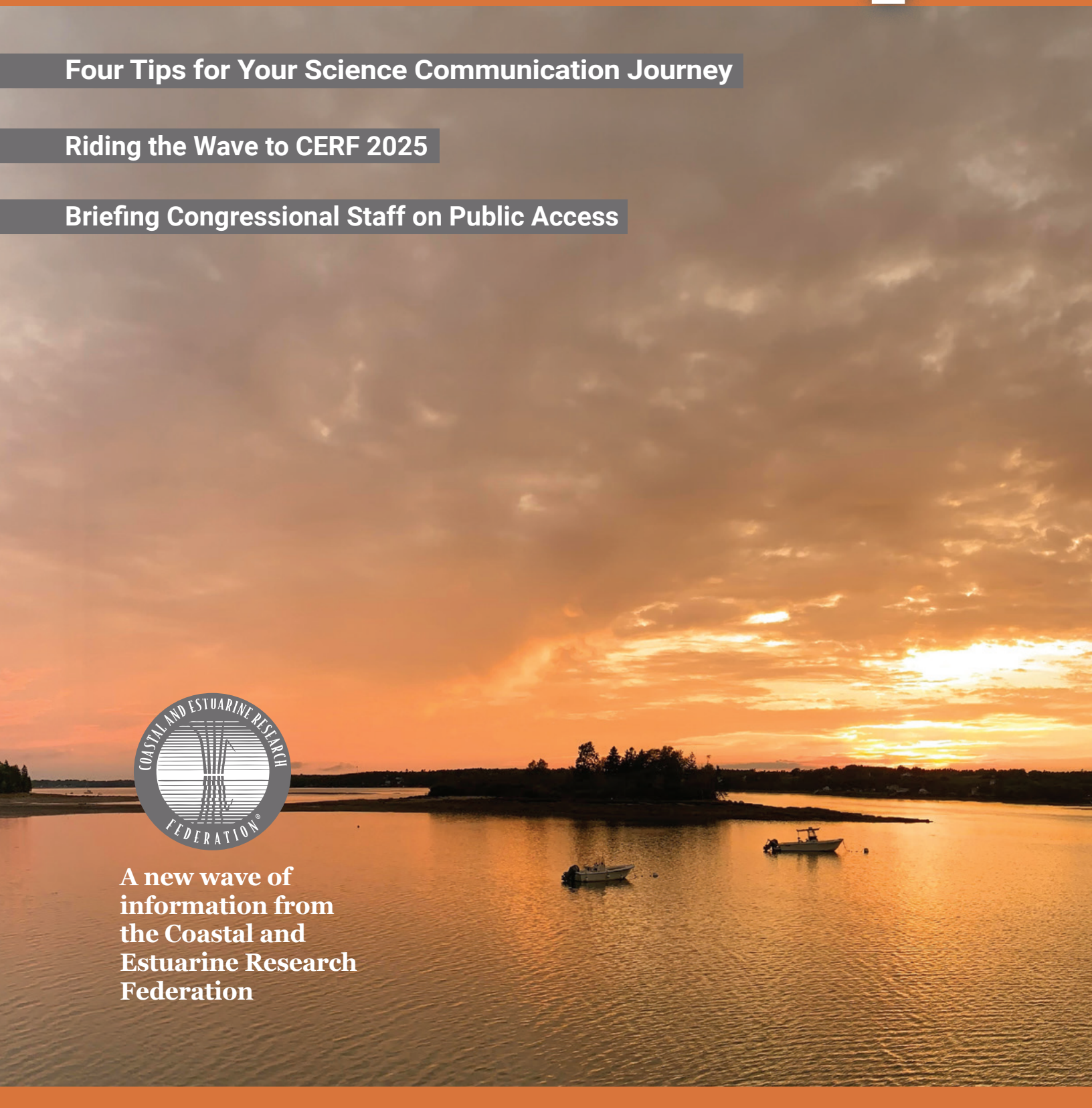
CERF's Up!

Volume 50 • Number 4 • December 2024

Four Tips for Your Science Communication Journey

Riding the Wave to CERF 2025

Briefing Congressional Staff on Public Access



A new wave of information from the Coastal and Estuarine Research Federation

CERF's Up!

Volume 50 • Number 4 • December 2024

Table of Contents

Front and Back Covers: **Sunset over the Bowdoin College Schiller Coastal Studies Center pier, Orr's Island, Maine, USA**
Photo: Pedro Morais

Call for Cover Photos for *CERF's Up!*
Would you like to see your favorite estuary displayed on the cover of *CERF's Up!*? If so, send high-resolution shots showing the place's natural beauty, along with a short caption and photo credit, to bulletin@cerf.science.

President's Message

Linda Blum
CERF President

This President's letter is about congratulations and gratitude. CERF is an organization that was created by its members and is governed by its members for the members. Nearly all the work that occurs at CERF is carried out by volunteers who donate their valuable time and expertise. These volunteers come together to accomplish shared goals, address common needs, and solve collective problems to strengthen the federation and provide more services and value to our members and the community at large. This ultimately leads to increased understanding of how estuaries and coasts function, knowledge of how to sustainably manage these systems, and improved education about the importance of these systems to coastal communities and beyond. As CERF President, I want to make sure to thank our volunteers often for the work they do to make CERF an outstanding organization and, by extension, make important contributions to the advancement of our profession.

Estuaries and Coasts (ESCO) was the topic of my last message in *CERF's Up!* where I reported that Linda Deegan was stepping down from her role as coeditor in chief (CEIC) of the journal after three years in the position. As CEIC, Linda, along with Paul Montagna, has upheld the highest standards and best ethical practices for the journal putting ESCO in the top 25% of aquatic sciences journals worldwide in terms of impact factor. Working in concert with one another, the CEICs routinely oversee the review, revision, and publication of more than 750 manuscripts per year and are on target for handling more than 800 manuscripts in 2024. CERF owes Linda our deepest thanks for her service.

In addition, Paul Montagna has indicated that he will step down from his CEIC position at the end of 2025 after nine years in the role. With both Paul and Linda's departure, an open call was posted for candidates and an ad-hoc search committee was appointed to recommend two new CEICs. We decided to recruit two new CEICs now so they could learn together, form a working team more quickly, and *both* new CEICs could learn from Linda and Paul for a longer period. I am very pleased to say that the committee completed their work quickly and efficiently and share the exciting news that our new CEICs are Melisa Wong and Just Cebrian (see the article introducing them on page 11). I would like to thank all the individuals who applied for the position – they were an outstanding group of candidates – and extend special thanks to the search committee members Jill Olin, Spencer Tassone, Hongbin Liu, Jennifer Pollack, Ben Walther, Ken Heck, Paul Montagna, and Linda Deegan.

