

Current CZ-Mail

October 2016

Welcome to CZ-Mail, the monthly electronic newsletter from the Massachusetts Office of Coastal Zone Management (CZM). Each issue provides information on major CZM initiatives, available tools and publications, upcoming workshops and events, grants, contracting opportunities, job openings, coastal legislation, and other news of interest to people working on coastal issues. Additional information about CZM's programs, publications, and other coastal topics can be found on the [CZM website](#). To subscribe to CZ-Mail, send a blank email to join-env-cz-mail@listserv.state.ma.us. Also, please feel free to share CZ-Mail with colleagues and friends—and if you have any suggestions for future editions, or would like make a change to your CZ-Mail subscription, please email your request to CZ-Mail@state.ma.us. For daily updates from CZM, please [follow us on Twitter](#).

All links on this web page were current and working on the date of publication.

New Grant Opportunity to Design Retrofits for Stormwater Infrastructure

CZM has released a new, one-time grant opportunity to provide funding to municipalities within the [Massachusetts Coastal Watershed](#) to support designs that lead to the construction of retrofits to stormwater infrastructure. Eligible communities should review [Assessment of Climate Change Impacts on Stormwater BMPs and Recommended BMP Design Considerations in Coastal Communities](#) for an overview of possible impacts and retrofits. The goal of this grant is to produce designs that will lead to future implementation of retrofits of existing treatment structures to increase effectiveness and resiliency and provide water quality and habitat benefits over the long term. Applications are due by October 28. For complete details, see the Request for Responses (RFR) below under "Grants/Funding/Proposal Opportunities."

New Fact Sheet Available on Design Improvements for Projects that Repair and Reconstruct Seawalls and Revetments

Recommended design practices for seawalls and revetments have advanced significantly over the last 50 years. Any repair or reconstruction project for seawalls and revetments—whether minor repairs or complete reconstruction—should therefore include design improvements based on the best available techniques to reduce impacts, improve structure longevity, and minimize maintenance costs. This new CZM fact sheet, [StormSmart Properties Fact Sheet 7: Repair and Reconstruction of Seawalls and Revetments](#), discusses the history and impacts of seawalls and revetments and options for improving their performance and reducing impacts.

COASTSWEEP 2016—Still Sweeping Through Coastal Towns

COASTSWEEP is the state's volunteer beach cleanup that is organized by CZM and is part of Ocean Conservancy's [International Coastal Cleanup](#). Thousands of volunteers have already turned out throughout Massachusetts this year to collect marine debris, such as trash, fishing line, and other human-made items, and record what they found. At Stage Fort Pak in Gloucester, local officials, campers, interns, and volunteers from the Cape Ann YMCA and Maritime Gloucester joined Energy and Environmental Affairs Secretary Matt Beaton to collect more than 380 cigarette butts from the park's shoreline. At Carson Beach, 40 volunteers collected more than 175 pounds of trash from a seemingly pristine beach. But COASTSWEEP isn't over yet! There is still plenty of time to volunteer at a scheduled cleanup or to organize one of your own at a local beach, coastal site, or even an underwater site. All the supplies (bags, gloves, data cards, pencils, etc.) are provided free of charge, and cleanups can be scheduled at your convenience into early November. To find out more, see the [COASTSWEEP website](#), especially the [Get Involved page](#) and the [2016 Cleanup List](#), or check out COASTSWEEP

on [Facebook](#), [Twitter](#), and [Instagram](#). For more on becoming a local cleanup coordinator, see this [Mass.gov Blog posting](#) from CZM. Also see the [COASTSWEEP Press Release](#) for more on the 2016 cleanups.

CZ-Tip: Explore Some Spooky Sea Stories this October

As you enjoy your favorite ghost stories this Halloween season, be sure to check out some of the bizarre tales and often unsolved mysteries that “haunt” the Commonwealth’s coast. With more than 1,500 miles of coastline, a seafaring history that dates back to the time of the earliest human inhabitants, and important coastal sites from the Revolutionary and Civil Wars, it’s no wonder that the Bay State is home to a rich history of maritime myths and folklore. For details on some famous shipwrecks, ghost ships, haunted lighthouses and forts, and even sea serpents, see [CZ-Tip - Delve into the Mysteries of Maritime Massachusetts](#).

