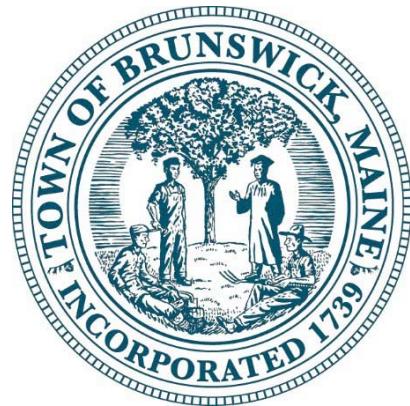


# Town of Brunswick, Maine



## Maquoit Bay Watershed Water Quality Study Request for Proposals

July 20, 2023

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## 1. Introduction

Nitrogen and fecal coliforms have been identified as potential sources of contamination to Maquoit Bay and are presumed to affect the bay's water quality and shellfish resources. Stormwater runoff and groundwater from land uses within the watershed surrounding the bay have been suspected as major potential pathways for contaminants. Shellfish bed closures have resulted from excessive concentrations of fecal coliform bacteria. Fish kills result from an algal bloom which may in part have been prompted by watershed-derived nutrients, primarily nitrogen.

On June 5th, 2023, Brunswick Town Council passed a resolution to form the Maquoit Bay Water Quality Task Force. The task force was charged with developing this request for proposal (RFP) to hire a consultant to conduct a study establishing baseline water quality of water within and entering Maquoit Bay, evaluating the water quality impacts associated with existing and future land uses in the watershed, and developing water quality loading models to predict present and future loadings of nitrogen and fecal coliforms from these land uses.

To address these issues within and surrounding Maquoit Bay, the Brunswick Town Council also created the Maquoit Bay Water Quality Task Force (MBWQTF). The task force will guide and advise Town Staff in executing the RFP and aide Town Staff in oversight of the study.

For the purposes of this study, all watershed fieldwork is to be done within the Brunswick portion of the watershed. Predicted pollution loadings from the model, in conjunction with the water quality monitoring data, is intended to be used as a basis for recommending measures to modify sources or pathways to reduce pollutant loading originating within the watershed.