Many of you had the pleasure of interacting with the 2023–2024 Rising TIDES scholars at CERF 2023, their first in-person activity, and for most of the students their first professional conference. Common words used to describe this group of students were dynamic, diverse, and delightful. Because so many of you were so enthusiastic about Rising TIDES scholars, I thought I would offer an update on the group now that this cohort has completed their final activity. As part of the 16-month program, many of the scholars also attended a CERF Affiliate Society meeting and for five days in October most of the scholars attended the Restore America's Estuaries (RAE) Summit in Arlington, Virginia. At the RAE Summit, the scholars presented papers and posters, participated in workshops, and joined discussion groups to learn about the latest trends and challenges in coastal and estuarine restoration. The scholars were joined by several near-peer mentors and advisors who are Rising TIDES alums. The Rising TIDES program is funded by grants from the National Science Foundation (NSF) and National Oceanic and Atmospheric Administration National Centers for Coastal Ocean Science. CERF extends congratulations to the scholars, mentors, and advisors for completing the program. Congratulations also to the leadership team consisting of CERF volunteers Kristin Wilson Grimes, Christine Whitcraft, Hilary Neckles, Allison Fitzgerald, and Drew Talley and CERF Executive Director Susan Park for their continuing success in providing students from backgrounds underrepresented in coastal and estuarine disciplines with support intended to inspire and motivate them to pursue careers in coastal and estuarine science, education, and management.

Another set of congratulations and thank-yous go to the ten participants and seven leaders of the first CERF Inclusive Leadership Program (ILP) who recently completed an 18-month program focused on personal and professional growth. The ILP closeout retreat was hosted by Bowdoin College's Schiller Coastal Studies Center on the coast of Maine. During the program, the ILP participants worked to increase their capacity to create and sustain a more equitable and inclusive leadership environment at their institutions and beyond. Some ILP participants are already leaders within CERF and the coastal and estuarine community, and the program has most certainly prepared future leaders and changemakers as they have a demonstrated personal commitment to strengthen leadership

within their institutions and CERF. This program is also funded by a grant from NSF and is coordinated by a leadership team consisting of CERF volunteers Leila Hamdan, Treda Grayson, and Kris Lewis, CERF Executive Director Susan Park, and facilitators Jennifer Sandoval and Shani Dellimore Barrax. A huge thank you and congratulations to Amara Foster, CERF's Program Coordinator for both Rising TIDES and ILP, who did a tremendous job organizing both programs simultaneously!

Finally, thanks must go to the 2025 Biennial Conference Committee which is hard at work to make this conference one to remember. Conference co-chairs Cassondra Armstrong, Treda Grayson, and Frank Reilly have put together an amazing planning team. CERF 2025, with the theme "Estuaries: Tradition and Transition", will be held in Richmond, Virginia, between 9 and 13 November 2025. You may recall that the 2021 conference was planned for Richmond, but health concerns due to the COVID pandemic made it necessary to shift that meeting to virtual. We were fortunate to be able to reschedule the conference for this location for 2025. Unless you are a geography superstar, you may be surprised to learn that Richmond is located at the top of the James River estuary, a sub-estuary of the Chesapeake Bay. The fall line of the James River estuary is a seven-mile-wide zone with a 100-foot elevation change within the City of Richmond and is within walking distance of the Greater Richmond Convention Center, the venue for CERF 2025. That Richmond is located within a day's drive for two-thirds of the CERF membership, is only a two-hour drive from Washington, DC (most of the time), and there are easy airline connections to the Richmond International Airport makes this a readily accessible travel location for most of the membership. It's not too soon to begin thinking about special sessions and workshops for November 2025! Please keep reading this issue of *CERF's Up!* to learn more about the conference team's exciting plans for CERF 2025.

BOOKS OF INTEREST

Marine Pollution: What Everyone Needs to Know, 2nd Edition

Judith S. Weis, Professor Emerita of Biological Sciences at Rutgers University and long-time CERF member, recently released the second edition of her book *Marine Pollution: What Everyone Needs to Know*. This book, written for scientists and managers but approachable for the lay audience, provides a broad overview of marine pollution of all types.

For millennia, human societies have viewed the ocean as a dumping ground for waste products of all kinds. The sources of marine pollution are extensive, including oil spills, sewage, fertilizers, pesticides, industrial wastes, heavy metals, ocean acidification, plastics, and even invasive species, considered biological pollution. Yet the solutions are not as clear.

Updated to reflect recent research, this book discusses the sources of marine pollutants, their effects on marine organisms and humans, and how to reduce or eliminate them. Weis covers the aftermath of oil spills in addition to "emerging" topics like flame retardants, pharmaceuticals, noise pollution, and per- and polyfluoroalkyl substances (PFAS). A new chapter examines the prevalence of microplastics and how they rise through the food chain into human beings, along with their associated toxic chemicals. Additional chapters address the deadly effects of climate change in the ocean but also focus on actions that all people can take, citing recent environmental improvements as a cause for hope.

Marine Pollution includes thorough coverage of topics not usual to marine pollution books, like climate change and invasive species. It is written in a clear and engaging Q&A format that offers an accessible approach to questions surrounding all facets of marine pollution today.

Weis has published over 250 scientific papers and is interested in stresses and their effects on organisms, populations, and communities. She is on the editorial board for *BioScience*, is a Fellow of the American Association for the Advancement of Science and was a Fulbright Fellow in Indonesia. She served on advisory committees for the US Environmental Protection Agency, National Oceanic and Atmospheric Administration, and National Academies of Science, and chaired the Science Advisory Board of the New Jersey Department of Environmental Protection. She was president of the American Institute of Biological Sciences and received the Merit Award from the Society of Wetland Scientists.

Editors' Note: The second edition of this book was published in September 2024 by Oxford University Press; order online at https://global.oup.com/academic and enter code ASPROMP8 to get a 30 percent discount

Four Tips for Your Science Communication

Patrick Rynne
Waterlust, Miami, Florida, USA
patrick@waterlust.com

What makes science communication effective? That's a question I wrestle with a lot. My name is Patrick Rynne. I earned a PhD in Applied Marine Physics at the University of Miami studying tidal exchange in estuaries. I love estuaries!

But my perspective on science communication comes less from my dissertation and more from another project I started in graduate school called Waterlust. And spoiler alert, today it's a company that communicates science to millions of people around the world and helps fund applied research. But this article isn't about that. If you've never heard of us, I encourage you to Google who we are and decide for yourself whether the perspective that follows carries any experiential merit. I won't be offended if you don't.

For this article, I want to share with you some things I've learned from my past 13 years of trying to communicate complex research findings to people without formal science backgrounds. These tips come from a variety of experiences, whether storyboarding YouTube videos, crafting social media captions, or penning sassy editions of our educational newsletter The Weekly Current. Every sci-com project is a little different, but I find these underlying principles to be mostly universal.

Learn how to write creatively — I think the single most valuable skill you can have as a science communicator is the ability to write creatively. And by creatively, I don't mean grammatically perfect or eloquent. See how I started that last sentence with "and?" My high school English teacher would red-pen that to death! I mean writing in a way that keeps people engaged. Be less concerned about the rules and more concerned about readability. It's like cooking: all that really matters is how it tastes.

The power of metaphor — See what I did in that last sentence? I related creative writing to cooking because cooking and tasting food are universal experiences we can all relate to. Using metaphor to explain a scientific concept is a clever tactic to make subjects feel more relatable. I employ this approach a lot in *The Weekly Current*, whether relating anglerfish reproduction to online dating or whale population dynamics to kicking the keg at a house party.

