Conference Agenda

MONDAY	FEBRUARY 3, 2025
9:00 a.m. – 5:00 p.m.	Pre-Conference Training: Estimating the Local Working Waterfront Economy, ENOW, Location: Port of San Diego, Training Room *Arrival and sign-up begins @ 8:30 AM with coffee and breakfast snacks
8:30 a.m. – 5:00 p.m.	Pre-Conference Field Trips at the Port of San Diego: 1. Guided Tour of Tuna Harbor and Driscoll Wharf 2. Guided Tour of Crowley Electric Tugboat
6:00 p.m. - 9:00 p.m.	**PRE-CONFERENCE EVENING RECEPTION** Location: Red Marlin Restaurant & Terrace, Hyatt Mission Regency Mission Bay

TUESDAY	FEBRUARY 4, 2025			
8:00 a.m. – 5:00 p.m.	Registration open and sponsor set-up, Seaside Room, Marina Village Conference Center			
8:00 a.m. – 9:00 a.m.	Morning refreshments, visit sponsor displays, Seaside Room, Marina Village Conference Center			
9:00 a.m. – 9:20 a.m.	***Welcome Addresses*** Kristin Uiterwyk, Chair, Exeuctive Committee, NWWN Theresa Talley, California Sea Grant, NWWN 2025 Steering Committee Location: Marina Village, Seaside Room			
9:20 a.m. – 10:20 a.m.	**OPENING PLENARY:** Location: Seaside Room, Marina Village Conference Center			
10:20 a.m. – 10:45 a.m.	Refreshment break, visit sponsor displays, Seaside Room, Marina Village Conference Center			
10:45 a.m. - 12:15 p.m.	**CONCURRENT SESSION A**			
Session	**A1 Roundtable**	**A2 Panel**	**A3 Panel**	**A4 Panel**
Location	Seaside	Terrace	Coral	Anchor
Moderator	**Jake Beattie**	**Sam Belknap**	**Alexandra Carter**	**Melissa Mahoney**

Title	Blue Schools Initiative: Scaling What Works	Storm Response and Preparedness in Maine's Working Waterfront Communities	The Path to Protect and Support Working Waterfronts: A Convseration with Policymakers and Community Leaders	Navigating Change: Building Resilience in California's Working Waterfront Communities
Speakers		**Natalie Springuel** **Monique Coombs** **Jessica Gribbon Joyce** **Olivia Richards**	**Morgan Rielly** **Janelle Kellman** **Imani Black**	**Kim Selkoe** **Peter Halmay** **Jami Miller**
12:15 - 1:30 p.m.	Lunch Provided, Seaside Room			
1:30 - 3:10 p.m.	**CONCURRENT SESSION B (*Presentations*)**			
Session	**B1**	**B2**	**B3**	**B4**
Location	Seaside	Terrace	Coral	Anchor
Moderator	TBD	TBD	TBD	TBD
Presenter Title	**Dave Abrams** Mariner BootCamps - Fast Track Programs to Bringing New People into the Maritime Community with Workforce Development Funding	**Kristen Grant** Local Knowledge: Key to Improving Local-Level Economic Data	**Kristin Uiterwyk** Common Working Waterfront Issues in Municipal Harbor Plans	**Adam Wagschal** Redevelopment of the Working Waterfront on the Samoa Peninsula of Humboldt Bay, California
Presenter Title	**Samantha Shubert** Sausalito's Blue Economy: Navigating Waves of Change Before the Tide Turns	**Lincoln Lewis** Coastal Decision-Making for Local Jurisdictions with Deep Traditions Experiencing Dynamic Environmental Change: The Case of Tangier Island, Virginia	**Jessica Gribbon Joyce** How Maine's Legislature is Working to Preserve Working Waterfront through Tax Reductions	**Sarah Orlando** Advancing Stormwater Management at Great Lakes Marinas
Presenter Title	**April Turner** The Inaugural Session of the S.C. Commercial Seafood Apprenticeship Program	**Jennifer Sweeney** Tookes Boat Stories: Leveraging Cultural Heritage to Support Sustainable Coastal Communities	**Devon Rossi** Building Resilient Coastal Fishing Communities: The Role of the California Fish and Game Commission's New Policy	**Olivia Richards** Protecting Working Waterfronts Using Covenants: Lessons from Maine

Presenter Title	**Tyler Buckingham** Harnessing Marine Technology to Transform Waterfronts: Education, Aquaculture, and Recreation	**Emily Farr** Gentrification, Coastal Access, and a Changing Coastal Environment in Maine's Wild Shellfish Fishery	**Dan Tucker** Building a Working Waterfront Coalition	**Jennifer McCann** Global Commercial Fishing Industry Collaboration to Influence Offshore Wind Energy Development
Presenter Title	**Logan Ossentjuk** Advancing Coastal Resilience Through Federal and Local Partnerships: Lessons from Fort Bragg and Beyond	**TBD**	TBD	**Bill Dubbs** Waterfront Facilities Inspection & Rehabiliation
3:10 p.m. - 3:30 p.m.	Refreshment Break, Visit Sponsor Displays			
3:30 p.m. - 5:00 p.m.	**CONCURRENT SESSION C**			
Session	**C1 Panel/Roundtable**	**C2 Panel**	**C3 Panel**	**C4 Panel**
Location	Seaside	Terrace	Coral	Anchor
Moderator	**Grace Roskar**	**Ann Avary**	**Meghan Massaua & Sara Schmidt**	**Joseph Sutkowi**
Title	Climate Adaptation Challenges for Fisheries-Focused Working Waterfronts: Perspectives from a U.S. East Coast Workshop	Building an Inclusive & Resilient Maritime Workforce	US Aquaculture Policy – Perspectives and State of Play	The Evolving Needs of Offshore Wind Port Development
Speakers	Bryan Fluech Monique Coombs Jessica Gribbon Joyce	Ryan Davis Sarah Scherer Veasna Hoy	Ian Yue	Nancy Kirshner-Rodriguez Brian Sabina
5:00 p.m. - 8:00 p.m.	**EVENING WELCOME RECEPTION & POSTER SESSION** **Location: Seaside Room, Marina Village Conference Center** **Poster Session (begins at 5:30 p.m.):** **Melissa Britsch,** Use and Change at Maine's Public Waterfront Facilities **Jason Gonsalves,** Just How Noisy Is It?: Designing an Underwater Noise Monitoring Program for San Diego Bay **Stephen Seymour,** Maritime Economy and Research Institute for Sustainability, MERIS **Deb Granger,** Collaborative Approaches to Celebrating, Maintaining, and Sharing Washington's Maritime Heritage Ariadne Reynolds?			

WEDNESDAY	**FEBRUARY 5, 2025**			
8:00 a.m. – 5:00 p.m.	Registration open and sponsor set-up, Seaside Room, Marina Village Conference Center			
8:00 a.m. – 9:00 a.m.	Morning refreshments, visit sponsor displays, , Seaside Room, Marina Village Conference Center			
9:00 a.m. - 10:30 a.m.	***Welcome Addresses & Plenary Session***			
10:30 a.m. - 12:00 p.m.	**CONCURRENT SESSION D**			
Session	**D1 Panel**	**D2 Panel**	**D3 Panel**	**D4 Panel**
Location	Seaside	Terrace	Coral	Anchor
Moderator	**Jill Valdes Horwood**	**Bobby Winston**	**Yehudi "Gaf" Gaffen**	**Lia Morris**
Title	Adapting Boston's Designated Port Areas: Balancing Waterfront Policy, Community Needs, and Climate Change Resilience	A Dynamic and Robust Regional Approach to developing the Next generation of Waterfront Workforce	Seaport San Diego: A Transformative & Equitable Waterfront Proposal Site Plan Abounds with Public Access Elements While Honoring Commercial Fishing Heritage	Taking Charge: Electrified Commercial Watercraft Now and in the Future
Speakers	**John Walkey** **Maggie Sullivan**	**Sal Vaca** **Lauren Gularte**	**Danielle Moore** **Dillon Diers, ASLA**	**Sam Belknap** **Charles Steinback** **Noah Oppenheim** **en Matthys**
12:00 p.m. - 1:00 p.m.	Lunch Provided			
1:00 p.m. - 2:00 p.m.	**CONCURRENT SESSION E (*Presentations)***			
Session	**E1**	**E2**	**E3**	**E4**
Location	Seaside	Terrace	Coral	Anchor
Moderator	TBD	TBD	TBD	TBD
Presenter Title	**Allison Alpin** Preserve What's Left: Protecting our Working Waterfronts in Florida	**Margaret Boshek** Stormy Seas Ahead: Navigating Climate Change at the Waterfront	**Kellan Warner** California State Coastal Conservancy and Working Waterfronts: Adapting to Change Using Government Funding	**Rob Sloop** Funding, Planning, and Design for Revitalization of a Small Fishing Harbor

Presenter Title	**Carrie Pomeroy** Addressing Pier Pressures: A New Tool to Help Maintain Fisheries Working Waterfronts Amid Climate Change	**John Phillips** The Future Ain't What it Used to Be: Understanding Uncertainty in Climate Adaptation Planning	**Kate Quigley** The Economy and Flood Vulnerability for Essex County	**Sam Feldman** Charting a Sustainable Course: Greenhouse Gas Assessments of Maine's Seafood Industry and Implications for Working Waterfronts
Presenter Title	**Stephen Parker** Economic Revitalization for a Resilient Gulf Coast Fishing Community, Bayou La Batre, Alabama	**Angelica Rodriguez** NASA Coastal Data and Research for Informed Resilience Strategies	**Chelsea Bowers-Doerning** Restoring Resilience: Native Oysters and ECOncrete Unite to Protect San Diego Bay's Shoreline and Biodiversity	**Bryan Fluech** Shrimp Vessels and Railways-Assessing Commercial Fishing Infrastructure in Coastal Georgia
2:00 p.m. - 5:15 p.m.	**FIELD TRIP** Port of San Diego Cruise by Flagship Cruises			
THURSDAY	**FEBRUARY 6, 2025**			
7:45 a.m. – 3:30 p.m.	Registration open and sponsor set-up, Seaside Room, Marina Village Conference Center			
7:45 a.m. – 8:45 a.m.	Morning refreshments, visit sponsor displays, Seaside Room, Marina Village Conference Center			
8:45 a.m. - 9:45 a.m.	***Final Day Remarks & Plenary Session***			
9:45 a.m. - 10:00 a.m.	Refreshment Break, Visit Sponsor Displays			
10:00 a.m. - 11:00 a.m.	***NWWN Working Session***			
11:00 a.m. - 12:30 p.m.	**CONCURRENT SESSION F**			
Session	**F1 Roundtable**	**F2 Panel**	**F3 Panel**	**F4 Panel**
Location	Seaside	Terrace	Coral	Anchor
Moderator	**Stephanie Sun**	**Jessica Hathaway**	**Renee Yarmy**	**Marysia Symkowiak**

Title	Planning Forward for Climate Smart Working Waterfronts	Keeping the Work in Working Waterfronts: Development Programs to Sustain Livelihoods and Expand Access to the Blue Economy	Powering a Zero Emissions Future: Collaborative Pathways of San Diego's Working Waterfront	A Cross-Regional Gulf of Alaska Fishing Community Effort to Advance Understanding of Climate Adaptation and Resilence Planning
Speakers		**Andrea Tomlinson** **Eric Brazer** **Linda Behnken** **Imani Black** **Kim Selkoe**	**Michael LaFleur** **Sarah Marsh** **Sophie Silverstri** **Abigail Struxness**	**Linda Behnken** **Natalie Sattler** **Kinsey Brown**
12:30 p.m. - 1:30 p.m.	Lunch Provided			
1:30 p.m. - 3:00 p.m.	**CONCURRENT SESSION G**			
Session	**G1 Roundtable**	**G2 Panel**	**G3 Panel**	**G4 Panel**
Location	Seaside	Terrace	Coral	Anchor
Moderator	**Lydia Nelson**	**Rachel Aronson**	**Joseph Sutkowi**	**Dan Tucker**
Title	Tracking Down Infrastructure Funds: Opportunities for Ports	Enhancing Coexistence Between Ports, Whales, and Commercial Shipping: Lessons from the Pacific Northwest	Getting Credit for Doing the Right Thing: Sustainable Development Certifications	Collaboration - How Ports & Communities Can Work Together
Speakers	**Adam Mistler** **Terrance Bankston**	**Jen McIntyre** **Danielle Butsick** **Jason Jordan**	**Brittney Blokker** **Sloane Perras**	**Jake Beattie** **Tyler Schroeder**
3:00 p.m. - 3:30 p.m.	Refreshment break & Closing Remarks Seaside Roon, Marina Village Conference Center			
3:30 p.m. - 5:00 p.m.	**CONCURRENT SESSION H**			
Session	**H1 Roundtable**	**H2 Panel**	**H3 Panel**	**H4 Panel**
Location	Seaside	Terrace	Coral	Anchor
Moderator	**Jennifer McCann**	**Bridget Trosin**	**TBD**	**TBD**
Title	Building the Capacity of West Coast Local Communities to Engage in Offshore Wind Energy Development: Sharing Lived Experiences	Maritime Education and Workforce Development in Washington State: Preparing the Next Generation for Blue Economy Careers		

Concurrent Sessions A1-A4

TUESDAY, FEBRUARY, 10:45 AM - 12:15 PM

Session A1

Location: Seaside, Marina Village Conference Center

Theme: Workforce Development, Challenges, and Issues

Blue Schools Initiative: Scaling What Works

Roundtable Discussion

Jake Beattie, Northwest Maritime Center, Port Townsend, WA

The maritime workforce is in crisis, and existing approaches to workforce development are losing ground in terms of numbers of people entering maritime careers. Similarly, maritime sector continues to lack the diversity of the population. For the past two years Northwest Maritime has been working on a framework to better harness existing programs and institutions for maritime workforce outcomes. Our framework is based on several foundational components established from what has proven successful in our programs as well as a field scan of national best practices:

Community as a system: A critical element to workforce development is the creating incremental awareness and involvement throughout a potential maritime career. To accomplish this takes several key types of community organizations, including a Intersection of Environment, Career, and Community: The most compelling models of education and engagement occur when workforce skills are taught through the work of environmental restoration, and when the restoration projects are undertaken and rooted in a student's community.
Make it simple and clear: For people who aren't already employed in the sector, "Maritime" is a term that is simultaneously vaguely off putting and unclear. Even people inside the industry don't have the same definition. Especially in communicating with historically underrepresented communities, we've found that reducing the industry and related education into three pathways: vessel operations, marine construction, and marine resources. It's inaccurate, but tolerable and effective.
Create a network of community networks: This is a community based approach, and one that will have increased effectiveness the more communities adopt this approach. A network would benefit educators and organizations with a network of practice, and would benefit students by creating greater grassroots awareness and in doing so reducing the risk of choosing a relatively unknown career path.
Establish baseline data then monitor deltas for shared learning: There is current lack of information. While there is a generally understood need to increase the maritime workforce, the exact magnitude of that need has not been quantified, nor has the effectiveness of the various approaches. Blue Schools is more than a program, it's a commitment to data driven evolution of practice.

Right now, Northwest Maritime is operating/ testing this theory in a rural community on the Olympic Peninsula, an diverse urban community in Seattle, and we are working on organizing a new community in Bellingham and Whatcom County. In the spirit of learning and evolution, this roundtable discussion will be both a presentation of the Blue Schools Initiative and an open invitation to help us evolve this idea through discussion.

