TOWN OF SOUTHAMPTON
Department of Community Preservation
24 W Montauk Hwy, Hampton Bays, NY 11946
Ph: 631-287-5720 Fx: 631-728-1920
WQIPP@southamptontownny.gov

Entity: CCWT
Project title: Mecox Bay

2024

Development and implementation of a sustainable and comprehensive watershed management and remediation plan for Mecox Bay

2024 Grant Funding Application
to
COMMUNITY PRESERVATION FUND (CPF)

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COMMUNITY PRESERVATION FUND (CPF)
WATER QUALITY IMPROVEMENT PROGRAM
PROPOSAL SUMMARY

Project Applicant: **NYS Center for Clean Water Technology**

Project Title: **Development and implementation of a sustainable and comprehensive watershed management and remediation plan for Mecox Bay**

Project Manager Name: **NYS Center for Clean Water Technology at Stony Brook University ("CCWT")**

Grant Recipient: **CCWT**

Name	Christopher J. Gobler
Title	Director
Organization	NYS Center for Clean Water Technology
Address	239 Montauk HWY, Southampton, NY 11968
Phone	631-871-2109
Email	Christopher.gobler@stonybrook.edu

Property owner (if different from Project manager organization):

Name	Southampton Town
Affiliation	Town of Southampton
Organization	Town of Southampton
Address	116 Hampton Road Southampton, NY 11968
Phone	631-283-6000
Email	

Project Address: Mecox Bay, Water Mill

Type of Project (Check all that apply):

☒ Reduction ☐ Remediation ☐ Restoration

Project Summary: (Provide a brief narrative description of proposed WQIPP project: Mecox Bay is an iconic and unique water body in the Town of Southampton that has experienced significant water quality impairment including toxic algal blooms, algal toxins in shellfish, and hypoxia. All of these impairments are promoted by nitrogen overloading. Recently, the Town Trustees completed a plan for managing the ocean cut in Mecox Bay. Unfortunately, a parallel plan for managing watershed-derived pollution that causes water quality impairment within Mecox Bay does not exist. Recently, The Mecox Bay Conservancy (MBC) was established as a 501(c)3 not-for-profit corporation with the sole purpose of working with public partners and other stakeholders to improve the water quality of Mecox Bay. This proposed project will seek to begin the path to improve water quality in Mecox Bay by engaging in the following objectives: 1. Rapidly and efficiently upgrade septic systems in the Mecox Bay watershed via a Watershed Manager who will marshal homeowners through the SIP process, 2. Model and quantify the absolute and relative nitrogen loads and other pollutants from all watershed sources, evaluating septic systems, agricultural fertilizers, home fertilizers, sediments, run-off, groundwater, the atmosphere, pets, and birds, 3. Identify opportunities for shoreline-based mitigation approaches, and 4. Develop a stakeholder-supported watershed management plan that identifies the most effective and actionable remediation approaches based on relative importance of nitrogen loads and the feasibility of actions. This collective approach will

immediately begin to mitigate septic-derived nitrogen loads while concurrently providing guidance on the prioritization of other remedial approaches that will be most effective for Mecox Bay.

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If additional information is needed to describe the project; a project narrative can accompany the application. Please limit the narrative to approximately 3 pages of project description, provide a summary of water quality benefits/objectives of approximately 2 pages and provide a cost estimate of approximately 2 to 4 pages with supporting estimates. Any additional materials should be focused specifically on the proposed project with references to other studies that are pertinent

1. PROJECT TYPE (check all that apply)

Must meet at least one of the definitions of "Water Quality Improvement Project" per State Law Chapter 551 cited above. Check all that apply.

- [x] Wastewater Treatment
- [x] Improvement Project
- [ ] Non-point source abatement and control
- [ ] Aquatic habitat restoration
- [ ] Pollution prevention
- [ ] Operation of Peconic Bay National Estuary Program (Grant Match)

Note: Monitoring costs are only potentially eligible for CPF funding withinAquatic habitat restoration projects.

2. PRIORITY AREA(S) (check all that apply)

Priority areas are defined in the Water Quality Improvement Project Plan (WQIPP).

- [x] 303(d) Impaired
- [x] High
- [ ] Medium
- [ ] Outside High and Medium priority areas*

*If Outside High and Medium priority areas, explain how the project is relevant to WQIPP goals.

Mecox Bay - Subwatershed Plan Final Rank 1 (highest)

3. PROJECT DESCRIPTION

3a. Existing conditions of applicable groundwater/sub-watershed/waterbody and most recent and relevant data available(provide sources).

Mecox Bay is the largest salt pond on the South Fork of Long Island. Its fragile estuarine ecology has been impacted for centuries by human activity within its watershed. Mecox Bay's 1000+ acres of surface waters provide a home to large populations of shellfish, finfish and wildfowl. Mecox Bay's shoreline also provides a home to over 300 residences and a fertile location for large tracts of productive farmlands. Its full watershed is significant, encompassing multiple ponds and tributaries and multiple regions of Southampton Town (Figure 1).

Mecox Bay is a managed Salt Pond where the sandbar separating the main water body from the ocean is periodically mechanically opened to allow bay water to exchange with ocean water. The opening is known historically as the "Cut". The "Cut" has been managed since pre-colonial times by the indigenous people of the region, and for the past 300 years by Southampton Town Trustees who own the bay bottomland. Recently, the Mecox Bay Conservancy was formed "To restore and protect the water quality of Mecox Bay and its watershed." MBC plans to work closely with the Southampton Town Trustees, the Southampton Town Board, the NYS Center for Clean Water Technology, the Stony Brook School of Marine and Atmospheric Sciences (SOMAS), the NY State Department of Environmental Conservation, the US Department of Fish and Wildlife, and other agencies and stakeholders to advance the long-term ecological health of Mecox Bay and its watershed. While opening of the cut can improve water quality to some extent, it has not been effective in avoiding multiple water quality impairments within Mecox Bay.

Increased loading of nitrogen from human activity within the Mecox Bay watershed has led to deteriorating water quality within the bay. For example, the brackish nature and dynamic salinity of this temporarily closed estuary leaves it vulnerable to the accumulation of high concentrations of nutrients emanating from its creeks and surrounding groundwater (Gobler et al., 2005). Prior research has shown this system is mildly phosphorus limited in spring but very strongly nitrogen limited in summer and fall (Gobler et al., 2005). Given the strong pulses of nitrogen from groundwater and creeks entering Mecox Bay (Gobler et al., 2005), the system has been vulnerable to multiple water quality impairments over the years. Under higher salinity conditions, this system has been prone to harmful algal blooms (HAB) caused by the dinoflagellate, *Alexandrium*. This HAB synthesizes the neurotoxin, saxitoxin, that causes paralytic shellfish poisoning, a potentially lethal condition, and prior blooms of *Alexandrium* have reached 1,000 cells per liter in Mecox Bay, a density that can cause toxin accumulation in shellfish. Because Mecox Bay rapidly fills with groundwater when closed and reaches low salinity conditions, it is also vulnerable to freshwater HABs (blue-green algae blooms) both from Mill Pond (which connects to the northwest corner of Mecox Bay via Mill Creek) and from *in situ* growth and accumulation of blue-green algae. Of significant concern has been blooms of *Microcystis*, a blue-green alga that synthesizes the gastrointestinal toxin and protein phosphatase inhibitor, microcystin. While microcystin is globally of greatest concern as a drinking water contaminant, emerging research has demonstrated that this toxin can accumulate in shellfish as well, including Eastern oysters (Straquadine et al., 2022) which have been the most important fishery in Mecox Bay for more a century. Finally, the overgrowth of HABs and other algae stimulated by nitrogen overloading have led to bouts of nocturnal hypoxia in summer, an occurrence that can have dire consequences for all aquatic life in Mecox Bay, including the iconic oyster population.

