 476, Saunderstown, RI 02874

For Cape Cod Commission (Barnstable County):

Erin Perry, Special Projects Manager
3225 Main St., Barnstable, MA 02630
508-744-1236
eperry@capecodcommission.org

This constitutes an agreement between Restore America's Estuaries (RAE or the Recipient) and Cape Cod Commission (Barnstable County) (CCC or the Subrecipient), regarding the responsibilities of each in their roles as Recipient and Subrecipient under the 2018 round of Southeast New England Program (SNEP) Watershed Grants, **EPA FAIN Grant #00A00370**, and its amendments and supplements.

1. Contract Documents: Contract documents shall consist of this agreement and the following attachments, all of which are incorporated by reference into this agreement.

Attachment 1: Progress Report Requirements

Attachment 2: Final Report Requirements

Attachment 3: Project workplan and budget.

2. Services: CCC agrees to perform services as described in the scope and budget provided in Attachment 3 of this agreement (hereinafter the "Project.")

3. Contract Amount: Restore America's Estuaries agrees to make available \$399,998 for use by CCC for the contract period. CCC agrees to expend this money in conformity with the scope and budget in Attachment 3 (the Project.) CCC agrees to provide \$145,665 in Project-related matching costs as described in the budget. Matching funds must be from non-federal sources and must be expended during the period of this agreement.

4. Contract Period: This agreement covers the period **September 1, 2018 through September 30, 2020**. Work shall be completed and all reimbursable expenses incurred by **August 31, 2020**.

5. Alterations: Any alterations in the scope of the work performed shall be submitted by the Subrecipient in writing to RAE, and must be approved in advance in writing by RAE. Cumulative transfers of funds among approved direct cost categories that exceed 10% of the total award must be approved by RAE in writing in advance.

For Subrecipients with a current Negotiated Indirect Cost Rate Agreement (NICRA) on file with a federal agency, amended budgets must maintain consistency with the NICRA and the requirements of the 2018 SNEP Watershed Grants Request for Proposals (RFP). For these Subrecipients, indirect costs may not exceed 25% of the award amount.

For Subrecipients without a current NICRA, amended budgets must maintain consistency with the requirements of the 2018 SNEP Watershed Grants RFP, and may not exceed 10% of Modified Total Direct Costs as described in the RFP.

6. Progress & Final Reports: The Subrecipient agrees to submit progress reports twice yearly, and a final report upon completion of the Project, according to the following schedule:

Report	Period Covered	Due Date
Progress #1	Sep. 1, 2018 – Dec. 31, 2018	Jan. 31, 2019
Progress #2	Jan. 1, 2019 – Jun. 30, 2019	Jul. 31, 2019
Progress #3	Jul. 1, 2019 – Dec. 31, 2019	Jan. 31, 2020
Progress #4	Jan. 1, 2020 – Jun. 30, 2020	Jul. 31, 2020
Final Report	Entire Project period (completion no later than Aug. 31, 2020)	30 days following completion of Project and no later than Sept. 30, 2020.

Progress and final reports will reference the goals and objectives included in Attachment 3 and indicate the progress that has been made toward each during the reporting period. Subrecipient agrees to prepare and submit progress and final reports as described above and in Attachments 1 & 2. RAE reserves the right to withhold payments if the Subrecipient has not submitted the reports on schedule or if reports are unsatisfactory in meeting the requirements of this agreement. See Attachments 1 & 2 for more information on reporting formats.

Final reports should be geared toward an audience broader than simply RAE – in other words, it should be designed to communicate Project outcomes and results in a meaningful way to end users, stakeholders and others who may be able to learn from or take advantage of, or learn from Project outcomes and results. In all cases the final report should include an executive summary providing a brief but complete overview of Project outcomes and results, as specified in Attachment 1. In the event that the final report is intended for a technical audience, the executive summary should be written for a general audience and suitable for such purposes as reporting to funding agencies, elected officials, general-interest media outlets, etc. See Attachment 2 for more information.

Be sure to take plenty of high-resolution photographs throughout the course of the Project for use in progress reporting and, most importantly, the final report and executive summary. See Attachments 1 & 2 for more information.

7. Collaboration and Communication: SNEP Watershed Grants Program supports the Southeast New England Program (SNEP), an initiative of the U.S. Environmental Protection Agency (EPA), Region 1. The mission of SNEP is to:

Foster collaboration among regional partners across southeast New England’s coastal watersheds to protect and restore water quality, ecological health and diverse habitats by sharing knowledge and resources, promoting innovative approaches, and leveraging economic and environmental investments to meet the needs of current and future generations.

More information about SNEP is available at

<https://www.epa.gov/snecwrp>

Strong local and regional partnerships are essential in carrying out the mission of SNEP. Subrecipient agrees to participate in SNEP through at least two workshops or conferences over the course of the Project.

Subrecipient agrees to acknowledge SNEP and RAE in communications with the media, the public, and elected officials about the Project, including all publications, work products, academic and general publications, videos, signage, press releases, etc. Signs, printed reports and similar materials should include the SNEP logo where practicable. Subrecipients may download high-resolution digital files of the SNEP logo at www.snepgrants.org.

Example acknowledgement language:

[Project name] is supported by the Southeast New England Program (SNEP) Watershed Grants. SNEP Watershed Grants are funded by the U.S. Environmental Protection Agency (EPA) through a collaboration with Restore America's Estuaries (RAE). For more on SNEP Watershed Grants, see www.snepgrants.org

Subrecipient will coordinate with RAE on outreach plans, events, products, and media coverage associated with the Project, so that RAE may assist with the development of outreach communications and messaging. Subrecipient should provide drafts of any outreach plans to RAE staff for review and input. In particular, all press releases should be shared with RAE in draft at least one week in advance of release to allow RAE the opportunity to provide comments, and a quote if requested.

Subrecipient agrees to provide copies of final outreach products, website mentions, press materials, photos, etc. via the standard progress reports to RAE, or when available throughout the award period.

Subrecipient will provide RAE with high-resolution before, during, and post-implementation photos of the Project. Photos of Project sites prior to construction and during Project implementation should be submitted with progress reporting or as requested by RAE.

Subrecipient will notify RAE of all significant Project-related meetings and events (Project team meetings, public meetings, public hearings and presentations, press events, commencement of construction, ribbon-cuttings, etc.) at least one week prior to the event.

SNEP Watershed Grants are federal funds. RAE will assume, therefore, that all completed work products funded by SNEP are in the public domain, free of copyright or other intellectual property protections, unless covered by another applicable agreement or requirement (e.g., university intellectual property policies). In the event that Project work

products are subject to other intellectual property requirements, the Subrecipient shall inform RAE of such requirements ***prior to signature*** of this grant.

Project implementation sites (e.g., best management practice (BMP) installations, construction areas, etc.) must display, where appropriate and practicable, a permanent sign indicating that the Project has received funding through the U.S. Environmental Protection Agency, Southeast New England Program, and Restore America's Estuaries, and including the SNEP logo. Signage should also identify other contributing partners.

8. Permits & Compliance: Subrecipient will ensure that implementation of the Project meets all federal, state and local environmental laws and consistency requirements, including EPA Quality Assurance Project Plan (QAPP) requirements.

9. Invoices: Subrecipient will invoice RAE at least quarterly and at most monthly for reimbursable Project expenses. Generally, payment of approved expenses will be by reimbursement by RAE; however, the Subrecipient may request advance payment if necessary.

In the event that advance funds are needed, requests should be made at least one month prior to the anticipated need for the funds.

Invoices must follow the following format:

- The invoice must be on organization letterhead.
- Reference the contract number.
- Include date of invoice and period covered.
- List the total amount of expenses and match incurred during the invoice period by approved grant budget categories, as contained in the line item budget in Attachment 3.
- Indicate the amount of cumulative expenses and match from the beginning of the budget period and the balance still available. This information should also be listed by approved grant budget categories, as contained in the line item budget in Attachment 3.
- Include a general description of work performed or costs incurred.
- List the Project task that the requested amount applies to. If the requested remittance amount applies to two or more Project tasks, the invoice must list the amount that will be applied to each.
- Cash and in-kind matching funds should be listed separately, and the source of all match identified.
- Include organization name, mailing address for payment, and any cost codes that should be included on the check.
- Invoices must be signed by an authorized representative of the organization.

Submit invoices in PDF format to:

snepgrants@estuaries.org

Note: Variances among approved direct cost categories that cumulatively exceed 10% of the total award must be approved by RAE in advance in writing.

10. Financial Records: Subrecipient agrees to maintain accurate records of all costs incurred in the performance of this work, including matching funds, and agrees to allow Restore America’s Estuaries, EPA, and their duly authorized representatives reasonable access to their records to verify the validity of expenses reimbursed under this agreement. Subrecipient agrees to maintain financial records, supporting documents and other records pertaining to this agreement for a period of three (3) years from the termination date of this agreement.

To comply with federal regulations, Subrecipient agrees to maintain a financial management system that provides accurate, current and complete disclosure of the financial status of the subaward. This means the financial system must be capable of generating regular financial status reports which indicate the dollar amount allocated for the award (including any budget revisions), the amount obligated, and the amount expended for each activity. The system must permit the comparison of actual expenditures and revenues against budgeted amounts.

Accounting records must be supported by source documentation. Invoices, bills of lading, purchase vouchers, payrolls and the like must be secured and retained for three (3) years in order to show for what purpose funds were spent. Payments should not be made without invoices and vouchers physically in hand. All vouchers and invoices should be on vendors' letterheads.

All employees paid in whole or in part from funds provided under this agreement must prepare a time sheet indicating the hours worked for each pay period. Personnel activity reports (i.e. timesheets) reflect an after-the-fact determination of the actual activity of each employee charging time to the agreement and must reflect all time spent by an employee and be signed by the employee or a supervisor. “Timesheets” are required only for those employees charging time to the Project, and then must reflect all time spent by the employee.

Subrecipient should keep records, based on these time sheets and the hourly payroll costs for each employee, indicating the distribution of payroll charges.

Subrecipient must maintain in its records documentation of non-federal Project-related matching costs in the amount specified in the budget under Attachment 3. Subrecipient agrees to adhere to federal rules and guidelines governing documentation and acceptability of Project-related matching costs.

Matching Contributions, whether in the form of cash, goods and services, or property, must be:

- 1) Non-federal in nature (Federally appropriated or managed funds are ineligible.);
- 2) Utilized for work in support of the Project;
- 3) Expended within the timeframe of this contract; and,

4) Voluntary in nature (Funds presented for fulfillment of mitigation, restitution, or other permit or court-ordered settlements are not eligible.). Subrecipients must document and maintain all records of matching contributions.

11. Audits: RAE reserves the right to audit some or all of the Project costs, expenses, payments, etc., either formally or informally, as the Project proceeds and/or upon completion.

In the event that the Subrecipient's total expenditures under federal awards exceed \$750,000 in a fiscal year, an audit meeting the requirements of 2 CFR 200 is required. It is the Subrecipient's responsibility to contract for this audit and to submit a copy to RAE no later than thirteen months after the close of the fiscal year to which the audit pertains, for fiscal years that fall in whole or in part within the period of this agreement. If an audit discloses findings or recommendations, Subrecipient agrees to include with the audit report a corrective action plan containing the following:

- The name and number of the person responsible for the corrective action plan.
- Specific steps to be taken to comply with the recommendations.
- A timetable for performance and/or implementation dates for each recommendation.
- Descriptions of monitoring to be conducted to ensure implementation.

In the event that the Subrecipient completes any other routine or required audits during the period of this grant (for example, an annual independent audit), the Subrecipient will inform RAE of the availability of the audit within 30 days of completion, and will provide RAE with a copy of the audit *if requested by RAE*.

12. Allowable and Unallowable Costs: SNEP Watershed Grants are federal funds. Subrecipient agrees to follow federal regulations as put forth in 2 CFR 200 and applicable OMB Circulars in determining allowable costs under this agreement. Subrecipient agrees not to use funds provided under this agreement for any cost that is unallowable under these regulations. Reimbursement by RAE for any cost that is later determined to be unallowable does not constitute sanction by RAE for the unallowable use of these funds.

13. Indemnification: The Subrecipient agrees to indemnify RAE against all losses for expenses incurred by the Subrecipient that are, or are later held to be, unallowable. Reimbursement by RAE to the Subrecipient for such costs does not negate nor in any way nullify the Subrecipient's responsibility under this provision.

As the direct Recipient of funds under this Award, RAE is responsible for the management of the award and is ultimately responsible for ensuring compliance with all federal requirements. The Subrecipient will cooperate with RAE in achieving compliance with the specific terms and conditions of the award, as well as the other terms and conditions specified in this agreement.

14. Project Data and Results: Sharing of Project data and results, including environmental data and analysis, is a SNEP priority. All information collected and/or created under this grant/cooperative agreement will be made visible, accessible and independently understandable to users in a timely manner (typically no later than one (1) year after the data are collected or created) free of charge or at minimal cost that is no more than the cost of distribution to the user.

Project results will similarly be made available in a timely manner, typically via the final report described above and in Attachment 2.

15. Signatures

For Restore America's Estuaries

By:  _____
Jeff Benoit, President & CEO

Date: 9-4-18

For Cape Cod Commission (Barnstable County):

By:  _____
Name & Title: Leo Cakounes, Ron Beaty, Mary Pat Flynn,
Barnstable County Commissioners

Date: 09/12/18

Attachments

- Attachment 1: Progress Report Requirements
- Attachment 2: Final Report Requirements
- Attachment 3: Project workplan and budget.



2018 SNEP WATERSHED GRANTS Subrecipient Agreement

Attachment 1: Progress Report Requirements

General Instructions

The Progress Report consists of:

1. Cover Information;
2. Project Report Narrative;
3. Project Budget Report;
4. Supporting Materials;
5. Certification.

Progress reports shall be completed and returned within one month of the end of a reporting period, using the following calendar:

Report	Period Covered	Due Date
Progress #1	Sep. 1, 2018 – Dec. 31, 2018	Jan. 31, 2019
Progress #2	Jan. 1, 2019 – Jun. 30, 2019	Jul. 31, 2019
Progress #3	Jul. 1, 2019 – Dec. 31, 2019	Jan. 31, 2020
Progress #4	Jan. 1, 2020 – Jun. 30, 2020	Jul. 31, 2020
Final Report	Entire Project period (completion no later than Aug. 31, 2020)	30 days following completion of Project and no later than Sept. 30, 2020.

If there was no Project activity during the period, a report should still be filed, explaining why there was no activity. Please use the template attached to these instructions to complete the progress report. The report should be submitted via email in PDF format to:

snepgrants@estuaries.org

The form may be signed electronically.

The following pages provide a template and instructions for progress reports. Use this format.

(Attach. 1 Cont'd)

**SNEP Watershed Grants
Progress Report Template**
Annotated with Instructions

1. Cover Information

Date

Project Name

Contract Number (SNEPWG18-###)

Grant Period (for entire Project)

Grantee Organization

Report Contact Person, with telephone & email

Project Leader (if different)

Reporting Period

Report Type and Number (e.g., Progress #2)

2. Project Report Narrative

Summarize the Project activities undertaken during the current reporting period within the following headings, building upon the narrative from previous reports, if any.

2.A. Results & Progress to Date

Describe in sufficient detail the goals of the Project, and the progress and results achieved during the current reporting period, building on the narrative from previous reports, if any. Report accomplishments or setbacks on specific tasks as described in the scope of work, Attachment 3. This should include information such as:

- problems that the Project is addressing;
- short and long term objectives, and how they are being or have been met;
- relevance of the Project to restoring and protecting coastal and watershed ecosystems in the Southeast New England Region;
- activities carried out in this reporting period, including specific techniques and materials used;
- deliverables or milestones completed or partially completed during the reporting period (if partially completed, describe current status, percentage completion, etc.);
- findings to date or lessons learned during this reporting period;

- challenges or potential roadblocks to future progress (Note: If you have immediate concerns about the Project, please contact RAE to discuss the issue as soon as possible.)

2.B. Work Remaining Under Current Contract

Describe in sufficient detail the activities remaining and next steps to be completed under the current contract. Provide an updated timeline of major Project tasks, as applicable.

2.C. Compliance

Describe the status of Quality Assurance Project Plan (QAPP) completion, submittal and approval. List any permits required for the Project, and their status (e.g., not yet applied for, submitted and under review, approved on [date], etc.).

2.D. Project Partners

List major Project partners, and briefly note their contributions.

2.E. Volunteer and Community Involvement

Describe community support and any public involvement in the Project, including the specific roles of volunteers in Project activities. List the number of volunteers and hours that were contributed during this period. If volunteer time is being used as match, report this in the budget section, described below.

2.F. Outreach & Communications

Describe any outreach or educational activities (e.g. training, brochures, videos, press releases or public events) related to the Project. **Include PDF copies of press releases, outreach documents, newspaper articles, etc. as described under “Supporting Materials,” below.**

3. Project Budget Report

The budget report must provide sufficient information and detail to explain Project expenses, for the reporting period *and* cumulative-to-date, in the context of the objectives, tasks, and categories provided in the Project narrative and budget under Attachment 3. The budget report should be organized so that a reviewer can easily judge whether expenditures to date for the Project are tracking well with progress toward objectives and, if not, to understand why.

3.A. Summary Budget Table

Provide a summary budget table to show overall expenditures and match during the reporting period and cumulative-to-date, using the following format. Be sure to fully document match and match sources.

Summary Budget Table

	Budget Category	Total Budgeted Funds	Total Budgeted Match	Grant Funds Expended this period	Grant Funds Expended Cumulative	Match Funds Expended this period	Match Funds Expended Cumulative	Match Source
a	Personnel							
b	Fringe							
c	Travel							
d	Equipment							
e	Supplies							
f	Contractual							
g	Other							
h	Total Direct							
i	Indirect							
j	Total							

3.B. Detailed Project Budget Table

The centerpiece of the Project budget report is a budget table or tables utilizing the same cost categories and level of detail as the Project budget under Attachment 3. Report expenditures by category and, if applicable, task. Where a category is very broad, provide sufficient breakdown detail – for example, where “personnel” covers a number of individuals, show expenses for each individual; under “subcontracts” show expenses for each subcontract, etc. The table need only describe expenditures during the reporting period, rather than cumulatively. Add additional tables if need be to provide sufficient detail, or to summarize costs by task. **Where additional tables are used, ensure that the reviewer can easily understand how they relate to one another and the summary budget table.**

3.C. Budget Narrative

Use a budget narrative, keyed to the budget tables where necessary, to provide sufficient detail on expenditures and match. The budget narrative in the report may follow the format of the budget narrative in the Project budget under Attachment 3. Be sure to explain any deviations from the approved budget. The Subrecipient Agreement details requirements for prior approval for changes to Project budgets.

4. Supporting Materials

Include high-resolution digital copies, using PDF format for documents and JPG or TIFF format for images, of supporting materials related to the Project, including:

- Project maps and drawings;
- Technical memoranda, data analyses and modeling reports;
- Project photographs, including photos depicting implementation sites before, during, and after implementation; photos of Project signs, etc.;
- Press releases, news articles, brochures, educational curricula, etc.

In the event that file sizes for supporting materials are too large to attach, contact RAE to set up a shared cloud file.

5. Certification

Include this language: *The undersigned verifies that the descriptions of activities and expenditures in this progress report are accurate to the best of my knowledge; and that the activities were conducted in agreement with the grant contract. I also understand that matching fund levels established in the grant contract must be met.*

Grantee Signature:

Name:

Job Title

Date:

Organization:



2018 SNEP WATERSHED GRANTS Subrecipient Agreement

Attachment 2: Final Report Requirements

General Instructions

The Project final report follows the same format as interim progress reports, with several important differences:

- The final report covers the Project from beginning to end, describing the entire course of the Project, and presenting all expenditures and results;
- It includes lessons learned from the vantage point of the completed Project;
- It provides greater detail on both process and outcomes; and
- It includes an executive summary written for a general or general professional audience (more on this below).

The Final Report consists of:

0. Executive Summary;
1. Cover Information;
2. Project Report Narrative;
3. Project Budget Report;
4. Supporting Materials;
5. Certification.

The Final Report covers the entire Project period (completion no later than Aug. 31, 2020) and must be submitted within 30 days following completion of the Project (no later than Sept. 30, 2020.)

The report should be submitted via email in PDF format to:

snepgrants@estuaries.org

The form may be signed electronically.

The following pages provide a template and instructions for final reports. Use this format.

(Attach. 2 Cont'd)

**SNEP Watershed Grants
Final Report Template**
Annotated with Instructions

O. Executive Summary

The executive summary (ES) is most easily completed after the rest of the final report has been written; however, it is an essential component of the report and should not be treated as an afterthought. Communication, collaboration, learning and technology transfer are fundamental to the mission of the Southeast New England Program (SNEP). The executive summary will be a principal means by which outcomes of the Project are communicated; therefore, it should adhere to the following guidelines:

- The executive summary should be written and formatted so it can be used as a stand-alone report. It should make sense to a reader with no prior knowledge of the Project, and should be fully understandable independent of the rest of the final report or any other Project information or documentation.
- Follow the format and utilize the headings for the full final report (listed below), providing complete information on the Project, including a summary of costs and match.
- The ES should include its own title or cover page so that it can be easily separated from the rest of the report. This may be a general, illustrated cover for the entire report that doubles as a cover for the ES.
- Consider your audience. You may choose to write for a general audience – for example, all adult residents of a particular municipality. Or, you may gear the ES toward a more professional audience – for example, water resources managers throughout the SNEP region. In every case, however, it should be written for a broader audience than simply the Project team and grant managers. If it is written for a more technical audience, it should still be written in such a way that an informed general reader – for example, a newspaper reporter – can make sense of it. If you use acronyms or technical terms, for example, provide a glossary if need be to define them.
- Communicate the story of the Project. The reader should understand, not just what you did, but why you did it – why it is important, and how it will positively affect ecosystems and communities in Southeast New England. If it pertains to a specific resource, thoroughly describe its impact on that resource, and also explain its broader impact. For example, for a Project that restores water quality, the ES should describe the specific parameters of that restoration, but should also discuss the importance of the improvement to the community, such as beach use, shellfishing or the local tourism economy, and describe the area (watershed, estuary, community, etc.) affected by the work.

- Use images to help tell that story. The ES should include the best and most informative maps, photos or other images from among the supplemental materials (Section 4, below). At the very least, the ES should include a map of the Project area and some high-resolution photos of the Project area, community meetings, construction work if any, researchers performing sampling, etc. The ES should include enough images to convey the outcomes of the Project while maintaining an easily readable summary and convenient digital file size.
- Include an overview of Project costs and match. Describe volunteer participation.
- In general, the ES should be about 3-5 pages of text, and 5-10 pages complete with images.
- The ES must prominently acknowledge SNEP support of the Project. Suggested language for this acknowledgement is provided in the subrecipient agreement.

1. Cover Information

The cover information for the final report is identical to that for a progress report, except that the reporting period is the entire (actual) grant period, as follows:

Project Name
 Contract Number (SNEPWG18-###)
 Grant and Reporting Period (actual, completed)

Grantee Organization
 Report Contact Person, with telephone & email
 Project Leader (if different)

Report Type: Final

2. Project Report Narrative

Summarize the Project activities undertaken during the course of the Project. Unlike progress reports, the final report *does not* build upon the narrative from previous reports, but should be a stand-alone report, describing the Project from beginning to end.

2.A. Project Results

Describe in sufficient detail the goals of the Project, and the progress and results achieved over the course of the Project. Report accomplishments or setbacks on specific tasks as described in the scope of work, Attachment 3. This should include information such as:

- problems that the Project addressed;
- short and long term objectives, and how they are being or have been met;
- relevance of the Project to restoring and protecting coastal and watershed ecosystems in the Southeast New England Region;
- geographic area(s) affected by the Project;

- activities carried out to complete the Project, including specific techniques and materials used;
- deliverables or milestones completed;
- findings to date or lessons learned during this reporting period;
- changes made to the Project plan over the course of the Project, why they were made and how they worked out;
- next steps for future progress;
- challenges for future progress.

2.C. Compliance

List or summarize any compliance activities completed – Quality Assurance Project Plan (QAPP), permits, etc.

2.D. Project Partners

List major Project partners, and note their contributions in detail.

2.E. Volunteer and Community Involvement

Describe community support and any public involvement in the Project, including the specific roles of volunteers in Project activities. List the number of volunteers and hours that were contributed during the Project. If used as match, report the match figures under the budget section described below.

2.F. Outreach & Communications

Describe any outreach or educational activities (e.g. training, brochures, videos, press releases or public events) related to the Project. **Include PDF copies of press releases, outreach documents, newspaper articles, etc. as described under “Supporting Materials,” below.**

3. Project Budget Report

The budget report must provide sufficient information and detail to explain Project expenses for the entire Project, in the context of the objectives, tasks, and categories provided in the Project narrative and budget under Attachment 3. The budget report should be organized so that a reviewer can easily judge whether expenditures tracked the original Project budget and, if not, to understand why.

3.A. Summary Budget Table

Provide a summary budget table to show overall expenditures and match over the course of the entire Project, using the following format. Be sure to fully document match and match sources.

Summary Budget Table

	Budget Category	Total Budgeted Funds	Total Budgeted Match	Total Budgeted Grant + Match	Actual Grant Funds Expended	Actual Match Funds Expended	Actual Expended Grant + Match	Match Source
a	Personnel							
b	Fringe							
c	Travel							
d	Equipment							
e	Supplies							
f	Contractual							
g	Other							
h	Total Direct							
i	Indirect							
j	Total							

3.B. Detailed Project Budget Table

As with progress reports, the centerpiece of the final budget report is a budget table or tables utilizing the same cost categories and level of detail as the Project budget under Attachment 3. Report expenditures by category and, if applicable, task. Where a category is very broad, provide sufficient breakdown detail – for example, where “personnel” covers a number of individuals, show expenses for each individual; under “subcontracts” show expenses for each subcontract, etc. This table will report expenditures over the course of the entire Project. Add additional tables if need be to provide sufficient detail, or to summarize costs by task. **Where additional tables are used, ensure that the reviewer can easily understand how they relate to one another and the summary budget table.**

3.C. Budget Narrative

Use a budget narrative, keyed to the budget tables where necessary, to provide sufficient detail on expenditures and match. The budget narrative in the report may follow the format of the budget narrative in the Project budget under Attachment 3. Be sure to explain any deviations from the approved budget. The Subrecipient Agreement details requirements for prior approval for changes to Project budgets.

4. Supporting Materials

Include high-resolution digital copies, using PDF format for documents and JPG or TIFF format for images, of supporting materials related to the Project, including:

- Project maps and drawings;
- Maps of Project results or outcomes if applicable;
- Technical memoranda, data analyses and modeling reports;
- Project photographs, including photos depicting implementation sites before, during, and after implementation; photos of Project signs, etc.;
- Press releases, news articles, brochures, educational curricula, etc.

In the event that file sizes for supporting materials are too large to attach, contact RAE to set up a shared cloud file.

5. Certification

Include this language: *The undersigned verifies that the descriptions of activities and expenditures in this final report are accurate to the best of my knowledge; and that the activities were conducted in agreement with the grant contract. I also understand that matching fund levels established in the grant contract must be met.*

Grantee Signature:

Name:

Job Title

Date:

Organization:

Attach. 3

3225 MAIN STREET • P.O. BOX 226
BARNSTABLE, MASSACHUSETTS 02630



CAPE COD
COMMISSION

(508) 362-3828 • Fax (508) 362-3136 • www.capecodcommission.org

August 29, 2018

The following details our proposed project, partner organizations, and project costs.

Project Title: Regional Collection and Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making

Location of Project: Cape Cod, Massachusetts

Applicant: Cape Cod Commission (Barnstable County)
3225 Main Street
Barnstable, MA 02630

Nature of Organization: Regional Planning Agency, Department of Barnstable County

Project Lead/Point of Contact: Erin Perry, Special Projects Manager
eperry@capecodcommission.org
508-744-1236

Partner Organizations: Association to Preserve Cape Cod
Center for Coastal Studies
UMass Dartmouth School for Marine Science and Technology
Waquoit Bay National Estuarine Research Reserve
Woods Hole Oceanographic Institution

Total Request: \$399,998
Total Non-Federal Match: \$145,665
Total Project Cost: \$545,663
Match Percentage: 36.42%

We look forward to the opportunity to complete the proposed work.

Sincerely,

Kristy Senatori
Executive Director

PROJECT NARRATIVE

Problem Statement: Cape Cod's 53 coastal embayments, nearly 1,000 ponds, and sole source aquifer are ecologically rich and extremely fragile (see project area map in attachment A). Human activity and land use – primarily nutrient pollution from septic systems – have significantly degraded estuarine and freshwater quality. Cape Cod communities struggling to find cost-effective strategies to reduce nitrogen can turn to the Area Wide Water Quality Management Plan for Cape Cod (208 Plan), recently updated by the Cape Cod Commission (Commission). Although the 208 Plan focuses on nitrogen as the major target for improving water quality in estuaries, phosphorus loading to freshwater ponds and streams must be targeted for pollution control measures. The 208 Plan provides a framework of traditional and non-traditional strategies for estuarine and freshwater quality improvement.

Towns are responsible for implementing strategies to reduce nutrients. In many areas across the region development density is not adequate to support cost-effective traditional collection and treatment of wastewater; therefore, towns are relying on the 208 Plan framework as a pathway for non-traditional strategies. Performance of these strategies is less certain, and implementation relies heavily on adaptive management. In addition to nutrients from septic systems, stormwater runoff is also a concern – one that all Cape Cod communities within the Southeast New England Program region are required to address through Municipal Separate Storm Sewer System (MS4) permits.

The 208 Plan's efficacy as a framework for local water quality management depends on the ability to ground-truth and record if strategies enacted in the field are effective and if the environment is responding with water quality improvements. Towns must revisit implementation plans periodically, as required as a condition of consistency with the 208 Plan and MS4 permits, and to maintain compliance with Watershed Permits issued by the Massachusetts Department of Environmental Protection. In most cases, towns must revisit plans at least every five years, and adjust their approaches as necessary. Towns, Barnstable County and partner organizations are collecting data annually and as nutrient management alternatives are implemented. Data analyses are needed to evaluate and determine success – or failure – of approaches.

This proposal seeks support to improve recording, management and translation of monitoring data, so towns better understand if management strategies are successful. It includes new methods for data analysis, evaluation, reporting, and translation to improve understanding of water quality trends and better integrate results into local planning and policy development, creating a path forward for the provision of data and information that will serve the 15 Cape Cod communities and the region well into the future.

Project Description: The Commission has developed a regional water quality database to centralize water quality data historically collected by multiple organizations and agencies. The project team proposes to enhance this framework by integrating additional data and adding tools to ensure data accuracy and assess nutrient mitigation strategies. Funding will help develop a user-friendly interface that analyzes estuarine monitoring data for each estuary with an existing long-term dataset. One watershed will be selected to pilot the interface in order to demonstrate and assess its effectiveness as a decision-support tool. In addition, the project team will compile and analyze existing data associated with freshwater resources, including ponds, lakes, and drinking water; and develop information products to improve understanding of the interconnection of all water resources to Cape Cod's Sole Source Aquifer. Together, these improvements will create a feedback-loop so that the effect of nutrient reduction strategies on a resource can be understood, captured, and used in real-time strategic decisions for nutrient reduction. Recognizing the importance of clean water and supporting all aspects of the environment on Cape Cod, information compiled and analyzed as part of this project will also be made more widely available through a variety of outreach initiatives.

A key feature of this program is that data analysis will provide a measure of the health of the water body and watershed to guide investment in nutrient reduction strategies. Another feature of this program is its

collaborative approach to water resources data aggregation, providing a platform that makes it possible for towns to have a comprehensive picture of the benefits of their investments across all gradients of the watershed. End user engagement is woven into each proposed task ensuring that the products provided at the end of the project will be easily applied and readily utilized by the research and management communities on Cape Cod. The goal is to provide towns with the best available science-based information, so investments in nutrient reduction and groundwater protection have the best possible effect on resources. This goal will be reached through the expertise of the project team, End User Group established as part of the project, and the State of the Waters: Cape Cod Advisory Committee established by the Association to Preserve Cape Cod (APCC). The project team includes experts in water resources, database management, data collection and analysis, collaboration and outreach and project management. The proposed work will be achieved through the following project tasks:

- Task 1: Data integration, quality assurance and control
- Task 2: Collaboration with end users and pilot project
- Task 3: Data analysis and development of a processing script
- Task 4: Integration with web-based user interface and other information products
- Task 5: Targeted outreach to inform local action
- Task 6: Final report

Task 1: Data integration, quality assurance and control

Water quality data as available through project partners and collaborators from all regions of Cape Cod, including estuarine and freshwater environments, will be inventoried and entered into the regional database. The Commission maintains data in an SQL database and will work with project partners to expand the existing database, as needed.

Estuarine Data: Commission staff will work with partner monitoring organizations to compile estuarine water quality data not currently in the regional database. The original effort to compile and integrate data into the database occurred in 2016 and included development of the database infrastructure, identification of data fields and compilation of historical data through 2015. The database will be updated to include all available data through to the present time. The monitoring organizations contributing data include the Center for Coastal Studies (CCS), Buzzards Bay Coalition (BBC), University of Massachusetts Dartmouth School for Marine Science and Technology (SMAST), and the Waquoit Bay National Estuarine Research Reserve (WBNERR). Data collection for these water quality monitoring programs began in 2006, 1992, 1987, and 1993, respectively.

To take advantage of all available long-term monitoring data, while also establishing quality control standards, any historic data generated before or without an approved Quality Assurance Project Plan (QAPP) will be flagged accordingly in the database as part of the quality assurance and quality control (QA/QC) process. Metadata will accompany the database, as well as any final reports acknowledging the use and confidence level of non-QAPP approved data. Three of the four contributing monitoring organizations (CCS, BBC, SMAST) hold current EPA-approved QAPPs. While BBC is not an official partner on this project, they have provided data for use in the database and agree to continue doing so. WBNERR will develop a QAPP in the first year of this proposed project. WBNERR currently sends samples to CCS and SMAST for nutrient analyses under two different water quality monitoring programs; therefore, those nutrient data are covered under approved QAPPs. WBNERR also maintains long-term data (1998 – present) collected using automatic YSI loggers (i.e., sondes) as part of the NOAA National Estuarine Research Reserve System-Wide Monitoring Program (SWMP), but the standard operating procedures for this program are not covered under previously approved QAPPs.

By developing a comprehensive QAPP for WBNERR, records with high (15-minute) temporal resolution of temperature, salinity, pH, dissolved oxygen, turbidity, and chlorophyll *a* fluorescence can be incorporated into the regional database and used in correlation with nutrient dynamics to model changes. The QAPP will strengthen WBNERR's data collection process and enhance its ability to share

and integrate data across private and academic institutions and state and federal agencies. This increased capacity for standardized data sharing is significant for this project but also for future collaborations.

Freshwater Data: Extensive data is available on the quality of Cape Cod's freshwater resources. APCC staff, working with the project team and trained volunteers, will identify and compile freshwater quality data to suitable standards, including state and federal Clean Water Act standards for surface waters and drinking water. An inventory of data will be developed to ensure data sources can be tracked and recorded. Data will be maintained in the regional database.

Data sources will be identified by the project team, guided by standards set by the State of the Waters Advisory Committee to ensure evaluation of all important and credible sources. Data will be compiled for lakes, rivers, public drinking water supplies, and groundwater. This effort will leverage the existing water resources data compiled and maintained by each project partner and will evaluate and compile appropriate data from other sources as an initial step in the project. Data utilized will include, but not be limited to, the 17 years of data collected by the Pond and Lake Stewardship (PALS) Program, as well as data collected from detailed pond assessments and water use and drinking water quality data from the 17 individual water purveyors on Cape Cod, all of which has been compiled by Commission staff.

The Commission and project partners will work with a consultant to develop a QAPP for pond and lake data. In the past, the Massachusetts Department of Environmental Protection (DEP) has declined to accept the existing PALS data for use in identifying and listing impaired waters. As with estuarine data, any historic data generated before or without an approved QAPP will be flagged accordingly and metadata will accompany the database.

Database Quality Assurance and Quality Control (QA/QC): A system for identifying potential errors in source data and/or inconsistencies in database formatting will be established.

The Commission and project partners will work with a consultant to complete the following tasks: 1) develop and agree upon a set of "filter rules" for both historic and future water quality data sets to identify potential errors in the source data; 2) implement a system for performing QA/QC on historical data sets and new data sets, as provided; 3) identify and address database formatting inconsistencies, such as inconsistent station IDs, that impact importing data sets and searchability of the database

As previously described, data not covered by a previously approved QAPP will be flagged accordingly and metadata accompanying the database, as well as final reports, will acknowledge the confidence level of non-QAPP approved data.

Task 1 Outputs: 1) Inventory of water quality data, including sources, parameters and dates; 2) Identification of data gaps; 3) Complete, up-to-date regional estuarine and freshwater quality databases; 4) WBNERR QAPP; 5) Ponds QAPP

Task 2: Collaboration with end users

The goal of this project is to make information more accessible and useable by towns and the region, all of whom are working to meet a regional goal of improving the quality of water resources. Social science research shows that to increase the likelihood of science and data being applied, managers and decision-makers must understand the science and find it to be legitimate and credible (Cash et al. 2003). To enhance the likelihood that data and products from this project are used and trusted, the project team intends to create deliberate processes that engage end users (those in a position to apply the project deliverables), ensuring they understand the data and that data products and analyses meet their information needs.

To this end we have designed a collaborative end user engagement process to enable this project to bridge the science to management divide and achieve desired outcomes. The project approach includes

integrating defined steps that will link the technical aspects of data collection and analysis to development of decision-support tools that meet end user needs and are able to help guide management decisions. The collaborative process is designed to be iterative and end user driven and builds in meaningful and deliberate opportunities for regional and local decision-makers to contribute to project outcomes. End user collaboration will be integrated in every aspect of the project, initiated at the beginning and sustained to the end. Utilizing this collaborative approach will set up the project for greater success by strengthening partner relationships as well as data sharing mechanisms that will continue beyond the life of the project. The impact of the collaboration process will also be evaluated as part of our project activities.

Key end users fall into four main groups: 1) water quality managers, regulators and policymakers who will draw on information and decision-support tools created from this effort to inform their work and management decisions, 2) water quality monitoring organizations who collect, analyze and contribute data to the regional database, 3) decision-makers from one watershed who will work with the project team to pilot test applying information to their local management needs and interests, and 4) researchers who can use information from the regional database as a platform for supporting local studies on the effectiveness of water quality approaches applied in the Cape Cod setting.

The seven groups of end users identified include: 1) The Cape Cod Water Protection Collaborative (CCWPC), which includes representatives from all fifteen Cape Cod towns and two County representatives. The mission of this body is to protect Cape Cod's shared water resources by promoting and supporting the coordinated, cost-effective and environmentally sound development and implementation of local water quality initiatives; 2) The Cape Cod Commission; 3) DEP; 4) The Environmental Protection Agency (EPA); 5) Monitoring organizations – CCS, APCC, WBNERR, BBC, pond associations; 6) Water quality committees, water resource managers and local officials from one pilot watershed; 7) Researchers (SMAST).

Engagement with end users will be structured and facilitated by a trained engagement specialist from WBNERR. Facilitators will ensure that open and regular communication is established and sustained with end users over the course of the project. The collaborative process has been broken into five objectives:

Collaboration Objective 1: Establish an End User Group to provide guidance to the project team and help make key decisions on different aspects of work products.

Process: The End User Group will be established at the beginning of the project and will be comprised of the membership of the Cape Cod Water Protection Collaborative and one designated representative from each of the other end user groups, including the project team organizations. The End User Group will meet on a quarterly basis. Meeting will be structured and professionally facilitated.

Anticipated Outcomes: Strengthened relationships among project partners, monitoring organizations, and end users, which is essential for increasing project impact and achievement of objectives.

Collaboration Objective 2: Work with water quality monitoring organizations to discuss database interface, data needs, reporting procedures, data QA/QC protocols, and all related processes necessary to establish a database that is as complete as possible and trusted by partners.

Process: The project team will hold a workshop soon after project start-up to bring key monitoring groups together to discuss all aspects of database set-up and use including data access, delivery, archiving, and quality control, as well as individual agency roles necessary to sustain the effort beyond the life of the project.

Anticipated Outcomes: Clear list of action items and responsible parties to strengthen database refinement and roll-out.

Collaboration Objective 3: Work with the End User Group to identify priority water quality information needs that can be addressed by accessing data from the regional database, as well as desired data outputs.

Process: Through facilitated meetings, WBNERR will work with end users to identify the key types of information and data outputs decision-makers need. Feedback will be summarized and shared with the project team. This feedback will be used to guide Task 3 and development of a data analysis processing script.

Anticipated Outcomes: Prioritized list of data analyses and desired outputs, as well as a list of data gaps.

Collaboration Objective 4: Work with pilot watershed group to conduct further analyses, interpret and translate results, and identify opportunities for applying data within the watershed to help inform water quality management decisions.

Process: Drawing on a review of available data by watershed, as well as the data needed to effectively run the processing script, the project team will select a pilot watershed. This decision will be made as part of the project implementation process and with consideration to areas where use of the regional database and processing script may be illustrated most effectively. This will inform lessons learned and serve as a template for other watersheds. Two meetings with key decision-makers within the pilot watershed, as well as database developers and technical data experts will take place. The purpose of these meetings will be to unpack and illustrate how municipalities can apply project outputs to decision-making, as part of local planning and management efforts. Where and how analyses can help decision-makers evaluate implementation of local water quality plans will be a focus of these deliberations. After the pilot process has been completed WBNERR will convene a regional workshop to share results of what was learned and transfer lessons to decision-makers in other watersheds on Cape Cod. Lessons and results from the process will be captured in the final project report.

Anticipated Outcomes: Decision-makers from pilot watershed receive analyzed and interpreted watershed specific data to inform management efforts. Decision-makers understand, trust and can apply the project outputs.

Collaboration Objective 5: Work with monitoring organizations and selected researchers from the pilot watershed to identify monitoring and research gaps. This is essential to create a feedback loop that allows the project team to identify how the regional database can be used to help improve monitoring.

Process: Given the range of approaches being considered across the region to help improve water quality, it is critical that a component of this project is geared toward better understanding outstanding monitoring needs. A workshop will be held to identify (i) if and where monitoring should/can be enhanced or streamlined, (ii) if previously uncollected parameters are needed to capture key trends, (iii) gaps in current monitoring efforts and resources needed to meet these gaps, (iv) opportunities where monitoring groups can work together more effectively to achieve shared goals and strengthen the regional database.

Anticipated Outcome: Recommendations developed to help guide future monitoring efforts. Identification of key research needs that is shared with regional research entities.

Task 2 Outputs: 1) Guidance on database QA/QC; 2) List of priority data outputs for Task 3; 3) Final report for one pilot watershed; 4) Key recommendations to guide future monitoring efforts; 4) List of key research needs to help inform local management efforts

Task 3: Data analysis and development of a processing script

As previously described and as will be further developed and defined by the collaborative process, data analysis tools summarizing water quality data into metrics that are easy to digest, and representative of trends and patterns are needed. Information is needed at spatial scales ranging from the sampling station to the watershed to the region. In response to this regional management need the project team will analyze spatial and temporal trends in water quality across the coastal and fresh waters of Cape Cod.

Location-specific water quality monitoring is necessary to identify problems and develop and evaluate management solutions because underlying drivers of declining water quality may be dramatically different from one watershed to another. Broader spatial and temporal scale analyses are often not available when water quality monitoring focuses on a single watershed or water body. The project team plans to utilize the regional database to generate a region-wide dataset, which will be critical to understanding both local and broader scale patterns in water quality and climate indicators. For example: water quality, indicated by chlorophyll *a* pigments, has declined across Buzzards Bay and other Cape Cod coastal embayments over the past several decades. The decline in water quality observed across Buzzards Bay is more consistent with regional climate warming, rather than trends in nutrient loading or nitrogen concentration (Rheuban et al. 2016, Williamson et al. 2017). Using this database, the following question can be answered: do our observations in Buzzards Bay represent a similar pattern across the all the coastal and fresh waters of Cape Cod?

Woods Hole Oceanographic Institution (WHOI) will develop a processing script for data trend analyses. Detailed data analyses will allow end users to discern if implemented mitigation strategies are effective or if other factors beyond traditional management tools have impacted local and regional water quality. The proposed work will make data analysis accessible to local stakeholders by combining modern, open source data analytics toolboxes with web-based dashboards and GIS. The data analysis will be designed such that metrics will be generated upon request at user-defined spatial and temporal scales. Data analyses will utilize QA/QC protocols and will have the ability to integrate new data into analyses as the database is updated, providing long-term benefit to end users beyond the period of the grant.

In conjunction with the collaborative process, the project team will generate a detailed interpretation of historical water quality data for one pilot watershed. This detailed interpretation will also include an analysis of nitrogen loading history based on published nitrogen loading models. Project partners at WHOI completed a nitrogen loading trend analysis of 28 embayments within the Buzzards Bay watershed (Williamson et al. 2017) and propose a similar analysis for the detailed interpretation of a chosen embayment. Data needs for the historical nitrogen loading trend analysis, such as land use and MA level III assessors' data, have already been compiled by project partners. This historical nitrogen loading trend analysis will allow us to compare nutrient input trends with water quality trends and will provide a framework of analyses for other regional watersheds.

APCC staff will analyze and compare freshwater quality data to suitable water quality standards, including state and federal Clean Water Act standards for surface waters and drinking water. Work will take advantage of existing resources, such as the Cape Cod Pond and Lake Atlas, which includes freshwater standards for evaluating pond water quality that consultants have been using for most detailed pond studies since 2003.

All analyses will be used in development of water resources report cards and the “State of the Waters: Cape Cod” report, which will grade and characterize water resources (described as part of task 4).

Task 3 Outputs: 1) Complete and annotated processing script for estuarine data analyses; 2) Data trend analyses for currently available estuarine and freshwater data sets; 3) Data interpretation for one pilot watershed; 4) Evaluation of current water quality relative to known standards (ex. nitrogen TMDLs); 5) Comparison of water quality across regions to identify trends and commonalities; 6) Summary of results and needs assessment.

Task 4: Integration with web-based user interface and other information products

Data and analyses will be made available through a web-based user interface, water resources report cards, the “State of the Waters: Cape Cod” annual reports, and other information products.

The processing script will be integrated into the regional database and website user interface. Commission staff will review the data processing script developed by WHOI, work with WHOI staff to integrate the script into an SQL procedure, and verify script functionality through testing of the procedure. Commission staff will edit existing SQL tables or create new tables for processed data from the SQL procedure to interface with the web-based interface.

Estuarine data analyses that result from the processing script and that are consistent with the end user needs established in task 2 will be displayed on the regional database website. To ensure ease of access and use, Commission staff will work with project partners and the End User Group to assess the suitability of the current web interface. Charts and visuals will be edited and/or created, as needed, to display appropriate analyses.

Estuarine and freshwater data analyses will be used to develop the “State of the Waters: Cape Cod” report, which will be an organized compilation of report cards. All data and analyses from task 3 will be integrated into water resources report cards that characterize issues and form the basis of the report. APCC will characterize water resources based on analyses completed. Report cards will describe and grade watersheds, ponds and lakes, drinking water, coastal waters, and groundwater on Cape Cod.

To develop report cards, APCC will use a methodology that has been used effectively to raise public awareness and promote action in areas such as California, Florida, Maine, New Hampshire, New York, Oregon, Texas, Washington, the Great Lakes, Chesapeake Bay, U.S. waters and internationally. In Massachusetts, report cards have highlighted water quality problems and improvements in at least five water bodies, including the Blackstone River, Charles River, Mystic River, Buzzards Bay, and Taunton River. Report cards were also used to highlight beach water quality issues at 15 public beaches in metropolitan Boston. A list of the report cards referenced can be found in attachment B.

Aside from Buzzards Bay communities, Cape Cod does not have any water resources report cards to help the public and decision makers understand problems and encourage action. Most report cards assign a letter grade using defined criteria and sometimes the grade is combined with a color scale to indicate degree of severity. The result is powerful, graphic, and easy to comprehend.

The “State of the Waters: Cape Cod” Report will integrate the report cards and be easily understood by the general public yet developed with sufficient rigor to be accepted by experts and regulators. The report will be publicly available through digital and conventional media and will become a regular and prominent feature released at the APCC annual meetings and promoted in other venues. In subsequent years, the report will be updated to reflect the latest data.

The report will be used as an educational resource, but also to identify themes and issues and inform better public policy regarding the improvement and preservation of Cape Cod’s water resources.

Task 4 Outputs: 1) Updated web-based user interface to display and make publicly accessible all data and analyses; 2) Water resources report cards that provide letter grades for water quality of lakes, rivers, estuaries and coastal waters, groundwater, drinking water and watersheds; 3) “State of the Waters: Cape Cod” Report

Task 5: Targeted Outreach to Inform Local Action

Results will be delivered and translated to local-decision-makers best positioned to apply and integrate findings into local planning and management.

In addition to the workshops and meetings identified above, WBNERR will conduct two additional workshops to share results from this work with the full End User Group, other regional decision-makers, and the public. The purpose of these workshops is to share results of data analysis and information products with those who need the information to make decisions. Depending on timing and feedback from the End User Group and project team, these workshops may be stand alone or combined and/or coordinated with other long standing regional outreach events that are well known and well attended. Three of these include the One Cape Summit (led by the Commission), the Cape Coastal Conference (led by WBNERR and several partner organizations and agencies) and the APCC Annual Meeting. Linking the project outreach and communication plan with these established regional events will help to strengthen overall impact and enhance cohesiveness.

Annual Meetings: APCC will release the “State of the Waters: Cape Cod” Report at its annual meeting, in August/September of each year. Most meetings draw approximately 150 people. The Commission will showcase this project at the OneCape Summit, which focuses on both the environment and the economy, but was originally established to address progress on water quality improvement. The Summit attracts between 200 and 300 attendees each year. The annual Cape Coastal Conference will also be an opportunity for the distribution of project information. It typically draws between 300 and 400 attendees. This established pattern of annual regional events will help draw attention to the project and set the stage for utilizing project outputs to inform restoration and protection of water resources over the long term.

Social media: APCC will design and implement a social media campaign that will publicize the “State of the Waters: Cape Cod” Report. Planned work includes: 1) a blog with short articles and photos about water quality, natural history information on marine and freshwater systems, and best management practices for protecting water resources. 2) social media posts related to water quality and relaying specific information on issues and events to generate interest in this project.

During the first year of the project, the project team will establish a schedule for targeted outreach that takes into consideration annual meeting dates that are not known at the time of this submission.

Task 5 Outputs: 1) Presentation of project results and resources and additional engagement with end users at regional outreach events, including, but not limited to the OneCape Summit, Cape Cod Coastal Conference and the APCC Annual Meeting; 2) Social media posts to share information about the project and project outputs

Task 6: Final Report

The project team will provide a final report that summarizes the data collected, the collaborative process and key outputs and outcomes of the process, data analyses, and information products.

The final report will be available through the Commission’s website and partner websites. Information in the report will be shared at existing regional outreach events, as described in task 5, and sections of the final report will be shared individually. For example, water resources report cards and the “State of the Waters” Cape Cod report will be issued annually and serve as standalone documents. The watershed interpretation will serve a localized purpose, as well as be used as a framework for moving forward in other watersheds across the region. The water quality database will be accessible through the web-based interface and will be used by a wider audience than may utilize the final report.

Task 6 Outputs: Final report that includes, at a minimum, 1) Documentation of data collected and aggregated; 2) Database QA/QC procedures; 3) Annotated processing script; 4) Data analysis methods; 4) Detailed interpretation of one or more watersheds; 5) Water resources report cards; 6) “State of the Waters: Cape Cod” Report; 7) Documentation of public outreach and workshops

Project Timeline and Milestones:

	2018					2019												2020						
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Task 1																								
Data Compilation																								
Database QA/QC																								
WBNERR QAPP Development																								
Ponds and Lakes QAPP Development																								
Task 2																								
End User Group Mtgs																								
Monitoring Group Workshop																								
Identify Data Outputs/Analysis Needs																								
Pilot Watershed Interpretation																								
Identify Monitoring/Research Gaps																								
Task 3																								
Data Analysis/Script Development																								
Pilot Watershed Analysis/Interpretation																								
Task 4																								
Development of Report Card Template																								
Report Cards Released																								
"State of the Waters: Cape Cod" Released																								
Integrate Script with Database/Website																								
Task 5																								
Develop Targeted Outreach Schedule																								
Targeted Outreach/Workshops/Meetings																								
Task 6																								
Final Report																								

Local Impact: This project is in direct support of the 15 Cape Cod towns implementing local water quality plans, 11 of which are located within the SNEP region. Successful development of consistent and comparable data analyses will track trends in response to plan implementation, provide post-implementation information, help refine local decision-making, and facilitate management to improve water quality. The proposed processing script will be designed to allow for future automated analyses as new estuarine data are available, creating long-term capacity for embayment specific interpretation and informed local water quality decisions past the grant period. The proposed collection and analysis of freshwater data is consistent with the effort initiated for estuarine data in 2016 and will provide for a long-term, consistent database of all water resources information. The Commission is committed to maintaining the data, working with project partners to integrate new data into the future, and utilizing the QA/QC procedures developed as part of this project. APCC is committed to issuing the “State of the Waters: Cape Cod” Report on an annual basis to ensure ongoing evaluation of Cape Cod’s important water resources and responsive and responsible public policy decisions.

Regional Impact: The strong cooperative relationship among monitoring, management and non-profit organizations builds regional capacity to solve water quality challenges through collaborative and innovative restoration techniques. The combined, downloadable dataset allows for regional scale analyses to identify the impacts of climate and tidal variability on water quality management. The database structure, analyses, and information products will be transferable to other areas within the SNEP region and beyond that seek to collect and analyze long-term data sets and translate them into helpful information products.

The project team recognizes the importance of tracking both the impact of the project process and outcomes to inform future learning across the region and increase overall effectiveness. WBNERR has significant experience in project evaluation and will conduct evaluations of workshops held with managers and decision-makers to determine how well objectives were met and where efforts can be improved. WBNERR will also assess the impact of the collaborative process with the End User Group.

Results of these evaluations will be incorporated in the final project report as part of the body of learning related to this project.

Project Team (See attachment C): The project will be led by the Commission, with expertise in water resources, database development and project management. The Commission will lead project activities, coordinate project tasks, track progress, and maintain communication with project partners. Partner monitoring organizations include the CCS, SMAST and WBNERR. Each will provide data as well as guidance on quality assurance/control and serve as an advisor for data analysis. WBNERR will lead collaborative process, plan outreach workshops to decision-makers and researchers and facilitate end user meetings. WHOI will complete the processing script development and data analysis. APCC will expand upon existing freshwater databases and integrate estuarine and freshwater data and analyses into information products, including water resources report cards and the “State of the Waters: Cape Cod” Report, to increase knowledge and understanding of the health of water resources and identify water restoration needs. An End User Group will be established, consisting of project team members, the CCWPC, and other key end users identified in task 2 to assist in defining data outputs.

Integration and Multiple Benefits: This project takes a holistic approach to water resource issues, addressing both estuarine and freshwater quality. It seeks to advance several SNEP priorities, not limited to, fostering integrated approaches to restoring water quality, habitats and ecosystems; building local and regional capacity, tools and knowledge; strengthening sustainable partnerships; and improving the utility of environmental monitoring for ecosystem management. In addition to data collection and analysis, a program script, and information products, outputs will include a thoroughly vetted, downloadable database and metadata file for research and management applications consistent with DEP and EPA water quality monitoring strategies. This robust water quality database can be used by coastal scientists against other large datasets for future research projects. (e.g. marine fish and mammal migrations, coastal bird migrations, the spread of harmful algal blooms, etc.)

Leveraging: This project leverages work completed by each project partner and work completed by DEP and SMAST to develop total maximum daily loads for nitrogen and seeks to expand the effect of this research and long-term data accumulation on local management decisions. The Commission has developed databases and a web interface to store and share a regional data set. This project will take these efforts one step further to be responsive to local needs, fulfill the recommendations of the 208 Plan, and support existing management efforts to improve water quality, habitats and ecosystems.

Outreach and Communications: All work completed for this project will be included in a web-based interface. The program script will be integrated with the database and will be used on a regular basis, as additional data are available. The data and analyses will be used in water resources report cards and an annual “State of the Waters: Cape Cod” report created by APCC. APCC will build on the report cards and State of the Waters report to develop an “action agenda” that provides recommendations for actions to protect and restore water, along with measures for gauging success in implementing actions. The broad-based and diverse target audience will include the public as well as decisionmakers. Through the CCWPC, the Commission will work to share project outputs with each town. In addition, WBNERR will conduct targeted watershed-based workshops to translate information to local decision-makers. Other target audiences include full- and part-time residents, pond associations, municipal boards, departments and water quality/wastewater committees, fisheries stakeholders, other restoration partners, non-governmental organizations, elected officials, and others. Additional outreach materials will be developed, as needed, and project components will be included in presentations by the Commission and partners, as appropriate, at local, state, regional and national meetings to allow for knowledge transfer.

Literature cited can be found in attachment D.

BUDGET DESCRIPTION

Budget Table

Cost Item or Category	Cost Basis	RAE SNEP Request	Non-Federal Match	Match Source	Total Project Cost
Personnel					
Erin Perry, CCC	364 hrs. @ \$43.27	11,812.71	3,937.57	CCC	15,750.28
Tom Cambareri, CCC	153 hrs. @ \$49.53	5,683.57	1,894.52	CCC	7,578.09
Phil Detjens, CCC	208 hrs. @ \$44.45	6,934.20	2,311.40	CCC	9,245.60
Mario Carloni, CCC	364 hrs. @ \$37.18	10,150.14	3,383.38	CCC	13,533.52
Jo Ann Muramoto, APCC	500 hrs. @ \$48.00	18,000.00	6,000.00	APCC-MET	24,000.00
Don Keeran, APCC	502 hrs. @ \$43.20	16,264.80	5,421.60	APCC-MET	21,686.40
Kristin Andres, APCC	502 hrs. @ \$40.00	15,060.00	5,020.00	APCC-MET	20,080.00
Brian Horsley, APCC	416 hrs. @ \$32.00	9,984.00	3,328.00	APCC-MET	13,312.00
Amy Costa, CCS	390 hrs @ \$34.60	11,072.00	2,422.00	CCS	13,494.00
Brian Howes, PI SMAST	70 hrs. @ \$68.46	4,792.20	-		4,792.20
Roland Samimy, SMAST	70 hrs @ \$54.07	3,784.90	-		3,784.90
Outreach Asst., WBNERR	850 hrs. @ \$25.00	21,250.00	-		21,250.00
WQ Monitoring Asst., WBNERR	206 hrs. @ \$20.12	4,144.72	-		4,144.72
Wauquoit Bay Volunteers, WBNERR	546 hrs. @ \$24.69	-	13,480.74	WBNERR	13,480.74
Jennie Rheuban, WHOI	1216 hrs. @ \$42.625	51,832.00	-		51,832.00
Total Personnel		190,765.24	47,199.21		237,964.45
Fringe					
Fringe, CCC	66.36%	22,947.70	7,649.23	CCC	30,596.93
Fringe, APCC	25.00%	14,827.20	4,942.40	APCC	19,769.60
Fringe, CCS	20.00%	2,214.40	484.40	CCS	2,698.80
Fringe, SMAST (+\$16.5/wk)	36.27%	3,176.91	-		3,176.91
Fringe, WBNERR	N/A	-	-		-
Fringe, WHOI	45.99%	23,837.54	-		23,837.54
Total Fringe		67,003.74	13,076.03		80,079.78
Travel					
In-state travel (APCC)	2,000 mi @ \$0.545	730.30	359.70	APCC-MET	1,090.00
Out-of-state (RAE Summit 2018; 2 CCC staff)	See Narrative	4,000.00	-		4,000.00
Out-of-state (RAE Summit 2018; 1 APCC staff)	See Narrative	1,340.00	660.00	APCC-MET	2,000.00
Out-of-state travel (WHOI - S. Doney)	See Narrative	4,798.00	-		4,798.00
Total Travel		10,868.30	1,019.70		11,888.00
Equipment					
WQ Monitoring Equipment	See Narrative	6,500.00	-		6,500.00
Total Equipment		6,500.00	-		6,500.00
Supplies					
Software (APCC)	See Narrative	335.00	165.00	APCC-MET	500.00
Workshop Supplies (APCC)	See Narrative	502.50	247.50	APCC-MET	750.00
Workshop Supplies (WBNERR)	See Narrative	1,500.00	-		1,500.00
Total Supplies		2,337.50	412.50		2,750.00
Contractual					
QAQC Database (CCC)	See Narrative	20,000.00	-		20,000.00
QAPP Development (CCC)	See Narrative	-	7,500.00	CCC	7,500.00
OneCape Conferences (Venues & AV equipment)	See Narrative	10,000.00	10,000.00	CCC	20,000.00
Workshop & Coastal Conference expenses (Venues & AV equipment; WBNERR)	See Narrative	6,000.00	-		6,000.00
Web Design (APCC)	See Narrative	13,400.00	6,600.00	APCC-MET	20,000.00
TMDL Solutions (SMAST)	See Narrative	3,500.00	-		3,500.00
Dr. Scott Doney	See Narrative	-	12,339.00	WHOI	12,339.00
Total Contractual		52,900.00	36,439.00		89,339.00
TOTAL DIRECT		\$ 330,375	\$ 98,146		\$ 428,521
CCC Indirect Cost (applied to direct labor only)	71.90%	24,863.46	8,287.82		33,151.29
APCC Indirect Cost	10.00%	9,044.38	3,274.42		12,318.80
CCS Indirect Cost (NICRA)	50.31%	4,428.80	3,717.80		8,146.60
SMAST Indirect Cost (NICRA)	59.00%	1,175.40	7,824.47		8,999.87
WBNERR Indirect Cost	10.00%	3,289.47	1,348.07		4,637.55
WHOI Indirect Cost (NICRA)	62.00%	26,822.00	23,066.00		49,888.00
Total Indirect Cost		\$ 69,624	\$ 47,519		\$ 117,142
TOTAL (Total Direct+Indirect)		\$ 399,998	\$ 145,665		\$ 545,663
Non-Federal Match as a Percentage of the Request:			36.42%		

Budget Table cont.

Grant Totals Per Partner

SNEP Watershed Grant Proposal - Grant Totals per Partner					
Project Partners		RAE SNEP Request	Non-Federal Match	Match Source	Total Project Cost
Cape Cod Commission	Direct Costs	91,528	36,676	CCC	\$ 128,204
	Indirect Costs	24,863	8,288	CCC	\$ 33,151
	Total:	116,392	44,964	CCC	\$ 161,356
Association to Preserve Cape Cod	Direct Costs	90,444	32,744	APCC-MET	\$ 123,188
	Indirect Costs	9,044	3,274	APCC-MET	\$ 12,319
	Total:	99,488	36,019	APCC-MET	\$ 135,507
Center for Coastal Studies	Direct Costs	13,286	2,906	CCS	\$ 16,193
	Indirect Costs	4,429	3,718	CCS	\$ 8,147
	Total:	17,715	6,624	CCS	\$ 24,339
Umass Dartmouth SMAST	Direct Costs	15,254	-	-	\$ 15,254
	Indirect Costs	1,175	7,824	SMAST	\$ 9,000
	Total:	16,429	7,824	SMAST	\$ 24,254
Waquoit Bay National Estuarine Research Reserve	Direct Costs	39,395	13,481	WBNERR	\$ 52,875
	Indirect Costs	3,289	1,348	WBNERR	\$ 4,638
	Total:	42,684	14,829	WBNERR	\$ 57,513
Woods Hole Oceanographic Institute	Direct Costs	80,467	12,339	WHOI	\$ 92,806
	Indirect Costs	26,822	23,066	WHOI	\$ 49,888
	Total:	107,289	35,405	WHOI	\$ 142,694
TOTAL:	Direct Cost	330,374	98,146		\$ 428,521
	Indirect Cost	69,624	47,518		\$ 117,142
	TOTAL:	\$ 399,998	\$ 145,665		\$ 545,663

Budget Narrative

Personnel

Cape Cod Commission

Thomas Cambareri, Water Resources Technical Services Director: Mr. Cambareri will assist with identification of water resources data sources, data compilation, identifying data analysis needs, and development of the pilot watershed interpretation (Task 1, Task 2, Task 3). 153 hrs. @ \$49.53/hr., total \$7,578.09.

Mario Carloni, Geospatial Developer: Mr. Carloni will be responsible for the database web interface and integrating the processing script with the SQL database and web interface (Task 4). 364 hrs. @ \$37.18/hr., total \$13,533.52.

Phil Detjens, Applications Manager: Mr. Detjens will oversee database development and management, integration of the processing script into an SQL procedure and creating and editing SQL tables (Task 4). 208 hrs. @ \$44.45/hr., total \$9,245.60.

Erin Perry, Special Projects Manager: Ms. Perry will serve as project lead for the grant and is responsible for oversight of the project, coordinating with project partners and reporting (Tasks 1-6). 364 hrs. @ \$43.27/hr., total \$15,750.28.

CCC will provide match of in-kind labor. Fringe benefits are allocated as a percentage applied to total direct salaries. The audited FY17 fringe rate is 66.36% and is broken out as: Retirement (23.40%), Paid Leave Benefits (23.21%), Health Insurance (18.12%), and Medicare (1.63%).

Association to Preserve Cape Cod

Jo Ann Muramoto, Director of Science Programs: Dr. Muramoto will be responsible for freshwater data compilation and data analysis and she will prepare the report cards (Task 1, Task 4). 500 hrs. @ \$48/hr., total \$24,000.

Don Keeran, Assistant Director: Mr. Keeran will serve in an advisory capacity and provide guidance on data compilation and development of report cards and State of the Waters Report (Task 1, Task 4). 502 hrs. @ \$43.20/hr., total \$21,686.40.

Kristin Andres, Director of Education and Outreach: Ms. Andres will oversee development of outreach products and activities for development and promotion of State of the Waters Annual Report (Task 4, Task 5). 502 hrs. @ \$40/hr., total \$20,080.

Bryan Horsley, Restoration Technician: Mr. Horsley will assist with GIS mapping and other technical assistance (Task 4, Task 5). 416 hrs. at \$32/hr., total, \$13,312.

APCC match is in-kind labor funded by a 2018 Massachusetts Environmental Trust grant.

Waquoit Bay National Estuarine Research Reserve

Outreach and Engagement Assistant: The Outreach and Engagement Assistant will work with and be supervised by Tonna-Marie Rogers, WBNERR Coastal Training Program Coordinator, and will provide support in collaborative process design, meeting planning and facilitation and overall coordination of WBNERR tasks. Working with the project team and the Commission as lead, the assistant will develop process agendas for end user meetings, design effective processes to meet meeting goals and record action items and decisions (Task 2, Task 5). 850 hrs. @ \$25/hr., total \$21,250.

Water Quality Monitoring Assistant: The Water Quality Assistant will be trained by the WBNERR Research Associate, Jordan Mora, to maintain water quality stations, including but not limited to, collecting and filtering water samples, calibrating equipment, deploying units, and managing downloaded data. The assistant will support Ms. Mora with QAPP development through research and writing (Task 1). 206 hrs. @ \$20.12/hr., total \$4,144.72.

Fringe benefits are not included in proposal, as staff identified are not benefit eligible.

Waquoit Bay Watcher volunteer hours are contributed as match. Volunteer hours are associated with the Waquoit Bay Watchers Citizen Science Water Quality Monitoring Program (SWMP). The SWMP and Waquoit Bay Watcher programs are ongoing and all past and future data collected will be submitted to the Cape Cod Commission's regional database (Task 1). 546 hrs. @ \$24.69/hr., total \$13,480.74.

APCC will act as the fiscal agent for WBNERR.

Woods Hole Oceanographic Institution

Jennie Rheuban, Research Associate III: Ms. Rheuban will be responsible for data analysis and development of processing scripts, providing advice and direction on the selection of a pilot watershed and working with the project team on database quality assurance and control and to complete the detailed interpretation in the pilot watershed. Ms. Rheuban will work with Commission staff to integrate the processing script with the existing SQL database (Task 2, Task 3, Task 4). 1,216 hrs. @ 42.625/hr., total \$51,832.

WHOI match is in-kind labor provided by Dr. Scott Doney in the amount of \$12,339 and a WHOI contribution of \$23,066 for indirect costs in excess of 25% of the requested amount. Dr. Doney will advise Ms. Rheuban on data analysis and assist with data interpretation. WHOI's fringe rate is included in their Negotiated Agreement with Department of Navy. Fringe benefits are allocated as percentage to

total assignable salaries and allocated paid leave benefits, excluding overtime salaries. The provisional fringe rate of 45.99% for calendar year 2018 is broken out as: Retirement (23.19%), Health/Dental (11.55%), FICA (7.72%), Workers Comp (0.38%), Disability (1.00%), and Other Benefits (2.15%).

Center for Coastal Studies

Amy Costa, Associate Scientist: Dr. Costa will assist with quality assurance and control of the database and provide advice and guidance on data outputs and analysis needs (Task 1, Task 2). 390 hrs. @ \$34.60/hr., total \$13,494.

CCS match is 70 hours of in-kind labor provided by Dr. Costa and \$3,718 in indirect cost (\$2,256 for indirect cost in excess of 25% of the requested amount and \$1,462 for indirect cost applied to the in-kind labor)

UMass Dartmouth School for Marine Science and Technology

Brian Howes, Coastal Systems Program Director: Dr. Howes will assist with quality assurance and control of the database and provide advice and guidance on data outputs and analysis needs (Task 1, Task 2). 70 hours @ \$68.46/hr., total \$4,792.20.

Roland Samimy, Senior Research Manager: Dr. Samimy will assist with quality assurance and control of the database and provide advice and guidance on data outputs and analysis needs (Task 1, Task 2). 70 hrs. @ \$54.07/hr., total \$3,784.90.

SMAST will provide match of \$7,824 in indirect costs. The fringe rate is broken out as: 34.68% fringe benefit, 1.41% FICA, plus an additional \$16.50 per week Health and Welfare.

Travel

In-State Travel

In-State Travel is budgeted for attendance at project partner meetings, advisory committee meetings, and SNEP grantee meetings. Total budgeted is \$1,090. APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$730.30. APCC's match: \$359.70.

Out-of-State Travel

RAE Summit: As suggested in the RFP, travel is budgeted for four staff to attend the 2018 RAE Summit. An estimate of \$6,000 includes conference registration fees, travel to/from airport, hotel, flight, and meals. APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$5,340. APCC's match: \$660.

Dr. Scott Doney: Travel is budgeted for Dr. Scott Doney to attend annual meetings on project results. Dr. Doney will provide guidance on data analysis and assist with data interpretation (Task 3). The total amount budgeted is \$4,798. This estimate includes travel from the University of Virginia to WHOI, lodging for one week per year for each of the two years of the proposed project, car rental and per diem.

Equipment

Water Quality Monitoring Equipment

WBNERR will purchase monitoring equipment needed to upgrade the WBNERR water quality monitoring program to data standards comparable to other partner organizations (Task 1). Currently, one of the four SWMP stations is still occupied by an older model sonde, the YSI 6600-series. This station will be upgraded consistent with other sites in Waquoit Bay. The equipment request is for a YSI EXO2 sonde in the amount of \$6,500 (Item #599502-01). The purchase will be made in advance of the 2019 sampling season.

Supplies

Software

APCC will purchase software for data analysis, statistical analysis and plotting. An estimate of \$500 is budgeted (Task 3). APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$335. APCC's match: \$165.

Workshop Supplies

APCC plans meetings to announce the State of the Waters report and has included an estimate of \$750 for supplies (Task 5). Source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$502.50. APCC's match: \$247.50.

WBNERR has budgeted \$1,500 in supplies to support end user meetings and watershed-based workshops to translate data to decision-makers (Task 2, Task 5).

Contractual

Database QA/QC

The Commission will advertise and competitively award a contract to a qualified firm to perform quality assurance and control on the existing database and develop procedures for ensuring quality assurance and control on data loaded to the database in the future (Task 1). A budget estimate of \$20,000 is based on previous experience.

QAPP Development

The Commission will comply with State law, County policies and Uniform Guidance related to procurement and competitively award a contract to a qualified firm to develop a QAPP for pond and lake data (Task 1). A budget estimate of \$7,500 is based on previous experience and funds for the QAPP Development will be provided by the Cape Cod Commission.

OneCape Summits

The Commission will hold two OneCape Summits during the project period. The work proposed in this project will be highlighted at each and each will be used as an opportunity to share data outputs, analyses and available information products. A budget estimate of \$20,000 for venue and audio-visual equipment for two conferences is based on previous experience. The Commission will comply with State law, County policies and Uniform Guidance related to procurement and competitively award a contract to a venue to host the Summits. SNEP request: \$10,000. Commission's match: \$10,000.

Cape Coastal Conference and Workshops

Venue rental fees and fees associated with audio visual equipment are anticipated to support watershed-based workshops and other outreach initiatives, including the Cape Coastal Conference, where project outputs, analyses and information products will be highlighted (Task 2, Task 5). An estimate of \$6,000 is budgeted based on previous experience.

Web Design

APCC will comply with State law and Uniform Guidance related to procurement and competitively award a contract to a qualified web design firm to create a State of Waters website (Task 4). A budget estimate of \$20,000 is based on previous experience. APCC source of match is from a 2018 Massachusetts Environmental Trust grant. SNEP request: \$13,400. APCC's match: \$6,600.

TMDL Solutions

TMDL Solutions will work with SMAST to support and provide guidance on data analysis and interpretation (Task 2). SNEP request: \$3,500.

Dr. Scott Doney

Dr. Doney will advise Ms. Rheuban and project partners on biogeochemical data analysis and assist with data interpretation (Task 3). \$12,339 in consulting charges is provided as in-kind match by WHOI.

Indirect Cost

Cape Cod Commission

In accordance with 2 CFR Part 200 App. VII D1b, the Commission, a local government agency that receives less than \$35 million in direct Federal funding, is not required to obtain NICRA. The Commission's audited FY17 indirect rate is 71.90% and is applied to direct labor only. CCC indirect costs included in the SNEP request (\$24,863) are within 25% indirect cost limit. This indirect cost rate equals to 27.16% rate if applied to the Commission's Modified Total Direct Costs of \$91,528.

Association to Preserve Cape Cod

Association to Preserve Cape Cod does not have Negotiated Indirect Cost Rate Agreement and de minimis indirect cost rate of 10% was applied to APCC's Modified Total Direct Costs of \$123,188. Total Indirect Cost: \$12,318.80. SNEP Request: \$9,044. APCC's match: \$3,274.

Waquoit Bay National Estuarine Research Reserve

Waquoit Bay National Estuarine Research Reserve does not have Negotiated Indirect Cost Rate Agreement and de minimis indirect cost rate of 10% was applied to WBNERR's Modified Total Direct Costs. Total Direct cost amount of \$52,875 was reduced by the estimated cost of equipment (\$6,500) for Modified Total Direct Costs of \$46,375. Total Indirect Cost: \$4,637. SNEP Request: \$3,289. WBNERR's match: \$1,348.

Woods Hole Oceanographic Institution

Woods Hole Oceanographic Institution has a Negotiated Indirect Cost Rate Agreement with Department of the Navy, Office of Naval Research, dated January 5, 2018, for the period of 1/1/18 – 12/31/18 (attached) The provisional indirect cost rate for 2018 is 62% and is allocated to Modified Total Direct Costs. Total Indirect Costs: \$49,889 (MTDC base of \$80,467). SNEP request: \$26,822 (25% of the agency request of \$107,289). WHOI's match: \$23,066.

Center for Coastal Studies

Center for Coastal Studies has submitted their Indirect Cost Proposal dated November 30, 2017 to the US Department of Commerce, NOAA Grants Division. CCS has received a letter from NOAA, dated January 31, 2018, stating that Center for Coastal Studies may use their indirect cost rate of 50.31% cited in its Indirect Rate Cost Proposal until the Proposal evaluation process is completed (attached). Indirect Cost rate of 50.31% was applied to MTDC of \$16,192.80. Total Indirect Cost: \$8,147. SNEP Request: \$4,429 (25% of the CCS request of \$17,715). CCS's match: 3,718.

UMass Dartmouth School for Marine Science and Technology

UMass Dartmouth has a Negotiated Indirect Cost Rate Agreement with the Department of Health and Human Services, dated March 10, 2017 (attached). The predetermined rate of 59% is effective for the period of 7/1/18 – 6/30/2010 and has been applied to MTDC of \$15,254. UMass Dartmouth SMAST has elected to include only \$1,175.40 of the indirect costs in their SNEP request and to apply the difference towards their match. Total Indirect Cost: \$9,000. SNEP request: \$1,175. UMass Dartmouth SMAST's match: \$7,825.

Total Indirect Costs included in the SNEP request (\$69,624) equal to 17.41% of the total amount of \$399,998 requested from SNEP for the proposed project.

Grant Totals Per Task

	Total Project Cost Per Task			
	Cost Item	SNEP	Non-Federal Match	Total
Task 1	Salaries & Fringes	46,558.28	24,898.39	71,456.68
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	QA/QC Database	20,000.00	-	20,000.00
	QAPP Development	-	7,500.00	7,500.00
	Equipment	6,500.00	-	6,500.00
	Indirect Cost	10,314.72	8,460.99	18,775.71
Subtotal:		\$ 84,557	\$ 41,114	\$ 125,672
Task 2	Salaries & Fringes	42,847.38	3,601.53	46,448.92
	RAE Summit	666.67	-	666.67
	Workshop Supplies	750.00	-	750.00
	Cape Coastal Conference	2,500.00	-	2,500.00
	Indirect Cost	11,248.60	9,288.09	20,536.68
Subtotal:		\$ 58,013	\$ 12,890	\$ 70,902
Task 3	Salaries & Fringes	64,364.61	4,653.33	69,017.95
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	Software	335.00	165.00	500.00
	TMDL Solutions	3,500.00	-	3,500.00
	Dr. Scott Donney & Travel	4,798.00	12,339.00	17,137.00
	Indirect Cost	22,022.25	19,109.62	41,131.87
Subtotal:		\$ 96,204	\$ 36,522	\$ 132,726
Task 4	Salaries & Fringes	71,867.10	19,744.97	91,612.07
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	Web Design	13,400.00	6,600.00	20,000.00
	Indirect Cost	20,145.69	9,154.09	29,299.78
Subtotal:		\$ 106,597	\$ 35,754	\$ 142,351
Task 5	Salaries & Fringes	28,891.78	6,297.26	35,189.04
	RAE Summit	1,001.67	165.00	1,166.67
	In-State Travel	182.58	89.93	272.50
	Workshop Supplies	1,252.50	247.50	1,500.00
	OneCape Conferences	10,000.00	10,000.00	20,000.00
	Cape Coastal Conference	3,500.00	-	3,500.00
	Indirect Cost	4,492.26	1,038.66	5,530.92
Subtotal:		\$ 49,321	\$ 17,838	\$ 67,159
Task 6	Salaries & Fringes	3,239.28	1,079.76	4,319.04
	RAE Summit	666.67	-	666.67
	Indirect Cost	1,400.00	466.67	1,866.67
Subtotal:		\$ 5,306	\$ 1,546	\$ 6,852
TOTAL:		\$ 399,998	\$ 145,665	\$ 545,663

LIST OF ATTACHMENTS

Maps, photos, drawings, and additional information

- Attachment A: Map of Project Area
- Attachment B: Report Card Examples
- Attachment C: Project Team
- Attachment D: Literature Cited

Letters of Commitment

- Association to Preserve Cape Cod
- Buzzards Bay Coalition
- Cape Cod Water Protection Collaborative
- Center for Coastal Studies
- UMass Dartmouth School for Marine Science and Technology
- Waquoit Bay National Estuarine Research Reserve
- Woods Hole Oceanographic Institution

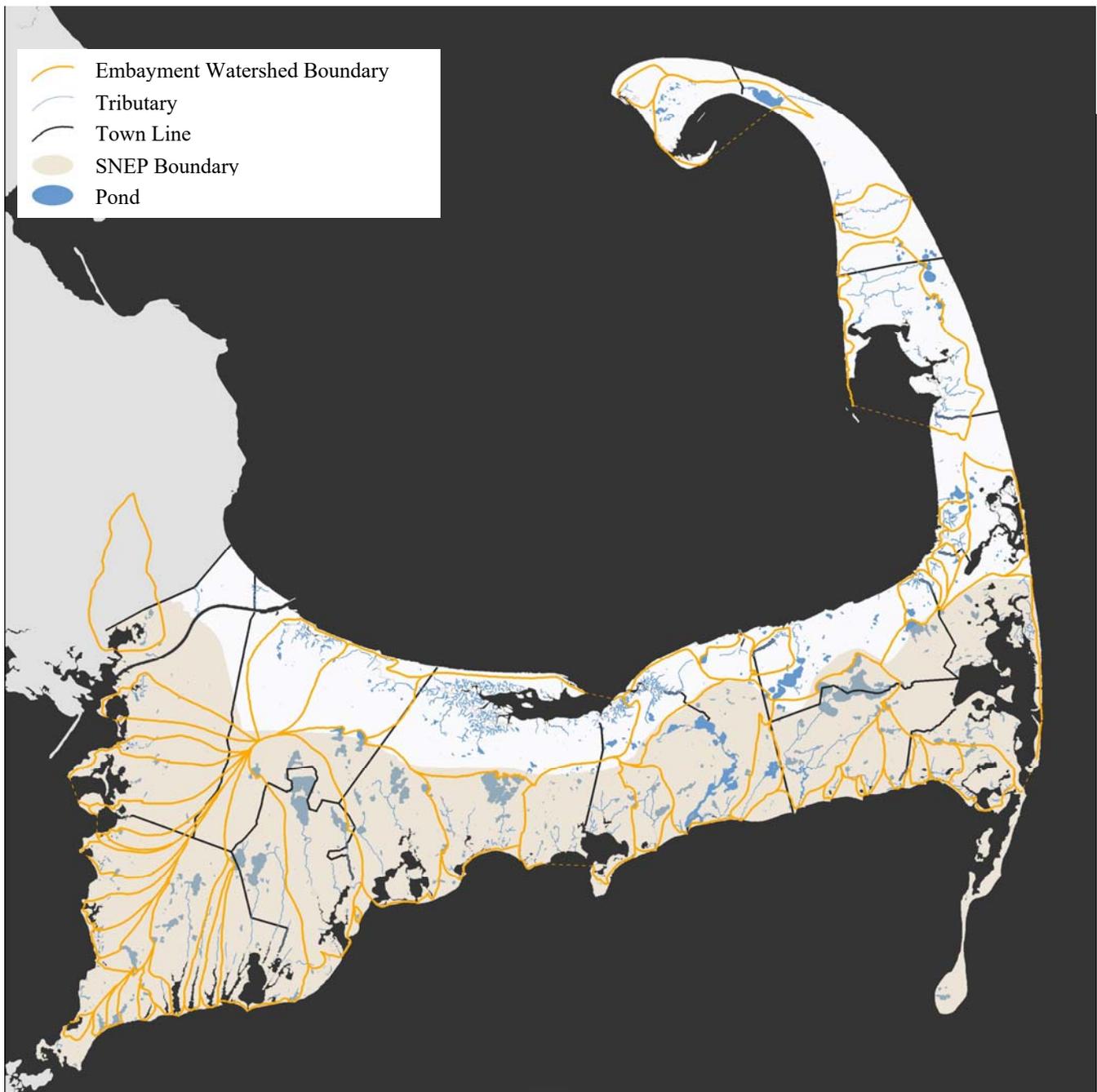
Organizational Budget and Statement of Financial Position

- Barnstable County Approved FY19 Operating and Capital Budget – Cape Cod Commission
- Barnstable County's Basic Financial Statements
 - Summary of Auditor's Results, Schedule of Findings and Questioned Costs
 - Expenditures and Changes in Fund Balances
 - Schedule of Fringe and Indirect Cost Rate – Cape Cod Commission

Negotiated Indirect Cost Rate Agreements

- Center for Coastal Studies
- UMass Dartmouth School for Marine Science and Technology
- Woods Hole Oceanographic Institution

Attachment A: Map of Project Area



Map of Project Area: The proposed project area includes all of Barnstable County. Approximately 60% of Cape Cod is within the SNEP boundary. Almost all the watersheds on Cape Cod that fall within the SNEP boundary are nitrogen impaired and have established total maximum daily loads or Massachusetts Estuaries Project Technical Reports documenting degradation and nitrogen thresholds.

Attachment B: Report Card Examples

California

- Elkhorn Slough National Estuarine Research Reserve. Elkhorn Slough Water Quality Report Card. <http://www.elkhornslough.org/waterquality-reportcard/>.
- California Environmental Protection Agency, State Water Resources Control Board. 2014-2015. https://www.waterboards.ca.gov/about_us/performance_report_1415/plan_assess/11112_tmdl_outcomes.shtml.
- Heal the Bay. Beach Report Cards for California beach water quality. <http://beachreportcard.org/default.aspx?tabid=4>.

Chesapeake Bay

- Chesapeake Bay Report Card. <https://ecoreportcard.org/report-cards/chesapeake-bay> .

Florida

- Florida Department of Environmental Protection. Interactive Water Quality Report Cards. <https://floridadep.gov/dear/watershed-monitoring-section/content/interactive-water-quality-report-cards>

Great Lakes

- Donahue, Michael J. January 2002. The Great Lakes: A Report Card. <https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1451&context=cuslj>.
- Mills County Watershed Report Card. http://erieconserves.org/wp-content/uploads/mills_report_card.pdf.

Maine

- Natural Resources Council of Maine. 2014 Report Card for Maine. https://www.nrcm.org/wp-content/uploads/2013/09/2014_legislative_reportcard.pdf.

Massachusetts

- Blackstone River Watershed Interactive Water Quality Map. http://zaptheblackstone.org/interactive_map/index.php.
- Environmental Protection Agency, Region 1. 2017. Charles River water quality earns a “B” in 2015. <https://www.epa.gov/newsreleases/charles-river-water-quality-earns-b-grade-2016>.
- Massachusetts Water Resources Authority. 2014. EPA’s annual report card gives the Charles River an A- . <http://www.mwra.com/01news/2014/091114-epa-report-card-charles-river-a-.html>.
- Mystic River Report Card. 2016. <https://mysticriver.org/epa-grade/>.
- Mystic River Watershed Report Card. 2016. 2016 Mystic River Watershed Report Card Frequently Asked Questions. <https://www.epa.gov/mysticriver/2016-mystic-river-watershed-report-card-frequently-asked-questions>.
- Report of the Buzzards Bay Citizens’ Water Quality Monitoring Program 1992-1995. <http://buzzardsbay.org/bbpreports/1996-buzzards-bay-water-quality-monitoring-report.pdf>.
- Save the Harbor/Save the Bay. Annual Beach Water Quality Report Card on the Metropolitan Region’s public beaches. 2017. Report on 2016 beach water quality at 15 public beaches in 10 communities in the Boston area (Lynn, Swampscott, Nahant, Revere, Winthrop, East Boston, South Boston, Dorchester, Quincy and Hull). <http://www.savetheharbor.org/Content/beachesreportcard/>.
- Taunton River Watershed Alliance. 2017. 2016 Water Quality Report Card. <https://savethetaunton.org/2017/02/15/2016-water-quality-report-card/>.

New Hampshire

- New Hampshire Department of Environmental Services. Watershed Report Cards. https://www.des.nh.gov/organization/divisions/water/wmb/swqa/report_cards.htm.

New York

- Long Island Sound Water Report Cards. <https://ecoreportcard.org/report-cards/long-island-sound/>.

Oregon

- City of Portland, Oregon, Watershed Report Card. <https://www.portlandoregon.gov/bes/62109>.
- State of Oregon. Water Quality Index. <http://www.oregon.gov/deq/wq/Pages/WQI.aspx>.
- Willamette River (Oregon) Report Card. <http://www.oregon.gov/deq/wq/Pages/Willamette-River-Report.aspx>.
- Heal the Bays. Beach Report Card for Oregon. <http://beachreportcard.org/?st=OR&f=1>.

Texas

- Mission-Aransas National Estuarine Research Reserve. Little Bay Report Card. <https://missionaransas.org/little-bay-report-card>.

U.S.

- Environmental Working Group. 2017. Clean Water Report Card: Failing Grades. https://static.ewg.org/reports/2000/FailingGrades.pdf?_ga=2.72469146.882043222.1512587101-937361266.1512587101.

Washington State

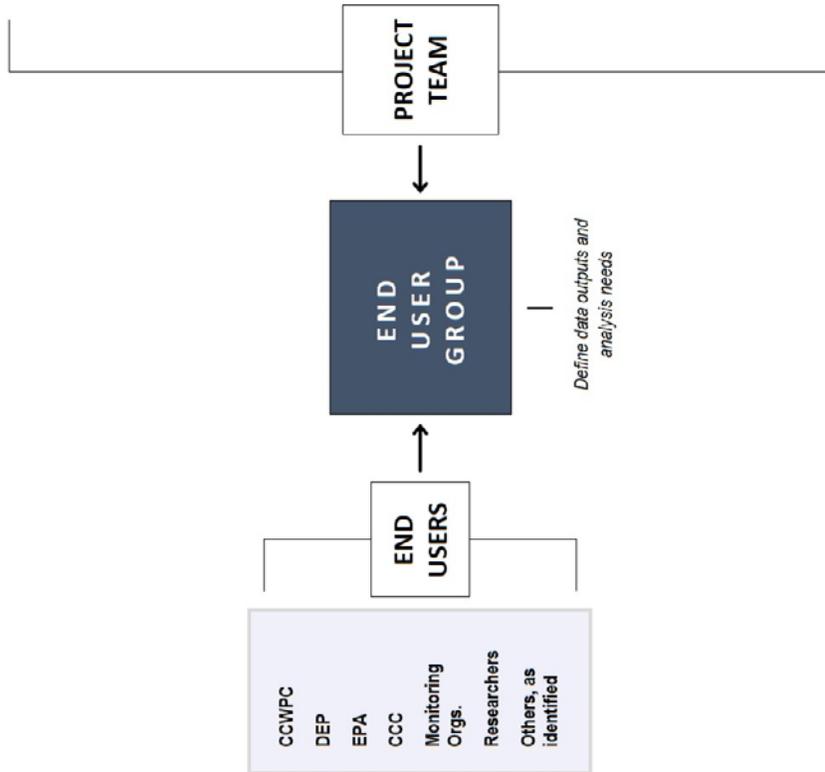
- Pierce County, Washington. 2016 Report Card on Surface Water Health. <https://www.piercecountywa.org/ArchiveCenter/ViewFile/Item/5481>.

International

- World Wildlife Fund. Healthy Rivers for All. <https://www.worldwildlife.org/initiatives/healthy-rivers-for-all>.

Attachment C: Project Team

Woods Hole Oceanographic Institution	<ul style="list-style-type: none"> Analysis Lead Data analysis Pilot watershed implementation Processing script development Integration with database for future analysis and reporting
Waquoit Bay National Estuarine Research Reserve	<ul style="list-style-type: none"> Collaboration Lead Data and Analysis Project advisor Project advisor Quality assurance/control guidance Data analysis advisor Structure collaboration process Facilitate end user meetings
UMass Dartmouth School for Marine Science and Technology	<ul style="list-style-type: none"> Data and Analysis Project advisor Project advisor Quality assurance/control guidance Data analysis advisor
Center for Coastal Studies	<ul style="list-style-type: none"> Data and Analysis Project advisor Project advisor Quality assurance/control guidance Data analysis advisor
Association to Preserve Cape Cod	<ul style="list-style-type: none"> Information Products Lead Integrate water resources data and analyses into information products Create water resources report cards Develop regional State of the Waters report Complete Freshwater data
Cape Cod Commission	<ul style="list-style-type: none"> Project Lead Lead project activities Coordinate tasks and track progress with project partners Database management Lead communication with project partners Data compilation and analysis



COMMONWEALTH OF MASSACHUSETTS

BARNSTABLE, SS.

At a Regular Meeting of the Barnstable County Board of Regional Commissioners, at the Superior Courthouse Building, on the tenth day of October, A.D. 2018, motion by Commissioner Beaty to authorize the execution of subaward agreement, through the Cape Cod Commission, with Woods Hole Oceanographic Institution, under the Cape Cod Commission's Restore America's Estuaries project titled "Regional Collection & Analysis of Cape Cod Water Resources Data to Inform Local Decision-Making" in the amount of \$107,289.00, for a period from October 1, 2018 through July 31, 2020, as presented, 2nd by Commissioner Flynn, approved 3-0-0

Leo G. Cakounes, Chair: Y

Ronald R. Beaty, Vice-Chair: Y

Mary Pat Flynn, Commissioner: Y

A true copy, Attest, October 10, 2018



Janice O'Connell
Barnstable County Regional Clerk



**BARNSTABLE COUNTY
COMMUNITY SEPTIC MANAGEMENT
LOAN PROGRAM**

3195 MAIN STREET/ P.O. BOX 427
BARNSTABLE, MASSACHUSETTS 02630



Kendall Ayers
Program Administrator

Phone: (508) 375-6610

Fax: (508) 375-6854

www.barnstablecountysepticloan.org

MEMORANDUM

DATE: October 9, 2018
TO: County Commissioners
FROM: Community Septic Management Loan Program
SUBJECT: Certificates for Dissolving Septic Betterments

Please execute Certificates for Dissolving Septic Betterments certifying that the betterment assessments upon parcels of real estate in Notices of Betterment Assessment recorded as:

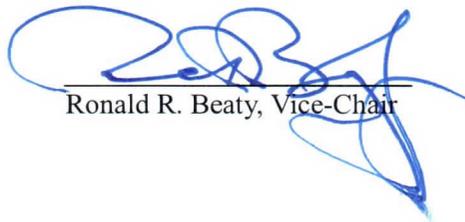
- Book 13954, Page 46; Book 18648, Page 231; Book 19035, Page 120; Book 22983, Page 166; Book 23958, Page 203; Book 29142, Page 16; Barnstable County Registry of Deeds and;
- Documents No. 1283024, Lot 55, Plan 40628-G, Certificate of Title Number 208070, Barnstable Registry District of the Land Court;

stating that betterments were to be assessed pursuant to betterment agreements for septic improvements, in accordance with General Laws, Chapter 111, Section 127B ½ have together with any interest and costs thereon, been paid or legally abated.

Approved:

Board of Regional Commissioners


Leo G. Cakounes, Chair


Ronald R. Beaty, Vice-Chair


Mary Pat Flynn, Commissioner

10-10-18
Date

COMMONWEALTH OF MASSACHUSETTS

BARNSTABLE, SS.

At a Regular Meeting of the Barnstable County Board of Regional Commissioners, at the Superior Courthouse Building, on the tenth day of October, A.D. 2018, motion by Commissioner Beaty to authorize the Chair to execute Certificates for Dissolving Septic Betterments, as presented, 2nd by Commissioner Flynn, approved 3-0-0

Leo G. Cakounes, Chair: Y

Ronald R. Beaty, Vice-Chair: Y

Mary Pat Flynn, Commissioner: Y

A true copy, Attest, October 10, 2018



Jenise O'Connell
Barnstable County Regional Clerk