Session A2

Location: Terrace, Marina Village Conference Center

Theme: Disaster Response and Funding

Storm Response and Preparedness in Maine's Working Waterfront Communities

Panel

Sam Belknap, Island Instiute, Rockland, ME

Natalie Springuel, Maine Sea Grant, Bar Harbor, ME

Monique Coombs, Maine Coast Fishermen's Association, Brunswick, ME

Jessica Gribbon Joyce, Tidal Bay Consulting, South Freeport, ME

Olivia Richards, Center for Marine Economy at Island Institute, Rockland, ME

In January 2025, two back to back winter storms hit the Maine Coast. The compounding effects of record high tides, rainfall, storm surge, flooding, wind and waves led to a federal disaster declaration. Countless piers, wharves, moorings, docks, and natural shorelines were lost to the sea. The impacts on our state's working waterfronts were unprecedented, revealing that our state's climate-related projections about the future underestimate the potential impact of storms in the present. Our tide gauges broke all kinds of records, and as one town manager put it, the January storms were a wake up call for Maine. While the physical impacts were immediately obvious, the economic, cultural and social impacts continue to come to light. The recovery will be long term, as should be the preparedness for future storms.

This panel will highlight storm response, recovery and preparedness in Maine since the January 2024 storms. Panelists represent organizations and businesses deeply involved in this work, including Maine Coastal Fishermen's Association, the Island Institute, Maine Sea Grant, Tidal Bay Consulting, and working waterfront property owners. After describing the storms' impact on Maine's working waterfront (with images), the panelists will highlight the challenges that emerged as businesses and towns tried to respond to these impacts, such as lack of funding for immediate repairs, lack of municipal capacity to respond, and loss of businesses and generational working waterfront infrastructure. Panelists will describe how non-profits and industry organizations were able to step in to provide quick funding to help fishermen and other wharf owners get back to work safely; how Maine's Governor quickly designating a commission to study policy updates necessary to better prepare the state's infrastructure for future storms; and how some business owners were able to meet the crisis head on and are now preparing for the future;

Repeated crisis in working waterfront communities can take a toll on the well-being and mental health of fishing industry members and their families. Since the January 2024 storms, several panelists have been contracted by the state via a FEMA Crisis Counseling Assistance and Training Program to serve as crisis counselors and provide outreach to the fishing industry in mid-coast Maine. They will share what they are learning through this program and how it might be used as a model for other states facing working waterfront crisis. Finally, by the time of the conference, panelists will be just wrapping us a series of 10 community convenings on Storm Response and Preparedness in Maine Working Waterfront Communities. These events are creating space for community members across diverse sectors to take stock of their working waterfronts within the context of the community's resilience since the storms. They will share key take-aways from these convenings, including how communities can be better prepared by identifying systems and networks that would be useful to have in place locally to support working waterfronts in anticipation of future storms.

Session A3

Location: Coral, Mainra Village Conference Center

Concurrent Sessions A1-A4

TUESDAY, FEBRUARY 4, 10:45 AM - 12:15 PM

Theme: Planning and Policy

The Path to Protect and Support Working Waterfronts: A Conversation with Policymakers and Community Leaders

Panel

Panelists:

Alexander Carter, Urban Ocean Lab, Brooklyn, NY

Imani Black, Minorities in Aquaculture

Morgan Rielly, State of Maine Representative, ME

Janelle Kellman, Center for Sea Rise Solutions, Sasalito, CA

Safeguarding working waterfronts requires strong policy and planning focused on preserving and providing equitable access to waterfront infrastructure, expanding community involvement in strengthening waterfront economies, and addressing the climate crisis.

In keeping with the conference theme of adapting to change, we propose hosting a moderated panel discussion that will dig into actionable measures policymakers and managers can take to preserve and increase the resilience of working waterfronts around the country. We are prioritizing geographic and demographic diversity in our planning. Panelists will include the Honorable Representative Morgan Rielly, Maine State Representative, Urban Ocean Lab Legislative Fellow, and oyster farmer; Janelle Kellman former mayor of Sausalito, founder of Center for Sea Rise Solutions, and currently running for Lieutenant Governor of California (pending scheduling); and additional federal, state, or local elected officials or community leaders who are working on the protection and preservation of working waterfront. The panel will be moderated by Alexandra Carter, Policy Director at Urban Ocean Lab, and be followed by an audience question and answer session.

The discussion will be grounded in the panelists' experiences passing legislation, securing funding, working with stakeholder communities, and other lessons learned to protect and invest in working waterfronts. Potential topics include recommended provisions for cities' working waterfront plans and actionable policy solutions related to climate adaptation and decarbonization, community engagement, waterfront mapping and data collection, and government collaboration. The panel will be complemented by a forthcoming Urban Ocean Lab policy memo on protecting and supporting working waterfronts.

Session A4

Location: Anchor, Marina Village Conference Center

Theme: Waterfront Infrastructure, Industries, and Innovations

Navigating Change: uilding Resileince in California's Working Waterfront Communities

Panel

Melissa Mahoney, Monterey Bay Fisheries Trust, Santa Cruz, CA

Kim Selkoe, Commercial Fishermen of Santa Barbara, Santa Barbara, CA

Peter Halmay, San Diego Fishermen's Working Group, San Diego, CA

Jami Miller, Noyo Ocean Collective, Mendocino Coast, CA

As California's working waterfront communities face increasing challenges—from the impacts of climate change to workforce development issues and shifting land use patterns—adapting to change is essential for ensuring the long-term viability and resilience of these vital coastal areas. This panel session, "Navigating Change: Building Resilience in California's Working Waterfront Communities," will explore how four CA communities are responding to these complex pressures and driving innovation to create sustainable waterfront economies.

Key topics of discussion will include (but not be limited to):

1. Workforce Development and Maritime Labor Issues
   As the maritime workforce ages, recruitment and retention of new talent becomes a pressing issue. This session will explore workforce development challenges, including equitable access to training and career opportunities, diversity in marine trades, and strategies for attracting and retaining workers. Panelists will address how investing in training programs and creating career pathways can revitalize the labor pool and support the economic value of California's waterfront jobs.
2. Waterfront Infrastructure and Industry Innovation
   Aging infrastructure, environmental concerns, and the need for modernization are common issues across California's ports and waterfronts. Panelists will highlight innovative solutions for upgrading waterfront infrastructure, with an emphasis on decarbonization, expanding industries, and maintaining multi-purpose waterfronts that balance the needs of commercial fishing, aquaculture, recreational harbors, and tourism. Discussions will cover how data, technology, and innovative financing models can help waterfronts thrive in an era of climate and economic uncertainty.
3. Planning, Policy, and Community Engagement
   Effective waterfront planning requires balancing economic development with environmental stewardship, waterfront access, and community needs. Panelists will share best practices for engaging local communities, including indigenous and tribal voices, in the planning process. Discussions will cover smart growth strategies, zoning, land use, and how to create policies that support long-term waterfront access while fostering sustainable economic growth.

This session offers an in-depth look at the best practices and innovations that are helping some of California's working waterfronts adapt to change, while maintaining their economic, environmental, and cultural significance. The panel's goal is to share what's working, inspire new ideas, and engage the audience in bringing out their stories as well so we get a stronger composite of California and other regional strategies for adapting to and even thriving in the current social, economic and environmental climate.

Concurrent Sessions B1-B4

TUESDAY, FEBRUARY 4, 1:30 PM - 3:10 PM

Session B1

Location: Seaside, Marina Village Conference Center

Theme: Workfoce Development, Challenges, and Issues

Oral Presentations

Mariner ootCamps - Fast Track Programs to Bringing New People into the Maritime Community with Workforce Development Funding

Dave Abrams, Maritime Institute, CA, VA, WA

Maritime Institute has conducted Mariner BootCamp programs for over 7 years, bringing hundreds of new mariners into the industry in partnership with local workforce development organizations. The programs have a job placement rate of over 90%. The Mariner BootCamp program will take an individual with no maritime experience, and turn them into a fully credentialed mariner with job opportunities in just 30 days. During this presentation, Mr. Abrams will explain how the programs work, how they are funded, and share data associated with program completion, internships and job placement. Mr. Abrams will describe how these type of programs can be used to train people for entry level jobs and long term careers in the ship repair, vessel operations, and maritime logistics industries.

Sausalito's Blue Economy: Navigating WAves of Change Before the Tide Turns

Samantha Shubert, Sausalito Working Waterfront Coaltiion, Sausalito, CA

The Sausalito working waterfront embodies a unique confluence of marine services, technological innovation, industrial fabrication, and vibrant artistic culture — all of which are increasingly vital in the face of gentrification pressures. Besides relying on tourism and hospitality, which are critical in keeping a diverse economy, Sausalito's industrial maritime economy is experiencing transformative shifts that threaten to overshadow its rich heritage and creative community. Sausalito requires economic diversification to safeguard its unique identity and sustain its local economy. Sausalito's waterfront has long served as a hub for marine services, including boat repair, maintenance, and related trades, which have fostered a skilled workforce grounded in traditional maritime practices. These services support local and regional boating activities while contributing significantly to the blue economy. Innovations in marine technology, such as eco-friendly vessel design and marine renewable energy solutions, are emerging in Sausalito, positioning the area as a key player in the broader movement toward sustainable marine practices. By nurturing a culture of innovation, local businesses can adapt to environmental challenges while simultaneously providing employment opportunities that are less dependent on the fluctuating tourism sector. Artists and entrepreneurs have historically been drawn to Sausalito where they contribute to a rich tapestry of artistic expression that enhances the community's identity. By fostering a creative economy that aligns with marine industries, Sausalito can develop a sustainable framework that values artistic contributions while maintaining its maritime roots.

Apprenticeship programs represent a crucial avenue for sustaining traditional maritime skills while bridging the gap between established practices and modern technological innovations. By investing in training initiatives that pair seasoned tradespeople with younger generations, Sausalito can cultivate a skilled workforce equipped to navigate the evolving demands of the blue economy. These programs can also serve as a countermeasure against displacement, empowering local residents and preserving the community's socioeconomic diversity. However, the threat of deindustrialization looms large, with new condo developments and upscale amenities encroaching upon the working waterfront. This shift jeopardizes both the existing marine services and artistic culture. A strategic focus on economic diversification that prioritizes marine and artistic industries is essential to combat this trend. By leveraging the unique characteristics of the working waterfront, Sausalito can continue to strengthen its world-renowned blue economy.

In conclusion, the Sausalito working waterfront stands at a pivotal crossroads. By fostering innovation, marine services, artistic culture, and implementing robust apprenticeship programs, the community can pave the way for a resilient economy. This multifaceted approach offers a blueprint for preserving the unique identity of Sausalito, ensuring that it remains a vibrant and sustainable locale in the face of contemporary challenges. Through collaborative efforts with maritime businesses, artists, and educators, the waterfront can thrive as a model of blue economy diversification and cultural resilience, setting a precedent for other communities facing similar pressures.

The Inaugural Session of the S.C. Commercial Seafood Apprenticeship Program

April Turner, S.C. Sea Grant Consortium, Charleston, SC

In our work to advance sustainable fisheries and aquaculture, the S.C. Sea Grant Consortium has been working closely for many years with the Town of McClellanville, its residents, industry partners, and watermen to plan for the future of their working waterfront and local seafood industry, including the crafting of a working waterfront master plan, legacy planning for businesses, and technical assistance in applying for funding. As a result of this work, community needs and desires were identified, and there was a strong preference among town residents for maintaining their rural seafood-based economy and way of life. Also from these efforts, two non-profit organizations were formed, the McClellanville Watermen's Association and the McClellanville Community Foundation. These partners were instrumental in putting the engagement and planning into action, working with us at S.C. Sea Grant to obtain funding from the National Sea Grant office and USDA to implement a commercial seafood workforce training program held in McClellanville in the spring of 2024.

The S.C. Commercial Seafood Apprenticeship Program was created through a partnership between the S.C. Sea Grant Consortium, Clemson University, the Town of McClellanville, and the local commercial seafood industry. It is a one-month, full-time program that was created to develop a skilled workforce for the commercial fishing and mariculture industry in South Carolina and the southeast region, while simultaneously preserving and transferring the knowledge and expertise of local commercial fishers and farmers. The program goal is to create a recruitment pipeline for both those seeking work and those seeking workers in the commercial fishing and mariculture industry.

The program teaches participants the skills they need to get started in the commercial fishing or mariculture industry and is best suited for those seeking entry-level employment in the industry. Apprentices receive immersive marine safety training, classroom-based training, and hands-on training with local industry experts. Upon completion of the program, participants receive Commercial Fishing Vessel Drill Conductor, First-Aid and CPR certifications, a completion stipend, gear and course materials, and networking assistance to help them find employment in South Carolina's commercial seafood industry.

The first session ran from April 15 - May 10, 2024. There were fifty-nine applicants; six people began the program (three men and three women) and five apprentices graduated. Students learned about the biology of fish and shellfish, habitat requirements, fisheries management and regulations, equipment and gear types, mariculture farming production and

Concurrent Sessions B1-B4

TUESDAY, FEBRUARY 4, 1:30 PM - 3:10 PM

practices in the Lowcountry, and a brief exposure to marine trades. They observed and participated in the entire mariculture process, wild oyster harvesting and planting, shrimping, and crabbing with local captains. The training program will be offered to a new cohort of apprentices in May 2025.

Harnessing Marine Technology to Transform Waterfronts: Education, Aquaculture, and Recreation

Tyler Buckingham, Former NWWN podcast producer, Blue Robotics, Torrance, CA

Coastal communities are facing rapid changes, from climate impacts to workforce transitions, and the need for resilient, adaptive waterfronts has never been more pressing. At Blue Robotics, we are contributing to this resilience by deploying affordable and scalable marine technologies that are being applied across a range of sectors — Grow Line in aquaculture, Bubble Time in marine recreation, and BlueSTEAM Ahead! in education.

Grow Line supports sustainable aquaculture, with a focus on kelp farming, using autonomous surface vessels and ROVs to help farmers optimize their operations and manage the shifting dynamics of ocean farming. The aim is not only to improve the economic sustainability of aquaculture but also to enhance ecosystem resilience in coastal waters.

Bubble Time integrates marine technology into recreational diving, providing new ways for people to engage with the ocean. Our work also extends to workforce development through hands-on internships, preparing the next generation of marine technologists by offering students practical experience with ROVs and autonomous vessels.

BlueSTEAM Ahead! focuses on integrating ocean technology into educational programs, equipping students with the tools and skills to explore coastal ecosystems and engage with the blue economy, helping to ensure that the next generation is prepared for the challenges ahead.

This presentation will explore how these initiatives serve as models for integrating technology into coastal management strategies, balancing economic, environmental, and social goals to strengthen working waterfronts. By drawing on real-world examples and lessons learned from these initiatives, we aim to share how technology can support both local communities and broader regional planning efforts.

Key themes covered:

Utilizing marine technology to enhance aquaculture resilience (Grow Line)
Engaging coastal communities through recreational technology and workforce training (Bubble Time)
Integrating education and blue economy opportunities into waterfront planning (BlueSTEAM Ahead!)

Advancing Coastal Resilience Through Federal and Local Partnerships: Lessons from Fort Bragg and Beyond

Logan Ossentjuk, NOAA Office of Coastal Management Learning Services Division, CA

Jake Thickman, NOAA Office of Coastal Management Learning Services Division, CA

Sarah van der Schalie, NOAA Office of Coastal Management Learning Services Division, CA

Coastal communities in California face increasing risks from sea-level rise, storm surges, and other climate-related hazards. To address these challenges, the Federal Partnership for Coastal Resilience in California has worked over the past several years to build stronger relationships between federal agencies, state partners, and local communities. Our approach focuses on fostering cross-agency collaboration, leveraging federal resources, and aligning with local needs to enhance coastal resilience planning and implementation.
In this presentation, we share our experience piloting a local engagement model in Fort Bragg, a community with both established and emerging coastal resilience goals. Through a series of workshops and in-field activities, we aimed to deepen relationships, understand local challenges, and provide federal resources to assist in resilience efforts. The engagement process was structured in three phases: relationship-building, matching federal and state resources to local initiatives, and final reflections on the outcomes. This approach has helped align federal investments with local planning needs, advancing the community's resilience goals and building long-term partnerships.
Key outcomes from this pilot include improved federal-local coordination, tangible resources delivered to address local vulnerabilities, and enhanced community capacity to implement resilience strategies. Lessons learned from this process—such as the importance of in-person engagement, a strong local champion, and cross-agency collaboration—will inform future efforts across other coastal communities in California.
By sharing the Fort Bragg model, we aim to inspire broader adoption of this collaborative framework, helping other regions build resilience through tailored, community-focused partnerships. As we expand this model into new regions, we explore questions about the scalability and sustainability of federal engagement in diverse local contexts, particularly in lower-capacity communities.

