



2023 ANNUAL REPORT



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

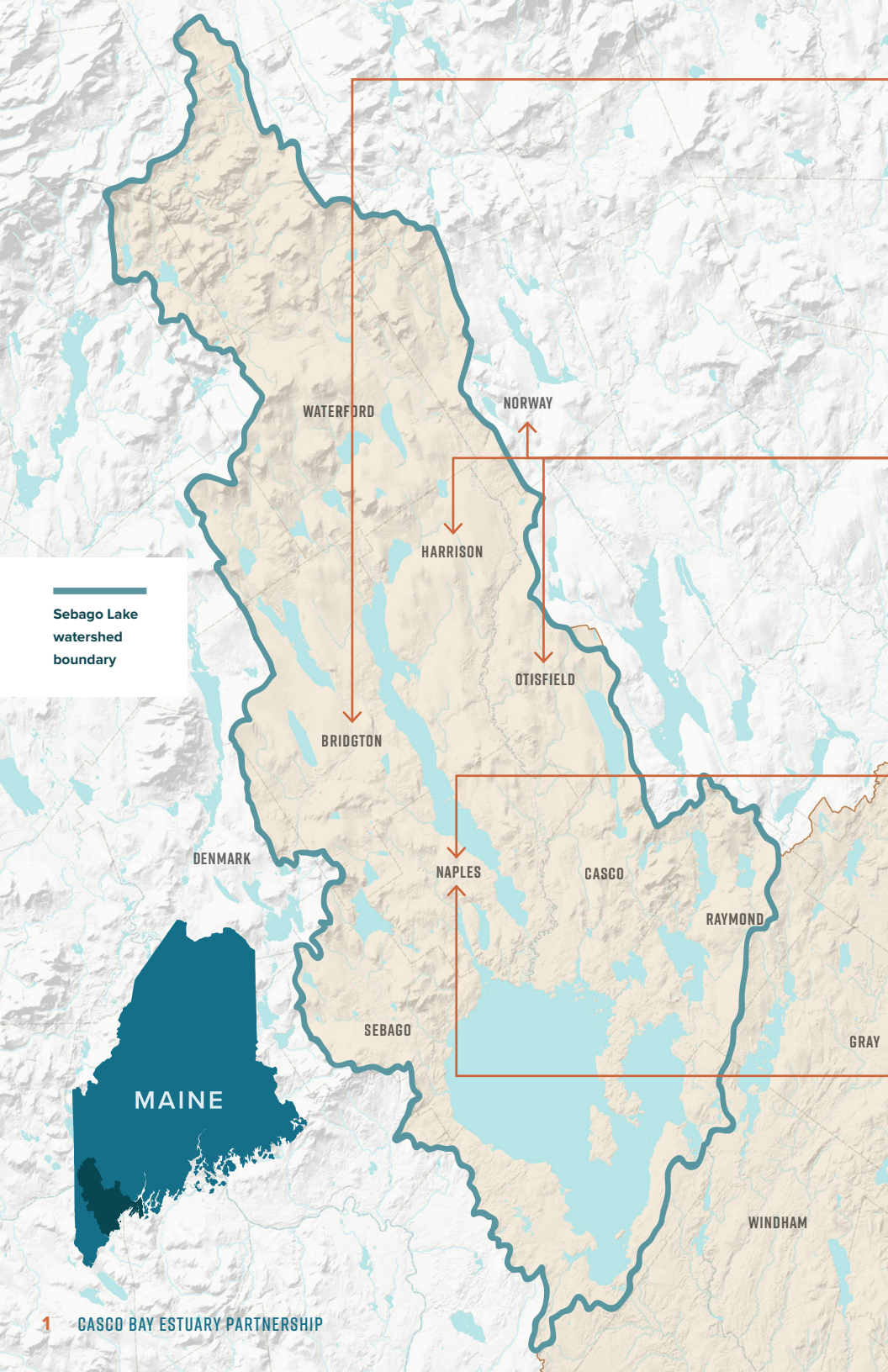
Casco Bay Estuary Partnership
University of Southern Maine



Photos (unless otherwise noted):
Jerry Monkman, ecophotography.com

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1 CASCO BAY ESTUARY PARTNERSHIP



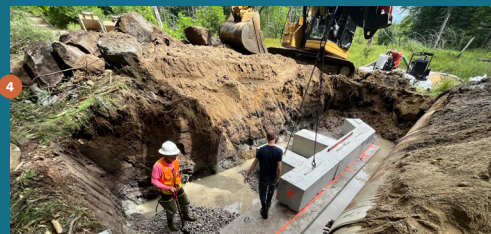
The Bridgton Selectboard officially adopted Bridgton's first Open Space Plan, with support by **Loon Echo Land Trust**. The Plan was created over a period of nine months and involved a robust public engagement process.