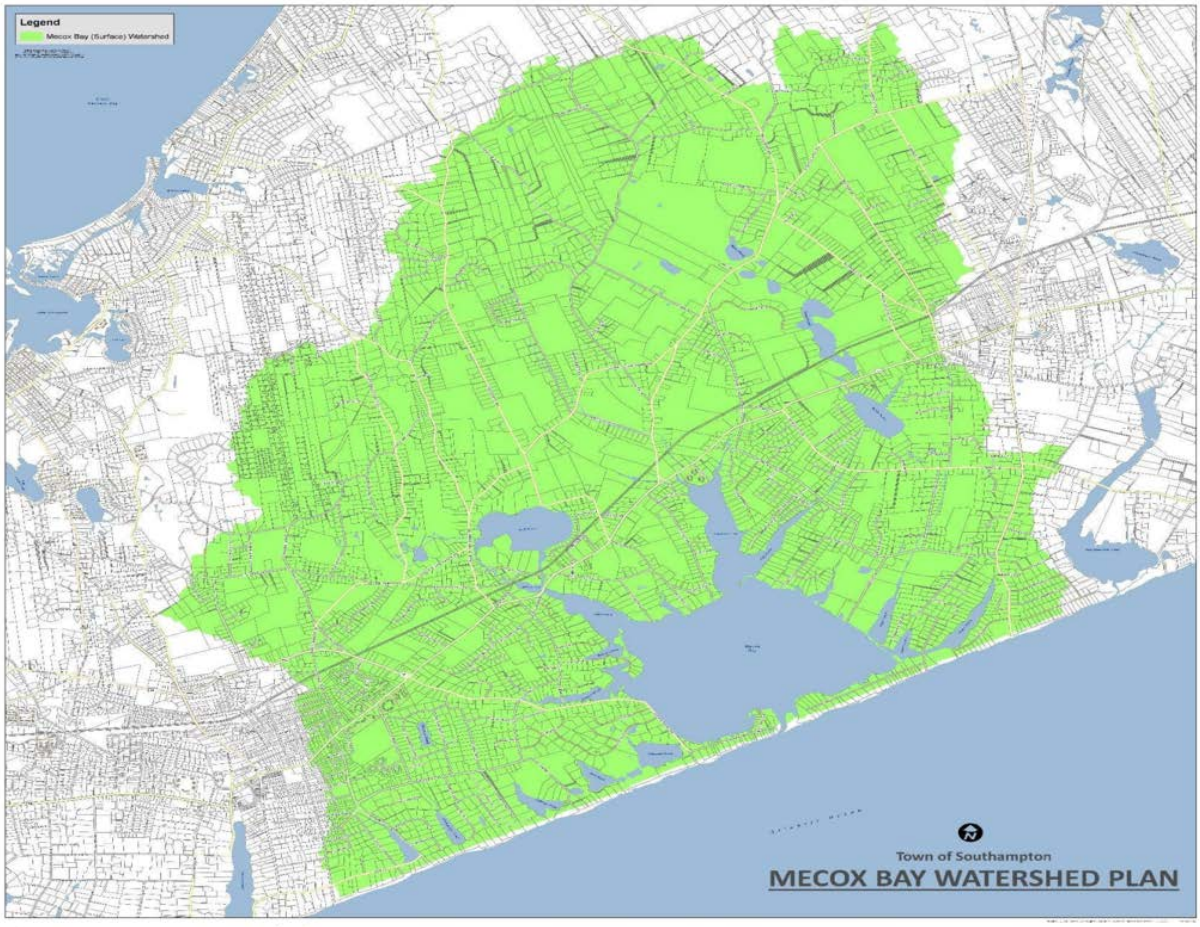

Figure 1. The Mecox Bay watershed.

The Southampton Town Trustees have been stewards of the bay for centuries, ably managing “the cut” to allow for bay-seawater exchange and having developed a Management Plan for Mecox Bay. The Trustees well understand the stressors facing the bay and their limited ability to address the damage. In their Mecox Bay Management Plan adopted in October of 2019 the Trustees stated:

"Measures must be taken to reduce pressures on the bay, with particular emphasis on eliminating land-based sources of water pollution and restoring habitat. The ability to address these needs lies largely outside the authority of the Trustees."

This project, therefore, will seek to create a plan that fully complements the Mecox Bay Management Plan by addressing watershed-based pollution to this system.

3b. How the proposed solution addresses the issue in the context of Reduction, Remediation and/or Restoration as per the CPF Water Quality Project Plan. Note all remediation and restoration projects must assure that reduction measures are also addressed.

There are many ways to reduce nitrogen and other contaminants in the bay including: converting residential sanitary systems to nitrogen reducing I/A systems, installation of permeable reactive barriers in key locations, controlling runoff from roads and farms during rain events, the creation of natural vegetative buffers, preventing the bay from reaching water levels where sanitary systems and farm fields become inundated with bay water, and reducing fertilizer use within the watershed. Before funding of largescale efforts to address the pollution, issues impacting Mecox Bay, it is essential to understand where the main contamination originates from. A detailed watershed characterization of all nitrogen inputs into the Mecox Bay surface water system is lacking. Such a study would pinpoint where corrective actions should be focused and would be an important tool for informing future funding decisions related to proposed mitigation. This watershed-wide Mecox Bay study would evaluate bay water, groundwater, and run-off samples for concentrations of various contaminants, as well as model the contributions of wastewater, residential fertilizer, agricultural fertilizer, and other sources, pinpointing the relative contribution of all sources of the contamination. The study would combine with an outreach aimed at reducing known potent sources of contamination. Field workers will focus on homes with the largest impact on the Bay who have yet to convert their sanitary systems to nitrogen reducing I/A systems. The team will also evaluate current and past I/A sanitary system installation occurrences and will evaluate additional measures needed to increase participation.

The Mecox Bay Conservancy (MBC) was established as a 501(c)3 not-for-profit corporation with the sole purpose of working with public partners and other stakeholders to improve the water quality of Mecox Bay. MBC will team with Stony Brook's School of Atmospheric Sciences (SOMAS) and the NYS CCWT to conduct this study and accompanying outreach campaign. MBC will commit $50,000 in private matching funds toward this grant request.

Identifying source of nitrogen pollution to Mecox Bay:
Prior studies have investigated nitrogen sources to Mecox Bay, specifically Suffolk County subwatershed plan. While that effort provided an excellent starting point, it requires significant refinement to be made actionable and maximally useful for developing a remedial plan for Mecox Bay. The Suffolk County report specifically called out the analyses of Mecox Bay as being coarse, with Mecox Bay having a "poorly characterized watershed" for their analyses. As an example, while that plan identified 'fertilizer' as the largest source of nitrogen to Mecox Bay, it did not identify the contribution of agriculture fertilizer as compared to residential fertilizer. It also did not indicate the subregions within the watershed from which the fertilizer-derived nitrogen loads were emanating nor the densest clustering of onsite septic systems. Given these are the largest nitrogen sources to the Bay, resolving these differences and assigning nitrogen contribution from these differing sources will be absolutely necessary to develop actionable remediation plans for the Bay. In addition, the former model was developed in ~2017 and, therefore, does not include actions taken since that time including any upgraded septic systems within the watershed. Moreover, the plan does not consider groundwater or sediment sources of nitrogen which are generally known to be two potent delivery mechanisms for nitrogen to estuaries. This project will overcome all of these shortcomings by updating and refining the pre-existing nitrogen loading model to maximize its usefulness for future remediation projection for Mecox Bay.