Session B2

Location: Terrace, Marina Village Conference Center

Theme: Maritime, Community, Hertiage, and Culture

Oral Presentations

Local Knowledge: Key to Improving Local-Level Economic Data

Kristen Grant, Maine Sea Grant and UMaine Extension, Wells, ME

Denise Cilley, Sunrise County Economic Council, Machias, ME

Maine is the second most rural state in the country (U.S. Census Bureau, 2020) with most of its rural communities overly dependent on natural resource-based economies (James & Aadland, 2011) and facing environmental change and uncertainties about the future (e.g. Soucy et al., 2020; McClenachan, 2019; Safford and Hamilton, 2010). Small-town municipal officials are tasked with decision-making related to their communities' adaptation to environmental changes and other socially and economically disruptive events (Bower, 1985). To guide local-level decision-making, these communities need accurate local-level socio-economic information.

To begin to address this need in Maine, Maine Sea Grant worked with partners in Maine alongside economists from NOAA's Office of Coastal Management to develop and pilot a tool to provide local (zip code) level socioeconomic data for coastal communities. Outreach to socially vulnerable rural communities in Maine clarified the need for additional supports for these communities. Working in the Downeast Maine communities of Jonesport and Beals, key community-driven questions related to the local economy were identified and the best possible data was compiled to address those questions. These data were then groundtruthed through the local knowledge of community members, who then sought out and compiled additional local-level data toward improving the accuracy of the data when applying it at the local level.

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For example, local groundtruthing revealed that the majority of businesses in the two towns provide a variety of services, many of which may be equally central to the business's operations. However, the U.S. Census assigns just one industrial (NAICS) code to each business. As such, the diversity of industries represented in the two towns is under-represented in Census data, confounding local decision-making. To improve the accuracy of the industrial codes, local residents worked with the regional economic council to directly contact business owners, including independent lobster fishing businesses. These conversations led to the identification of primary, secondary, and tertiary industrial codes. This nuanced data analysis made it possible for the communities to estimate that at least 67% of the towns' businesses are working waterfront dependent, up from 20% using Census data alone. This finding illustrates the social and economic value of the working waterfront in Jonesport and Beals such that municipal leaders can makes informed decisions about investments including maintenance and expansion of working waterfront infrastructure. This finding and others from the project have been shared with the Select Boards of both towns directly by the local residents and the regional economic council, and will help support the comprehensive planning process that begins in Beals in 2025. The active engagement of community members and locally-based organizations throughout all phases of this project has resulted in their investment and commitment to the work and they have become local-level champions in the application of the findings and the pursuit for next steps.

Coastal Decision-Making for Local Jurisdictions with Deep Traditions Experiencing Dynamic Environmental Change: The Case of Tangier Island, Virginia

Lincoln Lewis, University of Virginia, Charlottesville, VA

Tangier, Virginia is an island community in the middle of the Chesapeake Bay. Inhabited for more than 250 years, the island has transitioned from use as indigenous hunting grounds, to pastureland, and then farming. When land became more precious, Tangier's main economic driver turned to oystering and then with dwindling oyster populations in the bay, the watermen turned to soft shelled crabs. Subsequently, Tangier became known as the soft shelled crab capital of the world. Due to this long history, the island's cultural heritage and connection with the water runs deep. For instance, Tangier's historically isolated population still speaks with a Cornish English accent. Living in the middle of the bay is also a very challenging place, with the island losing more than 66 percent of its landmass between 1850 and 2013 due to environmental change, according to a calculation by the Army Corps of Engineers (Schulte 2015). Because of the challenges, such as isolation, economic, and environmental change, Tangier's population peaked in the 1930's with approximately 1,200 residents and now has about 300 residents. Only 8 watermen remain in the soft-shelled crab business (Lewis and Packwood 2023). The conference presentation will first overview the cultural heritage of the island and then explain the dynamic economic and environmental change that the island has been encountering, such as the change in state fishery regulations, erosion, increased tides, and geological subsidence. Then, the presentation will provide an overview of some of the planning and policy initiatives that community has undertaken with its limited means to counteract the challenges, including federal programs, state grants, and local efforts. The presentation will also overview the comprehensive planning research that is being undertaken to better understand Tangier's local decision-making processes that is relevant to many small coastal communities with limited resources and staff capabilities.

Boat Stories: Leveraging Cultural Heritage to Support Sustainable Coastal Communities

Jennifer Sweeney Tookes, Georgia Southern University, Statesboro, GA

Bryan Fluech, University of Georgia Marine Extension and Georgia Sea Grant, Athens, GA

Commercial fishing has deep cultural ties to the Georgia coast, particularly the shrimping industry, which is the state's largest and most economically valuable fishery. Shrimping has played an integral role in shaping the identities of the commercial fishermen who have spent most of their lives on the water. At the heart of these identities are the fishing boats that have carried captains and their crews for decades. These vessels have been bought and sold by fishermen up and down the coast for years, connecting multiple generations of fishing families. They serve as the backbone of Georgia's shrimping industry and have become an iconic symbol for fresh and locally harvested seafood for the millions of residents and tourists who visit the coast.

As part of a Coastal Incentive Grant from the Georgia Department of Natural Resources, Georgia Southern University (GSU) researchers collaborated with UGA Marine Extension and Georgia Sea Grant to train undergraduate students to conduct oral history interviews with Georgia-based commercial fishermen. Oral histories can teach us about the history and core cultural values of a group, preserving the information for current members of a community as well as future generations. Throughout history, people have looked to the past to better understand the changes and upheavals they experience, such as wars, social and technological changes, and the meaning of these events to themselves and their communities (Thompson 2000, 2), and oral histories of Georgia's commercial fishermen can mitigate impending cultural loss. By engaging student researchers, this project served to train the next generation of social scientists to work with fishing communities, to be conscious of and concerned about the impacts of regulation, laws, and other impacts on fishing communities, to gain a better appreciation of the complexities associated with managing Georgia's coast, and to positively associate commercial fishing with rich culture and history.

The oral history interviews are archived on NOAA's Voices Oral History Database to help inform, educate, and provide primary information for anyone interested in local, human experiences with marine environments. However, to promote the importance of Georgia's shrimping industry beyond this audience, the research team used these data to develop an ArcGIS Story Map. This "Boat Stories" site is geared towards general audiences interested in cultural dimension of commercial fishing. It highlights 16 fishermen and their families who participated in project interviews, including information about the participants and their vessels, pictures of the fisherman and some of their vessels, and audio excerpts from their interviews. The Boat Stories Story Map has proven to be a successful way of sharing these important oral histories in a digestible, high impact, visual way that is accessible to broad audiences. Thousands of stakeholders in Georgia and across the country have accessed the site, gaining a new understanding of the fishing industry and, perhaps, a greater appreciation for the fishermen who have spent most of their lives on the water.

Gentrification, Coastal Access, and a Changing Coastal Environment in Maine's Wild Shellfish Fishery

Emily Farr, Manomet Conservation Sciences, Plymouth, MA

The wild shellfish fishery is the second most valuable fishery in the state of Maine, and is an important part of Maine's coastal communities. However, shellfish harvesters face an increasing loss of access to intertidal

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mudflats, driven largely by changing coastal property ownership and gentrification. Concurrent with this loss of upland access, sea level rise (SLR) and extreme weather events pose threats to mudflat habitats. Efforts to better understand how these multifaceted issues impact mudflats, shellfish, and harvester livelihoods are crucial for proactive and adaptive management of the fishery.

From 2022-2023, Manomet collaborated with six towns in Casco Bay, Maine to inventory harvester access sites. Results showed that 66% of access points were across private property, mostly through informal agreements with landowners, underscoring the precarious nature of access to the coast. The vast majority (78%) of all identified access points were foot paths to the shore, rather than physical infrastructure. This inventory informed strategies taken by each town to protect or enhance access, including outreach to landowners and collaboration with land trusts on opportunities to improve access through conserved lands. This work also highlights that working waterfronts take many forms that go beyond built infrastructure, and solutions to support the protection and resilience of working waterfronts should consider this diversity.
The loss of coastal access is further exacerbated by SLR and extreme weather, which impact the extent and productivity of the mudflats, and pose jurisdictional questions for management of the resource. In 2023, Manomet launched a project that brings together harvester knowledge, drone survey data, LiDAR data, and archival imagery to develop tools and resources for towns to prepare for climate change impacts. Together these efforts are supporting co-management and adaptation in Maine's clam fishery.

In the midst of this work, back to back storms in January 2024 caused unprecedented damage to many working waterfront properties, including the access points that harvesters use to get to the mudflats. In one of the towns where we conducted our access inventory, Georgetown, the two sites that provided access to the bay where 85% of the clams harvested in the town came from were significantly damaged. Both access points are on private property and had never before been documented. Because the access inventory had recently been conducted in Georgetown, the local shellfish committee had the data needed to rapidly respond, including providing evidence of the importance of these sites to harvesters when applying for disaster relief funding to help the landowners repair the damaged property. This example underscores the importance of documenting and planning around working waterfronts and access before severe weather events occur. This presentation will describe these efforts to better understand and support the resilience of the wild shellfish fishery and the working waterfronts it depends on.

Session B3

Location: Coral, Marina Village Conference Center

Theme: Planning and Policy

Oral Presentations

Common Working Waterfront Issues in Municipal Harbor Plans

Kristin Uiterwyk, Urban Harbors Institute at UMass Boston, Boston, MA

In Massachusetts, many coastal municipalities have developed harbor/waterways plans which include community-based goals, objectives, and recommendations to achieve their visions for their harbors and waterways. While each plan is different and reflects the needs and opportunities specific to the community, the plans commonly include the following working waterfront topics: infrastructure improvements, planning for climate change, dredging, preservation of working waterfronts, commercial fishing, and balancing conflicting uses.
This presentation will provide an overview of the harbor planning process, descriptions of common themes in the plans, and examples of how municipalities have addressed their needs and opportunities.

How Maine's Legislature is Working to Preserve Working Waterfront through Tax Deductions

Jessica Gribbon Joyce, Tidal Bay Consulting, South Freeport, ME

Monique Coombs, Maine Coast Fishermen's Association, Brunswick, ME

The Coastal Access Strategy Exchange, or CASE, is a community of practice working to preserve and expand the footpaths, wharves, piers, and other working waterfront locations that provide essential access points to coastal fisheries and waters of the Gulf of Maine, supporting the economic well-being of fishing families, water-dependent businesses, and coastal communities. In September of 2023, CASE collaborated with a state legislator, Representative Dan Ankeles (D-Brunswick), along with staff from Tidal Bay Consulting and Maine Coast Fishermen's Association (MCFA) to develop a bill that would provide tax relief for owners of working waterfront properties.

The Current Land Use Program within the Maine Revenue Service has four programs that offer property owners reductions in the assessed value based on the specific use of their land, and one of these programs is for working waterfront. It was the least utilized program since it's inception in 2007, and the revisions proposed in LD 2162 sought to make tax reductions consistent with the other programs (tree growth, farmland and open space) and incentivize enrollment.

The amendments garnered unanimous support from the Joint Standing Committee on Taxation, the regulations were made effective on August 9, 2024, and will apply starting in the 2025 tax year. This presentation will review the nexus for this initiative, process to amending these regulations, summarize the changes, and share information on the outreach campaign that followed this grassroots initiative.

Building Resilient Coastal Fishing Communities: The Role of the California Fish and Game Commission's New Policy

Devon Rossi, California Fish and Game Commission, Sacramento, CA

In early 2024, the California Fish and Game Commission adopted a new Coastal Fishing Communities Policy. The policy formalizes the Commission's commitment to supporting the social and economic well-being of fishing communities, provides a new lens to understand the interconnected nature of fishing communities, and proactively identifies actions to support community resilience. The policy, developed through community engagement over a five-year period, represents the first formal pathway for the Commission to recognize coastal fishing communities' needs through three key policy strategies:
(1) Support meaningful coastal fishing community engagement;
(2) Ensure coastal fishing community interests are factored into Commission decision-making; and
(3) Contribute to the adaptive capacity and resilience of coastal fishing communities.
This proposed talk will shed light on the policy and highlight initial implementation steps, showcase ongoing and new efforts pursued by the Commission and its partners to support the goals of the policy such as the development of communication tools, and provide a space for discussion with community members post-presentation.

The Commission hosts an annual fellow through California Sea Grant who serves as a project lead for the Coastal Fishing Communities project, which is now in its policy implementation phase. As a 2024 California Sea

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Grant State Fellow with the Commission, I am leading the implementation effort through the development of a communication tool via ArcGIS StoryMap. The StoryMap aims to bridge the gap between the policy and implementation by visually communicating the project's evolution. The StoryMap is one of many tools designed to support policy implementation, and it serves as an informational tool to facilitate conversation community members who are interested in supporting the policy's implementation. Another valuable implementation tool is a recently-released website – FishingCommunities.net – developed by partners in response to informational needs identified through the Commission's coastal fishing communities initiatives.

Building a Working Waterfront Coalition

Dan Tucker, Whatcom Working Waterfrom Coalition, Port of Bellingham, WA

Hear from the Working Waterfront Coalition on how they've built a successful organization that spans state-wide, from a small group of concerned waterfront stakeholders to an organization over 150 member-businesses strong and growing. From putting in structure early on that allows the organization to scale, to thinking outside the box on funding and fundraising, the Coalition shares what's worked well for them, and how their three entities, the Coalition, Foundation, and their for-profit company all work together to promote the economic diversity and vitality of a working waterfront.

Session B4

Location: Anchor, Marina Village Conference Center

Theme: Waterfront Infrastructure, Industries, and Innovations

Oral Presentations

Redevelopment of the Working Waterfront on the Samoa Peninsula of Humboldt Bay, California

Adam Wagschal, Moffat & Nichol, Arcata, CA

Rob Holmlund, Port of Humboldt Bay, Humboldt Bay Harbor, CA

The Samoa Peninsula of Humboldt Bay, California historically had hundreds of acres of thriving wood processing and export facilities. This industry has substantially declined, resulting in economic impacts and abandoned industrial sites. During the last decade there has been significant progress made towards redevelopment of the peninsula and waterfront. Through public and private efforts, existing structures have been improved and repurposed and seaweed/shellfish farms have been established. Additionally, a private large-scale finfish farm is in the final stages of permitting and public funds are being used to design, permit and construct a heavy lift marine terminal that will be one of the first staging and integration facilities on the west coast that will support the offshore wind energy industry. Sea level rise resiliency and low-carbon footprint technologies are critical considerations for the development. The Port of Humboldt Bay and local jurisdictions are working closely with tribes and stakeholders to incorporate their interests into planning of the new working waterfront.

