

## MEMORANDUM

TO: Cape Elizabeth Town Council  
FROM: Maureen O'Meara, Town Planner  
DATE: April 26, 2022  
SUBJECT: National Coast Resilience Fund proposal authorization

### Introduction

Following up on the March 16, 2022 joint workshop with the Scarborough Town Council, the Town Council is requested to authorize submission of a grant proposal for assessment/preliminary design of Sawyer Street removal and replacement of the Spurwink Ave culvert in the amount of \$250,000 with a \$15,000 cash match from the Town of Cape Elizabeth.

### Summary

The Town, with grant funding support, conducted a Culvert and Habitat Assessment Study in 2019 that evaluated the condition of 16 culverts, and prioritized culvert replacement. The study highlighted the poor condition of existing culverts and has been used as a basis for seeking grant funding to replace culverts in sensitive environmental areas. The best example is the replacement of the Willow Brook culvert, scheduled for this summer with grant support in the amount of \$343,000 from the Maine Natural Resources Conservation Program (MNRCP).

At the March 16, 2022 joint workshop, the Cape Elizabeth and Scarborough Town Councils discussed partnering to evaluate removal of the portion of Sawyer Rd (est. 1,400 ') located in the Spurwink Marsh and replacement of the Spurwink Avenue culvert, which will handle some of the traffic previously using Sawyer Rd. The assessment/preliminary design study would include a traffic study, road removal and marsh restoration design, legal, right-of-way and utility information, and public engagement.

A pre-proposal was submitted to the National Fish and Wildlife Foundation on April 21, 2022 for the National Coastal Resilience Fund. (See attached) The proposal budget is \$250,000 with a \$15,000 cash match from the Town of Cape Elizabeth. The Town of Scarborough is also committing to a \$15,000 cash match for a total of \$30,000. The town hopes to hear at the end of May that it will be invited to submit a full proposal and asks for Town Council authorization.

### Recommendation

The Town Council authorizes a grant application to the National Coastal Resilience Fund for assessment/preliminary design of removal of Sawyer Rd (in the marsh) and replacement of the Spurwink Ave culvert with a cash match of \$15,000.





EasyGrantsID: 76197

National Fish and Wildlife Foundation – National Coastal Resilience Fund 2022, Pre-Proposal  
Title: Restoring Tidal Flow in the Spurwink Marsh (ME) with Existing Road Removal on the Marsh

Organization: Town of Cape Elizabeth

## Grant Request Information

### Title of Project

Restoring Tidal Flow in the Spurwink Marsh (ME) with Existing Road Removal on the Marsh

### Project Description

Study tidal restrictions at Sawyer Street/Road and Spurwink Ave in the Spurwink Marsh, and design climate resilient alternatives, including potential removal of a culvert and 1/4 mile of road. Project will produce plans and cost estimates for sea level rise and coastal flooding resilience.

### Abstract

The project will study options for 2 tidal restrictions (Sawyer St/Rd and Spurwink Ave) that impact tidal wetlands in the Spurwink Marsh, with a focus on removal of 1/4 mile of Sawyer St/Rd (located in the marsh) and upgrade of the Spurwink Ave culvert crossing. The crossings were identified as priorities in a 2015 Sea Level Rise Vulnerability Study and 2017 Habitat and Culvert Assessment. A 2019 Sawyer Road culvert Tidal Crossing Assessment Report identified multiple challenges including prohibitive costs, and on March 16, 2022, the Cape Elizabeth and Scarborough Town Councils jointly agreed to pursue removal of the road as a preferred alternative. Spurwink Ave is the primary alternative route to Sawyer St/Rd and the crossing is in poor condition and restricts tidal flow. Agricultural activities have impacted the marsh and are potentially vulnerable to increased flooding. Saltmarsh sparrow use the restricted marsh and may be impacted by increased flooding. The project will prioritize habitat and resilience objectives through a collaborative public engagement process that accounts for community assets, sea level rise and storm impacts, and enhanced ecosystem function. The project will initiate design and phasing of road removal, marsh restoration, traffic improvements, utility upgrades, and 30% design of the Spurwink Ave culvert, and facilitate community engagement and fundraising to advance the projects to final design and implementation phases.

### Project Location Description

Spurwink Marsh, Towns of Scarborough and Cape Elizabeth, Cumberland County, Maine.

### Total Amount Requested Matching Contributions Proposed

\$250,000.00  
\$30,000.00

### Proposed Grant Period

03/01/2023 - 02/28/2024

### Organization Organization Type City, State, Country Primary Contact Position/Title Phone and E-mail

Town of Cape Elizabeth  
State or Local Government  
"  
Maureen O'Meara  
207-799-0115 Ext: ; maureen.omeara@capeelizabeth.org



NFWF

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Title: Restoring Tidal Flow in the Spurwink Marsh (ME) with Existing Road Removal on the Marsh

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**Additional Contacts**

Role	Name



NFWF

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Organization: Town of Cape Elizabeth