CZM Staff and People

Marine Spatial Planner - October will be the last month for CZM’s Marine Spatial Planner Emily Chambliss Huntley as she relocates to North Carolina with her family. Hired in 2008, Emily played an important role in the development of the groundbreaking 2009 Massachusetts Ocean Plan, and her mapping and analysis are imprinted on both that plan and its 2015 successor. Emily also worked on a myriad of other CZM efforts, including seafloor mapping, developing and cultivating the Massachusetts Ocean Resource Information System (MORIS), delineating the Commonwealth’s Designated Port Areas (DPAs), and creating and maintaining much of spatial data that CZM uses on a daily basis. We will miss her many technical skills, willingness to dig in to any project no matter how big or small, and unsurpassed attention to detail. Most of all, however, we will miss her friendly professionalism, work ethic, and pure positivity. Best of luck Emily in all your future endeavors!

Grants/Funding/Proposal Opportunities

Design of Stormwater Infrastructure Retrofits Grants - CZM is seeking proposals for a one-time grant opportunity to provide funding to municipalities within the [Massachusetts Coastal Watershed](#) to support designs that lead to the construction of retrofits to stormwater infrastructure. Eligible communities should review [Assessment of Climate Change Impacts on Stormwater BMPs and Recommended BMP Design Considerations in Coastal Communities](#) for an overview of possible impacts and retrofits. The goal of this grant is to produce designs that will lead to future implementation of retrofits of existing treatment structures to increase effectiveness and resiliency and provide water quality and habitat benefits over the long term. Applicants may request up to \$15,000 and must provide a 25% match of total project costs. For questions, contact Adrienne Pappal, CZM Coastal Habitat and Water Quality Manager, through October 14 at adrienne.pappal@state.ma.us or 617-626-1218. To view the RFR and download required forms, see the [COMMBUYS website](#). Proposals are due by October 28.

Sustainable Communities Technical Assistance - The U.S. Environmental Protection Agency’s (EPA) Office of Sustainable Communities is seeking applications from communities for targeted technical assistance to help overcome barriers to implementing smart growth development approaches. The [Building Blocks for Sustainable Communities Program](#) provides quick, targeted technical assistance using a variety of tools that have demonstrated results and widespread application. EPA delivers the assistance using teams of experts who conduct one- to two-day workshops and provide specific action items generated in the workshop. Letters of interest are due by October 12.

Massachusetts Environmental Trust General Grants - The Massachusetts Environmental Trust (MET) is now seeking proposals for the FY2018 RFR for their [General Grants Program](#), which supports nonprofit organizations and municipalities in efforts to restore, protect, and improve water and water-related resources of the Commonwealth. Proposals are being accepted for programs and initiatives that address threats to the health of the state’s water bodies and watersheds. For more information, to view the RFR, and download required forms, see the [COMMBUYS website](#). Letters of inquiry are due by November 4 for projects that will begin in July 2017.

Marine Debris Research Funding - The National Oceanic and Atmospheric Administration's (NOAA) Marine Debris Program's is seeking marine debris research proposals to Fund research directly related to marine debris through field, laboratory, and modeling experiments. Specifically, NOAA is looking to support research that explores the ecological risk associated with marine debris, determines debris exposure levels, and examines the fate and transport of marine debris in nearshore, coastal environments. For more information, see Grants.gov. Applications are due by December 19.

2016 Massachusetts Trails Grants - The Massachusetts Department of Conservation and Recreation (DCR) is currently seeking applications for the [Recreational Trails Program](#), which provides grants from \$2,000 to \$50,000 for a variety of trail protection, construction, and stewardship projects throughout Massachusetts. DCR is also accepting applications for [Recreational Trails Program - Education Grants](#), which provide funding for statewide trail education initiatives. For more information on these grant programs, contact Amanda Lewis at amanda.lewis@state.ma.us. Applications are due by February 1, 2017.

