



ANNUAL REPORT 2020

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-LED | COLLABORATIVE | WATERSHED-FOCUSED

Casco Bay Estuary Partnership
University of Southern Maine



Photo courtesy of Jerry Monkman, Ecophotography.com

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

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THE ISLANDS IN CASCO BAY

The islands in Casco Bay are also called the Calendar Islands, based on the popular myth that there are 365 islands. In reality, there are around 785 islands, islets, and exposed ledges in Casco Bay, depending on the tide.

Chebeague is the largest island in Casco Bay not connected to the mainland by a bridge. Early commerce on the island developed around fishing, farming, and the construction of “stone sloops,” ships that worked along the Maine coast transporting granite and stone from quarry sites to railheads for construction in many eastern cities.

Cliff is the outermost island served by the Casco Bay Lines ferry service and it boasts a year-round population of approximately 60 people, the smallest of the Casco Bay inhabited islands.

Peaks, the most populous of the Casco Bay islands, is home to some 1,000 year-round and 4,000 summer residents. Peaks officially became a neighborhood in the City of Portland in 1834.

Letter from the DIRECTOR & CHAIR

Not many of us in the Casco Bay region will be sad to say goodbye to 2020. In a state so vulnerable to negative impacts from coronavirus – a high percentage of older residents, isolated geography, reliance on tourism, small businesses, and self-employment, among other factors—everyone has been forced to “pivot” and adapt to new ways of living, learning, and earning.

However, if there is one thing certain about Maine and its people: we have adapted for centuries to our rugged weather systems and a sometimes uncertain economy. Mainers’ fierce independence and ability to find creative solutions to problems have served them well in this trying year.

CBEP staff and its many resourceful partners have not only been able to continue their core missions but have also adapted in creative ways, as you will see in the pages of this report.

As we move into 2021, communities are looking to the best available scientific information to help manage and protect the most vulnerable members of our families and our communities from the impacts of the pandemic.

We look forward to continued learning and growth in 2021.

In partnership,



Curtis C. Bohlen

Curtis C. Bohlen
Director



Charlene Poulin

Charlene Poulin
Management Committee Chair



THANK YOU TO OUR PARTNERS THAT GUIDE CBEP

Acadia Center
Casco Bay Islands Alliance
Citizen, Jacki Cohen
City of Portland
City of South Portland
Cumberland County Soil & Water Conservation District
Coldwell Banker
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
NERACOOS
Portland Water District
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University of Maine
University of Southern Maine
And many others!

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Photo courtesy of Jerry Monkman, Ecophotography.com

Protecting & Restoring HABITATS



LIVING SHORELINES IN CASCO BAY

Maine Geological Survey led a collaborative effort to pilot the use of living shorelines at sites in Brunswick and Yarmouth.

Living shoreline is a broad term that encompasses a range of shoreline stabilization techniques along estuarine coasts, bays, sheltered coastlines, and tributaries. These techniques have been used successfully in other parts of the country but have not yet been tested in Maine. Aged oyster shell and fallen trees were chosen as treatments as they beneficially reuse natural materials.

CBEP is leading a five-year monitoring program to track the efficacy of the treatments in curtailing erosion, the impacts to surrounding habitats, and performance in cold climates.

Bottom photos courtesy of Tom Bell,
Greater Portland Council of Governments

STRONG COLLABORATION FOR LAND CONSERVATION

Two regional partnerships are gathering momentum to protect land with high conservation value.

Sebago Clean Waters (SCW), a coalition of conservation organizations and Portland Water District, aims to protect 25 percent of the Sebago Lake watershed in the next 15 years. In 2020, SCW received an \$8 million federal grant that will support forest conservation, land stewardship, and stream connectivity.

The Greater Portland Conservation and Trails Initiative, currently made up of nine organizations, formed in 2020 to support land conservation across the Greater Portland region. An initial goal is to create a long-term vision for conservation, land use, nature-based recreation and recreational trails.

LAND PROTECTION IN THE SEBAGO WATERSHED

Loon Echo Land Trust (LELT) protected the 1,400 acre Tiger Hill Community Forest in the town of Sebago with extensive support from its partners in Sebago Clean Waters. The Tiger Hill Community Forest encompasses sensitive wildlife habitat and working forestlands, and contributes to protection of water quality in Sebago Lake, which serves as the drinking water supply for more than 200,000 people in greater Portland. LELT is currently working to protect an abutting 20 acres along the Northwest River, Sebago Lake's second largest tributary, which includes a hand carry boat launch.

