

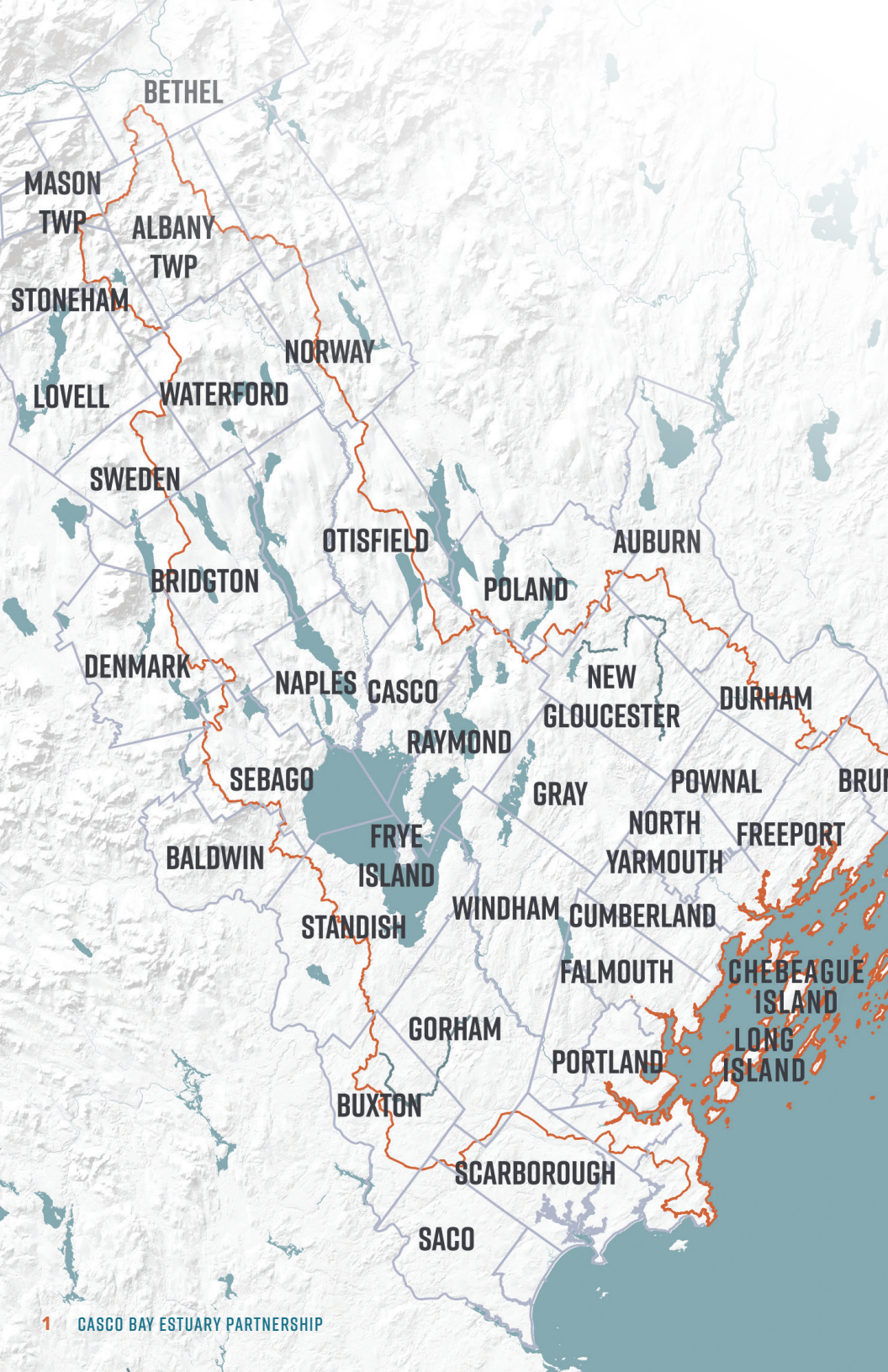


ANNUAL REPORT 2019

COMMUNITY-LED | COLLABORATIVE | WATERSHED-FOCUSED



WWW.CASCOBAYESTUARY.ORG



BETHEL
MASON TWP
ALBANY TWP
STONEHAM
LOVELL
WATERFORD
NORWAY
SWEDEN
BRIDGTON
DENMARK
SEBAGO
BALDWIN
STANDISH
BUXTON
SAGO
OTISFIELD
CASCO
RAYMOND
FRYE ISLAND
WINDHAM
GORHAM
SCARBOROUGH
POLAND
AUBURN
NEW GLOUCESTER
GRAY
CUMBERLAND
FALMOUTH
PORTLAND
DURHAM
POWNAH
NORTH YARMOUTH
FREEPORT
CHEBEAGUE ISLAND
LONG ISLAND

THE CASCO BAY WATERSHED



CASCO BAY



NATIVE PEOPLES DEPENDED ON CASCO BAY ESTUARY

ANCESTRAL TIES

Many Wabanaki consider the earliest occupants of Casco Bay to be their ancestors. Today's Wabanaki include Passamaquoddy, Penobscot, Maliseet, Mi'kmaq, and Abenaki.