Western Foothills Land Trust enlarged Twin Bridges Preserve by acquiring an adjacent 721-acre forest tract known as Edwards Mills, one of the Chadbourne Tree Farm working forests in western Maine. The large tract includes access from State Route 117 and land on both sides of the Crooked River in Norway, Otisfield, and Harrison. The purchase will protect 47 acres of wetlands, over one mile of stream habitat, and two miles of frontage along the Crooked River.



At **Woodland Owner Appreciation Day**, in Hancock Land's Jugtown Forest, landowners connected with resource professionals to encourage sustainable forestry practices on their lands.



Lakes Environmental Association led a team to replace an undersized and damaged culvert with an open-bottom bridge on Burgess Brook in Jugtown Forest in Naples. This project marks a significant milestone in the restoration of critical fish passage in the Sebago Lake watershed. (See page 5 for more information.)

SEBAGO CLEAN WATERS

(sebagocleanwaters.org)

conserves forests to protect water quality, community well-being, a vibrant economy, and fish and wildlife habitat in the Sebago region. The Sebago Lake watershed is 84% forested, but only 15.7% of it is currently conserved. The collaborative is engaging individuals, communities, and businesses in protecting 25 percent (35,000 more acres) of the Sebago Lake watershed by 2032. These watershed forests naturally filter and clean the water flowing to Sebago Lake, the drinking water supply for 1 in 6 Mainers (219,000 people) living in greater Portland.

SEBAGO CLEAN WATERS PARTNERS

- Casco Bay Estuary Partnership
- Highstead Foundation
- Lakes Environmental Association
- Loon Echo Land Trust
- Mahoosuc Land Trust
- Open Space Institute
- Presumpscot Regional Land Trust
- Portland Water District
- The Nature Conservancy of Maine
- Trust for Public Land
- Western Foothills Land Trust

Photo 1, 2, 3: Sebago Clean Waters
Photo 4: Lakes Environmental Association

Letter from the DIRECTOR & CHAIR

The Bipartisan Infrastructure Law increased funding for five years for all National Estuary Programs, including CBEP. That increase in funding gives us an historic opportunity to expand our work helping communities as they prepare for and respond to the many impacts of climate change.

For years, the dominant approach to environmental management has been to focus on natural science solutions, with less attention to people's relationships to natural resources. But the work we do to protect and restore coastal ecosystems is closely tied to community economies, infrastructure, and values.

Current challenges require us to look ahead to help protect vulnerable communities, and to center people in our work. To that end, we are inviting a multitude of voices and views to drive planning for a new Casco Bay ocean model, and to support local leaders and stewards in their efforts to make their communities resilient and protect Casco Bay resources.

CBEP and its many partners will work together with community members to help navigate the changes ahead, as we continue to hold onto the ecological and community resources that we cherish.

In gratitude and partnership,



Curtis C. Bohlen
Curtis C. Bohlen
Director



Charlene Poulin
Charlene Poulin
Management Committee Chair

THANK YOU TO OUR MANAGEMENT COMMITTEE PARTNERS

- Acadia Center
- Town of Brunswick
- City of Portland
- City of South Portland
- Cumberland County Soil & Water Conservation District
- Friends of Casco Bay
- Greater Portland Council of Governments
- LaCasse & Weston Inc.
- Maine Coastal Program
- Maine Department of Environmental Protection
- Maine Department of Marine Resources
- Maine Department of Transportation
- NERACOOS
- Portland Water District
- Portside Real Estate Group
- U.S. Environmental Protection Agency
- U.S. Fish & Wildlife Service
- University of Maine
- University of Southern Maine
- Waterfront Alliance
- Town of Windham

And thanks to our many other partners, who work on behalf of Casco Bay and our communities.

CBEP is funded by the US Environmental Protection Agency under Cooperative Agreements #CE00A00926-0 and #CE00A00682-0 with the University of Southern Maine.

HABITAT

Protection & Restoration

Last year was a very successful one for river restoration in the Casco Bay Watershed, with four dams, three culverts, and a remnant stone bridge replaced and over five miles of aquatic habitat connectivity restored.