Also in collaboration with Sebago Clean Waters, **Western Foothills Land Trust** acquired an additional 42 acres of land in the Sebago Lake watershed. The forested Otisfield parcel known as the "Scribner parcel" includes 2,230 feet of frontage on the Crooked River, which is the major tributary to Sebago Lake, providing 39% of the surface water flow into the lake.

Photo by Jerry Monkman, ecophotography.com; courtesy of Sebago Clean Waters

Protecting WATER QUALITY



Photo courtesy of Devon Case, Presumpscot Regional Land Trust

CASCO BAY MONITORING

More than a dozen organizations collect data on the condition of Casco Bay from hundreds of locations across the region. CBEP has convened the Casco Bay Monitoring Network to bring together these individuals and organizations to coordinate monitoring, share observations, and plan for the future. In 2020, CBEP revised the Casco Bay Monitoring Plan, the first revision in over a decade. The new Monitoring Plan highlights existing monitoring programs, and identifies areas where increased monitoring is needed to better understand key questions about Casco Bay, how it provides for our coastal communities, and how it is changing.



BEFORE



AFTER

Photos courtesy of Long Creek Watershed Management District

URBAN STREAM RESTORATION IN SOUTH PORTLAND

The Long Creek Watershed Management District, a CBEP partner, constructed a significant urban stream restoration project along the mainstem of Long Creek. Decades of extensive development in the watershed and along the stream corridor has resulted in poor water quality and habitat for aquatic life. The restoration project included improving aquatic habitat, stabilizing the stream banks, and reestablishing the stream's floodplain. Initial monitoring suggests that restoration efforts are improving habitat for aquatic life and returning the stream closer to its natural condition.

Fostering RESILIENT COMMUNITIES



MUNICIPAL TECHNICAL ASSISTANCE

Local Board Training. CBEP and partners hosted four workshops (three virtual) for the Casco Bay Coastal Academy series aimed at municipal officials and staff. Workshop topics were nutrients in Casco Bay, how to be “stream smart,” Maine Climate Council, and coastal shoreline stabilization.



Climate Resilience. CBEP is collaborating with several organizations on a project to improve coordination between organizations that help vulnerable residents in midcoast communities to be better prepared to adapt and recover from storm events. And in collaboration with New England Environmental Finance Center and Maine DEP, CBEP hosted two virtual workshops on applying for and securing funding for resilience projects.



Photo courtesy of Friends of Fort Gorges

EDUCATION GRANTS

CBEP offered new Digital & Distance Learning Grants in addition to Community Grants in 2020.

Friends of Fort Gorges will be creating a docent program, training volunteers to educate visitors about the historical significance of the Fort and its relationship to Casco Bay.

Chebeague & Cumberland Land Trust will implement “CCLT Explorers,” an early childhood place-based learning program that will take place on protected CCLT properties.

Falmouth Land Trust hosted a “Bioblitz” that engaged a dozen citizen scientists in a terrestrial vegetation profile of the Millcreek ecosystem.

The Town of Freeport will be working with Freeport Middle School to conduct authentic field-based research into clam recruitment, survival and growth.

Kennebec Estuary Land Trust is creating a shareable activity bank for story book walks focusing on estuary themes.

Lakes Environmental Association is adapting their “water magic” and aquatic insects curriculum to a virtual platform and providing educational resources.

Yarmouth School District is creating a sharable lesson that increases student knowledge about challenges in the estuary and gives them the tools to create a work of art to illustrate their message.



Photo courtesy of Falmouth Land Trust



A Changing Education Landscape

In response to the challenges of shifting education to a combination of in-person, virtual and hybrid learning, organizations and agencies moved quickly and nimbly to provide resources and creative curriculum for students. These organizations, which included land trusts, gained support from the Maine Mathematics and Science Alliance (MMSA) “Teach ME Outside Initiative” and Community Learning for ME, a virtual space to support teachers and families during COVID-19.