To achieve this, nitrogen levels emanating from septic systems, fertilizers, sediments, run-off,

groundwater, the atmosphere, pets, birds will be quantified using the Nitrogen Load Model (NLM). Gobler has more than 20 years of experience using this model, and has used it for watersheds and subwatersheds across Long Island including large geographic areas like all of Nassau County (NYSDEC, 2020, 2022) and small watersheds on the south fork of Long Island including Wainscott Pond, Georgica Pond, Saggaponack Pond, and Lake Agawam. To do this, individual watersheds for Mecox Bay will be drafted with the assistance of the USGS who operates the most comprehensive and up-to-date groundwater model for East Hampton (USGS 2021). A comprehensive GIS-based watershed analysis will be performed determining the size and number of bedrooms of every home in the watershed as well as the precise size of each residential lawn. Sediments will be fully surveyed and characterized, with the flux of nutrients from sediments determined. With data from this field and modeling study, the precise sources of nitrogen will be quantified so that it will be possible to create a fact-based, measurable solution to the current conditions.

Complementing this modeling work will be direct analysis of Mecox Bay, groundwater entering Mecox Bay, and run-off from the watershed to Mecox Bay. This site-specific information will help guide the selection of sites for future remediation actions. Regarding the bay and run-off, samples will be collected from all nearshore tributaries and run-off sites across the Mecox Bay ecosystem to evaluate the strength of each source with respect to nitrogen, phosphorus, and other contaminants such as fecal bacteria. These analyses may inform the location of future mitigative efforts such as permeable reactive barriers (PRBs) or the installation of natural buffer areas, and provides insight into whether stormwater runoff control is necessary in addition to groundwater treatment.

Regarding the groundwater survey, a nearshore groundwater seepage survey will be performed during the period of maximal groundwater flow when the cut is open, capturing and quantifying groundwater discharge, facilitating an estimate of nitrogen loading to surface water in pounds of nitrogen per year. Groundwater parameters to be measured will include temperature, conductivity, total, dissolved solids, pH, and oxidation reduction potential. Groundwater samples will be analyzed by an ELAP certified laboratory for the nitrogen series (nitrate, nitrite, ammonium, TKN), and select samples will be analyzed for phosphorus. Resulting data will be mapped in GIS, identifying contaminant hot spots. Refined follow-up surveys will be performed to gather more specific data needed to develop remediation approaches.

The completion of the model and sampling will have three key outcomes:
1. All potential nutrient removal strategies can be evaluated relative to nutrient loads, allowing the general effectiveness of any proposed nutrient mitigation strategy to be evaluated.
Given the limited nature of resources available for improving water quality, this approach will be exceedingly cost effective, allowing high visibility but low impact projects to be avoided.
2. Potential locations for non-septic upgrade remediation will be identified.
3. The precise impacts of septic upgrades will be quantified both to date and as they progress (*see next section*), allowing the efficacy of the program to be evaluated in the light of all watershed nitrogen loading processes.

Upgrading septic systems within the Mecox Bay watershed:
This project will work in parallel tracks to immediately begin the process of reducing nitrogen loads while concurrently identifying the most effective approaches for nitrogen remediation in the very near term. The NYS Center for Clean Water Technology will build on its success in other subwatersheds in East Hampton and Southampton Town's including Georgica Pond, Saggaponack Pond, and Lake Agawam, bringing its 'Watershed Manager', Tom Varley, to the Mecox Bay watershed. The goal of the Watershed Manager will be to upgrade as many septic systems as possible within the watershed to innovative and advanced, low nitrogen systems that are as environmentally protective as possible and suitable for each individual parcel. This is critically important as few homes in this watershed have been upgraded. Because nitrogen loading from septic systems is a significant source of nutrients that is promoting algae blooms, upgrading onsite systems must be a high priority for the homes within the watershed. Collective action is sorely needed to stop the leaching of wastewater nitrogen into Mecox Bay. Waiting passively for individual homeowners to act will mean this system will continue to receive harmful loading of

nitrogen on a continuing basis for decades.

Beyond the pace of the septic replacements, a second concern the Watershed Manager will address is the manner in which system upgrades occur. To date, this effort has been solely performed by commercial entities whose primary objective has been a financial bottom line, rather than the health of ecosystems. In some cases, this has resulted in the installation of systems that were less protective of groundwater and aquatic ecosystems than desired. Further, the slow pace of upgrades is partly a function of the complex and circuitous regulatory process involved in upgrading septic systems that includes hiring engineers to perform site evaluations, choosing a septic system, having design drawings drafted by engineers, submitting the designs for approval to the County Health department, applying for State grants, applying for County grants, applying for Town grants, hiring an installer and performing site restoration. In some cases, without *a priori* knowledge of the process, installing a new septic system can take years for homeowners. And, as already mentioned, after all of the effort, the system installed may be less than optimal from an environmental standpoint.

The New York State Center for Clean Water Technology (CCWT) was founded in 2015 to address the septic system crisis on Long Island. Since its founding, CCWT has worked closely with Suffolk County to install novel septic systems called Nitrogen Removing Biofilters (NRBs) that have been provisionally approved by Suffolk County for installation and remove more nitrogen and organic contaminants than any commercially permissible septic system in Suffolk County (Gobler et al., 2021; Lee et al., 2021; Clyde et al 2022). CCWT has also developed 'nitrogen polishing units' such as woodchip boxes that are capable of improving the performance of any commercially available low nitrogen septic systems. It has been the experience of CCWT that not all I/A systems perform as expected, but the installation of polishing units can ensure optimized outcomes regarding effluent. Through these experiences, CCWT has gained keen insight into the types of septic systems that are maximally protective of the environment given a broad array of site-specific information about individual dwellings and plots of land. The CCWT staff has also gained insight regarding the highly complex process of installing septic systems. Through this process, CCWT has established excellent working relationships with more than a half dozen engineering firms that specialize in designing site plans for low nitrogen septic systems, as well as many multiple septic system installers. CCWT also works very closely, and on an almost weekly basis, with Suffolk County's Department of Health Services, the entity that approves the installations of all low nitrogen septic systems and administers state and county grants for septic systems. CCWT also has a good working relationship with the individuals running the Town of Southampton septic grant program. CCWT is, therefore, uniquely positioned to assist the Mecox Bay community to accelerate the installation of low nitrogen septic systems that are maximally protective of the environment.