Volunteers with Trout Unlimited and Freeport Conservation Trust collect fish to relocate them prior to removal of a dam on Frost Gully Brook in Freeport., Photo: Freeport Conservation Trust

Three dams were removed on **Frost Gully Brook**, a small coastal stream in Freeport that supports sea-run brook trout and empties to the Harraseeket River at Mast Landing. CBEP funding for engineering designs and ongoing technical assistance were instrumental to this collaborative project with Trout Unlimited (TU), Freeport Conservation Trust, and U.S. Fish and Wildlife Service - Gulf of Maine Coastal Program.

In 2023, Lakes Environmental Association (LEA) replaced a derelict

culvert where a dirt road crosses **Burgess Brook**, a tributary to the Crooked River, in Naples immediately downstream of a dam removed last year. Together, these Sebago Clean Waters projects, which CBEP supported with grant funds and technical assistance, expand habitat access for wild brook trout, landlocked salmon, and other aquatic organisms.

Sebago Clean Waters is also collaborating with TU, LEA, Maine Dept. of Inland Fisheries and Wildlife, and others on plans to remove **Edes Falls Dam** on the Crooked River in 2024. The historic granite dam, which presents a barrier to fish passage during low water periods, is a restoration priority for several organizations since the Crooked River runs nearly 60 miles and is home to a population of landlocked Atlantic salmon. Over 90% of their spawning habitat lies upstream of the dam.

Other stream crossing projects moved forward in Gorham, South Portland, and Windham with the support of many partners including CBEP.

HABITAT PROTECTION FUND RECIPIENTS

- **Cape Elizabeth Land Trust**, Davis Parcel
- **Presumpscot Regional Land Trust (PRLT)**, Trout Run Conservation Project, Gorham
- **PRLT**, East Windham Conservation Area, Windham
- **Royal River Conservation Trust**, Thayer Brook Preserve, New Gloucester
- **Scarborough Land Trust**, Silver Brook Preserve, Scarborough
- **Western Foothills Land Trust**, Mill Hill Forest, Harrison and Waterford



PROJECT HIGHLIGHT

Rivermeadow Nature Conservation

Rivermeadow Nature Conservation Project, a project of the Presumpscot Regional Land Trust (PRLT), will protect the largest area of forested land near downtown Westbrook, a city that is growing in population over twice the natural average and is only five percent conserved. The project area is within one mile of 8,000 residents and only a quarter mile from a bus stop. The 1.5-mile walking loop trail will be five-feet wide, enough to fit two people walking side by side, and will be professionally surfaced to make it more accessible. Photo: PRLT



Protecting WATER QUALITY

LCWMD consultant, Phill Sexton of WIT Advisers, training most City of South Portland Department of Public Works staff on drop-testing to calibrate the sand and salt application rates of the City's plow trucks. Photo: Fred Dillon

ROAD SALT REDUCTION, LONG CREEK WATERSHED

The Long Creek Watershed Management District (LCWMD) is a public-private partnership that addresses water quality concerns on behalf of participating landowners in the Long Creek watershed (near the Maine Mall). CBEP was instrumental in helping to create the District, and CBEP's Director continues to serve on the organization's Board.

LCWMD has been working with local businesses, winter management contractors, and the **City of South Portland** to reduce use of winter deicing products within the watershed through the Sustainable Winter Management or "SWiM" Program. When winter salt washes into lakes and streams, it can be harmful to aquatic organisms. Chloride is a component of salt that is tracked to help evaluate the risk that road salt poses to aquatic ecosystems. The concentration of chloride in Long Creek is frequently above levels of concern.

The best way to lower chloride levels is through reducing the use of road salt in the first place, but that can be challenging while officials continue to ensure public safety and deliver the high level of service local businesses expect. The SWiM Program uses a combination of training, equipment calibration, GPS tracking, weather stations, infrared sensors, and cameras to reduce use of deicing products while ensuring that community and business needs continue to be met.

FRIENDS OF CASCO BAY & THE BIGELOW LABORATORY

Friends of Casco Bay and the Bigelow Laboratory for Ocean Science began testing for PFAS contamination in 20 locations in Casco Bay this year. The National Estuary Program Coastal Watershed Grant, which is available to National Estuary Program areas including Casco Bay, is funding expansion of this program.

PFAS stands for perfluoroalkyl and polyfluoroalkyl substances, a group of long-lasting chemicals that has emerged as a pollutant of concern around the world. For decades, PFAS compounds have been used in a wide range of consumer goods. PFAS compounds have found their way into the environment and into wastewater treatment facilities, where they were concentrated in sewage sludge.

Unfortunately, we have little information about the prevalence of PFAS compounds in Casco Bay waters or sediments. The information these partner organizations collect will provide an important baseline that will allow us to evaluate the effectiveness of PFAS control strategies, including Maine's first of its kind law to ban consumer goods containing PFAS compounds.



