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Casco Bay Currents Fall Edition

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Casco Bay Currents, an email newsletter of the Casco Bay Estuary Partnership

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Fall 2017

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Welcome,

to the Fall 2017 edition of *Casco Bay Currents*, the newsletter for the Casco Bay Estuary Partnership (CBEP).

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Message from the Director

The 2016 Casco Bay Plan emphasized the need to face the most significant long-term threats to the Bay, from climate change to nutrient enrichment, to the appearance of non-native species. One species "from away," the marine algae *Karenia mikimotoi*, appeared in Bay waters for the first time this summer, causing one of the worst algae blooms to hit the Bay in decades. While the causes of this bloom are still under investigation, coastal scientists would generally agree that excess nutrients increase the risk of harmful blooms.

One of the more consequential decisions made in the Plan was to focus our

efforts to address water quality challenges on nutrient pollution in the Bay. This summer, CBEP partners have made significant progress on this front. A coalition including Friends of Casco Bay, Maine DEP and Portland Water District, carried out in-depth studies of nutrients in and around Portland's East End. University of Maine researchers gathered data on nutrients entering the Bay from our two largest tributaries, the Presumpscot and Royal Rivers, as well as from two smaller urban streams. SEANET researchers deployed sophisticated buoys to track water quality in the Eastern Bay (the data in available online in real time at **http://maine.loboviz.com/**).

Collectively, we have gathered more data on nutrients and water quality in the Bay in 2017 than ever before. These data will fill in gaps in our understanding and ultimately help guide policy choices. The right partners are in place to make progress on this issue.

-Curtis C. Bohlen, Director

Partner Profile: Mary Ann Nahf, Harpswell Conservation Commission

All communities have their conservation champions. The Town of Harpswell is fortunate to have Mary Ann Nahf as one of theirs.

Mary Ann moved to Maine in 2000 and joined the Conservation Commission a few years after that, in order to meet new people and serve her new community. In addition to being on the Commission, she has been a trustee for the Harpswell Heritage Land Trust for 10 years, and on numerous other committees.

CBEP's Matt Craig, who has worked a lot with Mary Ann and the Conservation Commission says, "Around the Bay, Harpswell's Conservation Commission is a regional leader in addressing coastal resilience. Mary Ann plays a critical role by bridging the space between regional efforts and local needs."

With her dedicated service, the Commission has been very active. In 2016, they passed a pesticide and fertilizer ordinance, after extensive outreach to residents, businesses, arborists and pesticide applicators. The Commission is looking at streamlining the process now to make it less cumbersome for the applicators.

Right now, the Commission is focused on coastal resilience and rising tides. Sixty-eight percent of roads in Harpswell are privately owned. Last year, they held a workshop for residents of private roads in the areas most vulnerable to rising tides and storm surges. Now they are looking at public roads that will be most affected by sea level rise.

The Town was recently awarded a grant from the Maine Coastal Program to do a feasibility study for Basin Point Road. The primary objective is to develop a long-term plan for managing the potential impacts of coastal flooding due to sea level rise (SLR) and storm surge on a portion of the road, which provides the only access to Dolphin Marina & Restaurant, Erica's Seafood, other small businesses and about 100 residences. In addition, CBEP will be providing the town with options for managing the impact of increased salt water movement into the valuable wetlands and pond beside the road. In the future, this study will help the town plan and budget costs to mitigate road, culvert and habitat changes due to projected coastal storms and flooding.

Mary Ann says the Commission will continue to focus on coastal resilience and SLR in the future. Approximately 20% of the town's land is within 250 feet of the water. Town officials recognize the need to identify how rising seas and the consequent marsh migration will affect local infrastructure as well as habitat and the local economy. They are prepared and ready, according to Mary Ann, "to roll up their sleeves and tackle these issues."

The Economic Contribution of Casco Bay's Ocean Economy

Worldwide, and in the Gulf of Maine in particular, we are facing an unprecedented number of challenges. CBEP's **2015 "State of the Bay" report** identified stressors that will affect Casco Bay in the coming decades, such as climate change, sea level rise and ocean acidification. Other stressors, like water pollution and the introduction of non-native marine species, will interact with a changing climate and provide further challenges. What effects will these changes have on Casco Bay, our coastal economy and way of life?

This question provided the impetus for a new study, ***The Economic Contribution of Casco Bay***, prepared for CBEP by The Center for Business & Economic Research. The study provides baseline data on the value of Casco Bay resources to the regional ocean economy and asks how the changing Bay might impact it.

National statistics tell us that people want to be on the coasts: Shore-adjacent counties nationwide make up 18.1% of the land, hold 37.4 % of the population, make up 43.2% of the economic output; and from 2010-2014, accounted for 40% of total population growth. The study paints a similar picture for the Casco Bay region compared to the state of Maine as a whole: 3% of land area, 25% of population, 32% of employment in 2016, and 39% of GRP in 2015. The Casco Bay Watershed's ocean-specific economy contributed $1.43 billion to the Maine economy in 2016, about 7% of regional economic output.