Smiles feel good — We all know the environment is in rough shape, but psychologically, it's not effective to bombard people day after day about how we're failing. Life is hard, and we all have a limited tolerance for bad news. At some point, we'll just tune out in an attempt at self-preservation. However, as a science communicator, that doesn't mean we should only paint a bright picture, a.k.a. toxic positivity. The realities of climate change, species extinction, and other environmental threats can be dark and are important to understand. The special sci-com sauce comes together when you can get a grim message across while also making the audience feel some joy too. Metaphors are particularly helpful here. Did I chuckle because glaciers are melting faster than we thought they would? No. I live in low-lying Miami and that news is scary as hell. But I did LOL when I thought of trapped air in the ice as a glacier fart. These days, most environmental science shots need a chaser to cleanse the palate. And yes, that was another metaphor.

Stick to your values — As you find traction in your science communication work, you will hopefully start attracting an audience. However, as you grow it can become extremely tempting to tailor your work to appease them. This is a trap. Here's a real-life example. At Waterlust we advocate for marine science and making evidence-based environmental decisions, but that doesn't mean we never eat seafood or think all aquariums are evil or demonize people that don't drive electric cars. Those issues are far too nuanced to hold such positions. But as an environmentally focused company, we attract plenty of people that do, and they threaten to jump ship anytime we veer away from their specific worldview. And no disrespect, if being a plastic-free vegan who never flies in airplanes is accessible to you, I applaud that commitment. Where things get sticky is when the audience (or in our case the customer) tries to tell you what your voice should be, and in fear of losing them, you change your voice even if you don't agree with that. The idea that the "customer is always right" is a one-way ticket to having no voice at all. To defend against this, I highly recommend articulating your mission and core values ahead of time and referring to them often as your north stars. A great resource for creating these can be found in Jim Collin's BE 2.0.[1]

If you want to discuss something I wasn't able to explore, feel free to email me at patrick@waterlust.com

References

1. Collins, Jim and William Lazier. 2020. *BE 2.0 (Beyond Entrepreneurship 2.0): Turning Your Business into an Enduring Great Company.* Portfolio/Penguin.

Riding the Wave CERF 2025

A cyclist on Belle Isle along the James River in downtown Richmond, Virginia Photo: Courtesy of Richmond Region Tourism

28th Biennial CERF Conference Updates and Announcements

We are less than one year away from the 28th Biennial CERF Conference to be held in Richmond, Virginia, USA, 9–13 November 2025. The theme of CERF 2025 is "Estuaries: Tradition and Transition," to reflect not only the scientific history and context of our community, but also the challenges and opportunities looking to the future. The program will draw on the deep heritage of estuarine science in the Chesapeake Bay region where we started and where CERF 2025 will be held, but embraces how estuarine and coastal research, management, and education are world-wide and of more importance than ever. Led by co-chairs Cassondra Armstrong (South Florida Water Management District), Treda Grayson (US Environmental Protection Agency), and Frank Reilly (LMI), the conference promises to be full of new ideas and activities while honoring our past and preserving many beloved CERF traditions.

CERF 2025 Host City: Richmond, Virginia, USA

For those who don't know much about Richmond—or RVA as it's known by locals—we're excited to show you all it has to offer! Perhaps most relevant, Richmond sits at the head of the tidal portion of the James River, a sub-estuary of the Chesapeake Bay. Before CERF, there was the Atlantic Estuarine Research Society (AERS), founded in 1947 by a group of estuarine scientists residing in the central portion of the US Atlantic coast.[1] Given CERF's roots in the region, it is exciting to return to the Chesapeake Bay watershed for the first time since the 2005 meeting in Norfolk, Virginia.

Richmond is surprisingly easy to get to: it is less than two hours from Washington, DC, and right on I-95 within a day's drive of New England to the north or Florida to the south. Richmond is easily accessible by air and has two Amtrak stations. Once you get to the city, the public bus system is easy to navigate and free to ride! Many CERF members live and work in Virginia, including in RVA, which is home to three universities; headquarters for many state natural resource agencies; and host to many federal government agencies, non-governmental organizations, and environmental private sector firms.

Richmonders love the outdoors and consider the James an important part of the city's identity. Richmond is the only US city with class III and IV whitewater rapids right through downtown. The James River Park System has 600 acres of hiking

"Voices of Perseverance" mural by Richmond artists Ed Trask and Jason Ford as part of the Mending Walls project. This mural can be found at 504 W Broad St, Richmond, Virginia Photo: Courtesy of Richmond Region Tourism

trails, mountain biking trails, swimming beaches, put ins, and more. RVA was named by CNN as the #1 best town in America to visit in 2024.[2] CNN noted its exciting food scene full of top-notch restaurants, especially a large number that are Black-owned. RVA is also known for craft beverages with almost 50 local breweries, cideries, meaderies, wineries, and distilleries. The city has a vibrant art scene with multiple art museums, its own ballet company and symphony orchestra, and many theatre companies and venues for live music, plays, and more. USA Today recently named Richmond #2 for street art, and you'll see murals throughout the city.[3] RVA celebrates its history, including the fight for civil rights, while also confronting the darker aspects, particularly its role in the slave trade and segregation, through rich exhibits at the Black History Museum and Cultural Center of Virginia, Valentine Museum, and American Civil War Museum. The city is host to many more museums such as the Poe Museum, Virginia Holocaust Museum, Virginia Museum of History and Culture, Virginia Museum of Fine Arts, and Science Museum of Virginia. There are also lots of fun things to do with your family, including the Children's Museum; Maymont Park with gardens, farm animals, and wildlife exhibits; and the Lewis Ginter Botanical Garden. The city has a youthful vibe, with 38% of the population between the ages of 20 and 39.[4] Richmond is a diverse and welcoming city, with nearly 58% of the population identifying as non-white and with a score of 100 out of 100 on the Human Rights Campaign Municipal Equality Index.[4,5] Expect more information on RVA in coming issues of *CERF's Up!* or start your research now at the Visit Richmond website: https://www.visitrichmondva.com/.

PrideFest in Richmond, Virginia
Photo: Courtesy of Richmond Region Tourism

1. https://www.cerf.science/cerf-history
2. https://www.cnn.com/travel/richmond-virginia-best-towns-america/index.html
3. https://10best.usatoday.com/awards/travel/best-city-for-street-art-2024/
4. https://www.richmondeda.com/richmond-demographics/
5. https://www.hrc.org/resources/municipalities/richmond-va-3

Kayakers paddle through rapids on the James River in Richmond, Virginia

Photo: Will Parson, Chesapeake Bay Program

Call for Session, Workshop, and Design Team Proposals

The CERF 2025 Scientific Program Committee invites proposals for Scientific Sessions, Workshops, Collab Sessions, and Design Competition Teams. In alignment with the theme "Estuaries: Tradition and Transition," we invite proposals that include knowledge created by local Tribes, watermen and other coastal citizens, and Western scientists while exploring emerging scientific trends and novel tools such as environmental DNA, new remote sensing technologies, and artificial intelligence. Our theme also encompasses approaches to weaving together these different ways of knowing to address the pressing coastal and estuarine issues facing the world today. It affirms CERF's longstanding emphasis on management implications, education, and communication. This theme embraces the past, present, and future of coastal and estuarine science, management, and communications.