Kevin Morris, Photo: Friends of Casco Bay

Engaging RESILIENT COMMUNITIES



Student releasing trout fry. Photo: CCSWCD

2023 COMMUNITY GRANT AWARDS

- Cape Elizabeth Land Trust** developed a place-based middle school unit on bird migration and their adaptation to the impacts of climate change.
- Town of Cumberland Sustainability Subcommittee** promoted low-impact landscaping in town.
- Falmouth Land Trust** created themed nature activity backpacks that are available to library patrons for free.
- Gorham Middle School** students monitored the health of a local pond near the school.
- Lakes Environmental Association** and partners organized Woodland Owner Appreciation Day in Hancock Land's Jugtown Forest.
- Loon Echo Land Trust** supported a community-led open space planning project in Bridgton.
- Marine Mammals of Maine** engaged in municipal outreach and education about seal strandings.
- Yarmouth Community Services** naturalized disturbed wetland in Royal River Park.

TROUTKIDS AT LYMAN MOORE MIDDLE SCHOOL

With a Community Grant, Lyman Moore Middle School students in Portland worked with **Cumberland County Soil & Water Conservation District** to raise brook trout in the classroom and release the fry in the Presumpscot River, a short walk from the classroom. Before releasing the trout, the young scientists assessed the quality of the river by measuring the chemical properties of the water and observing macroinvertebrates that were found living in the stream.



NEW ASSOCIATE BRINGS RESILIENCE EXPERTISE

Jessica Brunacini, PhD, joined the Maine Sea Grant team as a Coastal Community Resilience Specialist, in a new position shared with CBEP. Jessica's work focuses on supporting Maine's coastal communities as they plan for and respond to the impacts of climate change. Specifically, she helps to identify equitable approaches for engaging with underserved and underrepresented communities and directs attention to the social dimensions of building coastal resilience, with a focus on the needs of socially vulnerable groups.



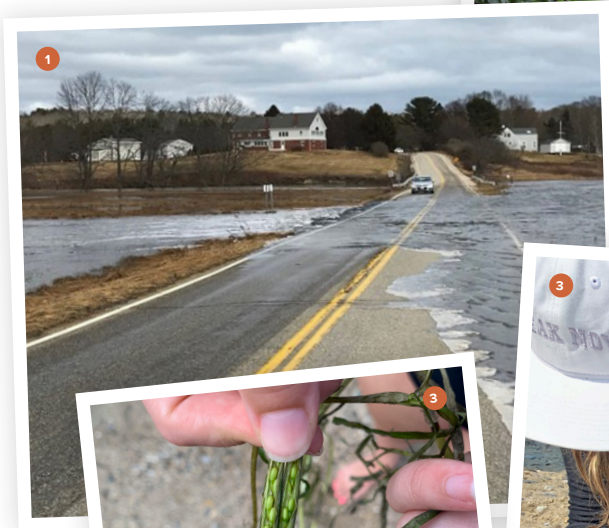
Photos: Ross Donihue



CASCO BAY SHELLFISH WORKING GROUP

CBEP sponsored and participated in the Yarmouth Clam Festival, promoting the importance of shellfish to our region's culture, economy, and a clean Casco Bay. CBEP staff worked with Casco Bay Regional Shellfish Working Group, Greater Portland Council of Governments, Manomet, and University of Maine to design educational placemats used in food service, an award-winning parade float, and other activities.

Our Partners AT WORK



WITH CBEP SUPPORT, OUR PARTNERS ACCOMPLISHED MUCH IN 2023

- 1 The **Maine Coastal Program**, along with thirty other organizations, have published “The CoastWise Approach: Achieving Ecological Resilience and Climate-Ready Road Crossings in Tidal Environments.” This hundred-page manual, available as a free, downloadable document on the Maine Coastal Program’s website, offers detailed technical guidance on how to increase the safety of road crossings over Maine’s coastal wetlands and waterways. Photo: Maine Coastal Program
- 2 The **City of South Portland** and other partners are working to rehabilitate Trout Brook through a culvert replacement project. The City’s Water Resource Protection Department is studying one of the key culvert crossings to determine if the city can install a much larger culvert that would allow for the passage of brook trout. Photo: Fred Dillon
- 3 CBEP supported the work of Portland-based **Sustainatrix** and “**Team Zostera**,” a coalition focused on healthy eelgrass beds in Casco Bay. CBEP sponsored the 2023 workshop, “A Deeper Sense of Place: Growing Bioregional Stewardship” held in Freeport, supporting indigenous speakers at the event. CBEP also provided funding for a Casco Bay eelgrass seeding study. Photo: Team Zostera eelgrass seeding identification workshop. Credit: Glenn Page
- 4 **Casco Bay Watershed communities** have been hard at work in various stages of climate resilience planning, with the help of Community Resilience Partnership Program action grants. Grant recipients in the summer 2023 grant round include Bath, Bridgton, Casco, Gorham, Harpswell, Long Island, Norway, Otisfield, Phippsburg, Portland, and South Portland. Projects include road plans and improvements, stormwater management plans, groundwater studies, energy efficiency measures, and vehicle electrification. Photos: The Town of Phippsburg was awarded a grant for the Sam Day Hill Road Hydrologic and Hydraulic Analysis. Credit: Bob Reyes