Advancing Stormwater Management at Great Lakes Marinas

Sarah Orlando, Ohio Sea Grant, Columbus, OH

Ohio Sea Grant was part of a multi-state project, Advancing Stormwater Management at Marinas in the Great Lakes, that developed an online toolkit with a suite of marina-specific resources on stormwater. As part of this toolkit, the project team created a decision support tool (DST) that will help marinas select the most appropriate green infrastructure (GI) practice for their site to manage stormwater, reduce nutrient and sediment loading, and stabilize shorelines of the Great Lakes. The DST will guide marinas through the process of selecting and installing GI through long-term management of the facility. Also as part of the project, Ohio Clean Marinas developed the Ideal Clean Marina Virtual Reality tool to help marinas visualize how stormwater best management practices can be implemented in a marina setting. Finally, an on-the-ground demonstration project of green infrastructure was installed and monitored at an Ohio Clean Marina. Join us to learn more about this project, the resources available, and ways to help increase the adoption of stormwater BMPs at marinas across the Great Lakes and beyond.

Protecting Working Waterfronts Using Covenants: Lessons from Maine

Olivia Richards, Island Institute, Rockland, ME

Melissa Britsch, Maine Coastal Program | Department of Marine Resources, Augusta, ME

Working waterfronts face complex threats: increasing coastal property prices and costs of living due to real estate pressure and gentrification, economic and regulatory uncertainty, greying of the fleet, and climate impacts to marine infrastructure as well as to marine species and the businesses reliant on them. For a variety of reasons, existing owners may find that they are no longer able to maintain their properties and businesses and decide to sell them. Succession planning and potential turnover are among the most vulnerable times for working waterfront properties.

Legally binding agreements can preserve the commercial use of working waterfront and get ahead of vulnerable transition periods. One tool used in Maine is a working waterfront covenant, which limits future development to only activities that are compatible with commercial fishing and aquaculture, regardless of ownership. In 2006, Maine created a state-funded covenant program and has permanently protected 30 properties since then. The state's covenant program, the Working Waterfront Access Protection Program (WWAPP), is funded by Land for Maine's Future (LMF), the state's primary land conservation funding program, and is managed by LMF in partnership with the Maine Department of Marine Resources.

Until 2023, the WWAPP was the primary process by which working waterfront sites were legally preserved for commercial fishing use. In late 2022, Maine House Representative Rielly (D-Westbrook) worked with the Island Institute on a bill that would expand the type of entity that could hold a working waterfront covenant. In May 2023, LD 574: An Act to Amend the Laws Governing Working Waterfront Covenants was enacted, making it more feasible for entities like land trusts to hold covenants. This expands the potential use of covenants as a protection tool in Maine.

The Island Institute, a non-profit supporting coastal and island communities in Maine, is exploring how Maine's 84 land trusts, 62 of which are in coastal counties, can take advantage of this new tool in their conservation toolbox. Island Institute is leading a group of land trust representatives to think through how holding working waterfront covenants would differ from their traditional conservation tools. Initial conversations illuminated knowledge gaps and challenges within existing systems; this information will be used to guide future work and expand implementation of covenants as a protection tool.

One presenter will provide a brief overview of the existing state-funded WWAPP, and the other presenter will describe the expanding toolbox for protecting working waterfronts in Maine. Both presenters will share lessons learned from these programs and tools – including success stories and needs for the future. The presenters will speak for 10 minutes and hope to leave the remaining time to answer audience questions and hear about the experiences and challenges faced by others leading, or thinking about starting, similar efforts.

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Global Commercial Fishing Industry Collaboration to Influence Offshore Wind Energy Development

Jennifer McCann, University of Rhode Island Coastal Resources Center | Rhode Island Sea Grant, Narraganset, RI

With the growing development of offshore wind energy, the traditional U.S. commercial fishing industry is struggling to both adapt to, as well as access, the latest research and influence research agendas relevant to offshore wind energy impacts. With leadership from the NOAA Fisheries Northeast Fisheries Science Center, the Commercial Fisheries Research Foundation, the Commercial Fisheries Center of Rhode Island, Sea Grant's National Offshore Wind Energy Liaison Initiative, and the University of Rhode Island Coastal Resources Center (Graduate School of Oceanography), the goal of this long-term commitment is to take a global approach that engages both U.S. and international researchers, fishing industry representatives, government, and others to share knowledge about research results and strategies to more effectively influence the OWE development process, as well as ensure that global research agendas respond to the short- and long-term issues, including working waterfront issues, facing the commercial fishing industry. Outcomes for this initiative include engaging additional partners including the International Council for the Exploration of the Sea (ICES) in the creation of a: 1) United "voice" and structured collaborations between the U.S. and International commercial fishing industries to respond to OWE development; 2) Formal community of practice between international and U.S. researchers and the commercial fishing industry to foster prioritization of research needs and policies; and 3) Suite of collaborative strategies for researchers and the commercial fishing industry to minimize the effects of OWE development on both the industry and the natural resources. This initiative is a result of an international event that was held in June 2024 - Fisheries, Offshore Wind Energy, and Ocean Planning: Experiences from Europe - at the University of Rhode Island with the purpose of advancing understanding about the most up-to-date European research related to the effects of offshore wind energy on fish and fisheries. The program highlighted the value of taking this conversation globally with the purpose of learning from each other and using each others' strengths to influence the process. Jennifer McCann, National Sea Grant's Offshore Wind Energy Liaison, will share the experience to date, the model, and lessons learned in shaping this global initiative.

Waterfront Facilities Inspection & Rehabilitation

Bill Dubbs, Moffat & Nichol, San Diego, CA

Waterfront infrastructure is big, heavy, expensive. And it's located in some of the most aggressive environments imaginable. Much of the existing infrastructure is old…WW2 or older. And the loads on these structures are only getting bigger. Ships are getting larger, cranes are lifting heavier loads, and the planet has entered a cycle of sea level rise and intensification of storm activity. Global and local competitive markets can make for slimmer profits which makes infrastructure budgets difficult for stakeholders to secure.

How does the working waterfront adapt? New replacement structures with upgrades require large investments and deep pockets. For infrastructure that is not blessed with either of the above, the solution is to extend service life.

The waterfront stakeholders need to assess the condition of their facilities, perform load studies, and evaluate operational adaptability, and lead them into a cost/benefit analysis related to restorative measures for their infrastructure. Do nothing? Address deferred maintenance issues? Repairs? Rehabilitate? Replace? What do some of these terms mean? How does an owner or operator make the decision? Who will guide them? It all starts with inspection. And it ends with a decision that aligns budgets with expectations.

Concurrent Sessions C1-C4

TUESDAY, FEBRUARY 4, 3:30 PM - 5:00 PM

Session C1

Location: Seaside, Marina Village Conference Center

Theme: Impacts of and Adaptations to Climate Change

Climate Adaptation Challenges for Fisheries-Focused Working Waterfronts: Perspectives from a U.S. East Coast Workshop

Panel/Roundtable Discussion

Grace Roskar, NOAA Fisheries, Silver Springs, MD

Bryan Fluech, University of Georgia Extension and Georgia Sea Grant, Athens, GA

Monique Coombs, Maine Coast Fishermen's Assocation, Brunswick, ME

Jessica Gribbon Joyce, Tidal Bay Consulting, South Freeport, ME

Fisheries resources and the communities that depend on them face a multitude of stressors resulting from climate change. NOAA and several state Sea Grant programs recently held a workshop to better understand the socio-economic challenges affecting fishing communities in a changing climate, specific needs for adaptation, and current efforts to assist with these challenges and needs. U.S. East Coast-based experts and practitioners in the field of fishing community adaptation shared their experiences assisting fishing communities and highlighted both common and unique challenges. This panel session will expand on discussions held at the East Coast workshop and see to learn from others working within and across other regions. Practitioners that attended the workshop that work with frontline fishing communities will share their perspectives on climate resilience and adaptation of fishing communities within the context of working waterfronts, and what challenges remain. The session will conclude with a facilitated discussion with the audience to hear additional perspectives and feedback from other regions and communities, which will help inform the scope and focus of additional fishing community adaptation workshops in other regions

Session C2

Location: Terrace, Marina Village Conference Center

Theme: Workforce Development, Challenges, and Issues

Building an Inclusive & Resilient Maritime Workforce

Panel

Ann Avary, Center of Excellence for Marina Manufacturing & Technology, Skagit Valley College, WA

Ryan Davis, Seattle Jobs Initiative, Seattle, WA

Sarah Scherer, Transportation Institute, Seattle, WA

Veasna Hoy, Washington Maritime lue, Seattle, WA

Technological change, globalization and just-in-time logistics together have created a series of pressures on older, smaller working waterfronts throughout the US - these pressures have simultaneously encouraged many traditional industries to consolidate to fewer, larger waterfront sites and pushed many traditional waterfront industries inland. For New England's small-parcel traditional working waterfronts, many of which face significant flood risk and have complex and multi-layered state-level regulatory tools to protect the public interest and preserve industry, this has created a particularly pressing challenge to simultaneously adapt to rapidly changing economic conditions while working within the longer time frame of state and federal level regulatory approval processes. Through case studies of four New England cities, this session will explore how communities are navigating these pressures while honoring and preserving the maritime identities that make them unique and beloved by residents, business owners and visitors alike. The case studies included in this session are: Salem, MA; New Bedford, MA; Gloucester, MA and Norwalk, CT. Each of these working waterfront communities' traditional industries are fighting to remain viable and vibrant in the face of slim margins, increased competition and the urgent need to address deferred maintenance and incentivize large-scale infrastructure reinvestment. Through these case studies we will explore how these traditional working waterfront communities that emerged in response to early industries like boat building, fishing and shellfishing, raw material processing and power generation are making strategic adaptations rooted in four interconnected goals: (1) prepare for increased flood-based operational interruptions and property damage, (2) welcome new and emerging 21st-century off-shoots of their traditional industries such as offshore wind, marine life sciences and electronics, and low-impact hybrid cold-chain vessel prototyping; (3) honor, protect and drive reinvestment into the traditional industries that define the identity and character of the community; and (4) enhance public access, improve ecological health and elevate urban design to drive critical resident, visitor and tourist economies with the potential to cross-subsidize traditional industries. Through these four case studies we will explore how communities are striving to find balance, co-benefits and productive tension between these four goals.

Session C3

Location: Coral, Marina Village Conference Center

Theme: Planning and Policy

US Aquaculture Policy – Perspectives and State of Play

Panel

Meghan Massaua, Meridian Institute, Washington, D.C.

Sara Schimdt, Meridian Institute, Washington, D.C.

Ian Yue, Meridian Institute, Washington, D.C.

US Aquaculture policy has been through many iterations in recent years, with numerous Bills being introduced in Congress to support offshore aquaculture development, many different projects in the works, NOAA's Aquaculture Opportunity Area process and more. This has created a tapestry of different initiatives, conversations, and prospective policies for stakeholders to understand and react to. This session will review Federal policy initiatives and provide a forum for stakeholders to share their needs and perspectives when it comes to national policy.

Meridian Institute has been convening a variety of ocean stakeholders over the last five years to unearth common ground, exchange ideas, and build solutions about what's possible and necessary in their eyes for the future of aquaculture in the US. This has included efforts to position DEI as an integrative pillar to workforce development by connecting the dots between DEI initiatives, socializing the importance of DEI with aquaculture stakeholders, and supporting opportunities to access careers in the industry.

With new policy developments on the horizon that could affect the landscape of working waterfronts and opportunities to expand the workforce, Meridian will hold a roundtable discussion designed to share insights from our work to date, while generating conversation and gathering perspectives amidst the evolving policy landscape, including how national policy can best meet the needs of multiple stakeholders. This session will be designed to provide space for exploring diverse needs and key concerns of participants to inform policy dialogues at the national level.

Concurrent Sessions C1-C4

TUESDAY, FEBRUARY 4, 3:30 PM - 5:00 PM

Session C4

Location: Anchor, Marina Village Conference Center

Theme: Waterfront Infrastructure, Industries, and Innovations

The Evolving Needs of Offshore Wind Port Development

Panel

Joseph Sutkowi, Waterfront Alliance, New York, NY

Nancy Krishner-Rodriguez, Oceantic Network, Baltimore, MD

Brian Sabina, Clean Energy Terminals, CA

There are 35 offshore wind ports across the United States actively in development, but the industry is likely to need more than 100 nationally over the coming decade to supply and build the country's offshore wind goals. This panel will discuss the breadth and implications of expanding the nation's ports to accommodate offshore wind. Panelists will discuss the types of facilities offshore wind developers are using, the landscape of port and offshore wind developers, where facilities are being built and where they could be built in the future, and how these ports are creating economic development and interacting with other port facilities in our harbors. We will look at case studies of port sites in San Francisco and New York City to understand some of the nuances of the industry.

Panelists include a representative of the Port of San Francisco which will develop one of its piers into an offshore wind port facility, a representative of Oceantic, the leading network for the offshore wind industry, and a representative of Waterfront Alliance which is partnering with offshore wind ports across the country on sustainability, climate adaptation, and environmental stewardship.

Concurrent Sessions D1-D4

WEDNESDAY, FEBRUARY 5, 10:30 AM - 12:00 PM

Session D1

Location: Seaside, Marina Village Conference Center

Theme: Impacts of and Adaptations to Climate Change

Adapting Boston's Designated Port Areas: Balancing Waterfront Policy, Community Needs, and Climate Change Resilience

Panel

Jill Valdes Horwood, Barr Foundation, Boston, MA

John Walkey, Greenroots, Chelsea, MA

Maggie Sullivan, Conservation Law Foundation, Boston, MA

For nearly 20 years, As coastal regions grapple with evolving environmental, social, and economic pressures, working waterfronts must adapt to ensure long-term viability. Boston Harbor, a vital component of New England's maritime economy, faces unique challenges related to the impacts of climate change, increasing competition for waterfront space, and shifting industrial demands. Designated Port Areas (DPAs) are critical in preserving water-dependent industries while accommodating future growth in non-industrial sectors. However, balancing these competing uses demands careful planning and policy innovation.

This 90-minute breakout session will explore the findings of a comprehensive study on Boston's DPAs, focusing on how waterfront communities can successfully manage the intersection of industrial demands, community needs, waterfront infrastructure development, and climate change adaptation. The session will be organized around three key themes: (1) the impact of climate change on waterfront infrastructure and water-dependent industries, (2) innovations in waterfront land-use planning that foster a balance between industrial and non-industrial uses with a particular focus on the city-port connection, (3) policy frameworks that can enhance resilience and ensure sustainable, equitable growth that can benefit both hyper-local communities and the broader maritime community. The Boston Harbor case study is a timely example of how regions can respond to the pressures of climate change, economic growth, and community impacts. Rising sea levels, increased storm intensity, and flooding already pose serious risks to the infrastructure that supports water-dependent activities. These climate impacts necessitate new infrastructure design, investment, and maintenance approaches to protect valuable coastal assets.

Equally important are the policy frameworks that shape the management of DPAs. The session will examine the planning tools that coastal municipalities, stakeholders, and state agencies use to regulate waterfront land use and development. It will spotlight successful models that balance water-dependent uses with growing demands for non-industrial development, such as residential and commercial real estate. Participants will also discuss strategies for preserving waterfront access and traditional industries while ensuring flexibility for future needs.

The panel will include experts in climate resilience, maritime industries, urban planning, and policy. They will share insights and case studies on how coastal regions can learn from the history, challenges, and successes of Boston Harbor's commitment to preserving its working waterfront and maritime history. Through facilitated discussions, the panel will outline lessons learned, best practices, and the potential for cross-sector collaboration to enhance the resilience and sustainability of working waterfronts across the U.S. This session aligns with the conference themes of Impacts of and Adaptations to Climate Change,

Concurrent Sessions D1-D4

WEDNESDAY, FEBRUARY 5, 10:30 AM - 12:00 PM

Waterfront Infrastructure, Industries, and Innovations, and Planning and Policy. It will provide practical guidance for coastal communities looking to balance diverse uses, ensure access, and plan for a more resilient waterfront

Session D2

Location: Terrace, Marina Village Conference Center

Theme: Workforce Development, Challenges, and Issues

A dynamic and robust regional approach to developing the next generation of waterfront workforce

Panel

Bobby Winston, Friends of the Port (DBA Working Waterfront Coalition), San Francisco, CA

Sal Vaca, Friends of the Port (DBA Working Waterfront Coalition), San Francisco, CA

Lauren Gularte, San Francisco ay Ferry/Water Emergency Transportation Authority, San Francisco, CA

This breakout panel will highlight a dynamic and robust regional partnership focused on developing High Road jobs in the maritime industry. The Bay Area is home to some of the largest shipyards on the west coast and has an excellent and expanding ferry service. The Bay Area Working Waterfront Coalition (WWC) is an industry-led partnership comprised of waterfront employers, unions, Workforce Development Boards, CSU Maritime, and community organizations. WWC is developing strategies & career pathways to address the skills shortage in the maritime industry and also helping to position the Bay Area in implementing California's plan for offshore wind energy generation.