### Matching Contributions

<b>Matching Contribution Amount:</b>	\$15,000.00
<b>Type:</b>	Cash
<b>Status:</b>	Intend to Apply
<b>Source:</b>	Town of Cape Elizabeth Maine
<b>Source Type:</b>	Non-Federal
<b>Description:</b>	The town will contribute a cash match if the grant is awarded

<b>Matching Contribution Amount:</b>	\$15,000.00
<b>Type:</b>	Cash
<b>Status:</b>	Intend to Apply
<b>Source:</b>	Town of Scarborough Maine
<b>Source Type:</b>	Non-Federal
<b>Description:</b>	The town will contribute a cash match if the grant is awarded

<b>Total Amount of Matching Contributions:</b>	\$30,000.00
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NFWF

EasyGrantsID: 76197

National Fish and Wildlife Foundation – National Coastal Resilience Fund 2022, Pre-Proposal

Title: Restoring Tidal Flow in the Spurwink Marsh (ME) with Existing Road Removal on the Marsh

Organization: Town of Cape Elizabeth

The following pages contain the uploaded documents, in the order shown below, as provided by the applicant:

Upload Type	File Name	Uploaded By	Uploaded Date
NCRF Pre-Proposal Narrative 2022	ID 76197 Pre-proposal Narrative .docx	O'Meara, Maureen	04/21/2022
Project Site Map	ID 76197 map.pdf	O'Meara, Maureen	04/21/2022

The following uploads do not have the same headers and footers as the previous sections of this document in order to preserve the integrity of the actual files uploaded.

## NCRF Project Narrative

### Part I Pre-Proposal – Project Overview

- 1. Project Context:** The project will study current conditions in the vicinity of two road crossings (Sawyer Street/Road and Spurwink Avenue), both of which restrict tidal flow and impact adjacent emergent estuarine and brackish wetland habitat in the Spurwink Marsh. The study will assess alternatives for removal of ¼ mile of Sawyer Street/Road (located in the marsh) and upgrade of the Spurwink Avenue crossing (needed to absorb traffic with road removal).

The tidal crossings have been identified as priorities for resilience planning through prior studies including a 2015 Sea Level Rise Vulnerability Study and a 2017 Habitat and Culvert Assessment. Both crossing structures are failing and have been slated for replacement. Both roads cross over the marsh surface and are at low enough elevation to experience periodic inundation during extreme flood events. Spurwink Avenue supports municipal sewer infrastructure that could be impacted by road failure. A 2019 feasibility study of alternatives for the Sawyer Street/Road crossing identified multiple challenges including prohibitive cost and environmental impacts (especially if existing road flooding is addressed). The study used a collaborative planning process with multiple partners to produce a 2-dimensional modeling analysis that considered multiple sea level rise scenarios. At a March 16, 2022 joint meeting of the Cape Elizabeth and Scarborough town councils, both towns agreed that capital improvement budgets would be better allocated at higher value road infrastructure and that removal of Sawyer Street/Road and culvert should be pursued as the preferred alternative to maintaining the road. The Town of Cape Elizabeth has prioritized the Spurwink Avenue crossing as a primary alternative route to Sawyer Road and a critical carrier of municipal sewer infrastructure. This project will include a feasibility study of alternatives for replacement of the existing Spurwink Avenue tidal culvert, leveraging modeling and traffic volume information generated from the Sawyer Street/Road feasibility study, and producing a preliminary design and cost estimates.

The road crossings currently restrict tidal flooding to upstream marsh areas and limit the ability of the marsh to respond to sea level rise and coastal flood events by accreting sediment or migrating to adjacent undeveloped areas. Historic agricultural modifications have resulted in marsh degradation that potentially increases vulnerability to increased flooding in the near term as a result of modifications to the road crossings. Sensitive obligate species like the Saltmarsh Sparrow utilize habitat in the restricted marsh and could be impacted by increased tidal flooding during critical reproductive stages. In 2022, the Atlantic Coast Joint Venture identified the Spurwink Marsh as priority Saltmarsh Sparrow habitat and recommended study of tidal hydrology to facilitate marsh restoration. The Spurwink Marsh is also identified by the state Beginning with Habitat program as an ecological focus area of statewide significance due to the occurrence of multiple state listed bird species and exemplary natural communities.

- 2. Proposed Solution:** This project is a bold response to degradation of habitat and failing infrastructure in the face of increasing coastal hazards from flooding and sea level rise. These communities are taking steps to make an unprecedented decision to abandon a low elevation coastal road while focusing limited resources where they can be most beneficial for enhancing community resilience. The project will prioritize habitat and climate resilience considerations through a collaborative stakeholder engagement process that accounts for community risk thresholds, predicted sea level rise and storm impacts, and enhanced ecosystem functioning. Removal of the tidal restrictions at Sawyer Street/Road and Spurwink Avenue will restore natural tidal hydrology to over 93 acres of estuarine emergent and brackish wetlands and will facilitate marsh migration in



**FOR PRE-PROPOSAL – STOP HERE**

response to sea level rise, which could include over 200 acres of new habitat in undeveloped areas adjacent to the marsh, a substantial portion of which are in conservation.