Reminders - These opportunities, listed in the last CZ-Mail, are still available:

- **Marine Debris Removal Grants** - The NOAA Marine Debris Program is seeking proposals for Marine Debris Removal Grants to fund grass-roots, community-based activities that improve living marine resource habitats through the removal of marine debris. Projects awarded through this grant competition implement on-the-ground marine debris removal activities, prioritizing medium to large-scale debris, including derelict fishing gear. Typical awards will range from \$50,000 to \$150,000. For more information, see Grants.gov. Applications are due by October 14.
- **Environmental Education Funding** - NOAA's New England Bay Watershed Education and Training grant program is seeking applications for funding to support environmental education programs that promote locally relevant outdoor experiential learning for K-12 students. Grants will be awarded to projects that promote meaningful watershed educational experiences for students and educators and the advancement of ocean, climate, and other environmental literacy goals. For more information, see the [NOAA website](#). Applications are due by October 28.

Products/Publications

Coastal Landforms and Processes Primer - The U.S. Geological Survey (USGS) has released [Coastal Landforms and Processes at the Cape Cod National Seashore, Massachusetts—A Primer](#), a book about the highly dynamic coastal landforms of Cape Cod—the beaches, bluffs, spits, dunes, barrier beaches, estuaries, and salt marshes. It describes what they are, why they are where they are, how they behave with respect to the greater Cape Cod coastal system.

Green Infrastructure and Climate Change - EPA has released [Green Infrastructure and Climate Change: Collaborating to Improve Community Resiliency](#), a report that details the results of EPA convened planning sessions, or charrettes, held in four cities. Each city's charrette focused on different issues based on the most pressing climate change impacts each city faced and the current level of green infrastructure implementation.

Climate Change Fact Sheets - EPA has released [What Climate Change Means to Your State](#), a series of fact sheets that focus on the impacts of climate change for all 50 states and the territories of Guam and Puerto Rico. These 52 fact sheets compile information from previously published synthesis and assessment reports to provide a handy reference for state and local policymakers, businesses, and individuals who are looking to communicate impacts of climate change.

Rising Tides - The September 2016 issue of *Urban Land*, the magazine of the Urban Land Institute, featured the article [Rising Tides: Designing Resilient Amenities for Coastal Cities](#), which discusses how developers are undertaking new solutions and adjusting old ones to demonstrate that storm-related and

sea-rise resilience can be leveraged into user amenities and community benefits, making dollars stretch further.

Green Streets - The River Network has released [*Promoting Green Streets—A Recipe for Integrating Water and Transportation Infrastructure Investment*](#), a report on a project that focused on the development of a simple and logical methodology to promote street-based stormwater management. This methodology is guided by larger cities' analysis of and commitment to green street strategies. Cities such as Philadelphia, Boston, Chicago, and New York have made intentional commitments to green street strategies to reduce stormwater runoff that contributes to combined sewer overflows.

Coastal Conservation Guide - NOAA's Digital Coast has released [*Guide for Considering Climate Change in Coastal Conservation*](#). This guide provides a step-by-step approach for incorporating climate change information into new or existing conservation plans. The guide's six steps draw from existing strategic conservation planning frameworks, but focus on climate considerations and key resources specifically relevant to the coastal environment, including coastal watersheds.

Fisheries in the Gulf of Maine - The Gulf of Maine Council's EcoSystem Indicator Partnership (ESIP) has released *Fisheries Issues in the Gulf of Maine*, a fact sheet that summarizes data from the Gulf of Maine for three key indicators: ocean jobs, dominant species, and diversity. An additional spotlight focuses on the importance of the lobster fishery to the region. The fact sheet also introduces the concept of indicators as a means for tracking change. It demonstrates the value of indicators as a tool to better understand the wide-ranging effects being seen in the Gulf of Maine region/Bay of Fundy. To download this fact sheet and other ESIP documents, see the [ESIP website](#).