The program to accelerate septic upgrades will begin with meetings with the Town to share information and resources regarding the watershed with the goal of creating a shared, geographic information system (GIS)-based watershed tracking system. A second critical initial step will be community meetings where Dr. Gobler and Mr. Varley, and Jay Schneiderman will outline the critical importance of upgrading as many septic systems as possible as quickly as possible, emphasizing the ecosystem and public health threats associated with antiquated septic systems. These meetings will be followed by homeowner surveys where relevant information about each home and property will be reported. Specifically, for this project, Mr. Varley will create a shared GIS-based database of all homes. Using information regarding depth to groundwater, groundwater travel time, the homeowner survey, seasonal vs year-round residences, and total average daily nitrogen load from the residence, Varley will prioritize homes for septic system upgrades based on their relative environmental impact on the ponds. While this program will seek to upgrade the septic systems of as many homes in the watershed as possible, top priority will be given to properties with the largest environmental impact. For prioritized homes, Varley will conduct GIS-based, desktop evaluations of each home that will focus on groundwater characteristics and available survey information. Computer-based evaluations will be followed by onsite assessment of existing site conditions. We are specifically proposing for this project to include 'preliminary sites assessments' performed by a certified engineer that will allow the Watershed Manager and engineer to present homeowners with realistic, site-specific options for innovative and alternative septic system configurations that will be as environmentally protective as possible, while remaining cost-effective and

minimally disruptive. This proposal includes funding for a limited number of such 'preliminary assessments' as meant to incentivize home owners to engage in the program. I/A system designs may also include polishing units that are paid for with Suffolk County incentive that will reduce nitrogen effluent to levels as low as possible. Varley will review septic system options with each homeowner, translating the science of septic technology, groundwater transit and onsite installations to homeowners. Once selected, the system will be designed by an engineer and submitted for approval by Suffolk County Department of Health Services. Once approved, Varley will advise and assist with grant applications to the Town, County, and State to pay for the installation. With funding secured, Varley can provide homeowners with a list of reputable installers as well as get bids from the installers. Through each individual step in the process, Varley will provide continued scientific advising and consulting with homeowners, providing review of the system design against nitrogen removal parameters and advising and assisting on state, county and town grants, informed guidance on choosing an installer, and scientific oversight to ensure that the installation will provide maximum benefit.

While CCWT has its own novel septic systems (i.e. NRBs), CCWT will remain, agnostic with regard to the precise technology installed at any given home. As an example of this, CCWT recently worked with the Village of Southampton to obtain state funding from the NYS Smart Cities Program to provide guidance on septic installs. For the first five homes in that program, Fuji-Clean systems were chosen as the appropriate I/A septic system with CCWT woodchip boxes added to assure maximal contaminant removal. For this project, the Center's top priority for choosing systems will be maximally protective with regard to nitrogen loading, followed by cost. CCWT has no financial interest nor means to gain from the installations of any I/A system including their non-proprietary septic systems (i.e. NRBs and woodchip boxes).

Beyond working with individual homeowners, the *Watershed Manager* will also ensure the entire septic upgrade program for Mecox Bay is moving forward in a timely manner by monitoring progress versus schedule on a lot-by-lot basis for the entire watershed. The shared GIS-based watershed database will be continually updated as homes are upgraded and as any developments related to nitrogen loading occur and this information can be used to update nitrogen loading budgets. Given the shallow and highly variable depth to groundwater, the homes closest to the water will likely be of the highest priority, followed by homes in the short groundwater travel time zones that are most harmful to the Mecox Bay. Collectively, this project could target up to 100 homes, a level that **could remove up to 2,000 pounds of nitrogen annually from Mecox, with 10,000 pounds removed over the next five years**. Importantly, the septic upgrades are a permanent solution that will continually improve conditions for decades to come. Having Tom Varley as *Watershed Manager* to provide science-based advising during the entire process will ensure that this vision becomes a reality.

Identifying opportunities for shoreline remediation:
A further critical action for the remediation of Mecox Bay is the identification of shorelines that can be utilized for future mitigation projects. While rain gardens, permeable reactive barriers, bioswales, and other approaches can all be useful approaches for future remediation of Mecox Bay, such projects are wholly dependent upon the access and availability of specific regions of shorelines for potential projects. The identification regions where future projects can be sited will be crucial for the active management of Mecox Bay. For example, given the extensive farm land abutting Mecox Bay, there may be opportunities to engage with farmers to transfer use rights for future remedial plans. Such approaches, however, will require the cooperation of farmers and other homeowners who may be reluctant to take any action that might lessen the productivity of their farm operations or affect the value of their land holdings. Therefore, it is essential to work closely with farmers to cooperatively develop solutions that are not counter to their interests. For example, if a portion of the farm along the waterfront showed potential for the remediation of run-off or a PRB, the farmer could work with the Town on a water quality grant to compensate the farmer for the value of any loss of land needed for the construction and maintenance of the project. The Town could apply water quality funds to acquire a conservation work easement to construct and maintain the project. It would be important to structure such an agreement in a way to not interfere with the property owner's ability to continue farming or to residentially develop the balance of the land. For this project, CCWT will identify critical areas for pollution mitigation projects

and work closely with property owners and the Town to explore mutually beneficial approaches.

Development of a comprehensive watershed management plan:
The data and information generated by this study will provide a clear path forward to the remediation of nitrogen pollution and other contaminates to Mecox Bay. The development of an actionable management plan for Mecox Bay will involve the use of data developed from nitrogen loading budgets, data from sediment, Bay, groundwater, and run-off surveys, and information gathered from the shoreline evaluation study. With the relative importance of onsite septic systems, domestic fertilizer, and agricultural fertilizer determined, each of these sources can be ranked in priority order for mitigation. Agricultural fertilizer quantification will be done on a plot-by-plot basis, allowing these sites to be prioritized. GIS-based overlays of groundwater and run-off hot-spots with shoreline opportunities will allow for nearshore remediation projects (bioswales, PRBs, rain gardens) to be prioritized. Evaluation of sediments could identify regions where small dredging projects might have significant water quality benefits. Given this amalgamate of information, scientists from CCWT and CCE will generate a list of top priority remedial approaches, generating estimates of remedial effectiveness (pounds nitrogen removed) and costs. We note the project has budgeted for independent engineering cost assessments for project evaluation.

The next step in the process of creating an actionable management plan will be engagement with Mecox Bay stakeholders. There are many affected stakeholders when the health of the bay declines. Residents are affected by flooding, odors, toxic conditions for swimming and other impacts. Commercial and recreational fisherman and baymen are affected when fish and shellfish populations are in decline. Farmers are affected when water levels rise and flood their farm fields with salt water. Oceanfront properties are affected when the cut is open for too long and the natural flow of sand along the beach is interrupted. Mecox Bay stakeholders include: homeowners (including the Mecox Bay Conservancy (MBC)), farmers, Southampton Town Trustees, Southampton Town Board, NY DEC, US Dept of Fish and Wildlife, businesses, SOMAS, Audubon Society, Ducks Unlimited, Peconic Land Trust, The Nature Conservancy, and many other groups and individuals.

At the start of this study, a public meeting will be held with all stakeholders to introduce the public to this project its objective, providing public education regarding the watershed of Mecox Bay. Beyond the specific objectives, this meeting will also include a presentation of obvious no-regrets actions to be taken including conversion to I/A septic systems, reducing fertilizers use, and the importance of intercepting land-derived run-off and pollutants. This meeting will be an ideal vehicle to bring together stakeholders, scientists, and ideally MBC who will work with CCWT, CCE, and others to lead education of their neighbors and to receive their collective feedback.