HUNTING GROUNDS

Prehistoric spear and harpoon points, fish bones, and shell heaps found on Casco Bay islands help trace ancient peoples' late winter, spring, and summer camps. Native Americans camped on Casco Bay islands to hunt, fish, and dig clams.

NAME ORIGINS

What is the origin of the name Casco Bay? There are two theories. Aucocisco is the Abenaki name for the bay, which means 'place of herons' (sometimes translated as 'muddy'). The Portuguese explorer Estêvão Gomes mapped the Maine coast in 1525 and named the bay "Bahía de Cascos" (Bay of Helmets, based on the shape of the bay).

Letter from the DIRECTOR & CHAIR

Changing coastal conditions in Casco Bay have the potential to greatly alter the ecosystem and our communities in ways we are just beginning to recognize. To face this challenge, Casco Bay Estuary Partnership (CBEP) has been expanding our work with local municipalities and other partners to restore coastal habitat and protect communities from damaging floods and storm events.

But flooding is not the only impact expected, so we are working at the local level to help communities plan for an uncertain future. CBEP and its many partners deliver the best science available to help municipal staff, volunteers and residents make better decisions about how to protect their community infrastructure and natural resources. We also provide follow-up technical assistance and training to municipalities to carry out planning and on-the-ground projects.

As we move into 2020, we are assessing current conditions of the Bay and how we can roll up our sleeves to continue protecting this place we love. Together we can build upon the successes of the last five years.

We look forward to discussing these issues with you at our regional State of the Bay events in late 2020.

In continued partnership,



A handwritten signature in blue ink that reads "Curtis C. Bohlen".

Curtis C. Bohlen
Director



A handwritten signature in blue ink that reads "Kathleen Leyden".

Kathleen Leyden
Board Chair

THANK YOU TO OUR PARTNERS

Casco Bay Islands Alliance
City of Portland
City of South Portland
Cumberland County Soil & Water
Conservation District
Friends of Casco Bay
Greater Portland Council of
Governments
Gulf of Maine Research Institute
Maine Coastal Program
Maine Department of
Environmental Protection
Maine Department of Inland
Fisheries and Wildlife
Maine Department of Marine
Resources
Maine Department of
Transportation
NERACOO
Portland Water District
The Nature Conservancy
United States Environmental
Protection Agency
University of Maine
University of Southern Maine

*CBEP is funded by the US Environmental
Protection Agency under Cooperative Agreements
#CE00A00348 and #CE00A00319 with the
University of Southern Maine.*

Photo: Jerry Monkman, Ecophotography.com



Protecting & Restoring HABITATS



Jackie Rogers, 2019 Marsh Monitoring Intern, surveys the tidal creek channel at Appletree Marsh in Harpswell, site of the 2014 CBEP tidal restoration project at Wallace Shore Road.

TIDAL RESTORATION MONITORING

CBEP completed six years of monitoring tidal restoration sites at Long and Appletree Marshes in Harpswell. Final reports are available on the CBEP website. Staff and interns documented changes to vegetation communities, channel morphology, surface water hydrology, pore water salinity, and other parameters. Monitoring results documented that replacing undersized culverts with larger structures enhances salt marsh systems by restoring tidal and sediment flows and improving passage for aquatic organisms.

MILL BROOK PRESERVE EXPANSION IN WESTBROOK

The Presumpscot Regional Land Trust opened Mill Brook Preserve South in the spring of 2019, assisted by a grant from the CBEP Habitat Protection Fund for land transaction costs. A 1.5 mile loop trail was opened and brings visitors to Mill Brook, home to an annual migratory alewife run to Highland Lake. Each spring, as many as 50,000 alewives pass the site en route to Highland Lake to spawn before returning to Casco Bay and the Gulf of Maine. The Mill Brook Preserve provides several overlooks of the alewife run, at sandy bottom sites where the fish congregate in large numbers.