This is *direct* economic activity only, and includes the tourism and recreation, ship and boat building, marine transportation, living resources, and marine construction sectors. Casco Bay and its quality of life factors also attract people to the region to live and work, adding significantly to the overall regional economy. How will a changing Bay and its resources impact our coastal economy? How might we adapt to and prepare for these uncertainties, while supporting and enhancing an ever-growing coastal economy, coastal population influx and increase in tourism?

The study is currently undergoing peer review and will be available later this month on the **CBEP website**.

Casco Bay Ocean Economy, By the Numbers

$1.23 Billion

The Casco Bay ocean economy's direct economic activity (2016).

24,465 jobs

The number of jobs in the region supported by this sector (2016).

15%

Employment growth increase in this sector since 2006 (as compared to the regional watershed economy, which grew at just 1 percent.)

Upcoming Deadline: Habitat Protection Grants

The Casco Bay Estuary Partnership (CBEP) is offering grants of $1,000 to $10,000 per project to support the permanent protection of targeted habitats in the Casco Bay watershed through its *CBEP Habitat Protection Fund* (Fund). The Fund will be administered via grants by the University of Southern Maine, CBEP's fiscal host, in partnership with CBEP and Maine Coast Heritage Trust, Maine Dept. of Inland Fisheries & Wildlife, and U.S. Fish & Wildlife Service Gulf of Maine Coastal Program. Proposals must be submitted by 5:00 PM on November 10, 2017.

For more information, review the announcement **here.**

Photo: Great Pond, Cape Elizabeth

Around the Bay with CBEP...

Wild Brook Trout Return to Brandy Brook, New Gloucester

The Town of New Gloucester is restoring fish passage into cold water habitat in the Collyer Brook watershed, thanks to support from a partnership with state agencies and local nonprofit organizations.

Although an old 7.3 foot round pipe culvert at the Morse Road site was in serviceable condition, it was clearly impeding fish passage. A new pipe-arch culvert (seen above) is much larger and set deep enough that the stream bottom seamlessly matches natural conditions upstream and downstream. This greatly improves fish passage and better equips the pipe to handle heavy flows from snow-melt and rain storms.

"This project is a great example of restoration happening in the Collyer Brook and Royal River watersheds that dramatically expands the potential for native brook trout and other species which live in and move along Brandy Brook," says Alex Abbott, contractor with the US Fish and Wildlife Service Gulf of Maine Coastal Program. "The opportunity to connect Brandy Brook with Collyer Brook, the Royal River, and Casco Bay is very exciting."

Abbott conducted a detailed survey of the site, analyzed the data, designed a replacement, and completed a restoration plan, then worked with Will Johnston of the Town of New Gloucester and Steve Heinz of the Sebago Chapter of Trout Unlimited to put together a winning application for a state Water Bond grant. Additional funding came from The Nature Conservancy of Maine, Trout Unlimited, and CBEP. The Town of New Gloucester contributed fill and other resources.

Restoring Oyster Populations in "The Basin," Phippsburg

The Basin" in Phippsburg is the site of a collaborative effort to restore an American oyster population adjacent to conserved land owned by The Nature Conservancy (TNC).

The pilot project is hoping to restore native oyster populations on the cove bottom. The ultimate goal of this project is to test restoration techniques and potentially scale the project to improve coastal habitat as well as water quality in The Basin. As oysters filter sediments and nutrients in the water, they form beds that provide habitat for other organisms and support the growth of aquatic plants such as eelgrass. The team hopes that this project can serve as a model to spur self-sustaining oyster populations in other areas around Maine.

TNC worked with the Phippsburg Shellfish Commission and Maine Department of Marine Resources to line up the project. Project participants also include CBEP, the Maine DEP Marine Program, and Maine Sea Grant.

For more information, contact Jeremy Bell, River and Coastal Program Director, The Nature Conservancy in Maine, jbell@tnc.org, (207)385-7559.

Hard Tellin'

The Maine Coast Fishermen's Association (MCFA) has been working over the past year with **Knack Factory**, a production company based in Portland, on a series of video shorts that share stories and imagery from Maine's fishing industry and communities. These videos, the Hard Tellin' series, share positive and engaging stories about fishing communities, and educate a broader audience on the importance of fishing to Maine's economy, tourism industry, culture, tradition, and the future of this industry. MCFA is also highlighting important topics from the industry, such as the changing ocean and how that will impact fisheries.

Their latest short video, "Hard Tellin' in the Mud" (click on photo to link to the video), was funded in part through the CBEP Community Grants program. It is available on the Casco Bay Stories **website**, along with two other series shorts featuring Casco Bay subjects.

For more information on MCFA and to see the entire Hard Tellin' series, go to the MCFA **website**.

Save the Date!
Adaptation Planning for Coastal Communities
March 20-21, 2017

CBEP is partnering with the Wells National Estuarine Research Reserve (NERR) to organize a two-day interactive workshop. The NOAA Office for Coastal Management will provide workshop participants with strategies, actions, and tools to help adapt to a dynamic climate. Time in class is provided to practice applying what you've learned, and opportunities for local collaboration and next steps are emphasized through discussion, participant activities, and local speakers and examples.

The course is designed for planners, public works staff, floodplain managers, hazard mitigation planners, conservation commission members, sustainability managers, emergency managers, community groups, members of civic organizations, and coastal resource managers.

Stay tuned for more information!

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