This robust partnership has secured nearly $5 million in state funding, with Workforce Development Boards as leads, to implement Marine trades & Water Transportation pathways. The curriculum also includes sustainability and "greening" of the maritime industry. Recruitment and outreach of training participants focuses on under-served communities, low income, high school drop outs, english language learners, and formerly incarcerated.

Session D3

Location: Coral, Marina Village Conference Center

Theme: Waterfront Infrastructure, Industries, and Innovations

Seaport San Diego: A Transformative & Equitable Waterfront Proposal Site Plan Abounds with Public Access Elements While Honoring Commercial Fishing Heritage

Panel

Yehudi "Gaf" Gaffen, 1HWY, LLC, San Diego, CA

Danielle Moore, Port of San Diego, San Diego, CA

Dillon Diers, ASLA, OJB Landscape Architecture, San Diego, CA

California's waterfronts are evolving, with a growing recognition of historical inequities in access. It is well established that over many years, economic forces, land-use decisions such as redlining and other factors have pushed low-income and BIPOC (Black, Indigenous, People of Color) communities farther inland and reduced their ability to enjoy the coast. In today's landscape, coastal developments must play a part in rectifying past wrongs. Intentional design is crucial to ensure that waterfront spaces are inclusive, accessible and welcoming to everyone. Seaport San Diego, a $3.6 billion redevelopment proposal, embodies this ethos by reimagining the Port of San Diego's downtown waterfront with a focus on equity. Yehudi Gaf Gaffen, CEO of 1HWY1; Port of San Diego Vice Chair Danielle Moore; and Dillon Diers, ASLA, Partner with OJB Landscape Architecture; will lead this session to discuss the transformative vision of Seaport San Diego. Selected by the Port of San Diego in 2016 to redevelop the Central Embarcadero, 1HWY1 has engaged in extensive community outreach to shape a waterfront that reflects San Diego's diverse communities and addresses the need for public access while preserving and honoring the rich commercial fishing heritage of San Diego.

At the heart of Seaport San Diego's proposed design is over 16 acres of parks and open spaces, which include an urban beach, living shoreline tidal habitat, public access piers, and improved bicycle and pedestrian paths – all free to the public. These public areas are complemented by iconic new landmarks such as an observation tower, an aquarium, and a Blue Campus dedicated to ocean-related research and education. While adding commercial recreation including hotel rooms at a range of price points, restaurants, and retail, the project will also revitalize commercial fishing facilities and create new opportunities for community education.

Throughout the development process, 1HWY1 has been committed to ensuring Seaport San Diego is a place for all San Diegans, regardless of background or income. The "Seaport San Diego for All" initiative and its valued partnerships – including a local public school district, a state university, labor unions and business groups – have guided the design. Seaport San Diego is currently undergoing the Port of San Diego's environmental review process and developing a roadmap for equitable access, including programming free to the public. If approved by the Port, the project anticipates generating significant local economic benefits, with a focus on local and small business participation.

This session will provide an in-depth exploration of how the proposed Seaport San Diego project is balancing the needs of the commercial fishing industry, public access, and economic development, all while adapting to the changing needs of the community. The goal of 1HWY1 is that Seaport San Diego will serve as a model for future waterfront developments that prioritize equity, environmental sustainability, and community engagement.

Session D4

Location: Wheatley 02-198

Theme: Waterfront Infrastructure, Industries, and Innovations

Taking Charge: Electrified Commercial Watercract Now and in the Future

Panel

Lia Morris, Island Institute, Rockland, ME

Sam Belknap, Island Institute, Rockland, ME

Charles Steinback, Photon Marine, Portland, OR

Noah Oppenheim, Homarus Strategies, Brunswick, ME

Ben Matthys, Kempy Energetics, Juneau, AK

In order to minimize the devastating effects of climate change, all segments of the economy must develop and implement workable, scalable, and cost effective decarbonization solutions. Working waterfront users, usually classified under Transportation, are no exception. According to the Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2022, transportation accounted for the largest portion (28%) of total U.S. GHG emissions, one eighth of which is attributable to maritime (roughly equivalent to non-military aviation). To decarbonize this difficult-

Concurrent Sessions D1-D4

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to-abate sector of the economy, working waterfronts will require unique solutions requiring vast amounts of energy for new applications in vessel propulsion, cargo-handling equipment, yard equipment, surface transportation & logistics, and electricity generation & storage. Technical solutions for each of these needs are evolving rapidly, most importantly for full or partial electrification of vessel propulsion systems. Around the country there are numerous efforts underway to support the electrification of workboats, fishing vessels, ferries, and other harbor craft. Come learn with experts in this emerging field as they discuss how their projects in Maine, Alaska, Washington and beyond are leading efforts to get electric boats on the water. The panelists will explore commercial electric propulsion and hybrid electric projects launching across the country and what they're learning from international programs already under way. You'll hear nuts and bolts advice, discover existing grant programs and financing opportunities, understand lessons learned, and discuss what it takes to identify opportunities and develop public-private partnerships to maximize your own success in this critical phase of the energy revolution.

Concurrent Sessions E1-E4

WEDNESDAY, FEBRUARY 5, 1:00 PM - 2:00 PM

Session E1

Location: Seaside, Marina Village Conference Center

Theme: Impacts of and Adaptations to Climate Change

Oral Presentations

Preserve What's Left: Protecting our Working Waterfronts in Florida

Allison Alpin, Duke University, Durham, NC

Hugh Cipparone, Gulf of Mexico Reef Fish Shareholder's Alliance, Galveston, TX

Kylie Van De Wyngaerde

In recent years, rising sea surface temperatures have intensified storms in the Gulf of Mexico and along the Eastern United States. Hurricane season poses significant risks for all coastal communities, but especially for those who rely on the water for their livelihoods. Our project sought to address the lack of information on the evolving economic and social impacts of hurricanes on Florida's working waterfronts and commercial fishing communities.

Commercial fishing is central to the culture and economy of the Gulf of Mexico, but this industry faces growing threats from the loss of working waterfronts—critical infrastructure where fish are landed, vessels are stored, and seafood is processed. Over time, working waterfronts and fish houses have been increasingly replaced by housing developments in Florida and across the United States. This loss directly impacts the ability of commercial fishermen to maintain their operations, particularly during and after hurricane events.

To better understand these challenges, we interviewed commercial fishermen in Florida, who emphasized that the greatest threat from hurricanes is not just the storms themselves, but the loss of working waterfronts and dockage space. Access to safe dockage is essential during hurricanes, providing a haven for vessels and reducing the risk of significant damage. Without sufficient dockage and working waterfronts, the future of commercial fishing—and access to local seafood—remains uncertain.

To highlight these issues, we produced a short documentary that captures the voices of commercial fishermen, allowing them to share firsthand the importance of preserving working waterfronts and supporting the consumption of locally sourced seafood. This film aims to raise awareness about the critical need for infrastructure that protects both the fishing industry and coastal communities from the growing threat of hurricanes. By presenting the fishermen's perspectives and showcasing the direct impacts of storms on their livelihoods, our project contributes to a deeper understanding of the vital role working waterfronts play in the resilience of commercial fishing communities. It also underscores the need for policy solutions that preserve waterfront access and support sustainable fishing practices in the face of intensifying climate impacts.s

Addressing Pier Pressures: A New Tool to Help Maintain Fisheries Working Waterfronts Amid Climate Change

Carrie Pomeroy, University of California Santa Cruz, Santa Cruz, CA

Carolynn Culver, California Sea Grant, University of California San Diego and Santa Barbara, CA

California is home to more than 30 coastal ports and harbors that support and depend on the state's commercial fisheries and seafood production. They provide governance, infrastructure, goods and services essential to productive, safe and effective operation at sea and shoreside. A range of environmental, socioeconomic and regulatory changes have posed challenges and opportunities for the maintenance and

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continued provision of these amenities. In particular, ports and harbors need to continually adapt to a changing climate, dynamic fisheries, and expanded and new uses at sea and on the working waterfront (e.g., offshore wind).

Over the past several decades, we and others have led or assisted with efforts to document regional and statewide fisheries- and seafood-related port infrastructure, goods and services. However, the lack of cohesive and consistent information about port governance, financing, and fishery-support infrastructure, and goods and services continues to limit efforts to assess and address needs within and across sites. Moreover, it hinders the maintenance of essential working waterfronts as directed by the California Coastal Act and prevents the meaningful assessment of impacts of fishery and broader ocean and coastal management actions as required by state and federal law.

To address this ongoing need, we developed the California Ports Database, with an initial focus on commercial fisheries. To build the database, we used information from our own and others' previous and ongoing field research, gray and refereed literature, websites and other online sources. In addition, we sought input on selected topics in discussions with port managers, fishery participants and others knowledgeable about port infrastructure needs for seafood production, enabling us to ground-truth, add to and update the database contents as possible. The Ports Database includes information about 34 ports and harbors from Crescent City in Del Norte County (northern California) to San Diego (southern California). It consists of information about location, governance, and physical infrastructure, goods and services at each port. The database also identifies owners and operators of infrastructure and providers of goods and services, along with the operational status of those amenities. And, because many if not most fishery participants depend on more than one port for goods and services (and ports vary widely in their focus and capacities), the database includes information on such linkages.

The database has been "queried" to answer questions and generate information for a range of applications such as characterizing 13 ports profiled in the California Fishing Communities website; creating the California Seafood Markets: Producer-to-Consumer Direct Markets Dashboard; and assessing the impacts of fishery disasters due to climate change on port communities and informing recommendations for enhancing resilience to climate change. It also has helped inform efforts to identify and prioritize infrastructure needs and secure funding to address them.
For this presentation, we provide an introduction to the database, highlight some of its applications, and discuss next steps for enhancing its usefulness for supporting working waterfronts.

Economic Revitalization for a Resilient Gulf Coast Fishing Community, Bayou La Batre, Alabama

Stephen Parker, Moffat & Nichol, U.S.

Meg Geocker, Moffat & Nichol, U.S.

The presentation will focus on the Lightning Point Shoreline Restoration and City Docks projects which showcase the importance of partnerships to develop complimentary environmental and economic restoration to ensure resilience in the Gulf Coast community of Bayou LaBatre, Alabama. The projects were funded from the Deepwater Horizon Oil Spill settlement funds. In 2020, at the height of the pandemic and one of the most active hurricanes seasons, the Lightning Point Shoreline Restoration Project was completed and put to the coastal engineering test. Four named storms battered the newly restored living shoreline, consisting of one mile of breakwater, 40 acres of marsh habitat, and 10,000 linear feet of tidal creeks. The habitats remained intact and the shoreline remained, whereas the previous 100 years had seen some 600 feet of shoreline erosion, 30 in the three years it took to engineer and build the project. Spear-headed by The Nature Conservancy, engineered by Moffatt & Nichol, and funded by National Fish and Wildlife Federation Gulf Environmental Benefit Fund (NFWF GEBF), the project served one of its primary purposes in protecting the Bayou La Batre City Docks, one of the only access points for commercial and recreational vessels in the Seafood Capital of Alabama.

The City Docks Project was developed, utilizing RESTORE Act funds. The site is adjacent to the Lighting Point Shoreline Restoration and will now be economically revitalized after Mobile County and the City of Bayou La Batre, AL completed a technical feasibility study, economic analysis, and master planning process. The Master Plan was engineered and designed in 2023 into a multi-purpose recreational and business development amenity for the City of Bayou La Batre to provide the community desirable places to work and play while creating opportunities for new and existing businesses, especially those dependent on the natural resources of the region. The City Docks mission for the site is to provide a self-sufficient, operating facility that will generate daily operating and event revenue as well provide a venue for community based recreational activities, serve the needs of local recreational boaters, provide a direct sales site for local commercial fishing fleet, and provide business opportunities. Potential revenue generating elements include a full-service marina, marine gas, a pavilion for rental for private events, a location for seafood and farmers market, other retail markets, concessions, and services. The facility will provide for enhanced boat launching and parking and a multi-use harbor master building for marine retail opportunities and restrooms. Furthermore, the facility will have docking piers for small to medium shrimp boats to dock and sell directly to the public. There will be passive access to the newly restored Lightning Point shoreline offers eco-tourism opportunities.

Session E2

Location: Terrace, Marina Village Conference Center

Theme: Impacts of and Adaptations to Climate Change

Oral Presentations

Stormy Seas Ahead: Navigating Climate Change at the Waterfrontt

Margaret Boshek, Moffat & Nichol, Raleigh, NC

Established commercial waterfronts are critical to various industries, including fishing, shipping, and tourism, but they are increasingly threatened by climate change. Rising sea levels, increased storm intensity, and changing marine ecosystems pose significant challenges that jeopardize both economic viability and environmental health. This presentation explores the primary challenges faced by working waterfronts due to climate change and highlights effective strategies being undertaken to combat these issues.

One of the most discussed challenges is rising sea levels, which can lead to chronic flooding, shoreline erosion, and infrastructure damage. Facilities such as docks and storage units are at high risk, potentially disrupting operations and leading to costly repairs. Additionally, climate change has resulted in increased storm intensity, exacerbating risks to both life and property. Severe storms can destroy critical infrastructure and disrupt supply chains, threatening the livelihoods of those dependent on waterfront industries.Offshore, ocean acidification and warming waters also present challenges; altering marine ecosystems and impacting fisheries. Fish migration patterns are changing, which can reduce the availability of vital species, directly affecting the economies of

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fishing communities. Moreover, saltwater intrusion into freshwater systems compromises local ecosystems and water quality for both marine and land-based activities.

A variety of strategies are being implemented to combat these challenges. Investing in resilient infrastructure is paramount; this includes the construction of elevated docks, storm surge barriers, and flood-resistant storage facilities to protect against rising waters and severe storms. In some cases, grant monies are available to safeguard facilities even before an event occurs. Ecosystem restoration initiatives, such as the revitalization of wetlands and mangroves, offer natural defenses against erosion and flooding while enhancing biodiversity. Adaptive management practices are also critical, allowing industries to remain flexible in their operations and resource management as conditions change. Monitoring and research programs, both regional and site specific, help stakeholders understand the impacts of climate change, enabling informed decision-making. Engaging local communities and adjacent working waterfronts in planning processes fosters resilience, ensuring that strategies address the specific needs and concerns of those most affected.

Climate change adaptation needs to be addressed at many levels. Within a region, diversification of economic activities among working waterfronts can reduce dependence on single industries, enhancing overall resilience. On a federal and state level, supportive policies and regulations that promote sustainable practices and funding for climate adaptation projects are essential for long-term success. At the facility level, education and training initiatives equip workers with the skills necessary to adapt to changing conditions and technologies.While climate change poses significant challenges to working waterfronts, proactive strategies focused on resilience, policy involvement, and sustainable practices can help mitigate these impacts, ensuring the continued vitality of these essential economic zones.

The Future Ain't What it Used to Be: Understanding Uncertainty in Climate Adaptation Planning

John Phillips, Parametrix, U.S.