Migrating alewives at Mill Brook Preserve. Photo: Jerry Monkman, Ecophotography.com

CAPE ELIZABETH CULVERT AND HABITAT ASSESSMENT

The Town of Cape Elizabeth, through a grant from the Maine Coastal Program, completed a robust inventory of 16 significant culverts. The Town hired Sebago Technics to assess the current structural condition and conduct capacity and flooding analyses, and partnered with the Wells National Estuarine Research Reserve and CBEP to assess habitat impacts. This innovative approach to addressing flooding and habitat concerns resulted in a short list of culvert replacements to be added to capital improvement priorities.



Waves ripple into Pond Cove Brook through the culverts under Shore Road in Cape Elizabeth. The road experiences splash-over with increasing frequency during astronomical high tides and winter storms.

Protecting WATER QUALITY



“BLUE PORTLAND” – A CITY PROCESS TO INTEGRATE PLANNING FOR CLEAN WATER

The City of Portland has been spearheading a two-year facilitated “integrated planning” process to address wastewater, combined sewer overflow (CSO), and stormwater permit obligations at the same time. The goal is to find cost-effective solutions to reduce pollution in Casco Bay while addressing other community and economic goals, such as public health and the working waterfront. CBEP Management Committee member Nancy Gallinaro, Water Resources Manager for the City of Portland, is managing the project team.



A “Blue Portland” event at Back Cove Trail. Photo: City of Portland.

PROGRESS ON NUTRIENTS IN CASCO BAY

The Casco Bay Nutrient Council completed its work early in 2019, and CBEP published a report that made specific policy, funding, science, and community engagement recommendations. Nutrient Council partners have been busy carrying out these recommendations to better understand and reduce nutrient pollution; for example:

- The Portland Water District made some operational changes to the East End Wastewater Treatment Facility that successfully reduced summer nitrogen discharges from that plant by 72% (2019 data is not yet available).
- Maine DEP and Friends of Casco Bay collected nitrogen data at multiple locations throughout the summer.
- CBEP and the University of Maine deployed high frequency nitrogen monitoring devices in Portland Harbor

*Darcie Couture, scientist, assesses clam populations for the Town of Brunswick.
Photo: Jerry Monkman, Ecophotography.com*

OCEAN TO PLATE TO OCEAN



Photos: Parker Gassett

The Ocean to Plate to Ocean initiative seeks to combat ocean acidification and help ensure the tidal flats remain a favorable place for natural shellfish growth. The Maine Coastal Program, in collaboration with Casco Bay Estuary Partnership and with funding from the EPA Climate Ready Estuaries Program, piloted an oyster shell recycling program in Portland. Partners collected oyster shell from eleven local restaurants, and transported it to EcoMaine for on-land storage to “cure” for 12 months before reuse in the marine environment. The program will resume in the spring of 2020 with some changes to the structure and partners.

THANK YOU TO THE FOLLOWING PARTICIPATING RESTAURANTS

BLYTH AND BURROWS

BOONE'S FISH HOUSE & OYSTER ROOM

EVENTIDE OYSTER CO.

FIVE FIFTY FIVE

FORE STREET RESTAURANT

HOT SUPPA!

J'S OYSTER

MAINE OYSTER COMPANY

O'OYSTERS

THE SHOP AT ISLAND CREEK OYSTERS

UNION

2019 CBEP COMMUNITY GRANTS

WATERWAYS CONNECT OUR COMMUNITIES

Students at Amanda C. Rowe Elementary School in Portland wrote and illustrated a story that became a “Story Walk” on the Forest City Trail behind Casco Bay High School. Information for the story was gathered from a school project with Cumberland County Soil & Water Conservation District (CCSWCD) focused on the importance of clean water.



Photo: CCSWCD

FOREST PLAYGROUND

Harpwell Heritage Land Trust (HHLT) created a Forest Playground that includes elements of science, imaginative play, music, art, literacy, movement and fun. The playground is a pop-up, moving around to various HHLT sites and local schools. Some goals of the project were for families to enjoy spending time together, be inspired to learn about the local environment, visit and connect with protected lands.



Photo: Julia McLeod

AQUACULTURE ON THE NEW MEADOWS

Holbrook Community Foundation invited three groups to visit oyster growers on the New Meadows to learn about oyster growing and its challenges. Community members had lively exchanges with the growers around current aquaculture issues, including relationships with other fishermen, and the challenges of the business.