You are welcome to submit more than one proposal either within a proposal type (e.g., two scientific session proposals) or across types (e.g., one scientific session proposal and one workshop proposal).

Scientific Session Proposals: Please consider submitting a proposal to convene a scientific session that explores CERF's traditional science, management, education, and policy disciplines from a unique perspective, taking advantage of the diverse experiences of conference attendees. CERF conferences have a policy of one presentation per person; however, presenters may submit a second abstract to sessions that fall under the umbrella of education; diversity, equity, and inclusion; or arts and humanities. Therefore, in addition to traditional scientific session proposals, we seek proposals for sessions that fall in these categories. While any relevant topic may be submitted, we are particularly interested in sessions that address the theme. Please frame your session proposal topics in a broadly relevant way to encourage diverse participation and engagement.

Workshop Proposals: Workshops offer participants an interactive experience addressing the conference theme, technical/scientific content, professional skills development, or other topical areas. All workshops will be held on Sunday, 9 November. Participants will be required to register and pay a fee for workshops; in general, the fees cover only the space and A/V, and no funds are available to workshop hosts or presenters. The ideal workshop will appeal broadly to CERF conference attendees at all career levels and across academia, government, non-governmental organization, and private sectors.

Collab Session Proposals: In addition to the traditional oral and poster scientific session blocks, the new Collab Sessions are concurrent sessions built into the conference schedule to allow for dynamic, informal interactions among attendees. See a detailed description of Collab Sessions on page 7.

Coastal Design Competition Team Proposals: The CERF Coastal Design Competition is an initiative inspiring students and faculty across disciplines to address community-based challenges of climate change. The goal of the competition is for university-based teams to propose research, design solutions, and innovative strategies to make our coastal environments more resilient in the face of climate change and other pressing challenges. The Coastal Design Competition focuses on critical issues such as coastal settlement, ecosystem restoration, flood protection, and economic development, while highlighting the capacity of faculty-led transdisciplinary teams to solve coastal problems and respond to climate change. The competition requires an emphasis on data-driven design and actionable plans that work with and for the priorities of a coastal community in Maryland. The Coastal Design Competition organizers will work with community members to organize in-person or virtual site visits for the teams to maximize the priorities of the local community from the start of the design process. We seek proposals from faculty interested in taking part in the 2025 Coastal Design Competition. Teams must be interdisciplinary (e.g., architecture, engineering, ecology, policy, planning, law). They may cross disciplines/departments within a single academic institution or be a collaboration across two or more institutions. Connections with groups underrepresented in these disciplines are encouraged along with diverse teams and thoughtful inclusion of regional Minority Serving Institutions. Faculty-student teams may partner with architecture and engineering firms, but research and design must be faculty-led. Teams will be provided flexibility to develop designs in a mechanism that works best for their collaboration (e.g., spring semester course, extracurricular activity, paid internship program) as long as submissions meet the competition deadlines. Supporting materials, including detailed site information, webinars, and community engagement opportunities, will be made available to selected

teams in early 2025. Final designs will be juried, and winners will be announced by a panel of experts during the conference. Limited funding is available to support students from finalist teams to attend the CERF conference and present their designs to be judged by experts and community members.

Additional details about proposal submissions can be found at https://conference.cerf.science/call-for-session-workshop-and-design-team-proposals. Proposals may be submitted online at https://www.xcdsystem.com/cerf/member/index.cfm. The submission deadline is 17 January 2025 at 11:59 EST. Please contact the Scientific Program Committee Co-Chairs Marcus Beck (Tampa Bay Estuary Program), Elizabeth Lacey (Stockton University), and Pedro Morais (California Department of Water Resources) at mailto:spcchairs@cerf.science for questions about proposals and to discuss your ideas. For questions about the submission system, please contact Tricia Fry at abstract.manager@cerf.science.

New for 2025: Collab Sessions

Have you ever left a conference thinking "I wish we had time in my session to go deeper into that conversation," or "all my project collaborators are here; I need to find a time and space for all of us to meet to discuss the project" or "I'm getting burnt out; I wish there was a way to relax, while still engaging with other folks at the conference"? The CERF 2025 organizers have listened and are pleased to introduce **Collab Sessions!**

In addition to the traditional oral and poster scientific session blocks, the Collab Sessions are concurrent sessions built into the conference schedule to allow for dynamic, informal interactions among attendees. This format may include panel discussions, meetings, networking events, and other activities that don't fit neatly into a standard presentation format. We hope Collab Sessions will achieve the goals of facilitating networking and collaboration, increasing discussion and idea exchange, and providing more flexibility and inclusivity for attendees to engage in their preferred ways.

Collab Sessions will be proposed by attendees and conference organizers, similar to proposing a scientific session or workshop. These sessions could include but are not limited to community-of-practice discussions, networking events, or how-to sessions. Each Collab Sessions will be 90 minutes long and we aim to have no more than six concurrent Collab Sessions at a time, giving attendees ample opportunity to choose the session they want or take a break from the conference.

What can you use the CERF Collab Sessions for?

Informal research meetings: Examples include meetings for your collaborative project, to explore emerging topics with other interested attendees, to find new collaborators and develop a new group project/proposal, to extend the discussion from a scientific session, and to write up results for a publication.

Panel discussions and town halls: Alternative formats to the traditional oral session block to explore topics in coastal and estuarine science, management, and education. You may include invited speakers and allow for interactive discussions about the topic.

Networking opportunities: These events would help CERFers connect with others with similar interests or that could help with career development and mentorship, such as a "live job board" to connect job seekers with job opportunities and affinity group meet-ups for those with similar identities to connect, provide support, and exchange ideas.

Creative sessions: Examples may include sessions dedicated to art, music, dance, and poetry.

Short professional development sessions and other activities that provide skills training.

Events that support diversity, equity, and inclusion in coastal and estuarine science and management