Natural Hazards Observer - The August 2016 issue of the [*Natural Hazards Observer*](#), the bimonthly periodical of the Natural Hazards Center in Boulder, Colorado, includes articles on cemetery preservation and disaster planning, disaster response planning for libraries, and other natural hazards news and information.

Marine Ecosystems and Management Information Service - The September 2016 edition of [*Marine Ecosystems and Management*](#), the bimonthly information service on marine ecosystem-based management (EBM) from the University of Washington School of Marine Affairs, includes articles on innovative uses of the internet for ocean planning, 3D farming in Long Island Sound, and other notes and news.

Marine Protected Area Newsletter - The August-September 2016 issue of [*MPA News*](#) features articles on the expansion of Papahānaumokuākea in Hawaii—creating largest marine protected area (MPA) in world, mysterious mortality in MPAs, and other MPA news and notes.

Web-Based and Mobile-User Resources

Speak Up for Blue - The [*Speak Up For Blue Podcasts*](#) offer a wide range of discussions on ocean conservation topics. The current episode is [*Seagrass Conservation and Education*](#).

Green Infrastructure Toolkit - The Georgetown Climate Center has launched the [*Green Infrastructure Toolkit*](#), a new online resource designed to help local governments locate green infrastructure resources and examples. The toolkit provides common approaches various cities are taking in planning, implementing, and funding green stormwater infrastructure. Each chapter provides an overview of the tools followed by in-depth case studies of local governments that have implemented that particular tool or policy.

Job Postings

Conservation Commission Executive Secretary - The Boston Conservation Commission is seeking applications for [Executive Secretary](#) of the Boston Conservation Commission. The Executive Secretary

supervises the administration and technical functions of the Boston Conservation Commission in implementing the Massachusetts Wetlands Protection Act and the Massachusetts Environmental Protection Act, acts as technical advisor to the Commission and drafts all Commission correspondence, administers Commission public hearings and meetings, acts as environmental information officer and works with community groups and other government agencies, and more.

Calendar

Storm Preparation Workshops - In October, the Waquoit Bay National Estuarine Research Reserve will host three [Are You Ready for the Next Big Storm workshops](#)  (PDF, 611 KB). Attendees will receive a deeper understanding of coastal storm issues, practical tips on keeping safe, and strategies on how to be a resilient Cape Codder. These free workshops are open to the public on Wednesday evenings in October from 7:00- 9:00 p.m. at the Reserve in Waquoit. The October 5 session will be [Cape Cod Strong: Meeting the Challenges of Coastal Storms](#) featuring Bob Thompson from the National Weather Service.

Archaeology Events On Cape Cod - In October, the Cape Cod Museum of Natural History (CCMNH) will host several [Archaeology Month programs](#). Pottery reconstruction will be held Wednesday-Sundays beginning October 5. A [Taylor Bray Farm Archaeological Project Update](#) is scheduled for October 8, with lead investigator, Craig Chartier, describing the findings of the 2015 field season that focused on learning more about native activities that took place at the site and to further investigate a possible native house. On October 15, the museum will host an [Archaeology Open House](#) with Dan Zoto and the entire team of CCMNH archaeologists where visitors can tour the CCMNH archaeology lab, view artifacts from local excavations, and learn about the archaeology of the area.

Sonic Sea - On October 6, Maritime Gloucester will present a screening of documentary *Sonic Sea*, followed by a panel discussion. [Sonic Sea](#) explores and tells the story of sound underneath the ocean and the potential impact of this noise on undersea life. Following the film, Dr. Leila Hatch, cast member and Marine Ecologist at Stellwagen Bank National Marine Sanctuary, will moderate the panel discussion with panelists Dr. Scott Kraus, Vice President and Senior Advisor of the Anderson Cabot Center for Ocean Life at the New England Aquarium and Dr. Kathleen Vigness Raposa, Director of Environmental Services at Marine Acoustics, Inc. For more information and to register, see the [Maritime Gloucester website](#).