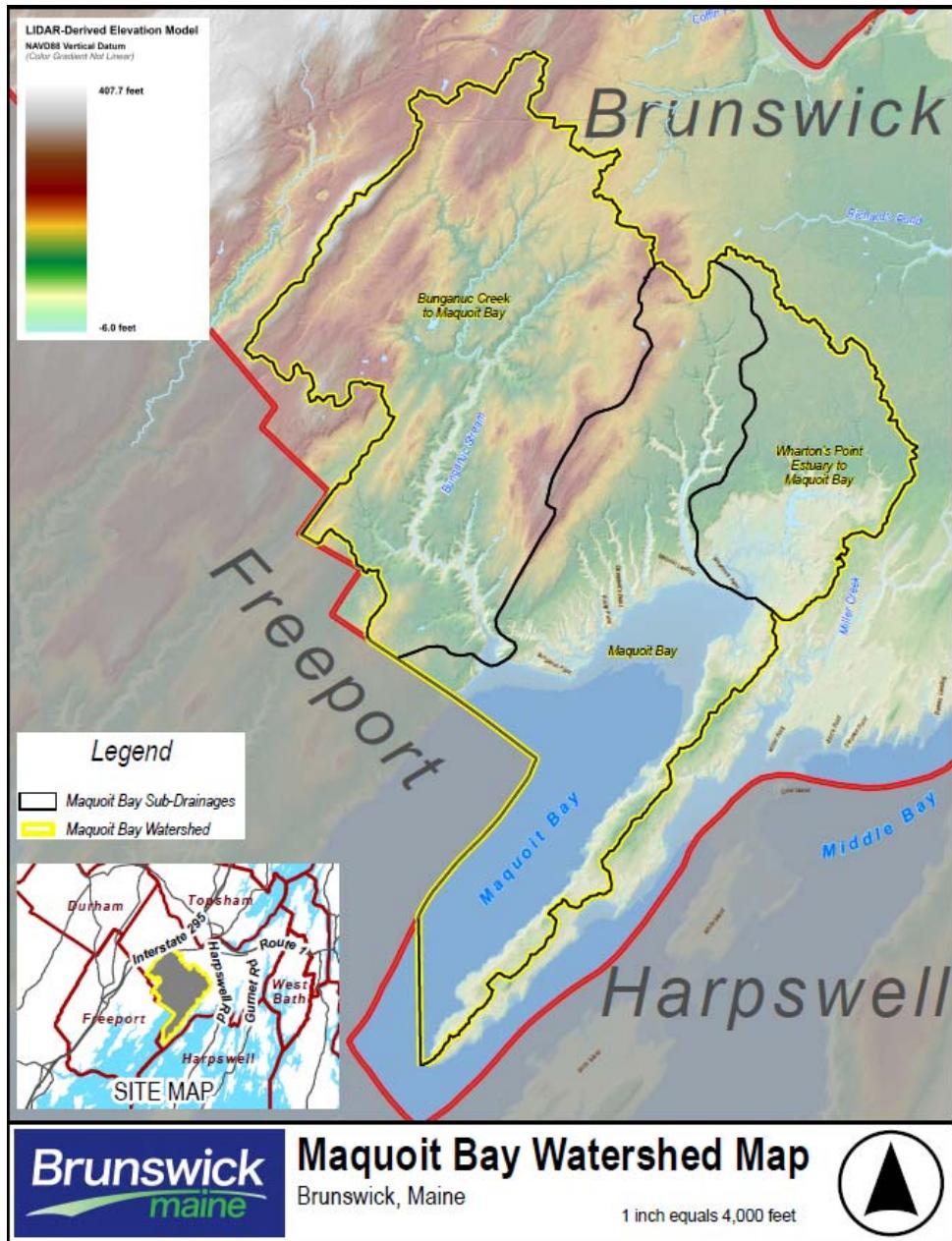


Figure 1 - Maquoit Bay Watershed

## 2. Project Timeline

Interested parties shall provide a detailed schedule of work broken out by the tasks listed below. The Town Anticipates the study work to begin in 2023, with sampling to occur in summer 2024 and project completion in winter 2024-2025.

### 3. Project Management and Responsibilities

The selected consultant will be responsible for working closely with Town Staff and the MBWQTF. The Town Project Engineer, Jim Flood, will serve as the primary contact and coordinator between The Town and the selected consultant.

The Town will be responsible for the following:

- a. Providing existing documentation pertaining to past studies of Maquoit Bay and the Maquoit Bay Watershed;
- b. Scheduling, coordination, and any necessary arrangements for meetings; and
- c. Providing existing GIS and topographic data of the watershed.

The selected consultant will be responsible for managing the project and completing the tasks outlined in the following scope of work.

### 4. Scope of Work

The Town of Brunswick is requesting proposals from a qualified consultant to carry out the scope of work as described in the tasks below. The consultant may modify the desired scope of work presented below if, based on their professional expertise and knowledge, they can provide an approach that will more effectively address the goals of this project; however, the consultant shall not delete any requested task unless explicitly noted. Any changes to the scope of work would require Town approval.

#### **Task 1 - Kick-Off Meeting - Staff**

The consultant and their team will attend a kick-off meeting with Town Staff to review the scope of the project and schedule.

#### **Task 2 - Document Review**

Consultant to review existing documents listed in section 8 of this RFP.

#### **Task 3 - Data Quality Plan**

Development of a data quality plan for nutrient and fecal coliform monitoring. Document to define data quality goals and quality assurance practices.

#### **Task 4 - Development of Water Quality Sampling and Analysis Plan**

The consultant shall develop a sampling plan focused on locations within Maquoit Bay and the Maquoit Bay Watershed. The goal of sampling is to supplement previous studies and available data establishing baseline concentrations in the bay during the summer and identifying the sources of nitrogen and bacteria within the watershed. The consultant shall present the sampling plan and rationale to the Town. Sampling plan should include sampling locations, frequency, and proposed analyte list. A draft sampling plan will be presented to the Town for comment with response to the RFP.

#### **Task 4 - Maquoit Bay Baseline Sampling**

Sampling will be conducted by the consultant with assistance from the Town.

### **Task 5 – Bacteria and Nitrogen Loading Model**

Consultant will recommend and modify an existing model that can produce and estimate fecal coliform and total nitrogen loadings for different land uses within the watershed. It should also have the capability to run different scenarios such as comparing current and build-out conditions and land use changes relevant to the watershed. The model should also compare results for locations where field data was collected and generate pollutant loading estimates at new locations. The consultant should identify the model to be used and provide justification for why it should be used in this study, while also outlining its capabilities and limitations of the model.

### **Task 7 – Presentation of Results and Recommendations – Public Meeting**

The consultant shall prepare a written report of their findings and present to the Town Council. The report should, at a minimum, include the following:

- Summarize conditions of the bay;
- Identify and summarize sources of pollutants within the watershed;
- Provide recommendations on possible ordinances the town could enact or other actions to take to reduce contaminant loading to the bay; and
- Compare the results of the Horsley & Witten, Inc., January 1996 study to the results obtained in this study.

The consultant shall also provide a tutorial to Town staff for use of the bacteria and nitrogen loading models.

## **5. Deliverables**

1. Data quality plan for sampling program;
2. Work with Town Staff to identify key sampling locations;
3. Total nitrogen and bacteria loading models for the Town's future use;
4. Written report with findings and data collected during study; and
5. Presentation of study summary to Town Council.

## **6. Consultant Firm Selection Process**

A selection committee comprised of Town Staff and the MBWQTF will review the submitted proposals and may identify up to three (3) consultants for interviews. Upon completion of the interviews, the selection committee will make a recommendation to the Town Council to award a contract to the preferred consultant.

### **a. Selection Timeline**

1. RFP Release	Thursday August 3, 2023
2. Deadline for questions pertaining to RFP	Thursday August 17, 2023
3. Pre-submission virtual meeting with staff	Wednesday August 23, 2023
4. Staff responses to firm questions	Thursday August 31, 2023
5. Final submissions deadline	Tuesday September 5, 2023

6. Selection committee review of submissions	Week of September 11, 2023
7. Interviews with preferred consultants	Week of September 18, 2023
8. Recommendation to Town Council	October 2, 2023
9. Issue notice of award	October 5, 2023
10. Execute contract	Week of October 9, 2023

## b. Submission Requirements

Interested parties shall submit three (3) hard copies and one (1) USB flash drive with digital file(s) in a PFD or Microsoft Word file format in a sealed envelope with their name and address plainly marked, "Maquiot Bay Watershed Study". Proposals will be accepted at 85 Union Street, Attn: Jim Flood until 4:30 PM on Tuesday, September 5, 2023. Incomplete or late submissions will disqualify a consultant from consideration.

Submissions shall include:

1. Cover letter briefly describing your project team and interest in the project;
2. An organization chart of the project team, including associated costs per hour of all personnel and any sub-consultants assigned to this project;
3. Qualifications of project team and sub-consultants, if any. Include the project team's experience on similar projects. Identify key personnel, and any sub-consultants, assigned to the project and their individual education and experience;
4. References from at least three sources for similar type projects;
5. Proposed scope of work, including potential total nitrogen and bacteria loading models that will be used in the study, how they apply to the Maquiot Bay Watershed, and their limitations;
6. Proposed timeline, including estimated dates or time frames in which to achieve key milestones; and
7. Proposed budget on a task basis with labor and expense detail.

The Town reserves the right to require additional materials to determine which proposals best meets its needs. If such materials are requested from any one of the submitting consultants, all consultants remaining under consideration will be allowed, but not required, to provide similar materials. The Town may reject any or all proposals if deemed to be in The Town's best interest to do so.

## c. Selection Criteria

Town Staff and the MBWQTF will evaluate applications on:

- Experience
- Qualifications
- Fees
- Demonstrated ability to meet schedule
- References

## 7. Contact and Inquiries

Interested consultant firms shall direct questions to Jim Flood, Town Project Engineer at [jflood@brunswickme.org](mailto:jflood@brunswickme.org) or (207)721-4145.

Town of Brunswick, Maine  
Engineering Department  
85 Union Street  
Brunswick, ME 04011

## 8. Existing Relating Documents

*Identification and Evaluation of Nutrient and Bacterial Loadings to Maquoit Bay, Brunswick and Freeport, Maine*, Horsley & Witten, Inc., January 1996

*Expanding and Sustaining the Shellfisheries of Casco Bay*, Casco Bay Estuary Project, September 2003

*Mare Brook Watershed Hydrologic & Hydraulic Study*, GEI Consultants, March 2023

*Maine Volunteer River Monitoring Program (VRMP) Quality Assurance Project Plan(2019 - 2024)*, Maine Department of Environmental Protection, March 2020

*The Environmental Context of a *Gyrodinium* *Aureolum* Bloom and Shellfish Kill in Maquoit Bay, Maine, September 1988*, Heinig and Campbell, 1992

# Town of Brunswick, Maine

## OFFICE OF THE TOWN ENGINEER

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### MEMORANDUM

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**TO:** Bidders

**FROM:** Jim Flood, Town Project Engineer

**DATE:** August 22, 2023

**SUBJECT:** Maquoit Bay Watershed Water Quality Study - RFP  
Addendum #1

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#### **Revisions to the RFP**

Town Staff has received input from community members and would like to make the following additions to Tasks 2, 4, and 7.

**Task 2:** In addition to the existing documents listing in Section 8 of the RFP, please review the following publications regarding biofouling of aquaculture activities:

Mascorda Cabre, L., Hosegood, P., Attrill, M.J., Bridger, D. and Sheehan, E.V. (2021), Offshore longline mussel farms: a review of oceanographic and ecological interactions to inform future research needs, policy and management. *Rev Aquacult*, 13: 1864-1887.

Lacoste E., Gaertner-Mazouni N. (2015) Biofouling impact on production and ecosystem functioning: a review for bivalve aquaculture. *Rev Aquacult*, 7, 187 - 196

Gallardi D (2014) Effects of Bivalve Aquaculture on the Environment and Their Possible Mitigation: A Review. *Fish Aquac J* 5:105.

- Please reach out to the Town Staff if there are any complications in locating or accessing the above publications.

**Task 4:** Any sampling plan should include testing around the Mere Point Aquaculture facility located within the Brunswick Town line of Maquoit Bay to test for possible pollutants and byproducts of the oyster farm. The sampling plan should include suggested sampling parameters and analytes.

**Task 7:** Included in the summary report should be a summary of findings regarding aquaculture activities in Maquoit Bay and the impact they have on the health of the Bay.