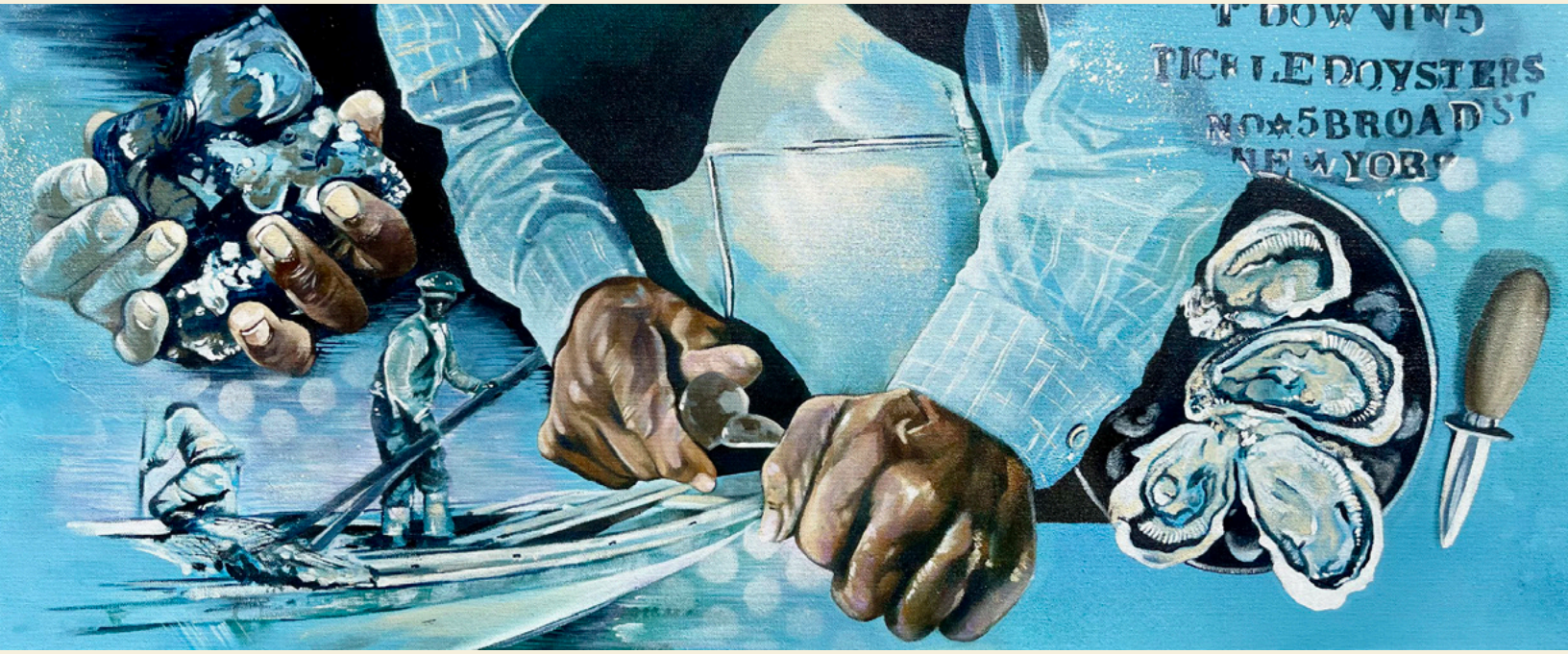
Sessions that encourage rest and restoration (e.g., guided meditations, yoga)

You tell us!?!?!

Examples of potential planned sessions include:

• Panel discussion on incorporating Traditional Ecological Knowledge (TEK) into your research. The goal is to help CERF attendees learn more about TEK, how it can improve coastal and estuarine research and management outcomes, and some better and promising practices for working collaboratively with Indigenous researchers, Elders, and community members in an ethical, respectful, and authentic partnership.

• You are a certified yoga instructor and would like to provide free yoga classes during CERF 2025. You partner with other CERF yoga instructors, meditation practitioners, and similar professionals to provide sessions that are open to all with the goal of providing some calm, rest, and/or energy for CERF attendees during a busy, stressful conference!



Artwork: Jason Ford, Nosaj Authentics Brand, Inc.

Conference Artist and Artwork

We are excited to reveal the CERF 2025 conference artwork by Richmond native Jason Ford. In honor of the conference theme of "Estuaries: Tradition and Transition" and the location of the CERF conference in the Chesapeake Bay watershed, Ford's piece highlights the historical contributions of Black watermen in the region, particularly in the oyster industry. The artwork focuses on the often-overlooked historical background, cultural significance, and past and current contributions and innovations of African Americans to the industry. Ford is a celebrated mural artist, and we are working to secure a location to turn this artwork into a permanent mural for CERF 2025 attendees, Richmond citizens, and visitors to appreciate for years to come. Ford's piece will be incorporated into all CERF 2025 branding. Learn more at https://conference.cerf.science/conference-artist-artwork.

About Jason Ford

With over 20 years of experience creating visual assets across diverse industries—entertainment, consumer goods, healthcare, government, and education—Ford has built a broad portfolio that spans both solo and collaborative projects. Ford specializes in canvas artwork, murals, and large-scale installations that convey stories, both personal and shared. Whether painting a mural on the side of a building or designing for a client, his work aims to engage and resonate with people, fostering a deeper connection through art.

With a keen eye for design and a commitment to bridging cultural influences, Ford aims to leave a lasting impact on the art world—one project at a time. Whether in a gallery, on apparel, or in the streets, every piece he creates is an opportunity to challenge conventions, ignite conversations, spark new perspectives and inspire others to embrace the transformative power of creativity.

Estuaries and Coasts Coeditor in Chief Briefs Congressional Staff on Public Access

US House Committee on Science, Space, and Technology Ranking Member Zoe Lofgren (D-CA) provides welcoming remarks

Photo: Susan Park

On 13 November 2024, *Estuaries and Coasts* Coeditor in Chief Paul Montagna represented CERF as a panelist for a House Science, Space, and Technology Committee staff briefing on the implementation of public access policies for federally funded research results and data and, specifically, the White House Office of Science and Technology Policy (OSTP) memo of 25 August 2022, "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research," commonly referred to as the Nelson memo.[1] We were honored to join this esteemed panel and share our perspective as a small scientific society along with experts Paolo Mangiafico (Duke University Libraries), Meagan Phelan (AAAS Science journals), Lori Schultz (The University of Texas at San Antonio), and moderator and past OSTP Director Dr. Kelvin Droegemeier (University of Illinois Urbana-Champaign). We thank Dr. Victoria Long Rubin, House Committee on Science, Space, and Technology Republicans Senior Professional Staff and estuarine scientist, for inviting CERF and Montagna to participate.

The Nelson memo directed all US federal agencies with research and development expenditures to update their public access policies as soon as possible, and no later than 31 December 2025, to make publications and their supporting data resulting from federally funded research publicly accessible without an embargo on their free and public release, establish transparent procedures that ensure scientific and research integrity is maintained in public access policies, and coordinate with OSTP to ensure equitable delivery of federally funded research results and data. CERF, along with the other nine members of the Consortium of Aquatic Science Societies (CASS), recently submitted a letter to OSTP strongly supporting the principles of open science and the importance of freely sharing research results in a timely and equitable manner, and also expressing concern about potential unintended consequences of revised public access policies on professional societies and the quality and equity of the research enterprise.[2] The letter outlined six specific concerns about the implementation of the Nelson memo:

1. Scientific societies play a critical role in the research enterprise that was not adequately considered when developing new policies.
2. Scientific societies may face significant financial impacts because of the proposed policies.
3. Scientific societies were not engaged during stakeholder outreach by OSTP and federal funding agencies.
4. The proposed policies may lower the quality of published research.
5. The proposed policies may exacerbate existing inequities in the research enterprise.
6. Lack of coordination across federal agencies will hinder the goal of allowing all Americans to benefit from the returns of federally funded research results.

In the letter, CASS also provided five recommendations on how the implementation of the Nelson memo may be improved to ensure it meets its intended goals and avoids unintended impacts on the research enterprise and scientific societies.

1. Engage professional societies to inform draft policies.
2. Support partnerships with professional societies for policy implementation.
3. Require agencies to include open science costs in future budgets.
4. Develop policies to support less-resourced researchers.
5. Analyze inconsistencies across agencies and require alignment where possible.