Soak Up the Rain - On October 6, EPA's [Soak Up the Rain Webinar Series](#) continues with [Back To School: Soaking Up the Rain at K-12 Schools - Making the Connections with Teachers and Students on Green Infrastructure](#). This webinar will feature discussions of green infrastructure projects at schools in Worcester and Woonsocket, Rhode Island, connecting green infrastructure and sustainable horticulture practices with academic subjects, and more.

Stormwater Workshop - On October 13, the Association to Preserve Cape Cod will hold the [Stormwater Workshop, Phytoremediation- Pollution Purging Plants!](#), in West Yarmouth. This free workshop features landscape architect Kate Kennen who will discuss the use of plants to take up pollutants with a focus on nitrogen and phosphorus removal in stormwater. [Registration](#) is required.

October Is Massachusetts Archaeology Month - From October 14-15, in celebration of Massachusetts Archaeology Month, the Massachusetts Board of Underwater Archaeological Resources (BUAR) will participate in the [Archaeological Institute of America's Archaeology Fair](#) at the Boston Museum of Science. The fair is directed to school groups on Friday (10/14) and families/general public on Saturday (10/15). BUAR activities include participation in a mock "dig" of a shipwreck and exhibits. For more events, see the [Archaeology Month website](#).

Coastal Conference - From October 25-28, the American Shore & Beach Preservation Association will hold the 2016 Conference, [Lighting the Way for the Coastal Future](#) in Long Branch, New Jersey. This national coastal conference will provide short courses, networking opportunities, poster sessions, and concurrent sessions on a variety of coastal management issues.

Mystic River Annual Meeting - On October 26, the Mystic River Watershed Association (MyRWA) will hold [Visioning the Mystic - 2016 Annual Meeting](#) in Medford. MyRWA's new Executive Director, Patrick Herron, will present his vision for the Mystic River and will welcome attendees to share other visions. MyRWA will also honor key volunteers, elect the 2016-2017 Board of Directors, and provide an update on finances. Please [RSVP](#) for this event.

MACC Fall Conference - On October 29, the Massachusetts Association of Conservation Commissions (MACC) will hold its [Fall Conference, Managing Massachusetts Forests: Conservation, Stewardship, and Regulation](#), in Holyoke. Presentations will cover wetlands protection act requirements for forestry, Forest Cutting Practices Act, memorandum between Massachusetts Department of Environmental Protection (MassDEP) and DCR for forests and wetlands protection, working with foresters and conservation commissions, forest management, forest best management practices (BMPs), ecological functions and values of forests that require protection, and managing forests for environmental stewardship and conservation goals.

CitiesAlive Conference - From November 1-4, the [CitiesAlive: 14th Annual Green Roof & Wall Conference](#) will be held in Washington, DC. Join sustainable building professionals and speakers from across the design, development, planning, and utility sectors for tours, training and plenary sessions, and a trade show to promote living architecture in support of urban resiliency to natural hazards, including hurricanes, fires, floods, and food shortages.

North Atlantic Right Whale Consortium Annual Meeting - From November 2-3, the [Annual Meeting of the North Atlantic Right Whale Consortium](#) will be held at the New Bedford Whaling Museum. The meeting will discuss consortium business and will feature research, management, conservation, and education presentations (both oral and poster).

Ocean Literacy Summit - From November 3-4, the New England Ocean Science Education Collaborative will hold the 2016 [Ocean Literacy Summit](#) in Portland, Maine. The focus of the 2016 summit will be the ocean and its influence on weather and climate. The Ocean Literacy summit is a biennial conference that brings together educators and scientists from across New England and surrounding states to share new marine science and oceanographic developments along with new approaches and successful programs for teaching ocean science in both school and informal educational settings.