The evolving nature of climate change and uncertainty around future events and the associated impacts on ports pose a significant challenge for long-term decision-making. Forecasts, ranging from worst-case to best-case scenarios regarding climate change and its impacts, diverge exponentially over time. This creates high uncertainty about whether current preparations will suffice to accommodate future needs and conditions. The primary challenge with this increasing uncertainty is addressing these impacts in terms of infrastructure engineering and construction project delivery intended for long-term use.
Investing in infrastructure to meet today's needs exclusively is cost-effective in the short run but raises concerns about its ability to satisfy unforeseen future requirements that might emerge due to climatic changes many years post-implementation. While engineering and constructing projects at a lower relative cost for known conditions save capital in the near term, they may lead to high lifecycle costs in future updates, upgrades, and modifications if unforeseen climate impacts alter the anticipated conditions. Conversely, over-investing in infrastructure to accommodate a wide range of potential future conditions can lead to unnecessarily high capital expenditures, hampering ports' ability to effectively manage multiple competing priorities.

Throughout extensive discussions over several years, the necessity for a novel decision-making approach that balances competing climate change scenarios became apparent. Adaptive management and dynamic policy models, recently introduced in public utilities and transportation sectors of other governments, could potentially offer a viable solution to the long-term system planning challenges faced by ports.

NASA Coastal Data and Research for Informed Resilience Strategies

Angelica Rodriguez, NASA Jet Propulsion Laboratory, Pasadena, CA

Coastal climate change impacts span a variety of disciplines and sectors. While the adaptation needs of local communities and waterfronts are inherently nuanced, often requiring targeted data collection and adaptation plan implementation strategies, there is value in having consistent data across localities that can be used to provide baseline information for planning. NASA is uniquely positioned to be able to provide such data at a national scale through its space-based platforms that observe the entire globe, linking individual shorelines to the rest of the Earth System. NASA has invested in new technologies such as those utilized in the Surface Water and Ocean Topography (SWOT) Mission, the Plankton, Aerosol, Cloud, Ocean Ecosystem (PACE) Mission, and the NASA-ISRO SAR (NISAR) to better observe coastal processes than their predecessor missions, enabling research that considers the needs of coastal communities and ecosystems. This presentation will describe a number of on-going projects within NASA and inter-agency collaborations that are seeking to bridge the gap between data and decision making through research and targeted product development and user engagement initiatives.

Session E3

California State Coastal Conservancy and Working Waterfronts: Adapting to Change Using Government Funding

Kellan Warner, California State Coastal Conservancy, Oakland, CA

Sam Jenniches, California State Coastal Conservancy, Oakland, CA

Our conference session "California State Coastal Conservancy and Working Waterfronts: Adapting to Change Using Government Funding" will explore working waterfronts projects in California including docks and piers, harbors, and seafood markets. The California State Coastal Conservancy is a state agency, established in 1976, to protect and improve natural lands and waterways, to help people get to and enjoy the outdoors, and to sustain local economies along California's coast. Our mandate also includes the restoration of urban waterfronts to support economic development, commercial fishing, and urban waterfront communities.

The Coastal Conservancy provides funding to support multi-benefit, coastal resilience projects that revitalize waterfronts and waterfront dependent communities, industries, and activities. We will explore examples of these projects including renovation of piers, removal of derelict infrastructure, and improvements to fishing docks or facilities to adapt to sea level rise or improve the resilience of fishing communities, including projects that incorporate nature-based solutions in the coastal environment.

The Coastal Conservancy's number one strategic goal is to prioritize equity in our work and commit funding to benefit systemically excluded communities. As we look toward new ways to support working waterfronts, we hope to advance approaches to support community-based fisheries management, promoting sustainable local fisheries and centering fisherfolk and their coastal communities in the management of those fisheries. We are hoping to support the workforce development and meaningful engagement that are needed to develop and implement these projects.

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Aging infrastructure at working waterfronts combined with sea-level rise is leading to loss of public amenities such as piers and marinas. Recent Coastal Conservancy projects, such as the Capitola Wharf Improvements project, have improved the resilience of working waterfronts and enhanced the public's usage of these amenities. We are helping our partners throughout California consider the potential impacts of sea-level rise to working waterfronts and the adaptation measures to consider in order to ensure working waterfronts are able to persist in the future.

The Economy and Flood Vulnerability for Essex County

Kate Quigley, NOAA Office for Coastal Management

Located on the northern shore of Massachusetts, Essex County is home to over 800,000 people and faces significant coastal hazards. Like many U.S. communities, Essex County's coastal towns are experiencing sea-level rise, leading to flooding and shoreline erosion. Storm events, exacerbated by rising seas, further threaten businesses, homes, and properties. This study assesses the economic vulnerability of Essex County's coastal and marine sectors to sea-level rise and storm surge, providing essential data for risk mitigation.

An analysis of Essex County's coastal and marine economies was conducted to evaluate business and employee vulnerability to coastal inundation from sea level rise and storm surge. The analysis uses data from ESRI's Business Analyst 2023, NOAA's Sea Level Rise Viewer, and the one-percent annual coastal flood exceedance probability from the Massachusetts Coastal Flood Risk Model (MC-FRM). Publicly available parcel data was combined with multiple MC-FRM scenarios to evaluate the county's residential vulnerability to inundation from these hazards.

Results show that Essex County supports over 32,000 establishments and more than 370,000 employees in its coastal economy, defined as all economic activity that occurs within the county. Of these, the marine economy accounts for approximately five percent of businesses and eight percent of employment. The analysis revealed that both marine- and non-marine businesses are affected by one foot of sea-level rise, with impacts increasing by 19 percent at five feet. Additionally, a one-percent annual chance event affects these businesses starting in 2030, with impacts increasing by 70 percent by 2070. Residential parcel analysis indicates that single-family units are vulnerable across all scenarios of sea-level rise and storm surge. The analysis also highlights towns at high risk of the adverse effects of one to five feet of sea level rise and a one-percent annual chance event to the coastal and marine economy and residential parcels.

The insights gained from this analysis have broader applications for other coastal regions across the United States, highlighting the compounding flood risks these communities face. This information is vital for municipal planners, enabling evidence-based decisions for future coastal development, mitigation efforts, and protective actions for lives and property.

Restoring Resilience: Native Oysters and ECOncrete Unite to Protect San Diego Bay's Shoreline and Biodiversity

Chelsea Bowers-Doerning, Port of San Diego, San Diego, CA

Eileen Maher, Port of San Diego, San Diego, CA

San Diego Bay has the highest percentage (~ 80%) of hard-armored shoreline among California counties, which has significantly affected the bay's estuarine ecosystems. In contrast, the remaining soft substrates are prone to shoreline erosion, further destabilizing the bay's ecosystem. In response, the Port of San Diego has implemented two pilot projects: the San Diego Bay Native Oyster Living Shoreline Project (SDBNOLS) and the ECOncrete COASTALOCK, to protect the adjacent shoreline from sea level rise and enhance the biodiversity of the bay. For the SDBNOLS, 360 concrete reef balls were deployed onto the mudflats at Chula Vista Wildlife Reserve to reduce erosion and support native Olympia oysters (Ostrea lurida) population growth. Post-deployment surveys conducted during the initial two years of the 5-year monitoring plan revealed that native oysters recruited to reef balls at significantly higher densities and aerial coverage than non-native Pacific oysters (Magallana gigas), particularly at lower tidal elevations. Although this is part of a five-year study, the initial success criteria have been met, indicating the potential for oyster restoration to enhance shoreline resilience and ecological health. Parallel to this, the ECOncrete Coastalock units, installed through the Port's Blue Economy Incubator (BEI) in 2020, offered an innovative ecological alternative to traditional riprap. Over a 26-month monitoring period, ECOncrete demonstrated higher species richness, abundance, and biomass compared to conventional shoreline armoring, while also increasing the ratio of native to non-native species. These results validate the effectiveness of nature inclusive designs in promoting biodiversity and stabilizing shorelines. ECOncrete's successful pilot has been recognized internationally, offering scalable solutions for climate-adaptive coastal protection. Together, these projects have demonstrated a holistic approach to restoring ecological integrity while protecting the shorelines of San Diego Bay from erosion, aligning with broader goals to enhance estuarine ecosystems and improve climate resilience.

Session E4

Location: Anchor, Marina Village Conference Center

Theme: Waterfront Infrastructure, Industries, and Innovations

Oral Presentations

Funding, Planning, and Design for Revitalization of a Small Fishing Harbor

Rob Sloop, Moffat & Nichol, CA

Commercial fishing harbors serve as the lifeblood of coastal communities, providing not only economic sustenance but also cultural identity as well as marine-related tourism. However, recent years have witnessed a decline in fishing revenues, coupled with the deterioration of aging harbor infrastructures, posing significant challenges to the sustainability of these harbors and the coastal communities they support and serve.

The Crescent City Harbor District (Harbor District), established in 1854, has been a key contributor to the seafood industry in northern California. Over the decades, the harbor has faced challenges in recent years, including reduced salmon populations due to environmental factors, fluctuations in crab populations influenced by ocean conditions, and overregulation of sustainable fisheries.

In addition to market challenges, there are challenges associated with exposure of structures to earthquake and tsunami natural hazards that are unique to this harbor. Crescent City is located close to the epicenter of a M9+ earthquake and consequently, the seismic requirement controls the design and sometimes bringing the existing infrastructure to current code becomes cost prohibitive. Crescent City is also known for devastation it endured in 1964, when a tsunami caused by a large earthquake in Alaska wiped out nearly 30 blocks of the coastal city. The 2011 Tohoku Japan

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earthquake also sent tsunami waves to Crescent City, destroying much of its harbor.,

Harbor District has recognized the critical role that federal and state funding mechanisms can play in supporting fishing communities, recovering from storms, and providing for future resiliency. Harbor District has been successful in leveraging these funding opportunities to invest in modernizing harbor facilities, enhancing safety standards, and promoting environmental stewardship initiatives. Harbor District has secured funding from the U.S. Department of Transportation Maritime Administration, California Coastal Conservancy, California Department of State Lands for the construction of a new seawall, the repair and renovation of a seafood packing and truck loading area, the replacement of cargo handling equipment that is currently atop the existing seawall, and the installation of EV infrastructure to power the cold storage trailers used to move seafood products to market.

In terms of design, Harbor District is prioritizing resilience and adaptability in the face of climate change and sea-level rise and tsunamis. We can enhance coastal resilience while also creating valuable ecosystem services. The recent award of two offshore wind energy lease areas off the coast of northern California by the Bureau of Ocean Energy Management (BOEM), may create an opportunity for additional revenue streams for the Harbor District as a Operations & Maintenance harbor, so any planning and funding strategy development should consider this and other future opportunities. The revitalization of a fishing harbor in northern California represents a multifaceted endeavor that requires thoughtful planning, coordinated efforts from various stakeholders and robust financial support from government agencies. By embracing principles of sustainability, equity, and resilience, we can ensure that fishing harbors continue to thrive as vibrant centers of economic activity and cultural heritage for generations to come.

Charting a Sustainable Course: Greenhouse Gas Assessments of Maine's Seafood Industry and implications for working waterfronts

Sam Feldman, Island Institute, Rockland, ME

Maine's seafood industry, a cornerstone of the state's economy and cultural identity, faces unprecedented challenges from climate change. In response, Island Institute, in collaboration with industry partners, conducted comprehensive greenhouse gas (GHG) assessments of key seafood sectors: wild caught lobster and farmed kelp, mussels, and oysters. The assessments revealed that while Maine's seafood products generally have a lower carbon footprint compared to many other protein sources, significant opportunities exist to further reduce GHG emissions. Key emissions hotspots identified include fossil fuel use in boat operations and processing facilities, electricity consumption for heating and refrigeration, and upstream impacts from supply chain inputs like bait and aquaculture seed.

Our analysis indicates that implementing targeted emissions reduction strategies could yield substantial benefits. Transitioning to renewable energy sources could reduce energy-related emissions by 15-30%. Improving operational efficiency through process optimization and smart technologies could drive 10-25% savings on energy and operating expenditures. Enhancing farming and harvesting practices to boost yields and minimize waste could lower per-unit costs by 10-25%. However, making these reductions a reality is contingent on modernizing working waterfront infrastructure to be compatible with an electric future and resilient to tomorrow's storms.

These findings align closely with Maine's Climate Action Plan, particularly in areas such as clean energy transition, transportation electrification, and resilient working waterfronts. The seafood industry is uniquely positioned to contribute to and benefit from state-wide climate initiatives, including the expansion of electric vehicle infrastructure and the development of renewable energy projects on working waterfronts. These assessments come at a time when recent winter storms have brought attention to and funds for necessary working waterfront infrastructure improvements, creating a unique opportunity to implement climate-smart upgrades. Moreover, there is heightened awareness among waterfront owners about the need to prepare for future climate impacts. Based on these assessments, we propose the development of demonstration sites along the Maine coast, showcasing integrated solutions for emissions reduction and climate resilience in seafood operations. These sites would serve as living laboratories, illustrating how heritage industries can lead in meeting state climate goals while safeguarding livelihoods.

Furthermore, these assessments position the Island Institute as a leading authority on transforming working waterfronts for a climate-changed future. By combining emissions reduction strategies with climate adaptation measures, we are charting a course for a sustainable and prosperous future for Maine's coastal communities. These GHG assessments provide a roadmap for securing the long-term viability of Maine's seafood industry, and its working waterfronts, in the face of climate change. They demonstrate how targeted interventions can simultaneously reduce environmental impact, stabilize operational costs, and enhance resilience. Moving forward, collaboration between industry, government, and research institutions will be crucial in implementing these strategies and ensuring that Maine's seafood industry remains a model of sustainability.

Shrimp Vessels and Railways-Assessing Commercial Fishing Infrastructure in Coastal Georgia

Bryan Fluech, University of Georgia and Georgia Sea Grant, Athens, GA

The commercial shrimp fishery is Georgia's largest and most economically viable commercial fishing sector. Many of the state's commercial shrimp vessels are in various stages of disrepair. These deficiencies are often the result of a combination of factors including, but not limited to age, fishing activity, other financial burdens and/or regulatory constraints. Despite their significance, an in-depth assessment of conditions of Georgia's shrimp fleet and associated infrastructure have not been conducted previously. Such information can assist the Georgia Department of Natural Resources (GADNR) in identifying and prioritizing the most critical repairs and enhancements needed to help sustain its commercial fishing industry through the use of directed disaster funds and other relevant disaster response funding mechanisms. The "Vessels and Railways" project is part one of two efforts funded by the GADNR to identify opportunities to improve industry sustainability in conjunction with existing constraints on land use, environmental impacts, changing weather patterns, an aging fleet and physical infrastructure and changing vessel needs. Part 1, which was completed in 2024 specifically focused on commercial shrimp vessels in Georgia and the haul out facilities (aka railways) that support their maintenance and repairs. Researchers conducted semi-structured or unstructured interviews with 25 vessel owners/operators, two Georgia-based railway facilities, and five out-of-state boatyard facilities. The team solicited commercial shrimper feedback on the working status of their vessels, repair needs and estimated cost ranges for such repairs. Researchers also gathered perspectives about potential programs for funding vessel repairs through railways and/or boatyards, and the associated benefits and challenges associated with such an initiative. Using quantitative data collected from these interviews, the authors developed a Master Repair/Price List containing price

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ranges received along with a list of railways/boat yards interested in participating in potential repair programs to GADNR. Qualitative responses were also analyzed to identify common ideas about how best to invest in future sustainability of the industry, and the research team provided recommendations to GADNR based on these insider perspectives and preferences. As a result of these insights GADNR has already indicated they plan to utilize some previously unaccounted disaster funds to purchase safety gear for the eligible shrimpers. Part 2 of this collective effort also known as "Dock Stories" began in 2024 and builds off the results of the Vessels project. It involves the research team engaging current and historical owners and/or managers of operating commercial fishing docks in the state to gather data about dock histories, current dock conditions, and future resilience and longevity of each specific dock over a three-year period. This presentation will provide an overview of the Vessels project and share quantitative and qualitative research results as well as provide initial insights into the ongoing Dock Stories project.