The panelists and moderator prepare for the briefing to begin; from left to right: Paolo Mangiafico, Meagan Phelan, Paul Montagna, Lori Schultz, and Kelvin Droegemeier

Photo: Susan Park

Paul Montagna (left) and Victoria Long Rubin (right) Photo: Susan Park

During the congressional staff briefing, Montagna reiterated many elements of the CASS letter. He highlighted the importance of *Estuaries and Coasts* in supporting CERF's non-profit mission of disseminating high-quality science to advance the understanding and management of coastal and estuarine systems worldwide, and how the journal provides funds for CERF's other programs that help the coastal and estuarine research, management, and education community. He noted potential impacts to both the research enterprise and professional societies, including the increased administrative burden of compliance, increased difficulty of finding some research results, diminished quality of published research, reduced financial sustainability of scientific societies, and increased obstacles for researchers with fewer resources to support open access publishing. CERF will continue to monitor the Nelson memo and its effects on our members and the journal.

1. https://bit.ly/OSTPNelsonMemo
2. https://bit.ly/CASSPublicAccessLetter

Call for Achievement Award Nominations

Deadline: 3 April 2025

We are now accepting nominations for our prestigious achievement awards:

Odum Award for Lifetime Achievement

Cronin Award for Early Achievement

Niering Award for Outstanding Educator

Pritchard Award for Outstanding Physical Oceanography Paper

Davidson Award for Individual Stewardship Achievement

Coastal Stewardship Award for Organizational Stewardship Achievement

Diversity, Equity, Inclusion, and Justice Champion Award

As part of CERF's commitment to incorporating diversity, equity, inclusion, justice, and accessibility (DEIJA) into all aspects of the work of CERF, we are revamping our process for soliciting and reviewing nominations to ensure greater fairness, equity, accessibility, and transparency. Beginning with the 2025 Achievement Awards, we are phasing in modifications to the process based on this work, with additional changes to be made each biennium. This is an ongoing, adaptive effort and CERF is committed to continual improvement. Please visit the CERF Achievement Awards website for the latest information on nomination processes, past recipients, and other award details: https://www.cerf.science/cerf-achievement-awards.

Thank you for helping CERF reward excellence among our colleagues.

Kim de Mutsert
2025 Awards Committee Chair
kim.demutsert@usm.edu

Seeking Ideas for CERF Webinars

Do you have ideas for CERF webinars? The 2024-2025 Webinar Committee is working on the 2025 CERF Webinar Series, and we'd love your input! Please take this brief three question survey at https://bit.ly/2025CERFWebinars so we can hear your ideas and make sure the webinar series addresses your needs and interests. If you have any questions, please contact committee chair Anna Braswell at a.braswell@ufl.edu. Thank you!

Estuaries and Coasts Welcomes New Coeditors in Chief

Estuaries and Coasts is excited to welcome two new coeditors in chief who will begin their terms in January 2025. Just Cebrian and Melisa Wong (see brief biographies below) are current Associate Editors with broad coastal and estuarine research and management expertise and extensive experience with *Estuaries and Coasts* and other publications; we are honored to have them join us in these important roles. Cebrian and Wong were selected from a large pool of excellent candidates through an open call for nominations. We thank the search committee for their thorough and thoughtful review of all applicants.

CERF is extremely grateful to Coeditor in Chief Linda Deegan, who will be stepping down at the end of 2024 after a successful three-year term. We also extend our deep gratitude to Coeditor in Chief Paul Montagna, who will step down at the end of 2025 after serving three successive three-year terms, but not before first helping Cebrian and Wong through their first year as coeditors. The journal is central to the mission and success of CERF, and we could not do what we do without the hard work of our coeditors.

Just Cebrian

Dr. Just Cebrian is a broadly trained ecologist working on a variety of topics that revolve around coastal system diversity and functionality. His work expands over many types of coastal systems, including marshes, mangroves, sediment flats, oyster reefs, algal beds, and seagrass meadows. His research strives to improve our understanding of how human activities affect ecosystem function so we can have solid foundations to better manage these ecosystems and maintain a more resilient world. Cebrian's research has helped describe how coastal ecosystems work under increasing human pressure and, thus, informed management actions such restoration and conservation policies.

Cebrian has over 170 peer-reviewed publications on these topics, and his work has been cited 11,554 times with an h-index of 52. His publications have received several awards and distinctions, such as the US Environmental Protection Agency Scientific and Technological Achievement Award. He has ample editorial experience, having served as an editor on the editorial boards of four scientific journals. Cebrian has been a Principal Investigator or co-Principal Investigator on 81 grants from a variety of agencies. He has received several distinctions, the latest being the 2021 Mississippi State University Centers and Institutes Faculty Research Award. More information on Cebrian can be found at https://www.researchgate.net/profile/Just-Cebrian.

Melisa Wong

Dr. Melisa Wong is a research scientist with Fisheries and Oceans Canada, at the Bedford Institute of Oceanography in Dartmouth, Nova Scotia, Canada. She studies the ecosystem functioning of the marine nearshore, with an emphasis on biogenic habitats, macrobenthic invertebrate communities, and interactions with environmental drivers. Recently she has focused on seagrass (eelgrass), particularly in developing a mechanistic understanding of habitat responses to disturbance and changing conditions. Current projects include characterizing nearshore marine heatwaves and their biological effects, developing physical oceanographic models relevant to nearshore habitats, and developing carbon budgets for eelgrass and kelps. In her role as a federal government scientist, Melisa regularly collaborates with managers and provides scientific advice on marine conservation planning, ecological ocean accounts, blue economy, and fish habitat protection. She has served as an Associate Editor with *Estuaries and Coasts* since 2019, and also on the CERF Governing Board (2011-2013) as the ACCESS Affiliate Society president. Wong looks forward to a collaborative approach with her Coeditor in Chief, the Associate Editors, and the CERF Governing Board to ensure the continued growth, sustainability, and success of *Estuaries and Coasts*. More information on Wong can be found at https://profils-profiles.science.gc.ca/en/profile/melisa-wong.

Upcoming Events

Wisconsin Wetland Association's Wetland Science Conference
25–27 February 2025
La Crosse, Wisconsin, USA
https://conference.wisconsinwetlands.org/

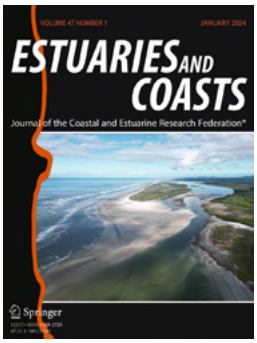
Southeastern Estuarine Research Society (SEERS) Annual Meeting
6-8 March 2025
Fort Pierce, Florida, USA
https://seers.org/next-meeting-2/

Atlantic Estuarine Research Society (AERS) Spring 2025 Meeting
13-15 March 2025
Lewes, Delaware, USA
https://aers.info/Spring2024

ASLO 2025 Aquatic Sciences Meeting
26–31 March 2025
Charlotte, North Carolina, USA
https://www.aslo.org/charlotte-2025/

12th INTECOL Wetlands Conference
29 June–4 July 2025
Tartu, Estonia
https://sisu.ut.ee/intecol-wetlands2025/

CERF 2025 Conference
9–13 November 2025
Richmond, Virginia, USA
https://conference.cerf.science/