Environmental Education Conference - From November 4-6, the New England Environmental Education Alliance will hold the 2016 [New England Environmental Education Conference](#) in Litchfield, Connecticut. The 2016 conference will explore what drives individual and collective involvement of environmental action through natural science, psychology, art, advocacy, faith, mindfulness, research, spirituality, and media.

Hazus User Conference - From November 7-9, the ninth annual [Hazus User Conference, Achieving Disaster Resilience through Hazus Innovation](#), will be held in Charleston, South Carolina. Hazus is a nationally applicable, standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes.

Water Resources Conference - From November 13-17, the American Water Resources Association will hold the 2016 annual [Water Resources Conference](#) in Orlando, Florida. Join 500 multidisciplinary water resource professionals for exhibits, field trips, workshops, and presentations on science, engineering, policy, management, fisheries, and economics as they relate to current water issues.

Great Marsh Coalition Sea Level Rise Symposium - On November 17, the Great Marsh Coalition will hold the fifth [Great Marsh Sea Level Rise Symposium, Implications for Quality of Life in our Communities](#), at Woodman's of Essex. This full-day workshop allows coastal decision makers, business leaders, and stakeholders from the region to discuss the implications of climate change and sea level rise for Great Marsh communities, from economic impacts to consideration of transportation challenges and safety issues. Coffee and lunch will be provided. Pre-registration is required by November 16. Discounted

registration of \$15 is available until November 4 and will increase to \$20 after that date. For more information, contact Kathryn Glenn at kathryn.glenn@state.ma.us.

Shellfish Restoration Conference - From November 16-19, the 18th [International Conference on Shellfish Restoration](#), *Celebrating and Inspiring Healthy Coastal Communities*, will be held in Charleston, South Carolina. The 2016 conference will feature invited speakers, panel sessions, contributed oral and poster presentations, and interactive workshops.

South Shore Climate Change and Sea Level Rise Symposium—Save the Date - On December 1, CZM, Massachusetts Bays National Estuary Program, Metropolitan Area Planning Council, and partners will hold the South Shore Climate Change and Sea Level Rise Symposium at a South Shore location to be determined. This one-day symposium will provide local officials, municipal staff, federal and state agency staff, nonprofit organizations, and consultants with current information on overarching climate change and sea level rise management and policy considerations, case studies on local and regional adaptation and resiliency initiatives, and strategies to promote coordinated and cost-effective resiliency planning and project implementation. Stay tuned to CZM's [Coastal Calendar](#) for location updates. For additional information, please contact Jason.Burtner@state.ma.us.

Cape Coastal Conference—Save the Date - From December 6-7, the 4th annual [Cape Coastal Conference](#), *Our Coastal Future: Taking Action for a Prosperous and Healthy Cape Cod*, will be held at the Resort and Conference Center at Hyannis. This two-day conference will feature plenary sessions and mini-workshops on a variety of coastal topics.

StormCon 2017—Call for Papers - From August 27-31, 2017, [StormCon 2017](#), the North American Surface Water Quality Conference and Exposition, will be held in Bellevue, Washington. Conference organizers are seeking presentations in six program tracks: best management practice case studies, green infrastructure, stormwater program management, water-quality monitoring, and industrial stormwater management. See the [Call for Papers](#), which are due by December 7.

Youth Conservation Summit - On December 10, the 2016 [Youth Conservation Summit](#) will be held at the Mote Marine Laboratory in Sarasota, Florida. This event will provide youth participants of all ages (upper elementary-college) the opportunity to learn from marine scientists and conservationists about the current threats facing marine ecosystems, both locally and globally.

Coastal Society Meeting and Coastal and Estuarine Restoration Summit - From December 10-15, the 25th Biennial Meeting for the Coastal Society and the eighth National Summit on Coastal and Estuarine Restoration, *Our Coasts, Our Future, Our Choice*, will be held in New Orleans, Louisiana. The [2016 Summit](#) will bring together the coastal restoration and management communities for an integrated discussion that will explore issues, solutions, and lessons learned.