Photo: Holbrook Foundation

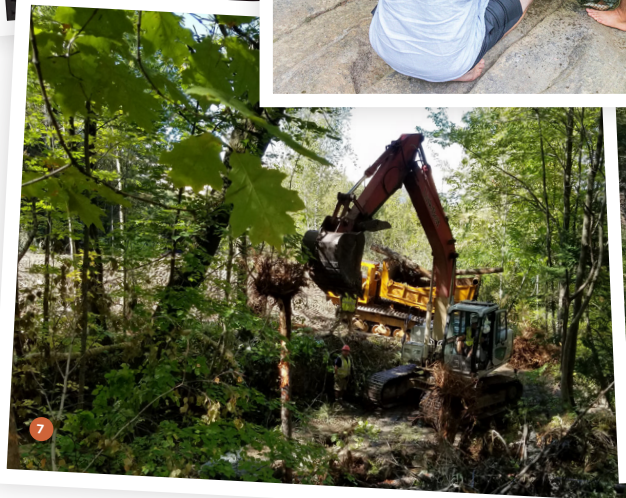
ENCOURAGING PET OWNERS TO LEAVE NO TRACE

Maine Island Trail Association (MITA) used their CBEP grant to foster a stronger “Leave No Trace” ethic among Casco Bay Island visitors who enjoy the outdoors with their pets. Managing pet impacts has become a formidable stewardship challenge on Casco Bay Islands. To address this, MITA used targeted education and outreach strategies on Jewell, Little Chebeague, and Little Snow Islands.



Photo: MITA

Our Partners AT WORK



WITH CBEP SUPPORT, OUR PARTNERS ACCOMPLISHED MUCH IN 2019



1. The City of Portland and partners unveiling new Historic High Water Mark signs that will highlight local flood risks.
2. Staff and interns from Gulf of Maine Research Institute netting alewives in the Presumpscot River. *Photo: Jerry Monkman, Ecophotography.com*
3. Greater Portland Council of Governments, Southern Maine Planning & Development Commission, CCSWCD, and New England Environmental Finance Center partnered with CBEP to run a workshop on site planning for conservation commissions.



4. University of Southern Maine student Tyler Walsh interned with CBEP this summer to conduct research on nutrient pollution in Casco Bay. *Photo: Alan Bennett, University of Southern Maine*
5. The Island Institute partnered with CBEP, New England Environmental Finance Center, and Resilience Works LLC on “ShoreUp Maine 2019: Sea Level Rise – Who Pays and How?” *Photo: Island Institute*



6. Pete Slovinsky, Maine Coastal Program, assesses Lanes Island, Yarmouth, as a possible pilot site for a Living Shorelines project.
7. A contractor hired by Long Creek Watershed Management District engaged in bank stabilization on the mainstem of Long Creek in South Portland. *Photo: Peter Carney*

STATE OF THE BAY 2020

Over the past five years, CBEP has made steady progress towards the following goals:



PROTECT, RESTORE AND ENHANCE KEY HABITATS THAT SUSTAIN ECOLOGICAL HEALTH



IMPROVE CASCO BAY'S WATER QUALITY BY REDUCING NUTRIENT POLLUTION AND ITS IMPACTS, INCLUDING COASTAL ACIDIFICATION



FOSTER RESILIENT COMMUNITIES AND THEIR CONNECTIONS TO CASCO BAY

AS WE LOOK BACK ON THESE GOALS AND THE PROGRESS WE'VE MADE, WE HAVE MUCH TO CELEBRATE!

Every five years, CBEP and its partners track and report on changing conditions within the Bay and its watershed. Over the next year, we will be looking at long-term indicators of Bay health. How is the Bay doing? What are the major stressors impacting the Bay? What are we all doing to contribute to its protection? And why do we care?

This information will be wrapped up in our State of the Bay report, which will give us a picture of evident trends, visible progress, and new challenges that are emerging. We will be discussing these issues with you in a series of regional presentations around the Bay in late 2020.

STAY TUNED TO LEARN MORE ABOUT HOW YOU CAN BE INVOLVED!

Photo: Presumpscot Falls, Portland. Jerry Monkman, Ecophotography.com






The mission of the Casco Bay Estuary Partnership is to help conserve the ecological integrity of Casco Bay and its watershed through science, public stewardship and effective management.

SCIENCE-BASED | NON-REGULATORY | LOCALLY

Casco Bay Estuary Partnership
University of Southern Maine



Find multimedia stories that illustrate what makes Casco Bay special at cascobaystories.org

 Follow us on Facebook
[Facebook.com/CascoBayEstuaryPartnership](https://www.facebook.com/CascoBayEstuaryPartnership)

Cover Photo: Jewell Island. Jerry Monkman, Ecophotography.com

(207) 780-4820 | FAX: (207) 228-8460 | CBEP@MAINE.EDU | CASCOBAYESTUARY.ORG