Photo courtesy of Portland Water District

Harpwell Heritage Land Trust (HHLT) offered “Exploration Kits” for families for self-directed adventures in outdoor learning. Photo courtesy of HHLT

Our Partners AT WORK



WITH CBEP SUPPORT, OUR PARTNERS ACCOMPLISHED MUCH IN 2020

- 1 **Bigelow Laboratory and Mook Sea Farm** hired summer interns to test if finely ground shell hash can remediate acidification for juvenile oysters. Photo courtesy of Rin Wilhelm
- 2 **Maine DOT** replaced an aging culvert on Route 123 in Brunswick that will allow anadromous rainbow smelt in Middle Bay to move more easily into the upstream wetlands and habitat.
- 3 **Freeport Conservation Trust (FCT)** is working to preserve the Marsh View parcel adjacent to the Cousins River. This parcel is within the Maquoit and Middle Bay Focus Area of Statewide Significance and will join 180 acres that FCT has already protected. Photo courtesy of Katrina Van Dusen
- 4 **Wells National Estuarine Research Reserve (Wells NERR)** continued their MIMIC (Marine Invader Monitoring & Information Collaborative) program. MIMIC is a network of trained volunteers and scientists who monitor marine invasive species along the Gulf of Maine. The program engaged over 30 citizens in 50+ monitoring events and had close to a hundred records of invasive species in Casco Bay. Photo courtesy of Jeremy Miller
- 5 **Presumpscot Regional Land Trust (PRLT)** The new 188-acre Pride Preserve is now the largest protected forest in Westbrook, thanks to PRLT and their successful campaign during the pandemic. Photo courtesy of City of Westbrook
- 6 **Royal River Conservation Trust (RRCT)** added 100 acres of wetlands and 80 acres of forest to their Intervale Preserve, including wild brook trout stream habitat and inland wading bird and waterfowl habitat. Photo courtesy of RRCT
- 7 **CBEP is working with the Town of Phippsburg, Kennebec Estuary and Phippsburg Land Trusts, and Maine Coastal Program** on a salt marsh restoration feasibility study where Route 216 crosses Small Point Marsh in Phippsburg. Photo: Former CBEP Intern Jackie Rogers surveys the tidal creek channel that runs through Small Point Marsh, a Phippsburg Land Trust property

STATE OF CASCO 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

The full report will be available in early 2021.

Conservation Land in Casco Bay Watershed Exceeds 14% of Land Area: Conservation Land Approaches 10% in Coastal Communities



Photo courtesy of Ken Woisard Photography

Dispersed Development Contributes to Declining Forest and Agricultural Lands: Regional Population Maintains Steady Growth



Photo courtesy of Jerry Monkman, ecophotography.com

Eelgrass has increased over 2013 low levels, but remains below historic levels: Beds Along Freeport and Brunswick Shorelines Rebound Through Natural Recruitment

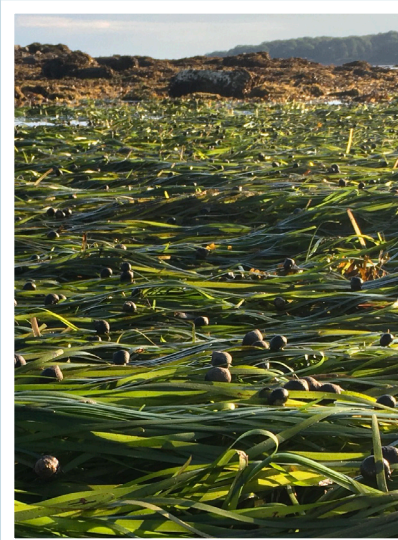


Photo courtesy of Maine Department of Environmental Protection

Inshore Processes Drive Acidification: Coastal Acidification Is Related to Other Water Quality Threats

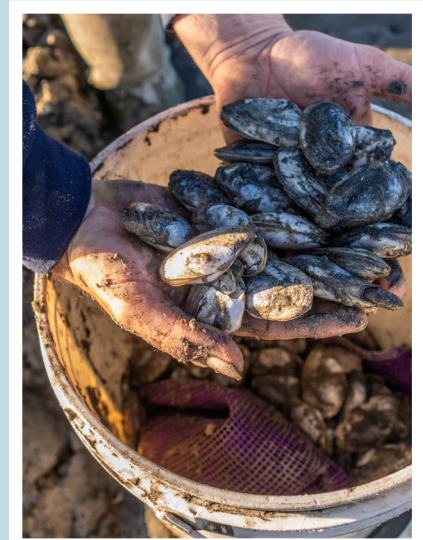


Photo courtesy of Jerry Monkman, ecophotography.com