CASCO BAY MONITORING NETWORK

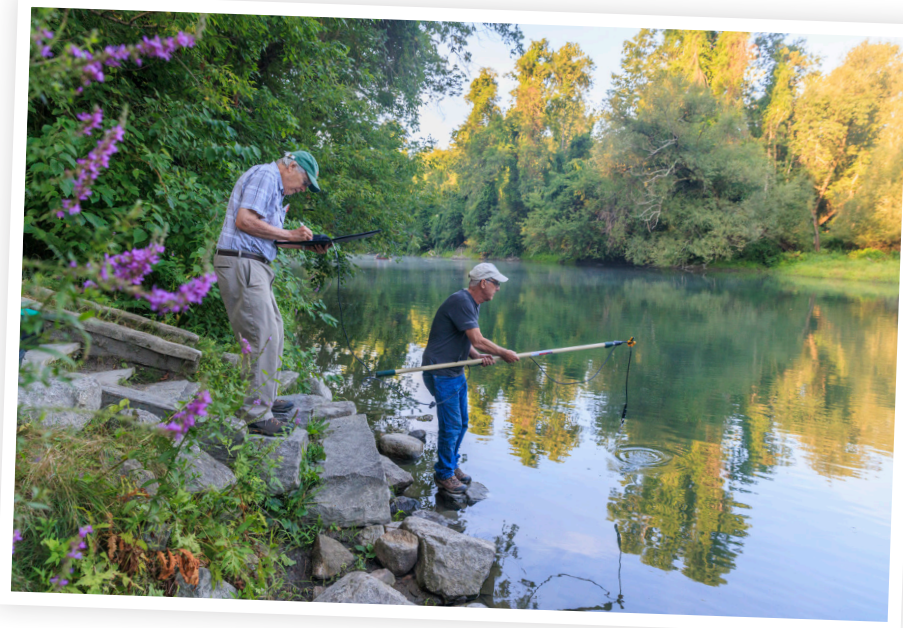
In 2016, CBEP created a Casco Bay Monitoring Network to identify shared monitoring priorities among the growing number of local, state, nonprofit, and academic partners who are monitoring the waters within Casco Bay and its watershed. These organizations present their findings from the past monitoring season at each annual spring meeting of the Monitoring Network. In 2023, the Network collected data from throughout the Casco Bay watershed.



This year CBEP provided funding and technical support for **Friends of Casco Bay's (FOCB)** new Ocean Climate Change Monitoring Collaborative, a follow up to the Maine Ocean & Coastal Acidification Partnership (MOCA). CBEP also supports FOCB's deployment of three continuous monitoring stations, on Cousins Island in Yarmouth, Cundy's Harbor, Harpswell, and Portland Harbor. The goal of this program is to track changes over time and deepen understanding of existing conditions including ocean acidification and other climate change impacts. Photo: Kevin Morris



CBEP funds ongoing work by the **Marine Invasive Monitoring and Information Collaborative (MIMIC)** managed in Maine by Wells National Estuarine Research Reserve, that trains citizen scientists to track the spread of marine invasive species in southern Maine, including on Chebeague, Peaks, Great Diamond, and Long Islands. Photo: Wells NERR



CBEP funded **Presumpscot Regional Land Trust (PRLT)** to provide a volunteer-based monitoring program that enhances public awareness of river water quality in the watershed. PRLT also took over stewardship of the alewife monitoring program from the Presumpscot River through Mill Brook and the Highland Lake fish ladder in fiscal year 2023.



Lakes Environmental Association carries out water testing on 41 lakes and ponds in their service area every year, that contribute to their long-term understanding of lake and pond behavior and health. Photo: Lakes Environmental Association



Downeast Institute continued their clam recruitment monitoring at several sites in Casco Bay. This effort measures soft-shell clam and other shellfish recruitment and survival to better understand how climate change is impacting the clam fishery. Photo: CBEP