For creation of the watershed management plan, a draft plan will be shared and presented to all stakeholders and opportunities will be presented for written and oral feedback which will be incorporated into the final watershed management plan. Such a public meeting will represent another public education opportunity emphasizing the topics introduced at the first meeting as well as reviewing mitigation opportunities. The ultimate goal will be for the plan to be adopted by the Town, the Town Trustees, the MBC, and other organizations. Such a consensus plan can be used as a basis for supporting future CPF projects.

3c. Describe the proposed technology and its demonstrated efficacy in similar settings. May include published data.

Via Suffolk County's Article 19 process, hundreds of innovative and alternative, low nitrogen septic systems have been installed across the County, many of which are in the Town of Southampton. For this project, only systems that have achieved at least provisional approval will be considered for installation within the watersheds. To gain this level of approval, the technologies have to demonstrate that more than eight systems achieved the 19 mg N per liter effluent standard from Article 19 for more than a year. The most recent data released by Suffolk County has demonstrated that the top performing systems have been CCWT's unlined NRB (11.1 mg/L), Fuji Clean (13 mg/L) and HydroAction (13

mg/L) (Figure 2). Moreover, as previously mentioned, NRB's have been shown to remove drugs, pharmaceuticals, personal care products, and solvents from wastewater (Lee et al 2021; Clyde et al., 2022) and CCWT's woodchip box has been shown to reduce effluent from commercial I/A systems to <10 mg/L. Hence, Fuji Clean, HydroAction, unlined NRB's and woodchip boxes on Fuji Clean and HydroAction systems will likely be top choices of this project although other high performing technologies (e.g. SeptiTech) will also be considered and the details of each parcel regarding depth to groundwater, space available, pre-existing systems, number of bedrooms, and property layout will all inform final decisions.

The Nitrogen Loading Model will be used to quantify the efficacy of nitrogen removal for this project. The model will follow the precise parameterization that Gobler used when developing the nitrogen loads for Nassau County (NYSDEC, 2020, 2022) and small watersheds on the south fork of Long Island including Wainscott Pond, Georgica Pond, Saggaponack Pond, and Lake Agawam. Importantly, Gobler was a member of the subcommittee that parameterized the Nitrogen Loading Model for Suffolk County's Subwatersheds study and has and will continue to use the parameters developed for that plan. Those parameters were established over a multi-year, consensus-building effort among the USEPA, USGS, NYSDEC, Suffolk County, Stony Brook University, Cornell University, and The Nature Conservancy. As such, the model used for this project will represent state-of-the-art science, but will also advance the model further by also accounting for sediments and the impacts of bird populations on nitrogen loads.

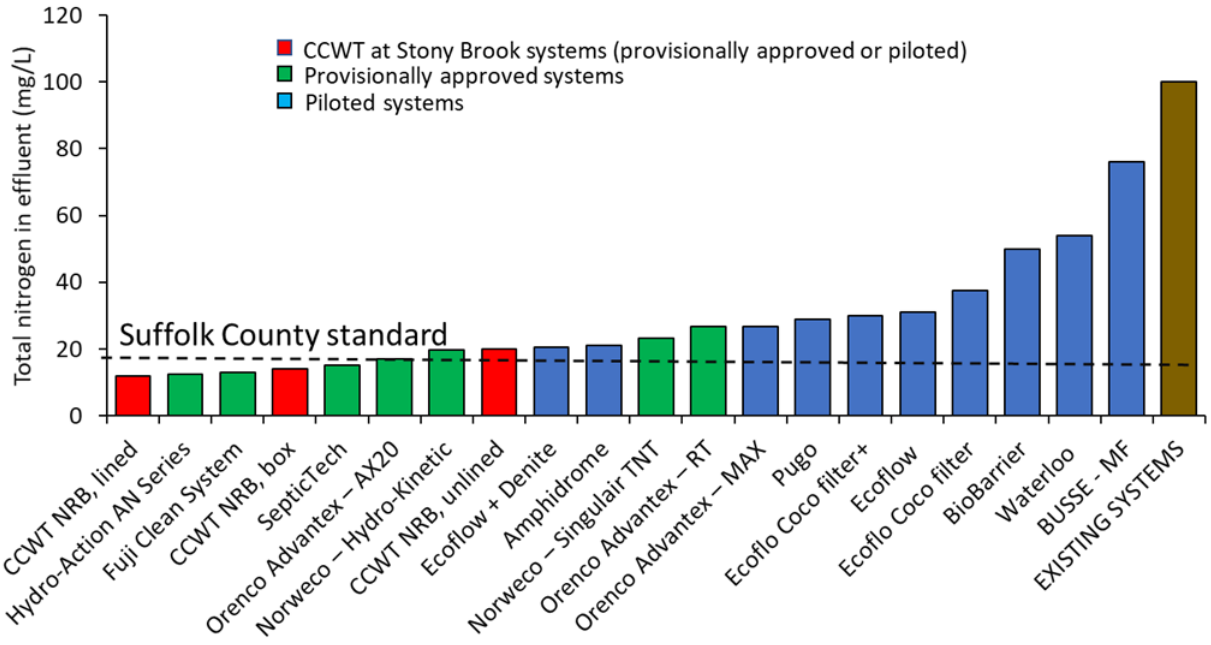

Figure 2. Effluent from septic systems tested in Suffolk County and reported by Suffolk county Department of Health services as of Spring 2023. This project will primarily focus on the top three performing technologies.

3d. How the project supports Town of Southampton, Suffolk County, NYSDEC, Long Island Nitrogen Action Plan (LINAP) or other adopted goals/policies (provide references with pages numbers).

The upgrade of septic systems is a top priority of Town of Southampton, Suffolk County, NYSDEC Long Island Nitrogen Action Plan (LINAP). This is the focus of Suffolk County's Subwatershed Wastewater Plan and the Town's Water Quality Improvement Plan. Suffolk County has recently reported that new sewer districts cost more than $120,000 per home for hook up. As such, centralized wastewater treatment and in particular the sewers that collect the wastewater are cost prohibitive for this community.

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3e. Review the following statements and indicate whether they are applicable to your project. For all "Yes" responses, pleaseindicate how your project addresses the requirements indicated.

YES	N/A	
☐	■	**If stormwater system or drainage is proposed:** The project must indicate compliance with the New York State Stormwater Design Manual (2015 and as updated).
■	☐	**If project is related to farmland:** Describe any Agricultural Stewardship Plan or other long term strategy for Nitrogen abatement. ***See below***
☐	■	**If the project is for habitat restoration:** The narrative must address how underlying causes are being ameliorated and expected outcomes for local species populations or other ecological considerations are given.
☐	■	**If project is a Sewage Treatment Plant (STP) or cluster treatment system:** Fund allocation request is based on cost for reduction of pre-existing conditions and not for purpose of accommodating new density (describe pre-existingdensity and associated flow (gallons per day) and total projected nitrogen reduction in narrative). Include detailedinformation on how many homes the system would treat as well as potential for formation of Sewer District, if required by Suffolk County Health Department or Town Law.
☐	■	**If the project is requesting grant match:** Include information related to funding program source and purpose of application and any relevant items on this checklist. Note: A Town Board resolution will be required in order to encumber matching funds for grant applications.

This project will work with farms to identify opportunities for nitrogen mitigation along shorelines.

4. WATER QUALITY BENEFIT

4a. Identify Nitrogen, Pathogen or Pollutant of Concern (POC) including Existing Condition and Target Reduction.