Estuaries and Coasts Editors' Choice Papers

September 2024

Carroll, J.M. et al. 2024. The Utility of Ribbed Mussels *Guekensia demissa* for Marsh Grass Restoration on Living Shoreline Projects in the Southeast US: Potential and Pitfalls. *Estuaries and Coasts* 47(6): 1333–1344.
https://rdcu.be/dXyVj

November 2024

Special Issue: Wetland Elevation Dynamics

Cahoon, D.R. and G.R. Guntenspergen. 2024. Current Advances in Coastal Wetland Elevation Dynamics: Introduction to the Special Issue. *Estuaries and Coasts* 47(7): 1703–1707.
https://rdcu.be/dXyVL

December 2024

Odum Synthesis Essay

Turner, R.E. and E.I. Ohimain. 2024. Dredged Canals, Wetland Loss, and Legacy. *Estuaries and Coasts* 47(8): 2147–2159.
https://rdcu.be/dXyWw

Estuaries and Coasts Outstanding Reviewers

Estuaries and Coasts would not be successful without the hard work of hundreds of volunteer peer-reviewers whose dedication and expertise play a crucial role in upholding the quality and integrity of the articles published in the journal. CERF recognizes the critical contributions of all our reviewers and thanks you for the generosity of your time. Reviewers are the lifeblood of the journal, and we feel it important to recognize those that go above and beyond in their service. The *Estuaries and Coasts* editorial board is proud to recognize the dedicated efforts of outstanding reviewers in each issue of CERF's Up! This recognition honors reviewers based on the quality, the number of reviews and their promptness.

Between April and September 2024, we are happy to highlight Outstanding Reviewers for their significant contributions to the quality and success of Estuaries and Coasts. We thank the 26 people who completed at least two reviews, and highlight two reviewers, Michael Wetz and Matthew Bryan Ogburn, who each completed three reviews in five months! We are especially grateful to reviewers who complete reviews rapidly as this allows us to offer feedback to anxious authors and publish papers quickly. Here we recognize the five reviewers who completed their reviews in less than a week:

Joel Anderson
Holly Greening
Orlando Lam-Gordillo
Huayang Cai
Nicole Millette

Thank you for your invaluable contributions!

The Latest Coastal & Estuarine Sciences News (CESN)

Merryl Alber, CESN Editor, University of Georgia
Janet Fang, CESN Science Writer/Managing Editor

The mission of CESN is to highlight the latest research in the journal Estuaries and Coasts that is relevant to environmental managers. CESN is a free electronic newsletter that is posted online and delivered to subscribers on a bimonthly basis (six issues per year). CESN is available in both English and Spanish. Please visit www.cerf.science/cesn to read the full summaries and sign up to have future issues delivered to your email inbox. And please encourage the environmental managers you work with to sign up as well.

La misión de CESN es destacar las últimas investigaciones en la revista Estuaries and Coasts que sean relevantes para los gestores ambientales. Es un boletín electrónico gratuito que se entrega a los suscriptores cada dos meses. Regístrate en www.cerf.science/cesn-spanish.

2024 CESN Issue 4

Modeling Shellfish Nitrogen Removal

Harvesting oysters after 2.5 years beats harvest-when-ready.

Source: Bayer, S.R. et al. 2024. Refining the Farm Aquaculture Resource Management Model for Shellfish Nitrogen Removal at the Local Scale. *Estuaries and Coasts*. DOI: 10.1007/s12237-024-01354-7
https://rdcu.be/dIH6B
https://www.cerf.science/cesn-2024-issue-4#Article1

Integrating Uncertainty in Wetland Migration Estimates

A tool for accurately identifying places where wetlands can migrate.

Source: Enwright, N.M. et al. 2024. Enhancing Assessments of Coastal Wetland Migration Potential with Sea-level Rise: Accounting for Uncertainty in Elevation Data, Tidal Data, and Future Water Levels. *Estuaries and Coasts*. DOI: 10.1007/s12237-024-01363-6
https://rdcu.be/dKdmu
https://www.cerf.science/cesn-2024-issue-4#Article2

The Lasting Benefits of Temporary Sills

Mitigating salt intrusion during times of drought.

Source: Hendrickx, G.G. et al. 2024. An Earthen Sill as a Measure to Mitigate Salt Intrusion in Estuaries. *Estuaries and Coasts.* DOI: 10.1007/s12237-024-01359-2
https://rdcu.be/dJnAU
https://www.cerf.science/cesn-2024-issue-4#Article3

Assessing Vulnerability on the Cameroon Coast

Combining traditional methods with machine learning in Africa.

Source: Nourdi, N.F. el al. 2024. Integrated Assessment of Coastal Vulnerability in the Bonny Bay: A Combination of Traditional Methods (Simple and AHP) and Machine Learning Approach. *Estuaries and Coasts*. DOI: 10.1007/s12237-024-01362-7
https://rdcu.be/dJnBG
https://www.cerf.science/cesn-2024-issue-4#Article4

CERF 2025

9–13 November 2025 / Richmond, Virginia

IMPORTANT DATES
for the 28th Biennial Conference

- **Call for Session, Workshop, and Design Team Proposals**
  Deadline: 17 January 2025
- **Registration Opens:** 10 March 2025
- **Call for Abstracts Opens**: 17 March 2025
- **Call for Abstracts Closes**: 28 April 2025
- **Early Bird Registration Deadline**: 16 May 2025
- **Online Registration Closes**: 3 November 2025

All dates are subject to change.

Learn more at: conference.cerf.science

Salt Marsh Farming in New England

Stephen S. Hale
ORCID https://orcid.org/0000-0001-7858-3750
stephenshale@gmail.com

For centuries, salt marshes have provided many ecosystem benefits to humans, but one not often mentioned is salt marsh farming. Colonial New England farmers, faced with the difficult task of cutting down trees with axes, removing stumps, digging out rocks, and plowing the stony soil, found it easier to farm salt marshes. Salt marsh soil was deep, rich in organic matter, and blessedly had no rocks. Farmers grazed their cattle and cut hay (primarily saltmeadow cordgrass *Spartina patens*) in the high marsh.

John Fogg's *Recollections of a Salt Marsh Farmer* describes how salt marsh haying was done in New England in the late 1800s and early 1900s. In the late summer and fall, after a spring tide had ebbed, the hay was scythed by hand, left to dry, raked and carried to a hay staddle (a cluster of vertical posts pushed into the marsh to keep the hay above spring tides). There, they forked the hay up to make a conical haycock about 12' high. They used either gundalows (a narrow, flat-bottomed boat) to take the hay out of the marsh or, after the marsh had frozen and covered in snow, they sledded the hay to their barns.

Farmers got a good crop of hay every year with little maintenance. The crop was more resistant to droughts and killing frosts than upland hay and was a reliable source of hay for winter feed. The mineral content eliminated the need to provide salt to the livestock.

Salt hay was also used as bedding for livestock and mulch for gardens. Farmers also used "thatch grass"

Building a salt marsh haycock

Photo: George Dexter, 1900

(smooth cordgrass *Spartina alterniflora*) for livestock bedding and for banking the foundations of houses for winter insulation. "Black grass" (*Juncus gerardii*), growing high on the marsh, was one of the best salt marsh grasses for milk cows.