Rising Seas Summit - From December 13-15, the 2016 [Rising Seas Summit](#) will be held in New Orleans, Louisiana. This fourth annual summit will bring professionals together to highlight the interrelationships between sea level rise, climate change, and extreme events. The 2016 summit will feature plenary sessions, breakout panel discussions, off-site tours, and more.

Barnstable Land Trust Walks and Talks - The Barnstable Land Trust will hold numerous events as part of its Walks & Talks nature series from now until late fall. For details, see the [Barnstable Land Trust website](#)

Cape Cod Field Schools - Through November, Mass Audubon's Wellfleet Bay Wildlife Sanctuary is offering a variety of 2-, 3-, and 4-day field courses for adults that focus on the unique coastal environment and wildlife of Cape Cod. [Cape Cod Field Schools](#) emphasize active, outdoor, "in-the-field" experiences and are taught by professional naturalists and scientists.

OneNOAA Science Seminars - The [NOAA seminar series website](#) provides listings and details on NOAA science and climate seminars and webinars that are available across the nation and scheduled through the end of 2016.

MACC Education - MACC offers a variety of specialized education programs. Visit the MACC [workshops page](#) to see an overview of upcoming wetland delineation and soil science courses and shrub identification workshops, along with the soil erosion and sediment-control training program. The MACC online [education calendar](#) provides a schedule of programs.

Birdwatching for Beginners - The Cape Cod Museum of Natural History's [Birdwatching for Beginners](#) with Gretchen Moran Towers presents basic skills designed to enable bird identification through sight and sound. Each session is followed by an outdoor venture to view birds in their natural habitat.

Cape Cod Bird Club Walks - The [Cape Cod Bird Club](#) holds free bird watching walks throughout Cape Cod. The next scheduled walks will be held on October 8 at the Brewster, Dennis and Harwich Community Gardens and on October 14 in Eastham.

Tuesday Tweets - On several Tuesdays into October, the Cape Cod Museum of Natural History will hold [Tuesday Tweets](#), bird watching walks with Gretchen Moran Towers. Whether experienced or a beginner, bring binoculars, wear appropriate footwear, and come prepared to watch, study, and enjoy birds in their natural habitats.

Walks, Lectures, and Events on Cape Cod - Mass Audubon's Wellfleet Bay Wildlife Sanctuary and Long Pasture Wildlife Sanctuary in Barnstable offer a variety of educational programs for children and adults. For more information, search the calendar of programs, classes, and activities for [Wellfleet Bay](#) and [Long Pasture](#).

Ipswich River Wildlife Sanctuary Programs and Activities - Mass Audubon's Ipswich River Wildlife Sanctuary provides numerous nature walks, talks, and adventures. See the [program catalog](#) for event and schedule information.

Joppa Flats Wildlife Sanctuary Programs and Activities - Mass Audubon's Joppa Flats Wildlife Sanctuary in Newburyport provides numerous birding walks, field trips, and adventures. See the [program catalog](#) for event and schedule information.

Reminders - The following calendar items posted previously in CZ-Mail are still to come:

- **RARGOM Annual Science Meeting**- On October 13, the Regional Association for Research on the Gulf of Maine (RARGOM) will hold its [Annual Science Meeting](#), *Science for Sustaining the Gulf of Maine's Ecosystems and Coastal Communities*, in Portsmouth, New Hampshire.
- **Northeast Arc User Group Conference** - From October 16-19, the Northeast Arc User Group (NEARC) will hold its [Fall NEARC Conference: From Summit to Sea, the Landscape of GIS](#), in North Falmouth. The conference will feature user presentations, technical training from Esri, educator training, and program tracks for both experienced and new GIS users.
- **Fall 2016 NEERS Meeting** - From October 20-October 22, the New England Estuarine Research Society (NEERS) will hold the [Fall 2016 NEERS Meeting](#) on Block Island, Rhode Island. The meeting will highlight themes related to the emerging perspectives in estuarine and coastal marine science and include a wide range of disciplines, such as sediment transport and fisheries biology.