High nitrogen levels have led to the degradation of Mecox Bay. For example, the brackish nature and dynamic salinity of this temporarily closed estuary leaves it vulnerable to the accumulation of high concentrations of nutrients emanating from its creeks and surrounding groundwater (Gobler et al., 2005). Prior research has shown this system is mildly phosphorus limited in spring but very strongly nitrogen limited in summer and fall (Gobler et al., 2005). Given the strong pulses of nitrogen from groundwater and creeks entering Mecox Bay (Gobler et al., 2005), the system has been vulnerable to multiple water quality impairments over the years. Under higher salinity conditions, this system has been prone to harmful algal blooms (HAB) caused by the dinoflagellate, *Alexandrium*. This HAB synthesizes the neurotoxin, saxitoxin, that causes paralytic shellfish poisoning, a potentially lethal condition, and prior blooms of *Alexandrium* have reached 1,000 cells per liter in Mecox Bay, a density that can cause toxin accumulation in shellfish. Because Mecox Bay rapidly fills with groundwater when closed and reaches low salinity conditions, it is also vulnerable to freshwater HABs (blue-green algae blooms) both from Mill Pond (which connects to the northwest corner of Mecox Bay via Mill Creek) and from *in situ* growth and accumulation of blue-green algae. Of significant concern has been blooms of *Microcystis*, a blue-green alga that synthesizes the gastrointestinal toxin and protein phosphatase inhibitor, microcystin. While microcystin is globally of greatest concern as a drinking water contaminant, emerging research has demonstrated that this toxin can accumulate in shellfish as well, including Eastern oysters (Straquadine et al., 2022) which have been the most important fishery in Mecox Bay for more a century. Finally, the overgrowth of HABs and other algae stimulated by nitrogen overloading have led to bouts of nocturnal hypoxia in summer, an occurrence that can have dire consequences for all aquatic life in Mecox Bay, including the iconic oyster population. By reducing nitrogen overloads to Mecox Bay, this project help address these problems.

4b. Describe plans for collecting and reporting on water quality over time.

SCDHS Article 19 regulations requires that nitrogen levels emanating from all I/A septic systems installed as part of this program be monitored and reported. In addition, the NYS Center for Clean Water Technology will monitor wastewater analytes in the final effluent of any of their systems (NRB or polishing units) once installation is complete and will report results to the public broadly including to SCDHS, NYS DEC and the Town of Southampton. Wastewater analytes will include Total Kjeldahl Nitrogen, ammonium, nitrate/nitrite, cBOD5, alkalinity, DO, pH, and temperature (final effluent and air), which will be measured on site. The Center has over seven years' experience collecting and measuring these analytes; its labs are certified by the NYS Environmental Laboratory Assessment Program (ELAP) for these analytes. In addition, the SoMAS continuous monitoring buoy installed in Mecox Bay will provide data on temperature and salinity, as well as key measures of ecosystem health such as chlorophyll a (a proxy for algae), phycocyanin (a proxy for blue-green algae), dissolved oxygen and pH. Moreover, this project will generate water quality monitoring data from the bay, tributaries, run-off, and groundwater, all of which will be reported to the Town.

4c. Indicate useful life of proposed technology (must meet or exceed five years).

The primary technology deployed by this project will be I/A septic systems. The useful life of upgraded I/A systems that will be part of this project is greater than 15 years. For example, published articles in scientific journals (e.g., Robertson, Logan & Lombardo 2008; Groundwater Monitoring & Remediation 28) indicate woodchips continue to provide carbon for nitrate removal for at least 15 years; anecdotal evidence suggests woodchips may continue to provide carbon for nitrate removal for decades beyond that. The I/A systems have been widely in use across the globe for decades.

5. COST FACTORS

5a. Explain how you have confirmed that the proposed budget is reasonable, appropriate and necessary. If available, provide third party estimates or other documentation of how costs were determined.

The proposed itemized budget was based on actual costs for individuals to execute the proposed work and determined using the SUNY Research Foundation budgeting process. All salaries include state mandated fringe benefit rates.

Cornell Cooperative Extension provided a quote for their proposed work. Funds are requested for engineering reports for onsite septic systems and for shoreline surveys.

5b. Describe any matching funds to be provided.

The Mecox Bay Conservancy is making a $50,000 contribution toward this project as in-kind matching funds.

Lab analytics, field technicians for sampling, analyses, and science will be performed by CCWT's NYS ELAP certified for lab to provide measurement of wastewater analytes as match for this project.

A portion of Tom Varley's time is being contributed toward this project as match.

A portion of Chris Gobler's time is being contributed toward this project as match; he will receive no salary from this project.

5c. Explain:
i. Why project cannot proceed and intended benefits cannot be achieved without external funding.
ii. if funds are awarded at a lower level than requested, or if there are cost overruns, explain how the project will proceed.

Without funding, this project will not proceed. The proposed effort will require a dedicated effort by a multi-disciplinary team of professionals who are not in a position to volunteer their time for this project.

ii. CCWT will cover any cost overruns. If a lower level of support was awarded, we would work with the CPF committee and Town to identify portions of the project to eliminate or consolidate.

MANAGEMENT, EXPERIENCE, ABILITY

6a. Describe applicant's experience in completing similar projects.

Gobler has been studying eastern Long Island ecosystems since 1992 and has been developing nitrogen loading models for these ecosystems since 1997. He has executed projects similar to the one proposed here within many other south fork watersheds including Georgica Pond, Wainscott Pond, Saggaponack Pond, and Lake Agawam. NYS Center for Clean Water Technology at Stony Brook University was founded by NY Governor Cuomo in 2015 to promote technologies that reduce residential nitrogen inputs to groundwater and marine ecosystems. Since inception, CCWT has facilitated the installation of over scores of onsite, residential wastewater treatment systems (Nitrogen Removing Biofilters) at locations across Suffolk County. Tom Varley has worked as Watershed Manager for CCWT since 2022, facilitating I/A installs across the south fork.

6b. Describe community support or opposition to project. If there is opposition, explain how this is to be addressed.

There is no known opposition for these specific projects at this time. Community support for the project is broad, as is and will be demonstrated by support letters for this project.

6c. Describe any permits needed and time frame/status of approvals. If permits are approved, indicate same.

SCDHS Article 19 compliance will be required for I/A installations.

7. MAINTENANCE, MONITORING, EVALUATION

Estimate ongoing maintenance costs and explain how these will be supported. Explain stewardship and monitoring activities planned for ensuring sustainability of the project.

The SoMAS monitoring buoy is supported by the Town of Southampton. The Gobler Lab will monitor Mecox Bay on an ongoing basis after this project as it has done annually for two decades. The Mecox Bay Conservancy has been formed to represent a permanent entity to marshall the efforts and attention of homeowners and stakeholders to *"To restore and protect the water quality of Mecox Bay and its watershed."* All I/A septic systems installed will be monitored for at least three years.

8. DURATION OF PROJECT

8a. Provide a projected project timeline.

This project is designed to rapidly generate information and to rapidly develop the watershed management plan over a one-year time frame. Beyond this, the watershed manager's activity of upgrading septic systems will be supported over a three-year time frame given the importance and longer-term nature of this task.

8b. If project is multi-year or phased, provide a breakdown of budget and milestones for each year and phase.

Not Phased.

9. ATTESTATION

Allocation of CPF funds will not be for the purpose of accommodating new growth, as this is prohibited by State law.

■ Check box to certify that funds will not be directed for projects for the purpose of accommodating new growth.