In the 1800s, people began to construct embankments and drain saltwater by sluice gates and ditches, allowing the salt hay to be cut at any stage of the tide. After several years, these areas could be used to grow upland crops such as clover, oats, corn, wheat, and potatoes. During the winter months, gates might be opened to let in seawater and deposit sediment on the meadows to increase fertility and manage marsh levels.

Farmers in the late 1800s began to use horse-drawn mowing machines to cut salt hay. Bog shoes made of wood, leather, or iron and strapped to the horses' hooves kept the horses' legs from sinking into the soft ground. Burlap bags draped over the horses reduced bites from the voracious and annoying greenhead flies and mosquitos. When tractors became available in the 1900s, they replaced horses except in the wettest areas.

Large-scale farming in salt marshes declined in the early 1900s and by 1950, salt marsh farming had largely ended. Agricultural ditches had been re-ditched and extended in the 1930s by extensive mosquito control efforts that covered over 90% of New England salt marshes. Many marshes, without the constant maintenance required to keep ditches open and embankments from collapsing, started to revert to natural

Horse-drawn mower Photo: Historic Ipswich

conditions, albeit with relic ditches, embankments, and roadbeds. Federal and state wetland legislation in the 1970s further limited farming in marshes, although a small amount of existing salt hay harvesting—used primarily by gardeners and nurseries as an excellent mulch free of upland weeds—was allowed to continue and does so to this day.

As with many ecosystem services, there are tradeoffs. Salt marsh farming impacted the salt marsh ecosystems. Grazing livestock added nitrogen and phosphorus to the marshes and haying removed organic matter that might have built up the peat layer. Diking and ditching altered the hydrology and habitats, likely affecting biodiversity, nutrient cycling, and carbon sequestration. People brought into the marshes various upland materials such as logs for corduroy roads, sand and fill for dikes, and rocks for landings.

In a 2008 article in *Wetlands Ecology and Management*, Robert Buchsbaum and co-authors compared currently hayed salt marshes with reference ones in the Great Marsh of Massachusetts. They found that in hayed marshes, *S. patens* stem densities were higher, sediment total N and P were lower, and migratory shorebirds were attracted to recently mowed marshes to feed on invertebrates. No differences were found in plant species density, end-of-year aboveground biomass, number of taxa and abundance of surface invertebrates per unit area, or nutrient concentrations in downstream creeks.

Ecosystem damage from agricultural practices pales in comparison with the primary historic human use of salt marshes—as convenient places to dump wastes and to fill for roads, railroads, shopping malls, parking lots, industrial development, and housing. A paper by Bertness and co-authors in 2002 states that up to 80% of pre-colonial salt marshes in New England and up to 70% nationally have been lost. Salt marsh used for agriculture can be restored, whereas filled marsh is, in most cases, permanently gone.

Remnants of agricultural and mosquito control practices are still affecting current salt marsh hydrology. These modifications can be hard to spot after decades of no maintenance. Geoff Wilson and David Burdick spoke about this at the NEERS 2024 Spring Meeting in Freeport, Maine. During a field trip to the Cousins River salt marsh, Susan Adamowicz and Geoff talked about the relic embankments, roadbeds, and ditches and found some of them by boring into the marsh with a soil corer. These modifications are thought to have contributed to the development of the "megapool" that now sits on the marsh. Where there is no vegetation, the marsh loses elevation.

Accelerated sea level rise from global warming is threatening salt marshes and will force them further inland where topography and human infrastructure allow and if not, drowning them and removing an important carbon sink. NOAA predicts up to a foot of sea level rise for the US by 2050.

Research by Jack McLachlan suggested Maine could lose up to half its existing salt marshes by 2100. Saltmarsh sparrows (*Ammodramus caudacutus*), the only bird breeding solely in salt marshes, survived the era of salt-marsh farming but now are at risk of becoming extinct.

Meanwhile, many organizations are working with Salt Marsh Adaptation & Resiliency Teams (SMARTeams) to give the marshes more time by restoring dichotomous ditch branching to create a more natural hydrology that will put marshes on an elevation-building path and make them more resilient to rising sea levels. Methods include placing cut salt hay into historic ditches to build up peat and cutting shallow runnels to allow for daily tidal flooding and drainage. Small-scale projects have experimented with raising marsh elevation with sediments from channel dredging projects.

Under a no-action scenario or if sea levels rise too quickly for restored marshes to build elevation, the historic changes caused by salt marsh farming and mosquito ditching will be rendered moot because where the marshes are today will become subtidal habitat. In an ironic twist to the historic converting of salt marshes to agricultural uses, some existing upland agricultural land will become salt marshes.

Cousins River Marsh showing "megapool" Photo: Curtis Bohlen

CERF 2023–2025 GOVERNING BOARD

President
Linda Blum
University of Virginia

Past President
Leila Hamdan
University of Southern Mississippi

President-Elect
Sharon Herzka
The University of Texas at Austin Marine Science Institute & Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE)

Secretary
Lilian Aoki
University of Oregon

Treasurer
Erik Smith
University of South Carolina

Members at Large

Member at Large (2021–2025)
Treda Grayson
US Environmental Protection Agency

International Member at Large (2021–2025)
Catherine Lovelock
University of Queensland

Member at Large (2023–2027)
Allison Fitzgerald
New Jersey City University

Member at Large (2023–2027)
Benjamin Walther
Texas A&M University–Corpus Christi

Student Member at Large (2023–2025)
Sommer Starr
Trent University

Affiliate Society Representatives

ACCESS
Jeff Clements
Fisheries and Oceans Canada

AERS
Jessie Jarvis
University of North Carolina Wilmington

CAERS
Julio Lorda
Universidad Autónoma de Baja California

GERS
Charlie Martin
University of South Alabama and Dauphin Island Sea Lab

NEERS
Danielle Perry
National Oceanic and Atmospheric Administration

PERS
Jason Stutes
David Evans and Associates, Inc.

SEERS
Amanda Kahn
South Florida Water Management District

Journal Officials

Coeditors in Chief
Paul Montagna
Texas A&M University–Corpus Christi

Linda Deegan
Woodwell Climate Research Center

Managing Editor
Taylor Bowen

Reviews Editor
Ken Heck
Dauphin Island Sea Lab

***CESN* Managing Editor**
Merryl Alber
University of Georgia

***CESN* Science Writer/Coordinating Editor**
Janet Fang

Contact Information

Coastal & Estuarine Research Federation
2150 North 107th Street, Suite 330
Seattle, WA 98133-9009
(206) 209-5262
info@cerf.science

Executive Director
Susan Park
(804) 381-6658
spark@cerf.science

Chief Operating Officer
Louise S. Miller
info@cerf.science

CERF's Up! Bulletin

Coeditors:
Kyle Capistrant-Fossa and Julie Walker
Managing Editor: Tayton Hewitt
Copy Editor: Ariel Hansen
Layout Editor: Rhonda Cole

Comments or questions on any piece in this issue? Email bulletin@cerf.science

COASTAL & ESTUARINE RESEARCH FEDERATION
2150 N 107th St, Ste 330
Seattle, WA 98133
Phone: (206) 209-5262
Website: www.cerf.science
Email: info@cerf.science