Session F1

Location: Seaside, Marina Village Conference Center

Theme: Planning and Policy

Planning Forward for Climate Smart Working Waterfronts

Roundtable Discussion

Stephanie Sun, Gulf of Maine Research Institute, Portland, ME

Wild caught and aquaculture seafood provide significant opportunities to feed the world high quality foods with less climate impact than terrestrial agriculture. However, they are not without their own climate impacts. In this session you will hear from marine businesses and non-profit partners that are helping the Maine seafood industry lead the way in creating the low-carbon seafood supply chain of the future. The Island Institute, Luke's Lobster, Community Shellfish, and Maine Electric Boat Company will discuss the various research, initiatives, and actionable steps that they are taking to reduce the carbon footprint of Maine seafood, from ship to shore and throughout the entire supply chain. Participants will learn about the greenhouse gas emissions analysis done on the supply chain of Luke's Lobster that is identifying actionable and replicable steps that can reduce these emissions; they will also learn about the opportunities presented by the electrification of vessels and the build out of the shoreside infrastructure required for a such a transition; most importantly participants will hear from Community Shellfish and Luke's about the actual steps they have already taken to lower their climate impact, and how these same steps can be translated to the rest of the country. This panel seeks to demonstrate how the seafood sector and the working waterfront on which it relies can lead to ways in addressing the causes and consequences of a changing climate.

Session F2

Location: Terrace, Marina Village Conference Center

Theme: Workforce Development, Challenges, and Issues

Keeping the Work in Working Waterfronts: Development Programs to Sustain Livelihoods and Expand Access to the Blue Economy

Panel

Andrea Tomlinson, New England Young Fishermen's Alliance (Northeast)

Eric Brazer, Gulf of Mexico Reef Fish Shareholders Alliance (Gulf)

Linda Behnken, Alaska Longline Fishermen's Association (Alaska)

Imani Black, Minorities in Aquaculture (Chesapeake)

Kim Selkoe, Santa Barbara Commercial Fishermen (California)

This panel of experts will discuss a spectrum of workforce development, training and advocacy programs across the country aimed at securing a future for a Blue Economy in seafood-dependent coastal communities, including efforts to diversify the workforce and open doors for a wide range of maritime careers.

Session F3

Location: Coral, Marina Village Conference Center

Theme: Waterfront Infrastructure, Industries, and Innovations

Powering a Zero Emissions Future: Collaborative Pathways of San Diego's Working Waterfront

Panel

Renee Yarmy, Port of San Diego, San Diego, CA

Michael LaFleur, Port of San Diego, San Diego, CA

Sarah Marsh, Dole Fresh Fruit, San Diego, CA

Sophie Silvestri, Pasha Automotive Services, National City, CA

Abigail Struxness, SSA Marine, Seattle, WA

The Port of San Diego (Port) and its tenants maintain a collaborative partnership essential to regional economic growth, environmental sustainability, and community enrichment. As a landlord and operator, a significant portion of the Port's budget comes from agreements with tenants, making a collaborative partnership vital to funding waterfront improvements, economic development, and sustainability initiatives. The Port and tenants work together to align goals that foster a vibrant and sustainable waterfront that benefits the local economy and community.

The Port and the businesses and workers of the San Diego Working Waterfront (SDWW) are advancing zero emissions (ZE) maritime operations through the adoption and implementation of the Maritime Clean Air Strategy (MCAS). The MCAS, adopted in October 2021, identifies future projects and initiatives to improve public and environmental health through cleaner air while also supporting efficient and modern maritime operations. The collective vision of the Port and SDWW is "Health Equity for All" representing the commitment to environmental justice, specifically cleaner air for everyone on and around San Diego Bay. In addition to cleaner air and improved health, the Port recognizes that there are benefits to job creation, ambient noise reduction, ecosystem enhancement, knowledge and capacity building, education and training, and improved access to San Diego Bay. Nearly all MCAS goals and/or objectives go beyond State requirements for ZE, including:

- 100 percent of cargo handling equipment transitioned to ZE by 2030;
- 40 percent of the Port's annual cargo truck trips are performed by ZE trucks by June 30, 2026, with an increase to 100 percent by 2030;
- facilitate the deployment of the first all-electric tugboat in the United States by June 30, 2026; and
- 100 percent of the Port's fleet to transition to ZE by 2030.

With these progressive ZE measures, the MCAS outlines a thoughtful approach to maritime decarbonization,

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with first-ever technologies now in operation. As a leader in the port industry, the Port and SDWW aim to share lessons learned with other agencies progressing electrification, decarbonization, and ZE transportation solutions, with a focus on the early initiatives at the Port's terminals. These early initiatives include modernization of electrical and structural infrastructure dating back to the 1950s to support ZE cargo handling equipment, like the first two all-electric mobile harbor cranes in North America, construction of additional shore power, implementation of the first all-electric harbor tug, and forthcoming initiatives to advance ZE heavy-duty trucking. In addition, the Port has implemented a microgrid at the Tenth Avenue Marine Terminal to improve energy resiliency and reliability, and support growing electricity demands by installing a battery energy storage system and solar photovoltaic array.

Beyond the technical, financial, and operational cases analyzed, the Port and SDWW rely on the partnerships formed with our technology partners, regulatory agencies, the utility, and community partners to progress ZE maritime transportation solutions. The presentation will highlight the Port's and the SDWW multi-pronged and multi-agency collaborative approach to advance Port decarbonization efforts.

Session F4

Location: Anchor, Marina Village Conference Center

Theme: Impacts of and Adaptations to Climate Change

A Cross-Regional Gulf of Alaska Fishing Community Effort to Advance Understanding of Climate Adaptation and Resilence Planning

Panel

Marysia Symokowiak, NOAA Fisheries, Alaska Fisheries Science Center

Linda Behnken, Alaska Longline Fishermen's Association (Alaska)

Natalie Sattler. Alaska Longline Fishermen's Assocation (Alaska)

Kinsey Brown, Prince William Sound Science Center, Cordova, AK

Alaska fishing communities have a rich cultural history. Commercial fishing is also the economic engine which sustains the vibrant working waterfront and the largest private sector employer in the State. Commercial fishing provides food security, cultural transmission, and social connectivity. Each community has a unique working waterfront built in harmony with the geographic characteristics of the rugged, remote coastlines and community needs.
Gulf of Alaska coastal communities stand at the confluence of multiple climate-driven stressors and hazards. They face warming ocean and stream temperatures, ocean acidification, and extreme weather. For instance, warming oceans have been associated with declines in fish sizes, changes in fish stock distributions, declines in some species and increases in others, and changes in coastal habitats. These changes are already impacting human communities via changes in socioeconomic opportunities, decreased fishing participation, declining mental and physical health, and losses of heritage and cultural practices.
A cross-regional Gulf of Alaska fishing community effort is currently underway to advance understanding of climate adaptation and resilience planning. The hub communities of Kodiak, Cordova and Sitka are working with NOAA to identify key strategies to buffer fisheries, working waterfronts, and coastal cultures from the changes ahead. The goal is to support communities in withstanding anticipated shocks to social, economic, and natural systems from extreme events. With planning focused on maintaining and strengthening the working waterfronts that support resiliency, communities will be better equipped to both mitigate the negative impacts and take advantage of new opportunities that may emerge from climate-driven changes.

Our panel discussion will focus on three Gulf of Alaska hub communities, Kodiak, Cordova and Sitka and surrounding rural communities which are highly dependent on commercial fishing to support their local economies. These maritime communities are dependent on aging working waterfronts to support fishing fleets, processing capacity and diverse community interests while striving to plan for increased uncertainties in the fishing industry. Working together with a collaborative, inclusive and forward thinking approach, community leaders will share insight on plans and potential pathways for diversifying, upgrading, enhancing, and innovating working waterfronts in a changing marine environment.

Concurrent Session G1-G4

THURSDAY, FEBRUARY 6, 1:30 PM - 3:00 PM

Session G1

Location: Seaside, Marina Village Conference Center

Theme: Disaster Response and Funding

Tracking Down Infrastructure Funds: Opportunities for Ports

Roundtable Discussion

Lydia Nelson, Ocean Conservancy, Washington, D.C.

Adam Mistler, Ocean Conservancy, Washington, D.C.

Terrance Bankston, Friends of the Earth

Ports large and small are where the global economy meets – and is enabled by – our working waterfronts. Ports are drivers of local economies. They are also neighbors to communities that are on the frontline of the negative effects – smog, water pollution, lack of public access, to name a few – of having such shipping and industry nearby, however vital they may be both locally and globally.

The Inflation Reduction Act (IRA) and the Infrastructure Investment and Jobs Act (IIJA) included investments in both ports and the neighboring communities. Grant programs that were either created by or have seen an influx of funding from the IRA and IIJA, geared towards ports, can help them modernize, electrify, and clean up their operations, as well as protect and restore lands and wetlands they control. This doesn't just make them better neighbors but better positions them to compete and get local goods onto the global market. Firstly, this panel will discuss the opportunities presented to ports by the IRA and IIJA.

But all of the grant opportunities presented by the IRA and IIJA are spread across a variety of federal agencies and differ in their particulars. That is where the Green Ports Interactive Funding Tracker tool, which this panel will also look at, comes in. The Green Ports Interactive Funding Tracker consolidates information specifically for ports from the IRA and IIJA. This interactive tool also provides a user-friendly interface to search for funding options tailored to port decarbonization, infrastructure improvements and ocean conservation projects. By simplifying the tracking process, the Green Ports Interactive Funding Tracker supports ports in accessing critical resources needed to advance their sustainability goals and contribute to a healthier marine – and local – environment.

Session G2

Location: Terrace, Marina Village Conference Center

Theme: Waterfront Infrastructure, Industries, and Innovations

Enhancing Coexistence Between Ports, Whales, and Commercial Shipping: Lessons from the Pacific Northwest

Panel

Rachel Aronson, Maritime Blue, Seattle, WA

Jen McIntyre, Port of Vancouver, Vancouver, British Columbia, CA

Danielle Butsick, Port of Seattle, Seattle, WA

Jason Jordan, Northwest Seaport Alliance, Puget Sound, WA

Commercial shipping traffic can pose significant challenges to marine life, particularly to protected whale populations that navigate busy waterways. This panel session will highlight West Coast port leadership in innovative strategies and programs designed to mitigate the impact of underwater noise and vessel traffic on endangered whales.

Quiet Sound Program (Washington State)
The Quiet Sound program takes a collaborative approach to reducing underwater noise pollution. This collaborative initiative brings together stakeholders from the maritime industry, government agencies, and environmental organizations to implement measures that minimize the acoustic footprint of commercial vessels. Key strategies include voluntary vessel speed reductions, real-time whale monitoring systems, and public awareness campaigns. By fostering cooperation among diverse stakeholders, Quiet Sound aims to create a safer and quieter marine environment for endangered whales. Quiet Sound will highlight its strategic plan and projects led by Washington ports.

ECHO Program (British Columbia)
The Enhancing Cetacean Habitat and Observation (ECHO) Program in British Columbia is another pioneering effort focused on protecting whale populations from the adverse effects of shipping activities. Managed by the Vancouver Fraser Port Authority, the ECHO Program employs a science-based approach to understand and mitigate the impacts of underwater noise. Initiatives under this program include acoustic monitoring, conducting large scale voluntary ship slowdowns and route alterations, and the development of best practices for shipping companies. The ECHO Program's success lies in its ability to balance economic interests with environmental stewardship, setting a benchmark for other ports worldwide.

Port of Seattle's Underwater Noise Mitigation and Management Plan
The Port of Seattle has taken proactive steps to address underwater noise through its comprehensive Underwater Noise Mitigation and Management Plan. This plan outlines a series of measures aimed at better understanding and reducing the acoustic disturbances caused by port operations. Key components include piloting and adoption of new quieting technologies, enhanced monitoring of ambient noise conditions, and collaboration with shipping companies to implement noise-reducing practices. The Port of Seattle's commitment to sustainability and marine conservation is evident in its efforts to protect the region's rich marine biodiversity while supporting economic growth.

This panel session will provide an in-depth examination of these three exemplary programs, highlighting their successes, challenges, and lessons learned. Attendees will gain insights into the following key areas:
1. Collaborative Frameworks: Understanding how multi-stakeholder collaboration can lead to effective mitigation strategies with no impacts to maritime trade and safety
2. Policy and Regulation: Discussing the role of policy and regulatory frameworks in supporting noise reduction initiatives.
3. Science-based Management: Emphasizing the importance of science and adaptive management in improving the outcomes of these programs over time

By showcasing the Quiet Sound program, the ECHO Program, and the Port of Seattle's initiatives, this panel aims to inspire other ports and maritime stakeholders to adopt similar measures. The session will conclude with a Q&A segment, allowing participants to engage with panelists and explore opportunities for implementing these strategies in their own regions.

Session G3

Location: Coral, Marina Village Conference Center

Theme: Impacts of and Adaptations to Climate Change

Getting Credit for Doing the Right Thing: Sustainable Development Certifications

Panel

Joseph Sutkowi, Waterfront Alliance, New York, NY

Brittney Blokker, Green Marine, Seattle, WA

Concurrent Session G1-G4

THURSDAY, JULY 21, 1:30 PM - 3:00 PM

Sloane Perras, Clean Energy Terminals, U.S.

Building and operating working waterfront sites is complex. Doing it responsibly is harder. Facilities must balance the operational needs, economics, community relations, safety and security concerns, regulatory constraints, among a myriad of other challenges. Working waterfronts often sit at the crossroads of some of our most challenging societal issues. Waterfronts are our first line of defense against sea level rise and climate hazards. Shipping is one of the most carbon intensive activities by volume. Historic land uses are changing in nearly every community, and aquatic habitats are threatened and sensitive.

This panel will explore two certification systems that guide working waterfront facilities through the complexity. WEDG® (Waterfront Edge Design Guidelines) supports projects for design and construction and Green Marine certifies the maritime industry's operational performance. Together, these rating systems set standards for environmental and climate resilience excellence.

Rating systems like these help projects demonstrate to stakeholders in the community, in agencies and government, tenants, and investors that they are going above and beyond regulatory standards for environmental issues, community needs, and climate risk reduction. This panel will explore how the two systems work and complement one another with panelists representing both standards as well as a port that has incorporated both into its planning

Session G4

Location: Anchor, Marina Village Conference Center

Theme: Planning and Policy

Collaboration: How Ports & Communities Can Work Together

Dan Tucker, Whatcom Working Waterfront Coaltiion/ Foundation, Bellingham, WA

Jake Beattie, Northwest Maritime Center, Port Townsend, WA

Tyler Schroeder, Port of Bellingham, Bellingham, WA

Across the nation, communities and government work to tackle challenges and projects to achieve outcomes that will further our working waterfront infrastructure, help with workforce development, provide community enrichment and engagement, and provide economic opportunities. Sometimes, however, public officials such as Port Commissioners or Councils can have differing information, and perspectives, about how development should look along a waterfront. The communities themselves could be divided on what they want to see. The projects tackled also face challenges from communication and outreach before the solutions to the actual problems faced are taken on.

This panel will look at case studies across three organizations, two non-profit organizations that have formed networks across their region and a Port Authority that has worked with these non-profits. You'll hear about what has worked, and what hasn't worked in collaboration with and by these entities, and how Port authorities and communities can work together to achieve development goals.

The Whatcom Working Waterfront Coalition is a member-based 501c-6 that lobbies and advocates for maritime trades and economy in Whatcom County, Washington. Starting in response to luxury and retail development on prime trades and waterfront property, the group of businesses and fishermen aimed to be a positive influence on development going forward and create a needed balance and check against gentrification of the waterfront and the loss of viable lands for maritime trades. Hear from their program staff on building a collaborative network, messaging and outreach, and interfacing with public officials.

Northwest Maritime operates out of Port Townsend, supporting and advancing maritime heritage and culture. Port Townsend is home to a rich community of legacy industries such as canvas sailmakers, rigging shops, and a wooden boat school that, like many picturesque waterfront towns, have faced pressure from incoming migration of wealthy development. Over the past 20 years, Northwest Maritime has grown from a fairly narrow programmatic focus to one that now takes on broad, community challenges and is increasingly regional in its focus. They've made strategic decisions around how to expand, how and when to collaborate, and when to absorb projects into their own management. They have had nuanced and challenging conversations with their Port authority on what the character of the area should be. Director Jake Beattie shares how the NW Maritime Center has tackled growth, partnerships, and helped preserve Port Townsend's maritime character.

The Port of Bellingham, located in Whatcom County, Washington, operates with three non-partisan commissioners and enjoys collaboration from a diverse range of non-profit and business organizations. Tyler Schroeder, the Port's Director of Economic Development shares how strategic stakeholder partnerships with groups like the Whatcom Working Waterfront Coalition have helped the Port improve public outreach, overcome opposition, and implement projects which have a wide range of economic, environmental and community benefits.
Learn how local organizations and business networks such as the Coalition and NW Maritime Center have been able to have positive impacts for both Port Authorities and the community in their goals for preserving and growing the working waterfronts in the region.

Concurrent Session H1-H4

THURSDAY, FEBRUARY 6, 3:30 PM - 5:00 PM

Session H1

Location: Seaside, Marina Village Conference Center

Theme: Waterfront Infrastucture, Industries, and Innovations

Building the Capacity of West Coast Local Communities to Engage in Offshore Wind Energy Development: Sharing Lived Experiences

Jennifer McCann, Rhode Island Sea Grant, Narraganset, RI

Brandii O'Reagan, Washington Seae Grant, Seattle, WA

Tanner Etherton, California Sea Grant, Humboldt County, CA

Sara Swett, Oregon Sea Grant, Corvallis, OR

The West Coast of the United States is experiencing the accelerated growth of offshore wind energy development (OWE) as federal agencies and states consider options for meeting renewable energy goals. The U.S. Department of the Interior's Bureau of Ocean Energy Management (BOEM) aims to deploy 15 gigawatts of floating offshore wind by 2035, and much of this development is expected to occur off the West Coast. The expansion of this industry into the West Coast's blue economy sector will cause significant change for working waterfronts that could lead to positive and negative impacts to coastal host communities where these developments are planned to occur – many of which are under-resourced rural communities and Tribes who rely on their natural coastal environment as an economic, cultural, and ecological resource. Efforts are underway by federal, state and private sector entities to develop and enhance port and transmission infrastructure, bolster the domestic supply chain, and build a skilled and trained workforce, all necessary for this emerging industry to succeed.

The West Coast Sea Grant programs in California, Oregon, and Washington, are being requested by the people they serve – the fishing industry, Tribes, municipalities, researchers, civic organizations, and others – to help them better understand potential impacts and opportunities as well as provide them with knowledge and capacity to effectively engage in the sustainable growth and integration of this new industry. With support from the National Sea Grant Offshore Wind Energy Liaison Initiative and funding from Sea Grant, the U.S. Department of Energy and others, these Sea Grant Programs have been building upon the already trusted relationships they have established within these communities to provide technical and outreach support to respond to these requests.

During this session, the Sea Grant programs will give a brief overview of offshore wind development on the West Coast and Sea Grant's role within this process across their respective programs in California, Oregon, and Washington. This introduction will highlight lessons learned and best practices for constructively and authentically bolstering the capacity of coastal communities and resource users to enhance their ability to engage in the offshore wind energy development process. This will be followed by an interactive discussion with the audience around a specific set of questions to engage all participants in both sharing their experiences while also identifying additional lessons learned and best practices from other regions and situations. Questions may include identifying lessons learned we should take from grappling with others' similar situations, such as those related to oil and gas or aquaculture development, so they can be incorporated into these discussions. Other questions may concern the state of the science for the siting, implementation, operation, and monitoring of offshore wind farms, as well as the opportunities and challenges for introducing collaborative, multi-use activities, like aquaculture or marine tourism, into the offshore energy arena.

Session H2

Location: Terrace, Marina Village Conference Center

Theme: Workforce Development, Challenges, and Issues

Maritime Education and Workforce Development in Washington State: Preparing the Next Generation for Blue Economy Careers

Bridget Trosin, Washington Sea Grant, Seattle, WA

Deb Granger, Whatcom Working Waterfront Foundation, Bellingham, WA

Sierra Oliver, Whatcom Working Waterfront Foundation, Bellingham, WA

Robert Maw, Washington Sea Grant, Seattle, WA

Washington State, with its extensive coastline and rich maritime heritage, is pioneering innovative educational programs and workforce initiatives to support its thriving blue economy. This session explores the landscape of maritime education and workforce development in the state, focusing on key programs that address the evolving needs of industries ranging from aquaculture, commercial fishing and maritime trades.

Washington Sea Grant offers an aquaculture training program called "Tides Out" for both new aquaculture crew and experienced managers. Crew and potential new entrants to the shellfish industry learn about shellfish farming and processing, shellfish biology, safety and career opportunities. Managers learn leadership skills, employee retention strategies and employee safety and well-being practices. These courses are also bilingual for English/ Spanish speakers to meet the needs of the industry.
Recently, Washington Sea Grant launched "Skills Ahoy! Empowering Young Fishermen and Crew through Development and Skills Training." This initiative targets the next generation of commercial fishing professionals, combining practical skills training with education on sustainable fishing practices, marine safety, and business management.

The Whatcom Working Waterfront Foundation's Northwest Maritime Apprenticeship program takes a hands-on, industry-driven approach to workforce development. This program addresses the critical need for skilled workers in traditional maritime trades, offering a structured pathway that combines on-the-job training with classroom instruction. The apprenticeship specifically trains marine service technicians, with apprentices gaining experience in areas such as vessel maintenance, marine electrical systems, and engine repair while earning industry-recognized certifications. Recognizing the importance of early career exposure, the Foundation has also launched "Buoyant Beginnings," a pre-apprenticeship program designed for youth, in partnership with the Lummi Nation. This collaboration underscores a commitment to inclusivity and respect for Indigenous maritime traditions. Buoyant Beginnings serves as a bridge between high school and maritime careers, offering young people exposure to various maritime professions, basic skills training, and mentorship opportunities.

A key strength of these programs is their close collaboration with local employers and Indigenous communities, ensuring that skills taught align with both industry needs and cultural values. This partnership approach addresses the longstanding skills gap in the maritime sector, where an aging workforce and rapidly evolving technology have created demand for new talent with updated skill sets. As Washington State positions itself as a leader in the blue economy, these educational and workforce development initiatives play an increasingly vital role. By investing in human capital across all age groups, fostering lifelong learning, and embracing cultural diversity, the state ensures its maritime heritage continues to thrive in the 21st century and beyond.

The diverse range of programs – from academic research initiatives to vocational training for marine service technicians and culturally-informed youth pre-apprenticeships – demonstrates Washington's comprehensive and inclusive approach to maritime education and workforce development. This multifaceted strategy aims to keep the state's maritime

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THURSDAY, FEBRUARY 6, 3:30 PM - 5:00 PM

sector competitive, resilient, and attractive to new generations of workers from various backgrounds, securing its position as a cornerstone of the regional economy for years to come.

POSTER SESSION ABSTRACTS

TUESDAY, FEBRUARY 4, 5:30 PM - 6:30 PM

Location: Seaside, Marina Village Conference Center

Poster 1

Theme: Impacts of and Adaptations to Climate Change

Use and Change at Maine's Public Waterfront Facilities

Melissa Britsch, Maine Coastal Program, Augusta, ME

Public boating facilities (boat launches and public piers) in Maine are experiencing crowding due to a variety of factors, including use by diverse commercial fishers and farmers and an increase in recreational use during the COVID-19 pandemic. Maine's coast also experienced substantial infrastructure damage during winter storms in early 2024, which likely pushed additional users to public facilities when private ones were damaged. This study was designed to learn more about the amount and type of use at public boating facilities, as well as changes in the balance of recreational to commercial use in recent years. This will help clarify management needs and the interactions of recreational and commercial use at public facilities statewide.

Maine Coastal Program partnered with the University of Maine to do a study of public boating facilities by surveying site managers, primarily harbor masters, and following up with detailed interviews with a smaller number of participants. The surveys and interviews took place in spring 2024, and a technical report was produced by UMaine. The final step is to create a policy document to help guide the state's approach to boating facility management, grant programs, and access efforts. This process is underway and will be completed in early 2025. In addition to the technical report and policy document, GIS maps will be made showing the locations of surveyed sites and relevant site amenity data that were captured by the survey. This information will eventually be incorporated into the updated Maine Coastal Public Access Guide as a standalone boating layer and will also be shared with groups studying working waterfronts in Maine.

We received survey responses from 47 coastal towns covering 117 coastal public boating facilities. Nine interviews were also completed with participants in each of Maine's three primary coastal regions. Respondents shared information about the use of sites, amenities, and recent climate impacts, as well as concerns for the future. We found that the balance of commercial to recreational use has changed at many sites, but there isn't a clear statewide trend. There is considerable need for more boating access, especially sites that are ADA compliant, and site managers are dealing with aging infrastructure and are finding that maintenance needs are becoming more complex and costly as climate impacts are felt. Site managers need support for maintenance as well as resilience improvements to keep sites useable in the future. We also found that short-term rentals have complex impacts, as sites may not be experiencing a net increase in use but are consistently having new users. The impact of short-term rentals on costal public boating facilities, as well as coastal towns in general, needs more attention. This poster will outline the study methods, results, and key takeaways, as well as future plans for the project and how it will support other efforts related to inventorying working waterfronts in Maine and protecting and expanding commercial fishing access.

Poster 2

Theme: Waterfront Infrastructure, Industries, and Innovations

Just How Noisy Is It?: Designing an Underwater Noise Monitoring Program for San Diego Bay

Jason Gonsalves, Port of San Diego, San Diego, CA

The Port of San Diego (Port) has been a certified member of Green Marine since 2018, the leading environmental certification program for North America's maritime industry. Green Marine targets key environmental issues related to biodiversity protection, air, water, and soil quality, and community relations. Green Marine provides a level 1-5 rating system that the Port uses to evaluate its progress across ten environmental performance indicators. The scoring range starts out with monitoring and compliance with existing law at level 1 and grows in complexity from there to compilation of information and research at level 2, plans and strategies at level 3, implementation at level 4, and measured achievement at level 5. Currently, the Port ranks in the top 10% of all participating seaports in the program and has achieved the highest marks (level 5) across all environmental performance indicators except for underwater noise (level 2). To increase the Port's ranking on the underwater noise performance indicator, the Port has begun the process of moving into the planning and strategizing phase (level 3), which requires the Port to produce an Underwater Noise Mitigation and Management Plan (UNMMP) and an ambient underwater noise monitoring program. T

he UNMMP will incorporate underwater noise reduction and mitigation options and best practices for both acute and chronic noise-generating activities including construction and vessel movement. The ambient underwater noise monitoring program will incorporate data to understand the local ambient underwater noise conditions in San Diego Bay and determine the objectives, methods, locations, and frequencies for monitoring. The Port will use the UNMMP and the ambient underwater noise monitoring program to increase the Port's knowledge of underwater noise sources, levels, and impacts in and around the bay associated with construction, commercial shipping lanes, navy operations, and vessel movement. The goal is to ultimately achieve a level 5 score in the underwater noise performance indicator of the Green Marine program.

Poster 3

Theme: Workforce Development, Challenges, and Issues

Maritime Economy and Research Institute for Sustainability, MERIS

Stephen Seymour, Working Waterfront Foundation / Drayton Harbor Oyster Company

MERIS is a marine-centric multi-use hub for the aquaculture and fishery industry that uses existing capital, resources, and a unique location to support applied research, training, and workforce development applicable to sustainable marine food production. MERIS is the place where significant applied R&D tackles the prevalent issues affecting aquaculture growth in the Salish Sea & Georgia Basin.

The project elevates the community and Salish Sea region by connecting and capitalizing on existing human, natural, and built resources and infrastructure unique to Blaine, WA.MERIS would result in direct reinvestment of intellectual capital and research pertinent not only to the Drayton Harbor and North Puget Sound basins but have application to urbanizing coastal systems nationally and internationally.

Poster 4

Theme: Maritime Community, Culture, and Heritage

Collaborative Approaches to Celebrating, Maintaining, and Sharing Washington's Maritime Heritage

Deb Granger, Whatcom Working Waterfront Coalition, Bellingham, WA

POSTER SESSION ABSTRACTS

TUESDAY, FEBRUARY 4, 5:30 PM - 6:30 PM

This poster will showcase strategies employed by the Maritime Washington National Heritage Area (MWNHA) to strengthen working waterfronts by promoting maritime heritage, empowering local communities, and generating sustainable partnerships. Washington State's shorelines are deeply defined by maritime heritage, a legacy that has shaped the region's communities, economy, and identity since time immemorial. The 2019 designation of MWNHA recognized the importance of these saltwater shores and water-based ways of life, validating a long-held local pride in our maritime traditions. As a non-regulatory partnership program, MWNHA celebrates and preserves Washington's water-based cultures through public engagement, advocacy, education, and support for heritage stewards. A strong public appreciation for maritime heritage contributes to broader goals for working waterfronts in advocacy, policy, and workforce development. In addition to preserving their historic waterfront buildings and vessels, communities that value their maritime heritage are more likely to support the policies and initiatives needed to sustain modern working waterfronts into the future. National Heritage Areas (NHAs) are designated by Congress as places where natural, cultural, and historic resources combine to form cohesive, nationally significant landscapes. With support from the National Park Service, each NHA supports local heritage efforts through technical expertise, funding, advocacy support, interpretation, partnership development, and more. With 62 NHAs across the country—many of which include coastal areas—there are plenty of working waterfronts with access to support from NHAs. However, the strategies highlighted in this poster will provide valuable, adaptable tools for working waterfronts outside of NHAs as well, offering proven methods for building public appreciation, encouraging stewardship, and strengthening advocacy efforts around maritime heritage. The poster will feature several maritime heritage initiatives facilitated by MWNHA that offer replicable approaches for those working to preserve and promote waterfronts throughout the country. These may include: 1. Creating the Maritime Washington Partner Network: MWNHA has developed a formal network of cross-sector partners—including private and public organizations, governments, and Tribes—focused on preserving Washington's rich maritime heritage. MWNHA supports this network by offering technical resources, funding guidance, workshops, and training opportunities. 2. Securing federal funding for climate adaptation of historic waterfront properties: through the Paul Bruhn Historic Revitalization Grants Program, MWNHA is bringing federal funding and resources to Washington to help historic maritime buildings and structures adapt to rising sea levels. This work draws attention to the climate challenges facing working waterfronts while equipping communities to safeguard their heritage. 3. Highlighting modern working waterfront stories: through ongoing storytelling projects, MWNHA showcases contemporary maritime workers to inspire the next generation and strengthen public awareness of waterfront industries. Successful projects to date include a monthly "Women on the Waterfront" profile series, photo essays highlighting waterfront businesses, and an Emmy award-winning video series titled "This is Maritime Washington." 4. Promoting waterfront tourism: MWNHA encourages residents to engage with their working waterfronts in order to drive additional revenue to local businesses and foster public appreciation for maritime trades and industries. Through marketing campaigns, travel itineraries, and public events, MWNHA shows Washingtonians how to experience the waterfront firsthand.