Signature: _____ Date 3/15/24

10. I understand this is a reimbursement Grant and will submit proof of payment and final documents as needed.

Signature: _____ Date 3/15/24

REQUIRED ATTACHMENTS Confirm that the following required documents are attached to this application:

■ ⑥ Photos of existing conditions

■ Location Map

■ State Environmental Quality Review Act (SEQRA) Long or Short Environmental Assessment Form (EAF) https://www.dec.ny.gov/permits/6191.html

■ Completed EPA Spreadsheet Tool for Evaluating Pollutant Load (STEPL) https://www.epa.gov/nps/spreadsheet-tool-estimating-pollutant-loads-stepl or similar standardized methodology (describe)

■ Project budget (see attached template)

11. OTHER ATTACHMENTS

List other attachments provided, including cost estimates, bids, plans, documentation of matching funds, and other as appropriate to demonstrate project readiness, quality, feasibility, and cost effectiveness

List of Attachments:

1) Photos –
2) Location Map
3) Assessment of Water Quality
4) Pollutant Loads in lieu of STEPL Calculation –
5) State Environmental Quality Review Act (SEQRA)
6) Project budget
7) Letter of intent

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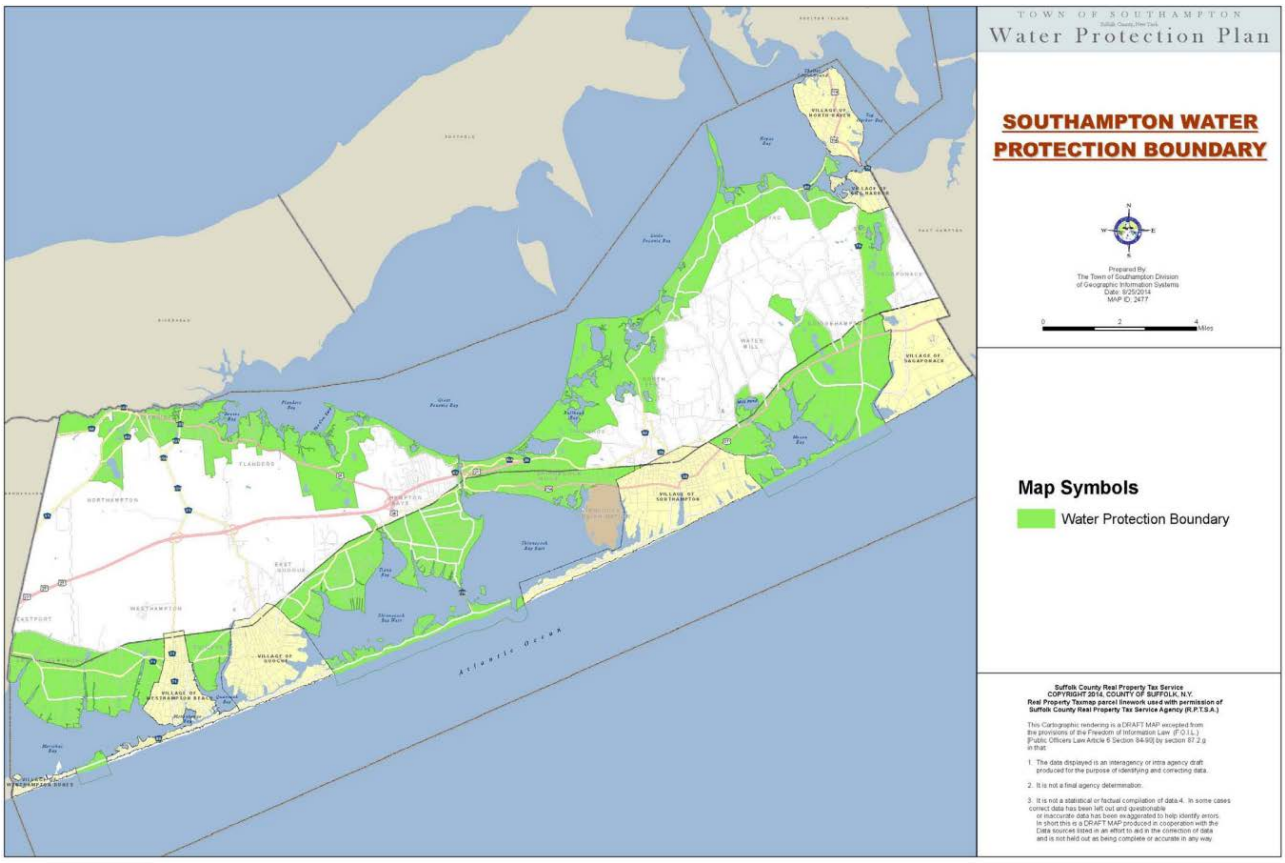
2024

Photos

Location Map

Site is located in High Priority Area (Source: Southampton Town CPF WQIPP)



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BUDGET PROPOSAL

PLANNING/ENGINEERING/DESIGN	TOWN CPF REQUEST	MATCHING FUNDS COMMITTED	TOTAL
Gobler effort, modeling, public engagement (with fringe)		$ 40,240	$ 40,240
Varley effort (part-time over two years, with fringe)	$ 70,800	$ 70,800	$ 141,600
Project technician/coordinator with fringe	$ 71,000		$ 71,000
			$ -
			$ -
Subtotal	$ 141,800	$ 111,040	$ 252,840

CONTRACTUAL SERVICES	TOWN CPF REQUEST	MATCHING FUNDS COMMITTED	TOTAL
Cornell Cooperative groundwater surveys	$ 80,000		$ 80,000
Site Assesment by engineers for septics and shoreline surveys	$ 30,000		$ 30,000
			$ -
			$ -
			$ -
Subtotal	$ 110,000	$ -	$ 110,000

EQUIPMENT/MATERIALS/SUPPLIES	TOWN CPF REQUEST	MATCHING FUNDS COMMITTED	TOTAL
Materials and supplies for surveys	$ 5,000		$ 5,000
Vessel and vans for surveys	$ 1,750		$ 1,750
			$ -

			$ -
			$ -
			$ -
			$ -
Subtotal	$ 6,750	$ -	$ 6,750

ADDITIONAL COST	TOWN CPF REQUEST	MATCHING FUNDS COMMITTED	TOTAL
CCWT In-Kind Match for Monitoring & Analytical Services		$ 27,142	$ 27,142
MBC matching funds		$ 50,000	$ 50,000
SUNY Research Foundation Subtotal x 10% IDC Overhead Rate	$ 25,855	$ -	$ 25,855
Subtotal	$ 25,855	$ 77,142	$ 102,997

PLANNING/ENGINEERING/DESIGN/SUPPLIES COST TOTAL	$ 284,405	$ 188,182	$ 472,587

TOTAL PROJECT COST	**$ 472,587**
APPLICANT MATCHING FUNDS COMMITTED	**$ 188,182**
TOTAL CPF FUNDS REQUESTED	**$ 284,405**

Assessment of water quality in Mecox Bay

The following study assessed the water quality in Mecox Bay over a one-year period and has a comprehensive analysis of the Bay, tributaries, and groundwater and is available for free (https://doi.org/10.1016/j.ecss.2005.05.016):

Gobler, C. J., Cullison, L. A., Koch, F., Harder, T. M., & Krause, J. W. (2005). Influence of freshwater flow, ocean exchange, and seasonal cycles on phytoplankton–nutrient dynamics in a temporarily open estuary. *Estuarine, Coastal and Shelf Science*, *65*(1-2), 275-288.