Other Items of Interest

Seeking King Tides Photos - King Tide, the highest tide of the year, is rolling into Massachusetts October 17 through 19. The Massachusetts Bays National Estuary Program, Boston Harbor Now, the New England Aquarium, and the Museum of Science-Boston are teaming up to encourage people to document effects of this natural phenomenon on coastal structures and natural resources with cameras and smartphones. King Tides occur twice a year, when Earth, the moon, and the sun align and maximize gravitational forces to produce extreme tides and currents. October's high tide is expected to be more than 12 feet high in Duxbury and Barnstable, where the typical high tide is between 9 and 11 feet. Extreme high tides illustrate what may become—with sea level rise—the new tidal norm. Head out to the shore to document flooding using CZM's new MyCoast app, which is available for free on Android and Apple devices. See [MyCoast](#) for details. For more information, including a list of the best sites for observing the impacts, visit the [King Tides 2016 website](#).

Ocean Awareness Student Contest - The Bow Seat [2017 Ocean Awareness Student Contest](#) promotes ocean stewardship among middle and high school students and provides cash prizes for winning essays, art, and advocacy. This year's theme, *Ocean Pollution: Challenges & Solutions*, focuses on making meaningful connections between ocean health and human activity. Entries are due by June 19.

Marine Debris Creative Advocacy Competition - The new Bow Seat [Marine Debris Creative Advocacy Competition](#) challenges middle and high school students to implement real-world advocacy projects in schools and communities, with the goals of educating the public about marine debris, inspiring people to change their behavior, and engaging them in activities that reduce or prevent marine debris. Students need an adult sponsor to participate and cash prizes are awarded to winners. Entries are due by June 19.

Every Kid in a Park Pass - The [Every Kid in a Park program](#) provides fourth graders and their families free access to federal lands and waters nationwide for a full year. The pass is valid from September 1 through August 31, 2017, and provides free entry for fourth graders and up to three accompanying adults (or an entire non-commercial vehicle for drive-in parks) at more than 2,000 sites across the country.

Marine Conservation Internship - The Reef Environmental Education Foundation (REEF) in Key Largo, Florida, is now accepting applications for the spring 2017 [Marine Conservation Internship](#). This four-month internship provides an in-depth look into REEF's volunteer fish survey project and invasive lionfish program, providing an array of diverse experiences including scientific diving, outreach and education, data collection and management, nonprofit operations, and public speaking. Interns will have many opportunities to dive and volunteer with partner organizations in the Florida Keys and South Florida. Applications are due by October 17.

Beneath the Waves Film Competition - The [Beneath the Waves - Youth Making Ripples Film Competition](#) is an opportunity for K-12 students to use their creative talents and serve as a voice for the oceans. Elementary, middle, and high school students are encouraged to create marine related films (less than 5 minutes). Submissions are due by December 5.

Campus RainWorks Challenge - The EPA Office of Water is pleased to announce the fifth annual [Campus RainWorks Challenge](#), a green infrastructure design competition for undergraduate and graduate students. Student teams, working with a faculty advisor, will submit design boards, a project narrative, and a letter of support for a proposed green infrastructure project for their campus. This year, student teams are encouraged to incorporate climate resiliency and consider community engagement in the stormwater management designs. Winning teams will be awarded cash prizes. Registration opens September 1 and entries must be submitted by December 16.

Marine Policy Fellowships - The NOAA Sea Grant College Program is accepting applications for the 2017 [John A. Knauss Marine Policy Fellowship Program](#). This one-year program aims to provide a unique educational experience to students who have an interest in ocean, coastal, and Great Lakes resources and the national policy decisions affecting those resources. The program matches highly qualified graduate students with hosts in the legislative and executive branches, or appropriate associations/institutions, located in the area of Washington, DC, for a one year paid fellowship. To apply, see the grant opportunity on [Grants.gov](#). Applications are due by February 10, 2017.