The project will assess the logistics of removing 1/4 mile of paved road from the Spurwink Marsh. Road removal assessment will include: feasibility study of road removal alternatives; marsh restoration design considerations; traffic circulation and safety analysis including feasibility study of alternatives for the replacement of the Spurwink Ave culvert; emergency services response impacts; necessary legal considerations for road abandonment, and right of way survey to identify utilities; and examination of financial obligations and opportunities to redirect infrastructure funding to promote resiliency. The project will result in 30% engineering design for the preferred Sawyer Street/Road removal and the Spurwink Ave culvert replacement designs.

The project will be conducted within community engagement and transparency standard practices. These include public notice of the project initiation, methods to access information, public participation events at key decision points, and a significant presence on the town websites where study products will be available for review in draft and final versions. Public comment in support of the project was received during and after the March 16, 2022 joint meeting, and products developed by the project will build on that initial support.

### 3. Project Category: Project Site(s) Assessment and Preliminary Design

4. **Communities to Benefit:** The project will initially benefit the Towns of Scarborough, Maine and Cape Elizabeth, Maine where Sawyer Street/Road is located in the Spurwink Marsh. Both communities will be able to avoid an estimated \$5+ million to upgrade Sawyer Street/Road and culvert, allowing limited municipal funding to be directed to higher priority, vulnerable public assets. Both communities have essential infrastructure vulnerable to sea level rise where the avoided costs of a Sawyer Street/Road project can be redirected. Below are selected demographics from the 2020 US Census.

From 2020 US Census	Cape Elizabeth	Scarborough
Total Population	9,535	22,135
Median Household Income	\$127,363	\$102,742
Total Housing units	4071	10,341
Employment Rate	67.70%	69.20%
Median Age	47.9	47.7
Under 5 years	4.60%	3.90%
Under 18 years	22.40%	19.40%
18 years and older	77.60%	80.60%
65 years and over	23.10%	20.70%
Poverty	3.40%	2.80%
Race: White alone	8,767	19,709
Black or African American alone	59	349
Asian alone	191	958

As tidal flows are restored and the adjacent marsh upland is available to naturally adapt to sea level rise, improved marsh functionality will more generally benefit the southern maine coastline. The Cape Elizabeth and Scarborough Town Councils held a joint meeting on March 16, 2022 to consider the future of Sawyer Street/Road. Both town councils directed municipal staff to work together to pursue funding to remove Sawyer Street/Road from the marsh. Members of the public were invited and spoke in favor of removing the road.

From the earliest stages of this project, the towns have engaged with partner organizations to set objectives, define scope, secure funding, and provide key oversight of environmental considerations. Partners include the



Wells National Estuarine Research Reserve, US Fish and Wildlife Service, Maine Coastal Program, Casco Bay Estuary Partnership, The Nature Conservancy, Cape Elizabeth Land Trust, and Portland Water District. This collaborative partnership supported a 4-year process which culminated in a critical decision point in March 2022 where the towns agreed to make the extraordinary decision to actively pursue road abandonment in order to enhance community and habitat resilience to sea level rise. This partnership will continue to provide guidance to the towns as they move into broader public engagement and planning phases.

5. **Anticipated Community and Fish and Wildlife Benefits:** This project will generate detailed information to inform decision making for removal of the two tidal restrictions that impact over 90 acres of tidal wetland habitat. Upon completion of these studies, the project partners will have a high-resolution 2-dimensional model of the marsh surface and channel hydrology upstream of Sawyer Street/Road that will inform restoration actions necessary to prepare the marsh for reintroduction of full tidal hydrology and maximize benefits for vulnerable species and degraded habitat. The study will also generate a 30% preliminary design of the road removal and restoration of the former road embankment and channel to natural wetland conditions. The study will produce a 30% preliminary design for the Spurwink Avenue crossing that ensures long-term performance and continued functioning of associated municipal sewer infrastructure, and allow adequate tidal flow under future sea level rise conditions so that the upstream marsh can respond to changing conditions and migrate to adjacent freshwater and upland areas which have been identified for that purpose. The study will produce a traffic circulation and safety analysis that will guide improvements at nearby routes and intersections to absorb to the increased use resulting from removal of Sawyer Road and which will help inform the design of the Spurwink Avenue crossing. The assessment of fiscal budgeting, and examination of legal consideration for road abandonment, will provide the towns with information necessary maximize effectiveness of limited municipal funding, plan for future investment in critical infrastructure, and avoid potential legal complications that could drain municipal resources.
6. **Other:** One key component of this partnership has been the development in parallel of new guidelines for design of ecologically beneficial tidal road crossings under the Maine Coastal Program “CoastWise” initiative, a 3-year multi-stakeholder science-driven project targeted at aiding municipal road managers through the complexities of these projects in order to improve environmental outcomes. Most of the project partners for the Spurwink Marsh project have, and will continue to serve, on the CoastWise project team and intend to work with the towns to apply these rigorous best practices as one of several pilot projects during the rollout of the new CoastWise manual. It is hoped that the Spurwink Marsh project will be an early example of ecologically beneficial design that can inform future projects which may receive funding through the National Coastal Resilience Fund and similar funding programs. Lessons learned will be communicated to stakeholders through information sharing during the outreach and education phase of the CoastWise project.