Pollutant Loads In lieu of a STEPL calculation

The septic upgrade portion of this project could remove up to 2,000 pounds of nitrogen annually from Mecox, with 10,000 pounds removed over the next five years. Furthermore, this project will use a Nitrogen Loading Model (NLM) described in Bowen, et al (2007) and refined for Suffolk County by CDM Smith for the county's subwatershed study.

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Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information

Name of Action or Project:
Water Quality Grant for Mecox Bay

Project Location (describe, and attach a location map):
Mecox Bay

Brief Description of Proposed Action:
Mecox Bay Conservancy, Cornell Cooperative Extension of Suffolk County, and Stony Brook School of Marine Sciences developed a multi-part plan to address water quality issues in Mecox Bay. Part 1 is a bay-wide survey to understand the sources of various contaminants and where they are most detrimental to groundwater and surface water quality. Part 2 involves characterizing priority shoreline areas to determine the most appropriate remediation approach and providing data to inform future designs. Part 3 includes a public education campaign to share key results with the public and inform the community about improved practices to reduce water quality impairments. Part 4 is a targeted outreach program to homeowners in the 0-2 year groundwater travel time to provide assistance with innovative/alternative (I/A) septic system applications.

Name of Applicant or Sponsor:	Telephone:
CCE, SoMAS, Mecox Bay Conservancy	E-Mail: meg372@cornell.edu

Address:
423 Griffing Ave.

City/PO:	State:	Zip Code:
Riverhead	NY	11901

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: Town Trustee approval	☐	☑

3. a. Total acreage of the site of the proposed action? 1543 acres
   b. Total acreage to be physically disturbed? <1 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

5. ☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☑ Commercial ☑ Residential (suburban)
   ☐ Forest ☑ Agriculture ☑ Aquatic ☐ Other(Specify):
   ☐ Parkland

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	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? Name:SGPA, Reason:Protect groundwater, Agency:Long Island Regional Planning, Date:3-19-93		
If Yes, identify:	☐	☑

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation services available at or near the site of the proposed action?	☐	☑
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☐	☑

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies:	☑	☐

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water:	☑	☐

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment:	☑	☐

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☐	☑
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☐	☑

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☐	☑
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: The project includes installing groundwater wells and probing into the sediment to sample for various contaminants and collecting soil samples for site characterization to inform future remediation design. Groundwater wells have small diameter, typically 1 to 2inches, and may be installed adjacent to or within wetland areas surrounding Mecox Bay		

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14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☑ Shoreline ☐ Forest ☑ Agricultural/grasslands ☐ Early mid-successional
☑ Wetland ☐ Urban ☑ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered? Northern Long-eared Bat, Pi...	☐	☑
16. Is the project site located in the 100-year flood plan?	☐	☑
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☑	☐
If Yes, a. Will storm water discharges flow to adjacent properties?	☑	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☑	☐
If Yes, briefly describe:		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment:	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	☑	☐

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor/name: Molly Graffam, Cornell Cooperative Extension Date: 3/13/24

Signature: Molly Graffam Title: Water Resource Geochemical Specialist

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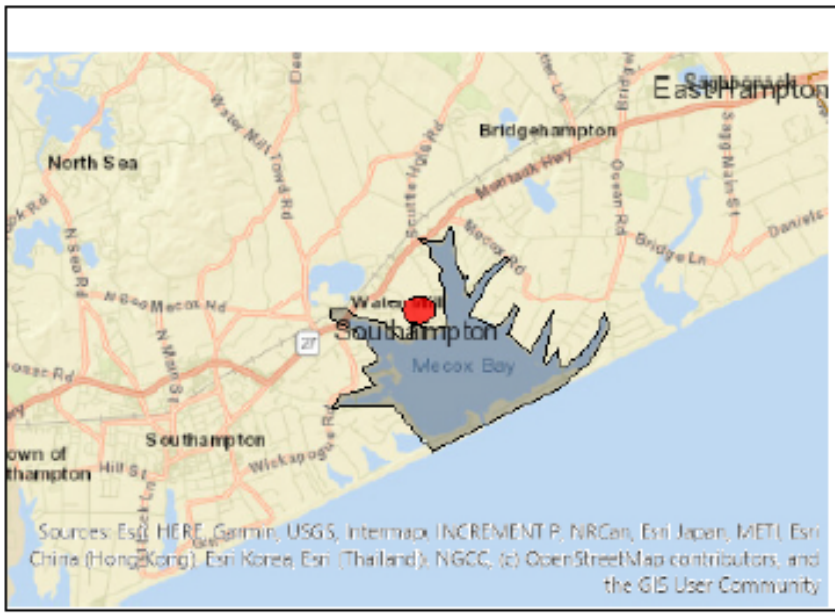
2024

EAF Mapper Summary Report

Wednesday, March 13, 2024 9:36 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

Part 1 / Question 7 [Critical Environmental Area]	Yes
Part 1 / Question 7 [Critical Environmental Area - Identify]	Name:SGPA, Reason:Protect groundwater, Agency:Long Island Regional Planning, Date:3-19-93
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	Yes
Part 1 / Question 12b [Archeological Sites]	Yes
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	Yes
Part 1 / Question 15 [Threatened or Endangered Animal - Name]	Northern Long-eared Bat, Piping Plover, Least Tern
Part 1 / Question 16 [100 Year Flood Plain]	Yes
Part 1 / Question 20 [Remediation Site]	No

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COMMUNITY PRESERVATION FUND (CPF)
WATER QUALITY IMPROVEMENT PROGRAM
LETTER OF INTENT

COMMUNITY PRESERVATION FUND (CPF)
WATER QUALITY IMPROVEMENT PROGRAM
LETTER OF INTENT

APPLICANT'S INFORMATION

Owner:
Contact First and Last Name: Christopher Gobler
Contact Address: 239 Montauk HWY, Southampton, NY 11968
Contact Phone: 631-871-2109
Contact Email: christopher.gobler@stonybrook.edu

CONTRACT RECIPIANT INFORMATION

Name/Organization: NYS Center for Clean Water Technology
Contact Person/Officer: Christopher Gobler
Contact Address: 239 Montauk HWY, Southampton, NY 11968
Contact Phone: 631-871-2109
Contact Email: christopher.gobler@stonybrook.edu

PROJECT INFORMATION

Project Title: Development and implementation of a sustainable and comprehensive watershed management and remediation plan for Mecox Bay
Project Location: Mecox Bay
Project Description (1-3 sentences): Project will 1. Rapidly and efficiently upgrade septic systems in the Mecox Bay watershed via a Watershed Manager who will marshal homeowners through the SIP process, 2. Model and quantify the absolute and relative nitrogen loads and other pollutants from all watershed sources, evaluating septic systems, agricultural fertilizers, home fertilizers, sediments, run-off, groundwater, the atmosphere, pets, and birds, 3. Identify opportunities for shoreline-based mitigation approaches, and 4. Develop a stakeholder-supported watershed management plan that identifies the most effective and actionable remediation approaches based on relative importance of nitrogen loads and the feasibility of actions.

ANTICIPATED PROJECT TIMELINE

Begin: January 2025
Complete: Plan completed spring 2026; septic upgrades continue through 2027
Notes: