

A Sense of the 4th National Working Waterfronts and Waterways Symposium



*Connecting and uniting stakeholders
from across the U.S.*

Tampa, Florida

November 16–19, 2015





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Executive Summary

“A Sense of the Symposium” serves as a summary and guide to the 2015 National Working Waterfronts and Waterways Symposium. The three-day Symposium in Tampa, Florida brought together people from a broad spectrum of water-dependent industries and coastal communities to share experiences, learn from one another, and plan for the future. The Symposium was hosted by the National Working Waterfront Network (NWWN), which seeks to “increase the capacity of those who rely on, support, and enhance our nation’s working waterfronts and waterways to ensure continued viability.” The 2015 event was the 4th symposium hosted by the NWWN in the 6 years since its formation.

Eight key themes and several subthemes emerged from the Symposium, primarily from the panel presentations, field trips, and roundtable discussions. The following is a summary of those themes and subthemes. More details on those sessions and their presenters are provided in the body of the report.

KEY THEMES:

1) Building Awareness of Future Trends and Needs:

This theme consisted of the importance of identifying and understanding common needs (including physical infrastructure, changes to the environmental resources, economics, regulations, and social pressures) as they are crucial for anticipating and preparing for change, and leveraging opportunities.

Subthemes in this section include:

- Transition and Transformation of Working Waterfronts – waterfront users and managers adapting to changing waterfront uses
- Case Studies in Change – accommodating and implementing change with limited resources
- Tools for Workforce Development and Training (or Retraining) – case studies in strategies for workforce planning

2) Increase Public Awareness and Acceptance of Marine Industry:

A working waterfront that is visible and promoted will likely be valued and appreciated to a greater extent. Establishing a personal or economic connection between the working waterfront and the “general” community strengthens social bonds, a sense of ownership, and can better engage the support of civic leaders, elected officials, and citizens’ groups.

Subthemes in this section include:

- Promoting Awareness About, and Engagement in, Specific Issues Among Stakeholders – engaging stakeholders on specific and distinct issues of interest provides common ground for awareness, sense of value, and consensus

- Clarifying Needs and Communicating Them Effectively (Messaging) – identifying and framing key information (talking points) while avoiding hot-button concepts (or focusing on solutions) results in more successful support from waterfront communities

3) Strength and Stability Through Collaboration / Partnerships / Federations:

The working waterfront is diverse but interrelated. Case studies from around the country show how coordination and cooperation among marine-dependent industries leverages knowledge and resources for more successful outcomes.

4) Information Driven Decision-Making:

Data and information are critical to making informed, defensible, and sustainable decisions. Reviewing the landscape of studies, datasets, and reports developed by public agencies, private companies, and nonprofit organizations at the outset of a project may reduce the need to collect new data.

Subthemes in this section include:

- Assessing Data Sources and Associated Issues – users should evaluate and assure the soundness of data sources and collection methods before use

5) Case Studies in Successful Tools / Approaches / Strategies Used in Projects:

Developing and implementing new programs or projects requires sound planning and strategies that ensure stakeholder and the greater community's needs and expectations are met, goals are reached, and hurdles are overcome. These case studies highlighted a variety of methods used to achieve successful outcomes.

Subthemes in this section include case studies in:

- Planning – land use planning tools such as zoning regulations and redevelopment plans, as well as financial planning tools, like quota banks and loan programs, can be effective avenues for developing, supporting and strengthening the working waterfront
- Evaluation / Monitoring – evaluating existing resources and monitoring the outcome of programs enables the development of new tools and refinement of existing tools/approaches
- Financing – innovative ways for small scale operators to participate in the industry
- Multiple Uses / Diversification – diversifying the use of waterfront property, overwater infrastructure, and resource management structures benefits multiple industry participants
- Best Practices – highlighting elements of a success, from pilot programs to funding, stakeholder meetings and program design
- Innovate Solutions – as challenges on the working waterfront evolve and change, new solutions are being developed to address them

6) Case Studies Highlighting Culture / Traditions as Driver for Preservation and Support: Fishing and other waterfront industries have a strong cultural component that can be a powerful addition to any project.

7) Navigating and Leveraging Permitting / Regulations / Licensing: Permitting and regulations can present hurdles for working waterfront projects; however, they can also be used to promote, secure, and support maritime infrastructure and land use.

8) Applying Lessons Learned: Successful programs require monitoring and assessment, and the flexibility to change direction as needed. Adaptive planning and management is challenging in a dynamic, multi-stakeholder setting, but imperative for success.

In addition to a summary of the key themes and subthemes from the Symposium, “A Sense of the Symposium” provides a list of all Symposium presentations, including the topic, speaker name, and presentation title.

Purpose of the Symposium

The National Working Waterfronts & Waterways Symposium is the crown jewel of the National Working Waterfront Network.¹ People from across the United States attend the symposium to connect with one another and showcase (and initiate) innovative solutions to their waterfront issues. The symposium is made up of panel presentations, field trips, and roundtable discussions. The ultimate goal of the symposium, and the Network, is to increase the capacity of saltwater- and freshwater-based coastal communities, educational institutions, and stakeholders to make informed decisions, balance diverse uses, ensure access, and plan for the future of their working waterfronts. Working waterfronts include waterfront lands, waterfront infrastructure, and waterways that are used for water-dependent activities, such as ports, marinas, small recreational boat harbors, fishing docks and hundreds of other places across the country where people use and access the water.

Working Waterfront Issues of Importance to Symposium Attendees (%)	
Maritime Industry	51%
Ports and Harbors	51%
Resource Management	49%
Education	47%
Culture / Heritage	46%
Land Use	46%
Tourism	43%
Commercial Fishing	39%
Aquaculture	28%
Ocean Energy	16%
Recreational Boating	16%
Economics / Development	12%

**multiple selections possible*

The purpose of the triennial symposium is to:

- Connect and unite stakeholders from across the U.S. and to showcase (and initiate) innovative, successful, and timely solutions to waterfront and waterway issues.
- Provide attendees an opportunity to network with others who are involved in the same types of professional issues and, together, develop strategies, timelines, funding sources, and alliances to address them.

By design, the symposium moves around the country to highlight the diversity of our nation's working waterfronts; to foster a cross-fertilization of ideas, knowledge and solutions; and to generate broader strategic partnerships. The 1st symposium was held in Virginia, the 2nd in Maine, the 3rd in Washington State, and the 4th symposium in Florida. The 5th symposium will be held in Grand Rapids, Michigan from May 14 – May 17, 2018, and will focus on the Great Lakes, The Nation's Freshwater Working Waterfronts.² Each symposium location

The symposium provided information to support decision-making and management actions

Strongly Agree	56%
Agree	40%
Neutral	4%
Disagree	0%
Strongly Disagree	0%

The symposium provided adequate opportunities for networking among stakeholders

Strongly Agree	75%
Agree	24%
Neutral	1%
Disagree	0%
Strongly Disagree	0%

¹ For more information about the National Working Waterfront Network please visit

<http://www.wateraccessus.com/>

² Updates on the 5th symposium can be found here: <http://www.miseagrant.umich.edu/nwwws/>

offers unique opportunities to observe the working waterfront during site visits, providing insights into on-the-ground operations and innovative problem-solving.

The 4th Symposium, held in Tampa Florida drew over 200 people and offered plenaries, round table discussions, traditional sessions and poster sessions with over 100 presenters on topics including aquaculture, resilience planning, commercial fishing, connecting tourism with working waterfronts, climate adaptation, open spaces and waterfront recreational opportunities, maritime heritage, recreational boating, public access, marine spatial planning and more.

Affiliation of Attendees	
Sea Grant Program	24%
State Government	14%
County Government	13%
Non-Profit Organization	12%
Academic Institution	9%
Federal Government	7%
City Government	6%
Private Consultant	6%
Business	5%
Regional Government	3%

Seven field trips were offered during the Symposium on Tampa's 400 square mile bay. The field trips gave participants real-time experience on the vibrancy of urban waterfronts, active commercial fishing operations, and world-class educational and recreational resources:

- City of St. Petersburg's Dynamic Downtown Waterfront
- Clearwater's Docks, Marina and Marine Aquarium
- Cortez: The Little Fishing Village That Could
- Historic Tarpon Springs Waterfront
- Tampa Bay Commercial Shrimp Docks and Shrimp Processing Plant Tour
- The City of Tampa Riverwalk and the Port of Tampa Experience
- Weedon Island Preserve

The symposium met my expectations for learning	
Strongly Agree	60%
Agree	38%
Neutral	3%
Disagree	0%
Strongly Disagree	0%

Key Themes of the 4th Symposium

Below are key themes that arose throughout the 4th Symposium. The themes were extracted from notes taken by volunteers attending sessions and from a review of the PowerPoint presentations, when available. As can be expected, the selection of themes will be subject to some unintentional bias on the part of those compiling this document. Furthermore, there may be some duplication in that some points may fall into more than one theme. Nonetheless, we believe that the document gives a good overview of salient points to take away from the 4th Symposium.

NOTE: Each theme below begins with a brief overview, after which follow bulleted topics (points) extracted from the notes and session PowerPoints. At the end of each bullet point is a "Topic Identifier" in parentheses (e.g., (D1.1) that references the particular presentation or panel session where the item was mentioned. The last section of this document lists all symposium presentations and, for each one, includes the topic identifier, speaker name(s), and presentation

title(s). This will enable the reader to retrieve particular PowerPoints of interest and/or contact the speaker if need be.³

Theme 1: Building Awareness of Future Trends and Needs

Theme 1 focuses on the necessity to “develop a better understanding of industry needs and issues” in order to adequately address them. This includes becoming better aware of future trends so that we can stay ahead of and prepare for possible threats, as well as take advantage of potential opportunities. Moreover, since “past is prologue,” we cannot afford to forget the lessons of history – or how we got to where we are today. Sub-themes include the transition/transformation of working waterfronts; challenges faced by small communities, industry groups and others; and a specific focus on workforce development and (re)training. Some industry sectors are dealing with an aging workforce, some in highly skilled and well-paid jobs. Other sectors are dominated by self-employed and/or small businesses (often family based) whose needs may be similar (aging with no young folks replacing them) or different. Symposium speakers provided insights as to the many forces that shape industries and working waterfronts, and highlighted the methods used by practitioners to uncover, understand, and address these forces and their implications.

- Develop a better understanding of industry needs and issues - for example, the Washington state biennial survey used to determine workforce needs of the maritime industry. (A3)
- Deteriorating infrastructure (marinas and harbors); lack of funding. (B2.1)
- Marina preparedness project envisioned after Superstorm Sandy; noted data showing increased frequency of coastal storms. (B2.4)
- The decline of traditional fisheries due to a variety of reasons (e.g., stock decline; climate change; regulations; loss of access; historic overfishing; recreational vs. commercial fishing; changing ocean). Particular focus is on the people (not necessarily the businesses): training programs in new fields for fishermen - e.g., seaweed/aquaculture farming. (B3.3, D3.2)
- The Maine Shared Waters course was developed in response to warming waters, resource fluctuations, limited access to permits/licenses, monolithic lobster fishery. (B3.3)
- Increased flooding over 20 to 50-year period. (B4.2)
- Projected growth in transportation needs between now and 2045; and the growth in exports/imports to ports. (C3.3)
 - Projected growth of dredge spoil from intracoastal waterways and a shortage of existing spoil sites (and the regulations that restrict siting).
 - For the Atlantic Intracoastal Waterway to provide reliable recreational and commercial service, all the links in the chain must be strong and states must receive adequate funding for dredging to maintain navigational safety.

³ PowerPoint presentations and other symposium materials can be downloaded at <http://www.conference.ifas.ufl.edu/NWWWS/index.html> (under Program -> Agenda). In case the presentations are moved from this site in the future, please check the Network site: <http://www.wateraccessus.com/>.

- Dredge material management: Environmental movement (70's) spurred tighter regulations for managing dredge materials and spurred beneficial uses (beach renourishment, shoreline stabilization, etc.); but also led to shortage in spoil management sites. (C3.3)
- The existing (continuing) trend in the economics of fishing villages - decline in fish landings; processors/wholesalers/cold storage looking elsewhere (imports) for product; increase in regulators/enforcement/researchers as component of fishing economy; tourism as "go-to" replacement economy (where once was a subcomponent). (D1.2)
- Large industry on waterfront more and more non-water dependent. (D1.2)
- Studies since 2005 by local/state/federal entities showing vulnerabilities (flood, dollars) in waterfront areas. Projecting flooded areas (e.g., for 2050) using LiDAR data to show areas inundated and the estimated losses/financial impacts. (D2.2)
- Maine Waterfront Access program resulted from study showing loss of commercial fishing access points. Coalition formed: approached legislature, which then added component to existing Maine Future Land's program. (D3.4)
- Maine aquaculture training program established because fishing in decline; lobster fishery stable, but hard for newcomers to gain entry. (D3.4)
- Challenges facing commercial fishing industry: loss of access and infrastructure (along with increased regulations; changing ocean; historic overfishing; recreational fishing). (D3.2)
- Trend of losing landing sites. Dredging of Aberdeen Creek (VA) to support landings site for local watermen; site one of few left. (E1.4)
- "Development decisions that are being made today are committing public and private capital to land use patterns and associated infrastructure and facilities with design lives that reach well into the period of time when the impacts of sea level rise will be felt." Robert E. Deyle, Katherine C. Bailey and Anthony Matheny. (E2.2)
- "Most seawalls only have a 30-year lifespan, so they will need to be rebuilt. Building them with the standard that is necessary for sea level rise is the most efficient and effective method." Bruce Mowry, City Engineer, City of Miami Beach. (E2.2)
- NC menhaden fishery collapse - waterfront gentrified and "touristified." Oral history completed to capture past. (E3.2)
- Anchoring in Florida did not use to be an issue, but has become one. State is developing options and presenting them to the public. (E4)

Transition and Transformation of Working Waterfronts

- Knowing the history of ports and what they are becoming. (A2.1-4)
- South Carolina working waterfronts started with commercial fishing, then added industrial type uses; now tourism, development, and other uses. (C2.1)
- Transition from traditional fishing to something that matches the regulatory/global environment that we live in. (D3.2)
- Boston waterfront shift from industrial use to environmental/recreational asset, with more real estate development. (A2 post presentation discussions)
- (Re)connecting downtown to waterfront. Michigan - South Haven purchased former industrial land and transient marina - purpose to encourage tourism and visits to downtown - waterfront amenities (residents and tourists alike) - greenway connects waterfront & downtown. (E1.3)

- History - waterfronts - strategic ports, transportation, protection, waste disposal, power plants (need water), food supply. Urban centers develop around ports - industry located on waterfront for access to ports and transportation. Big movement in many cities to transform brownfields (old industry) into new uses ("redevelopment") - largely those uses are recreation/tourism based. (E2.4)
- Redevelopment of waterfronts (brownfields) - there are many objectives - many for recreation/tourism - Others for maintaining industry for "social justice" and economic diversity. (E2.4)

Case Studies in Change

- WA Maritime – North Pacific fleet recapitalization. (A3)
- "How can NWWN help local communities to communicate the economic importance of their working waterfronts when measuring this economic importance is so difficult?" (D1.4)
- Tough to present the benefits of resiliency, because the return isn't instant. Tough when investment on the line. (If can show benefits and get reduction in insurance, that would be big help.). (D2.3)
- The need for money, but competing needs and community priorities: e.g., schools, law enforcement, parks, etc. (D2.2)
- Transitioning from vulnerability to mitigation options (5 steps to resilience in US climate change toolkit); finding money. (D2.2)
- Resiliency communication: tough when investments large. We (city) give third party information and scenarios and say here is the information, you make the decision. (D2.2)
- A lot of planning, but little action. (D2.2)
- "Process" is usually long and difficult – need to be prepared to persevere. (E1.3)
- MI - Detroit - Riverwalk access - required significant time and resources to resolve access issues with individual property owners. (E1.3)
- MI - Detroit - need to creatively search for solutions that provide public access but also protect property rights and privacy. Balance. (E1.3)
- Ways to fund dredging (Aberdeen Creek, VA). (E1.4)
- "Active industry and the historic legacy of contamination pose the threat of toxic releases caused by coastal flooding." (E2.4)
- Lifestyle choices. e.g., FL Keys - living off the grid. Boat insurance only required if boats are financed. (E4)

Tools for Workforce Development and Training (or Retraining)

- Educational capacity - does it meet industry needs? Teachers? Curriculum? (A3)
- WA Maritime - maritime workforce development/training funding mechanisms; tax reductions/clean tech incentives. (A3)
- WA SG projects - grant funds to develop workforce-targeted programs (awareness of careers/pathways to careers/teacher training/curriculum development). (A3)
- National Maritime Strategy (five goals) - Modernize, educate, train, and recruit the next generation of mariners. (USDOT, Maritime Administration). (C3.1)
- MA - Quota bank and loan programs for fishermen require them to participate in trainings on business and fishing practices and to attend quarterly meetings. (D3.3)

- Training program for economically challenged fishing communities - partnership with extension service, aquaculture associations, aquaculture R&D, CEI, fishermen students. Goal: 25% who participate start a business. (D3.4)
- Fish 2.0. Reward innovative ideas for fishery sustainability. Competition. Winners get technical assistance (and more). (D3.4)
- Training of permitting staff. (D4 post presentation discussions)

Theme 2: Increase Public Awareness and Acceptance of Marine Industry

A recurrent theme expressed in many presentations was the need to make people (public, stakeholders, constituents, etc.) aware of the “industry.” Working waterfronts comprise a diversity of activities (industries), but we have no 800 lb. gorilla that can be our standard-bearer, so to speak, and help us better address the question: Why should people care? The first set of entries that follow show how colleagues are attempting to make various aspects of working waterfronts (and industry) more visible, accepted, and valued.

Two sub-themes follow the first set of entries, both of which also address communication, but from different perspectives. The first is about promoting awareness about, and engagement in, specific issues among stakeholders: for example, climate change and sea level rise. The target audiences in the second sub-theme are more defined and show how messaging must be tailored to account for their unique circumstances, their priorities, and their biases.

- Making the industry more visible (and accepted):
 - FL - Cedar Key Everlasting Publication to educate people about shellfish industry. (A1.4)
 - ME - brochure to educate people about the WWF and its importance. Given to realtors to educate future citizens. (A1 post presentation discussion)
 - WA - Maritime Day in Olympia (aimed at legislators); Washington Maritime Reception for National Conference of State Legislators (emphasize economic impact and number of living-wage jobs). (A3)
 - CA - Santa Barbara Harbor Festival - Open docks, fishermen on boat with gear, stalls where fresh fish sold and prepared. Also brought fishermen into local classrooms to enhance learning experience for students. Marketing of seafood. (B1.4)
 - CA - Half Moon Bay - Off boat seafood sales. "Provides connection with community, increases earnings, but small volume." (B1.4)
 - OR & NC - Shopping on the dock; “Dock walk.” Direct marketing of seafood (mainly to increase income of fishermen). (C4)
 - OR - created apps and tools for "Connecting tourists and the working waterfront." (C4)
 - NC - building fish house where public can purchase seafood, learn about the industry and see the commercial fleet in action. Fish house includes outreach/education component. Tourism brought into contact with commercial fishing industry. (D3.2)
 - NC - Walking-Fish.org co-operative - Community Supported Fishery (CSF). Links fishermen on NC coast to consumers. Direct marketing (www.localcatch.org) of fish to public (purchase of shares) increases visibility of, and contact with, the fishing industry. Help local community fishermen. (D3.2)

- Information to decision-makers - reports that profile the industry in relation to other industries. (A3)
- A highly mobile U.S. population means there is a continual influx of new people in many coastal areas (e.g., residents/tourists). Need to be continually telling our [WWF] story. (A3)
- SC - more investment in WW planning outcomes if people are invested (know about) the history of the locale. (C2.1-2)
- Showing return on investment - how much is needed to maintain the Atlantic Intracoastal Waterway (AIWW) and how much the AIWW provides in economic return (total economic output, wages, number of jobs); i.e., why bother with maintenance dredging? (C3.1)
- The history of the Atlantic Intracoastal Waterway (AIWW) as a way to make a more emotional, personal connection with people; or a patriotic connection; how we as a nation have risen above adversity and striven to improve. For example, German U-boats sinking cargo ships right off the east coast led to U.S. government authorizing improvements to AIWW to make shipping safer. (C3.1)
- Branding the Atlantic Intracoastal Waterway (AIWW) as "Marine Highway 95" because people can relate to the concept of an interstate highway that transports goods and services. (C3.1)
- CT - Marine Trades Association works with legislators to impress upon them the importance of marine economy to state. (D1 roundtable discussion)
- The importance of having and relaying information on the economics of industry (even down to specifics, like species, etc.) (D1 roundtable discussion)
- Getting people to engage with the waterfront (e.g., walks). This gets them in touch with the waterfront at a visceral level. (D2.3)
- Oral histories. (E3.1-4)

Promoting Awareness About, and Engagement in, Specific Issues Among Stakeholders

- Why? So as to understand their issues; so as to increase likelihood of stakeholders preparing/adapting/responding - i.e., doing what you would like them to do/or what is best for them (and for society/environment). (B2.4)
- Survey of residents (all postal addresses) in two communities to determine their support for dredging. (B4.2)
- NOAA Coast Survey Inquiry and Discrepancy Management System (IDMS) facilitates connection with users of NOAA Coast Survey products. (B4.4)
- City working with Portland Society of Architecture (a leader) and providing them with names of owners of pier property and encouraging owners to participate in process; also encouraging City staff and elected official to participate in process. (D2.2)
- Reaching out to public is useful, but can be tricky, especially for long-term projects. (D2.3)
- Numerous community meetings and public hearings were needed to come to agreement on PORT design. (E1.1)
- Salt industry people met several times with community people - the result was operations agreements that benefit both. (E1.1)
- Public involvement/engagement at all levels throughout the process. Engage early and often. Provide opportunities to participate in future project planning. (E1.3)

- Create a large "tent" that includes public, business, and community organizations in design, funding and implementation. Community engaged via meetings, workshops, and stakeholder interviews.
- Escanaba (MI) and other SmithGroupJJR projects incorporated community identifying what they want on waterfront. Use tried and true public engagement process.
- Fishtown (MI) - meeting with business owners to understand their use of site for operations. Finding common goals between each business owner, stakeholder and community is difficult but important.
- Why sea level rise matters in Florida? Population on coast; infrastructure and facilities; built-environment. (E2.2)
- Climate Compact language - spell out what is at risk; what the area faces in the future. (E2.2)
- Online sea level rise scenario tools that show, visually, what the future prospects are. (E2.2)
- Anchoring is a controversial issue in Florida. State engaged the public through a survey and presented them with options (12,000 people responded). (E4)

Clarifying Needs and Communicating Them Effectively (Messaging)

- Great Lakes marina/harbor operators - information overload; controversy/uncertainty; focus on day-to-day operations. (B2.1)
 - Aha moments about framing the issue/question: for example, operational risk as opposed to climate-related risk resonated better with operators; e.g., Operational risk - storm damage.
 - Extension efforts: need to adapt to the day-to-day concerns of audiences. For example, scheduling events for off-season. First, address issues that are of immediate concern (e.g., operational issues).
 - Uncertainty and personal biases - e.g., climate change. Focus message on building resilience to a range of conditions (while providing information on predicted conditions).
- Internal communications/Internal management – Communications, personnel, and coordination. Biggest risk identified by federal investigation among ports whom experienced earthquakes/hurricanes. (B2.3)
 - Great idea for port to have periodic meetings with their tenants and revisit plans. (B2.3)
 - Ports were more interested in speaking about port specific hazards, not hurricanes. [Be attuned to the needs of the client/stakeholders/audience.]
 - Port Resilience Index pilot tests - Can't talk about climate change in these meetings; need to phrase the conversation differently.
- Messaging to public officials: many do not trust government information. Important how information (data) is presented. For example, [in presenter's case] better to say "Maritime economy" versus "Ocean economy." Messaging geared to the audience (culture). (D1.3)
- A few years back, sustainability was everything. But it fell flat with the public. Resilience had that 'touch of fear.' If we do a good job of bringing it (resiliency) in a good way, it gets peoples' attention. (D2.2)
- "Communicate planning design ideas clearly." (E1.3)

Theme 3: Strength and Stability Through Collaboration / Partnerships / Federations

This theme is about power in numbers, or not being able to accomplish things by oneself. The theme coincides with the idea that the industry is multi-faceted, complex, diverse, but interrelated.

- "A coordinated voice for maritime progress." Benefit: decreases competition and friction between industry sectors within the group. (A3)
- WA Maritime - Collaborative approach to industry sustainability. (A3)
 - Provide input from all maritime industries
 - Increase visibility of industry as a whole
 - Awareness - importance of industry
 - Advocacy - policy/investment priorities of WA maritime industry
 - Action alerts to members
 - Liaison paid 1/2 by industry and 1/2 by state government
- WA Sea Grant projects - a limitation to initial RFP process - insufficient involvement of industry. [Shows need to get all relevant sectors involved.] (A3)
- WA maritime - faculty internships with industry. [Way for different stakeholders to better know each other and needs.] (A3)
- CA - Morro Bay - formation of community non-profit (Morro Bay Community Quota Fund). (B1.4)
- Customized outreach effort must start with trust and access; work within existing, trusted peer networks. (B2.1)
- Existence of Great Lakes Marina Network facilitated project (includes private industry, government agencies, universities, NGOs). (B2.4)
- Team created to give Shared Waters course: CEI, Cooperative extension, Aquaculture Association, and others. (B3.3)
- FL Clean Boating Partnership (many entities cooperating). (B4.3)
- Washington University extension, Marine Resource Committee, and others working together on survey; post survey actions by various entities working together on solutions. (B4.2)
- The Atlantic Intracoastal Waterway (AIWA) created in 1999 for just this purpose: to advocate for the AIWW. (C3.1)
 - From an economic perspective, the Atlantic Intracoastal Waterway (AIWA) is looking at cost-sharing opportunities. City of Charleston providing \$500K for two years for maintenance dredging. Using boat excise tax.
 - Multimodal nature of the transportation infrastructure; Ports depend on the Atlantic Intracoastal Waterway (AIWA) and connections to RRs and roads.
- ME - Partnership with Penobscot East Resource Center (Harpwell ME) to acquire (develop) data relevant to local economies (e.g., fishing license data). (D1.4)
- Gulf of Mexico Alliance brings together state governors, feds and others. (D2.4)
- Partnerships are important to establish upfront, otherwise difficult to implement on backend. (D2 post panel presentation discussion)
- www.localcatch.org – network of community supported fisheries and small-scale harvesters. Community of practice made up of fishermen, organizers, researchers, and consumers from across North America who are committed to providing local, healthful, low-impact, and

economically sustainable seafood via community supported fisheries (CSFs) and other direct marketing arrangements. (D3.2)

- Cape Code Commercial Fisheries' Alliance, Community Development Partnership, and others working together leads to communication among fishermen and other stakeholders. (D3.3)
- Cape Code Commercial Fisheries' Alliance (CCCFA) established quota bank. CCCFA realized did not have experience in leasing business or small economic development organization; also funders of their mission wanted to make sure no conflict of interest. Thus worked with Community Development Partnership (CDP) to run the program to allocate and price quotas. Experience in lending and small business development. (D3.3)
- Partnership programs: The Maine access program; aquaculture training; financing; fish 2.0. (D3.4)
- Strong public/private partnerships – MI Port Huron case study. (E1.3)
 - Cooperation and partnerships critical to get things built and to manage/maintain them.
 - Detroit partnered with state/city to incorporate parks into Riverwalk.
 - Bay City - parcel on rivers edge - private/public partnership corporation formed to market the parcel (with option to buy).
- The Climate Compact in southwest Florida. With issues like SLR, important to reach out to other affected agencies, owners and local governments. Band together. (E2.2)

Theme 4: Information Driven Decision-Making

Good decisions are based on quality information. However, collecting such information is often quite expensive and time consuming. Thus, when planning a project, it is wise to consider whether existing datasets can adequately serve our needs before collecting our own. This is not an easy, nor a straightforward task, and requires a careful examination of all facets of the dataset in question.

- Risk models -> cost/benefit analyses -> planning reports/documents; information comes from inside ports (e.g., hire consultants) and from 3rd party data (e.g., federal information sources). (A2.2)
- RI - Spatial Planning SAMP: Establishing Fishermen Advisory Board had side effect of providing the state with better resolution data used to construct a new map representing different water uses in the area. The board submitted the map to the government resulting in exclusion of the wind farms (plausible construction) in heavily used fishing area. (C1)
- Use of various studies that provide information on where impacts are to be felt (e.g., using LiDAR) and showing costs of those impacts (with and without adaptation). (D2.2)
- MI - Escanaba - real estate market analysis to gauge demand for land development and growth. (E1.3)
- Commissioners wanted to know if dredging (Aberdeen Creek, VA) worth it economically. VIMS did economic study. (E1.4)
- Ports having the proper information (data) on hand; such as wind studies. Need information/data/projections in order to create plans. Importance of adaptation - i.e., revisiting plans/assumptions periodically to make sure still "correct." (E2.4)

- Used 2007 GAO report about ports and hurricanes/earthquakes for background (Biggest challenges were internal communication and coordination at federal/state level for recovery.) (E2.4)
- Studied exemplary policies/legislation/practices by communities/counties/states with regard to dealing with sources of hazardous/toxic materials (particularly, with respect to water/coasts). (E2.4)
- Need knowledge about the impacts of major storm events - e.g., Katrina: the number and size of spills, both on and offshore. The causes (e.g., storm surge), and causes of spill (source of failure - e.g., storage tank failures). (E2.4)

Assessing Data Sources and Associated Issues

- “Economics: National Ocean Watch (ENOW)”: a federal data source with information available down to the county level. Working on procedures to downscale economic information to local scale. Some issues need to be addressed. (D1.1-4):
 - Employment information not complete in (ENOW) - e.g., self-employed; contracted employment for ship builders; employment arrangements for fishing fleet; government/researcher employment.
 - Numbers can be overstated due to cyclical nature (e.g., seasonal restaurant employment). Can use other source (e.g., local tax receipts, etc.) to standardize the data to some degree, but beware that data reveals trends or relative magnitudes, not precise information.
 - How things are defined can be problematic: e.g., "fishing processors" listed as wholesalers.
 - Non-market data not captured (e.g., personal value one gets from fishing for 20 years).
 - ENOW includes underestimates because some things are missing due to structure of federal sources that underlie it (such as Ocean energy). Cannot tease out from construction industries. NGOs in research/administration.
- Have to deal with mistrust (e.g., among local officials) as to the source of the data (e.g., federal government). (D1.3)
- Fish Stock Sustainability Index (FSSI) - "Dow Jones of Fish Stock" - National level indicator - "macro level data hides variability within the sector - challenges of small scale fisheries. (D3.2)
- Need for permitting databases. (D4)
- Sea level rise scenario applications – data needs updating and better spatial resolution. (E2.2)

Theme 5: Case Studies in Successful Tools / Approaches / Strategies Used in Projects

The call for symposium speakers strongly encouraged presentations involving the sharing of practical information and tools. This theme has the most entries and, following the initial entries, there are a number of sub-themes that include planning; evaluation/monitoring; financing; multiple uses; best practices; and innovative solutions.

- Needs assessments; focus groups; outreach plans. (B2.4)
- Strategic Doing™ <https://www.pcrd.purdue.edu/signature-programs/strategic-doing.php>. (B3.1)
- Documentary on Pink Shrimp fishery – won multiple awards – educational. (B3.2)

- Shared Waters course framework/curriculum - well designed. Also, provide continuing technical assistance, free business planning, loan financing. (B3.3)
- Community forums to determine needs; survey of community. Find out willingness to help and resources/assets to lend to cause. (B4.2)
- Financing 75% of program via USFWS Sportfish restoration program (excise tax on gas/tackle) and Florida Inland Navigation District; 25% paid by recipients. Clean Boater Pledge. Pumpouts. (B4.3)
- Online Inquiry and Discrepancy Management System (IDMS) - speeds up process for answering public's questions and addressing any chart/coast pilot discrepancies. (B4.4)
- Spatial Planning: stakeholder input processes; Fishermen Advisory Board; "Comprehensive Ecosystem-based Marine Spatial Plan" OCEAN SAMP; participatory mapping of human uses. (C1)
- Focus groups (maps, questions, voting by "dots"); structured interviews; (also showed evaluation of data/software apps to drill down into economic information). (C2.1-4)
- Smartphone applications for WW tours and for Seafood Catch program. Videos about WW stops; videos about how to buy seafood; signage and volunteer docents on docks to educate public; tours to buy seafood. (C4)
- OR - WW tour of Coos Bay; Dock walks; Buy seafood from boat: recognized that people have many questions but are "afraid" to ask. Providing signs, docents, seafood buying tours, working waterfront tours, apps, and videos to inform/educate people about working waterfronts, how to buy seafood. (C4)
- A variety of data sources, starting with federal and then using state/local, to downsize economic information from county to city (e.g., Gloucester, MA and Maine). (D1.1,2,4)
- Legislation – Representative Pingree's bill Keep America's Working Waterfronts Working (did not go forward). ENOW developed ME case study to support bill. (D1.4)
- Data gap analysis. (D2.2)
- U.S. Department of Homeland Security Regional Resiliency Assessment (RRAP) Process. Steps to resilience. U.S. Climate Change Resilience Toolkit (<https://toolkit.climate.gov/>). (D2.2)
- Answering the question "How do you bring people in at the beginning of a project?" (D2.3)
 - Use social media - have campaign called "Our Waterfront."
 - "WEDG is a communication tool"; a voluntary/incentive program.
 - Waterfront Alliance known for bringing actors and experts together.
 - Idea is that following WEDG principles will decrease time/costs (permit process) for someone who has WEDG certificate. (It is not actually related with permit process).
- Guidebooks (as toolkit) with timelines for storm preparation, hurricane evacuation plans, staff/boater responsibilities, etc. (D2.4)
- Examples of how to protect marina infrastructure (e.g., detachable buildings; elevated utility sheds; landscaping). (D2.4)
- Checklist to evaluate marinas for their level of resiliency. Designation given; ceremonies; recognition; flags. (D2.4)
- Direct marketing approach; Results in higher premiums for fishermen (go from high volume/low price to low volume/higher price). Consumers buy shares. (D3.2)
- Fish Hub software to help fishermen manage their businesses (also gives them a sense of accomplishment). (D3.3)

- Operational agreements between industry (e.g., salt port) and the community. (E1.1)
- MI governor's regional prosperity initiative. (E1.3)
 - Regional planning was needed because communities often lack marketing resources to bring people to their area - tourism, economic development.
 - Port Huron - acquired waterfront edge in a public/private agreement (legal tool).
 - South Haven - created transient marina to encourage tourism and downtown visits. "A great experience translates to improved commerce."
 - Detroit - created Detroit Riverfront Conservancy 501(c)(3) that is responsible for the establishment, improvement, operation, maintenance, security, programming and expansion of the Detroit Riverwalk and associated green space. Public/private partnerships. Vision - "Transform Detroit's international riverfront - the face of the city - into a beautiful, exciting, safe, accessible world-class gathering place for all. <http://www.detroitriverfront.org/our-story/vision-mission>. 47-member board of directors, representing cross-section of public/private organizations.
 - Elmwood - incremental development strategy - concentrate on areas close to downtown. Focus on jobs. OK with industrial/commercial waterfront uses (existing and new); industrial uses as tourism draw.
 - Use of events to draw people to region "Celebrate the Waterfront with Events."
- Visualization as a tool in communicating/raising awareness about dredging. (E2.1)
- Court cases - Florida 5th District Court of Appeals - local government has duty to "reasonably maintain" a public road designated to public use. "Governments should recognize that, once infrastructure is built, they have an ongoing duty to maintain it." (E2.2)
- Changes to law (legislature) - e.g., Florida Statutes - coastal management element must include redevelopment component; outline principles to eliminate inappropriate and unsafe development in coastal areas when opportunity arises (strategies, engineering solutions that reduce flood risk from high-tide, storm surge, flash floods, stormwater runoff and related impacts of sea level rise). (E2.2)
- Sea level rise viewers. Florida: built by UF GeoPlan <http://sls.geoplan.ufl.edu>; NOAA Sea Level Rise Viewer - <http://coast.noaa.gov/slr/>; Surging seas sea level rise analysis by climate central <http://ss2.climatecentral.org>. (E2.2)
- Survey of infrastructure managers - some planning for SLR, but others not. (E2.2)
 - Why not? Out of this comes recommendations.
 - Problem - not knowing how fast the rise or to what extent?
 - Recommendation. Settle on a target SLR (i.e., resolve uncertainty) - City of Miami adopted 2-foot SLR projection.
 - Develop a plan based on that projection - Fast Forward Fort Lauderdale. Reach out to other affected agencies/owners/local governments (i.e., collaboration) e.g., Southeast Florida Regional Compact.
 - Measures mentioned by infrastructure managers who responded to survey. Raising elevations of critical components (electrical and mechanical). Requiring raising of finished floors by adding free board. Adjustable gangways for cruise ships. Marinas should have extra-long piling and floating docks to accommodate SLR.

- VA - Portsmouth law to prohibit hazardous materials/uses - enforcement is through the business license process - inventory of hazardous materials through fire department - licenses rejected for improper storage in floodplain. *(E2.4)*
- Public engagement survey (potential legislation options on survey were developed during workshops with stakeholder groups; then held public workshops throughout the state; last step was the public engagement survey with 12,000 responding). Video explanation of concepts embedded in the survey. *(E4)*
- Derelict vessels – outreach to and education of at-risk vessel owners before boats become DVs. *(P3 post panel discussion)*

Planning

- Adaptive planning - competitive threats to the ports. SLR - 50yr projection; flooding/seismic risk; treaty considerations; tidal fluctuations; river depths/navigational impacts; flood control & power generation. *(A2.1)*
- Spatial planning: RI SAMP; SF BAY short-term zoning. *(C1)*
- Quota bank and loan programs include business planning requirements (and training) for participants. *(D3.3)*
- Planning for Waterfront communities - Redevelopment Ready Communities (RRC) - incorporating best practices and planning elements. *(E1.3)*
 - Best practices of RRC process includes Community Plans (Master Plans), public outreach, zoning policy & regulations, development review process, education and training. Redevelopment Ready Sites; Community Prosperity.
 - Port Huron Master plan - integrated private development; public access; recreation, and habitat.
 - Escanaba - "Character Zones" along waterfront.
 - Elmwood Township (MI) - environmental corridors as organization elements; and amenities in future developments.
 - Escanaba – in 2009 began long-range plan for redevelopment preparation.
 - Fishtown/Leland Master Plan (2008) - assess structural and architectural conditions; design guidelines for renovating and adding facilities. Considered historic evolution of place; current/projected needs; use patterns; synergy of Fishtown with transit dock, marina and village core. Balance needs of retailers, charter boats, working fishery and visitors in authentic way and setting.
- Adaptation Action Areas - optional component in Florida Comprehensive plans. *(E2.2)*
- During severe storms (and similar events) there are higher priorities than hazardous material leaks for emergency personnel - e.g., saving lives. Thus, this makes it all the more important for long-term planning to reduce spills. *(E2.4)*

Evaluation / Monitoring

- Why existing tools not effective? What are marinas doing now to prepare? What is impeding them to prepare? *(B2.4)*
- Following how many of Shared Water Course participants started a business. *(B3.3)*

- Data collected to see how vessel pumpouts work (recipients of funds provide data for 5 years). (B4.3)
- Monitoring the success of National Finance program. (D3.4)

Financing

A focus was with regard to small-scale operators: innovative ways for low-income, small-scale to enter the business and helping to overcome capital bottlenecks.

- CA - Morro Bay - commercial fishermen quota system for groundfish fishery; stop migration of quotas being sold to larger entities; worked to keep those in community; long term low interest loans to mitigate cost of following regulations. (B1.4)
- Pre-service contracts, establishing relationships with contractors and lock in rates so the contractors are not up-charging after a hazard. (B2.3)
- As part of the Shared Water course, making access to loan financing available to students. (B3.3)
- Suggestions from survey on how dredging costs might be shared or reduced. (B4.2)
- Incentives to get people to adopt BMPs. Examples:
 - MI: 10% discount on liability insurance if have clean marina certification. (B2.1)
 - FL: 10% discount on submerged land lease if have clean marina certification. (B4.3)
- Spatial Planning RI SAMP - ways to reimburse fishermen when areas around wind farm closed. (C1)
- Community Development Partnership - lower Cape Cod - has a goal similar to Morro Bay (CA): stop sale of quotas to larger entities. (D3.3)
- "Financing Your Fleet" <http://capecodfishermen.org/revolving-loan-funds>. Banks don't traditionally see fishing quota as collateral. Fishermen were forced to use homes as collateral for costly quota purchases. CCCFA established loan programs and they are administered by CDP: Scallop Program, Groundfish Program, Micro loan program. (D3.3)
- National Fisheries Financing Fund - in progress - way to get capital to existing national lenders and then to fisheries businesses. (D3.4)
- Use of beautification funds for plantings in the PORT side of project. (E1.1)
- Recycling of materials - e.g., crushing of bricks for dock drainage. Reuse of demolished tank portions in the PORT design. (E1.1)
- MI - Becoming a Redevelopment Ready Community - benefit includes higher priority for some funding opportunities. Also, MEDC promotes the RRCs to developers. (E1.3)
 - South Haven - tap creative funding strategies - DDA/TIF/Private.
 - Detroit - brownfield redevelopment strategy to fund improvements.
 - Bay City - business/retail with waterfront walk - plan to create a Brownfield Redevelopment district to capture future taxes on improvements to land, city will invest (\$15 million) for infrastructure improvements.)
- Conceptual - TIF district for funding dredging of creek used by commercial watermen. (E1.4)

Multiple Uses / Diversification

- Shared Waters Course: diversification allows fishermen to augment their income (also buffer their exposure to events); also allows for more activities on existing waterfront infrastructure; augments the seafood distribution chain. (B3.3)

- Spatial Planning: RI SAMP continuing to develop new industries and protect old uses. WA work is heading in that direction. *(C1)*
- Atlantic Intracoastal Waterway – used by kayaks to luxury yachts (and commercial vessels). *(C3.1)*
- Multiple uses (diversity) of the Portland (ME) Waterfront (passenger large/small; freight; tours; commercial fishing; yachting and sailing instruction; marine events). *(D2.2)*
- Fish house (NC) will include offloading and packing of fish; outreach and education; research and interaction between scientists and fishermen. *(D3.2)*
- Loans and quota systems - encourage diversity of species targeted. *(D3.3)*

Best Practices

- WA SG grant competition: Flexibility to tailor projects using innovative approaches and engaging range of partners. Adjusted research criteria to make grant proposals broader for workforce development/capacity. *(A3)*
- Pilot testing. *(B2.3)*
- Great Lakes Clean Marina Network - promote environmentally sound/economically feasible options - protect Great Lakes and benefit boating industry. *(B2.3)*
- Recipients of Clean Vessel Act (CVA) funds must allow public access to pumpout facilities. *(B4.3)*
- Marine spatial planning (in CA, RI, & WA). Process involves multiple actors, entities, and stakeholders. Was important in all locations to have a person/entity who could be seen as trusted/transparent to mediate/moderate/facilitate the process. The more views/agendas in play, the more difficult. *(C1)*
- WEDG - gives points for reaching out to the public. *(D2.3)*
- Partnerships are key when working in a community with privately held properties. When choosing adaptive strategies, we need them onboard in the beginning. *(D2.2)*
- Face- to-face meetings and conversations; don't use too many documents; don't be too technical. *(D2 post panel discussion)*
- Identified economically challenged fishing communities for implementation of aquaculture training classes. *(D3.4)*
- Some recommendations of things to implement (both from agency perspective and from permittee/applicant perspective) - transparency (e.g., knowing where a permit is in the process); better communication and coordination between agencies; training of reviewers; prioritization of applications; pre-application meeting; making sure application is complete; small things, like making sure measurement units are consistent; missing items from existing checklists. *(D4)*
- The importance of communication - better communication/coordination at the agency level; but also the suggestion that applicants keep in contact with their permit person at the agency; the importance of pre-application meetings. *(D4)*
- Have the proper expertise for the tasks at hand - proper planning for revamping the industrial portions of the project as well as the recreational/community aspects. *(E1.1)*
- Engagement with the community in coming to terms with a design for the PORT. Also, operations agreements. *(E1.1)*

- Michigan Economic Development Corporation - Redevelopment Ready Communities® program - voluntary, no-cost program - promotes effective redevelopment strategies through set of best practices - certification is formal recognition that a community has a vision for the future and the fundamental practices in place to get there. Checklist of best practices - certification process - engagement - evaluation - certification. (E1.3)
 - To be certified, communities must attend all 6 best practices training; must pass resolution of intent outlining value expected from participating in program. Benefits: priority funding from MEDC and MSHDA.
 - Waterfront Best Practices and Waterfront Planning Toolkit (through MEDC).
 - "Implementing discrete projects as funding and community interests dictate."
 - Celebrate wins! "Highlight your successes!"
 - "Provide public (etc.) with options to consider (and their consequences)."
 - Link your assets (e.g., downtown to Lake Michigan); "Reconnect community assets to link valued places."
- FEMA NFIP CRS - the community rating system incorporates many good practices towards preparing for SLR consequences. Also includes financial incentives. Structured so that communities can adopt a schedule of measures and members of the community can receive corresponding financial benefits (e.g., reductions in flood insurance). Voluntary. (E2.2)
- Importance of definitions so that everyone is talking about the same thing (and knows it). E.g., Water dependency - definition of water-dependent use from "Water-dependent use definitions: a tool to protect and preserve recreational and commercial working waterfronts." "An activity that must physically be located in, on, or adjacent to water in order to conduct its primary purpose and which, therefore, cannot be located inland." (E2.2)
- Use what is out there. [Don't reinvent the wheel.] e.g., as a jumping off point; or as something to modify/tweak. Learn from what others have done. What has been done elsewhere? Use trusted information as jumping off point:
 - Resilience index for tourism (modeled after Community Resilience Index (CRI)). (B2.2)
 - The Ports Resilience Index was built off the American Association of Port Authorities (AAPA) manual. Developed new content from what existed. (B2.3)
 - Downscaling existing economic information. (D1.4)
 - NC fish house project: toured other communities with local fishing industry to get ideas/feedback. (D3.2)
- Demonstrate the environmental quality improvements/methods/techniques - e.g., shellfish benefits to the environment; ecosystem services. (A1.4)

Innovative Solutions

- Permit/quota banks - way to help small boat fishermen buy/lease quota shares at affordable prices. Also structured such that technical assistance in establishing best practices is incorporated (business or environmental). (D3.3)
- Fish 2.0 - Event that brings people together with ideas for sustainable fisheries/aquaculture. Winners (finalists) get technical assistance. Forum for innovative businesses to meet investors. (D3.4)
- Suggestion that Florida be used as a pilot to develop a more streamlined permitting process. (D4 post panel discussion)

- Meshing industrial site (salt processing) with recreation. Integrate active industrial use with public recreation and waterfront access. Public messages/announcements projected on to salt piles. Public walkways and landscaping around industrial site. Increasing views from residential neighborhood to river and Boston across water. *(E1.1)*
 - P.O.R.T (Publically Organized Recreation Territory, Privately Owned) - expands in summer when salt operations recede for active recreation and event support.
 - Removal of oil tanks that blocked views and reuse of tank's skeletons as design elements and shelters in new park design; also used part of old tugboat.
 - Numerous community/industry meetings - resulted in community/industry operations agreement.
 - Development tradeoff allows Eastern Minerals to expand salt pile and city to redevelop dilapidated industrial waterfront property.

Theme 6: Case Studies Highlighting Culture / Traditions as Driver for Preservation and Support

Every symposium presentation was imbued with the importance of culture and tradition in working waterfront communities. However, culture and tradition are both somewhat like what water is to fish (or air to people): vitally important, but not something we commonly think about or notice. Below, we provide a few bullet points to reinforce our need not to forget the powerful influence of culture and tradition in the success of any working waterfront project.

- Quota programs have goals to maintain small community fishery/fishing. *(D3.3)*
- Fishing important to communities; good paying job; culturally important. *(D3.3)*
- MI - Elmwood Township - "residents more accepting of compact, coordinated approaches that create stronger sense of place and increase opportunities to enhance environment." *(E1.3)*
- MI - Fishtown/Leland - planning considered the historic nature of the area in question - studied the historic evolution from 1880 to present. "Guide change to an appropriate character and scale." *(E1.3)*
- Oral history a way to capture traditions/skills - intergenerational knowledge. *(E3.2)*

Theme 7: Navigating and Leveraging Permitting / Regulations / Licensing

Permitting and regulations are often large hurdles for working waterfront projects and deserve a theme of their own.

- Bottleneck for aquaculture industry - The lease licensing process is a problem time wise:
 - ME - doubled regulatory staff. *(A1.1)*
 - Permit process in FL (FDACs) streamlined (compared to other states). Perhaps serve as an exemplar for trying to make improvements elsewhere? *(A1.4)*
- Ports - New industrial development = opportunity to improve; understand what is burdensome about development code - leads to new agreement on performance based approaches. *(A2.1)*
- WA maritime - regulatory & permitting alignment to support maritime infrastructure. *(A3)*
- Rural counties/small communities with limited staff/resources/\$ not able to go through permitting process. *(B4.2)*
- Key is engagement between [permitting] agencies. *(D2, Price, Clean and resilient marina)*

- NY - Permitting is hard and personality driven. (D2.3)
- NC - Permitting of fish house is hassle (deal with 17 regulators), but have architect with experience. (D3.2)
- Increased regulations as one of five factors mentioned that impacts commercial fishing industry. (D3.2)
- Permission to expand waterfront salt facility was granted due to including tradeoffs: incorporating recreational/public access components. (E1.1)
- MI - Bay City - "Understanding the complex regulatory, funding, and market conditions that need to align for successful development." (E1.3)
- FEMA/NFIP minimum standards do not require regulation of the manufacture or storage of hazardous materials, nor require regulation of potentially dangerous uses such as petroleum storage facilities, nuclear power plants, chemical plants or sewage treatment facilities in floodplains. Solution - require them. (E2.4)

Theme 8: Applying Lessons Learned

Adaptive planning and management, though important, are often neglected. Below are some of the lessons learned, both positive and negative, during implementation of working waterfront projects.

- Understanding why marinas are not using existing tools to the extent that they could. (Drivers/barriers to behavior change.) (B2.4)
- Shared Waters course originally about Cod, but wasn't successful, so changed to aquaculture/algae (one reason is larger capital investment for cod farming). Also: what worked in the course (e.g., how to best engage participants). (B3.3)
- Marine Spatial Planning (MSP) - SF example revolved around establishing boat traffic (transit) zones for the 65-day America Cup. Might it be beneficial to start with smaller scale applications of MSP and then lead up to larger, more comprehensive applications? This seems to be supported by the complexity, difficulty of the WA effort, which is much more comprehensive in what it proposes to accomplish. Also, the RI Block Island MSP application seems to fit between the SF and WA applications. (C1)
 - Marine spatial planning: There are often naïve perceptions at first.
 - Marine spatial planning should be thought of as adaptive management; this is very important because it is needed to make the plans work. Relationship building and keeping the trust. Be careful to consider and represent all the stakeholders involved. Provide alternative means for people to get involved. Use the meetings with stakeholders as two-way meetings (there is a lot to learn from them). Minimize the rumors around the project. Manage expectations by being direct from the start.
- AIWW. Got legislation passed that requires USACE to quantify dredging needs and provide to congress. But administration has not provided USACE staff with guidelines. Prodding the administration with letters from congress people, etc. (C3.1)
- Lessons learned from building apps. Share apps, rather than reinvent the wheel. (C4)
- OR - Signs on docks gave public "permission" to go on dock. Number of visitors on dock increased dramatically to the chagrin of fishermen. Solution - implement volunteer docent program. Public/fishermen conflicts go down. (C4)

- OR - New questions may be raised after implementation of a tool/etc. e.g., signs about seafood led to new questions. A well designed pre-evaluation may help reduce the probability, but will not eliminate it entirely. *(C4)*
- Timing was important: i.e., started initiative right after Katrina; organizations/marinas were ready for help. *(D2, Price, Clean and resilient marina)*
- "The relationships are at least important as the outcomes." *(D2.2)*
- 2005-08 catch shares in future. The system of fishery quotas had an unintended consequence that larger, corporate businesses would buy quotas at top dollar, which was squeezing out the traditional small-boat fishermen and affecting local communities. *(D3.3)*
- "Don't doubt the power of water." *(E1.3)*
- MI - Elmwood Township - water quality widely accepted as value for planning. *(E1.3)*
- Lessons learned the hard way. Katrina, Rita, Superstorm Sandy - hazardous materials into waterways. Industrial sources on waterways and coasts that are susceptible to damage/spills with big storm events - spurred a look at the current situation in terms of regulations/protections/insurance. *(E2.4)*
- FEMA CRS - provide incentives to regulate some hazardous uses/materials; credits for storage above base flood elevation; credits if community prohibits outdoor storage. *(E2.4)*
- Oral histories bring in voices of those who otherwise might not be heard (i.e., not VIPs). *(E3.1)*
- During pilot mooring study, some municipalities had trouble getting ordinances passed. *(E4)*

List of Presentations by Session⁴

Session P2: The National Working Waterfront Network: Working for You

Topic Link	Speakers	Individual Presentation Titles
P2	Jack Wiggin Kristen Grant Kenneth Walker Dennis Ducsik Bob Swett Natalie Springuel	The National Working Waterfront Network: Working for You

Session A1: Aquaculture: A Powerful Tool in the Preservation of Commercial Working Waterfronts

Topic Link	Speakers	Individual Presentation Titles
A1.1	Sebastian Belle	Maine Aquaculture
A1.2	Dick Clime	Aquaculture Financing Tools to Preserve Working Waterfronts
A1.3	Barry Hurt	Aquaculture
A1.4	Leslie Sturmer	Florida Clam Farming

Session A2: Resilience Planning and Implementation

Topic Link	Speakers	Individual Presentation Titles
A2.1	Joseph Gellings	Resilience Planning and Implementation
A2.2	Greg Theisen	Resiliency in the Face of Climate Change and Seismic Events
A2.3	Deborah Mills	Red Hook, Brooklyn, New York
A2.4	Robbin Peach	Resiliency Massport: A Pathway to a More Resilient Future

Panel Session A3: Washington Maritime: A Collaborative Approach to Industry Sustainability

Topic Link	Panel Speakers	Panel Presentation Title
A3	Joshua Berger Ann Avary Penny Dalton	A Collaborative Approach to Sustaining, Growing and Improving Jobs and the Economy in Washington State's Maritime Sector

⁴ PowerPoint presentations and other symposium materials can be downloaded at <http://www.conference.ifas.ufl.edu/NWWWS/index.html> (under Program -> Agenda). In case the presentations are moved from this site in the future, please check the Network site: <http://www.wateraccessus.com/>.

Panel Session A4: Resilience Planning and Implementation

Topic Link	Speakers	Presentation Title
A4	Tom Shipp Richard Moore Alfredo Escanio	Vessel Congregation Events [in Florida]

Session B1: Financial Implications

Topic Links	Speakers	Presentation Titles
B1.1	Tola Adeyemo	Economics: National Ocean Watch (ENOW: Market Data on the U.S. Ocean and Great Lakes Economy
B1.2	Joe Lucente	Business Retention and Expansion – Ohio’s Lake Erie Marina Industry
B1.3	Brenton McCloskey	Building a Framework for Sustainable Working Waterfronts (Case Study: Cambridge Maryland
B1.4	Henry Pontarelli	Updates from California’s Working Waterfronts: Strategies for Protection and Enhancement

Session B2: Marina and Port Resilience

Topic Links	Speakers	Presentation Titles
B2.1	Amy Samples	Facing an Uncertain Future: Increasing Resilience at Marinas and Harbors
B2.2	Jody Thompson	Addressing Coastal Business Needs: Business Resilience Indices
B2.3	Lauren Land	Engaging Ports to Create a More Resilient Coastal Economy: The Ports Resilience Index
B2.4	Sarah Orlando	Preparing Marinas for the Next Super Storm: Addressing the Social Challenges Posed By Coastal Storms

Session B3: Surviving Commercial Fishing Declines

Topic Links	Speakers	Presentation Titles
B3.1	Ed Lewandowski	Strategic Doing™ A Public Engagement Process For Preserving Delaware's Traditional Maritime Communities
B3.2	Joy Hazell	Pink Gold: Documenting a Disappearing Commercial Fishery
B3.3	Dick Clime	Training Maine Fishermen to be Shellfish and Seaweed Farmers
B3.4	Rhea Williamson	Northern California’s Marine Research and Innovation Park: from Extraction to Sustainability

Session B4: Waterway Management & Use Issues

Topic Links	Speakers	Presentation Titles
B4.1	Tom Ankersen	Boating, Waterways, and the Rights of Navigation in Florida
B4.2	Carrie Backman	Survey on Dredging Needs of Rural Ports and Waterways
B4.3	Brenda Leonard	Florida Clean Vessel Act Program
B4.4	Lance Roddy	Coast Survey Inquiry and Discrepancy Management System (IDMS)

Panel Session C1: Marine Spatial Planning Efforts: Supporting the Future of Waterfront Industries

Topic Link	Speakers	Presentation Topics
C1	Jennifer McCann Penny Dalton Amy Wirts Tiffany Smythe	Marine Spatial Planning in Washington; San Francisco Bay: A Dynamic, Mixed Use Waterway; Rhode Island Ocean Special Area Management Plan (SAMP)

Panel Session C2: The Future of South Carolina Working Waterfronts: A Community Partnership Exploring Priorities

Topic Links	Speakers	Presentation Titles
C2.1	Elizabeth Fly	The Future Of South Carolina Working Waterfronts: A Community Partnership Exploring Priorities – Project Overview
C2.2	Jennifer Calabria	Exploring SC Working Waterfront Priorities through Focus Groups
C2.4	Tola Adeyemo	South Carolina's Waterfronts at Work

Panel Session C3: Maintaining the Stream of Commerce: Issues Facing the Atlantic Intracoastal Waterway

Topic Links	Speakers	Presentation Titles
C3.1	Brad Pickel	Challenges and Opportunities Facing the Atlantic Intracoastal Waterway
C3.2	Mark Crosley	Waterway Access and the Atlantic Intracoastal Waterway in Florida
C3.3	Kelie Moore	Maintaining the Stream of Commerce: Issues Facing the Atlantic Intracoastal Waterway
C3.4	Spencer Crowley	No PowerPoint

Panel Session C4: Connecting Tourists and the Working Waterfront: Examples and Innovative Tools from Oregon

Topic Links	Speakers	Presentation Title
C4	Jaime Doyle Katy Jacobson Mark Farley	Connecting Tourists and the Working Waterfront: Examples and Innovative Tools from Oregon

Session D1: Ocean and Coastal Economics: An Approach for Analysis at the Local Level

Topic Links	Speakers	Presentation Title
D1.1	Jeffery Adkins	Millions of Jobs, Billions of Dollars: The U.S. Ocean and Great Lakes Economy
D1.2	Sarah Garcia	Maritime Data and Fishing Communities
D1.3	Lewis Lawrence	Messaging with local elected officials?
D1.4	Kristen Grant	Economic characterization of working waterfronts in Maine

Panel Session D2: Enhancing Coastal Community Resilience in Working Waterfront Communities

Topic Links	Speakers	Presentation Titles
D2.1	Kenneth Walker	[Introduction to the panel session]
D2.2	Bill Needelman	Resiliency Planning in Portland, Maine
D2.3	Michael Porto	Shape Your Waterfront: How to Promote Access, Resiliency, and Ecology at the Water's Edge
D2.4	Rhonda Price	Clean and Resilient Marina

Panel Session D3: Building Innovative Partnerships that Support Working Waterfront Industries

Topic Links	Speakers	Presentation Titles
D3.1	Nick Battista	[Introduction to the panel session]
D3.2	Josh Stoll	A New Take on Working Waterfronts in North Carolina
D3.3	Sheila Hoogeboom	Community Development Partnership
D3.4	Dick Clime	Maine's Working Waterfront Access Protection Program

Panel Session D4: Water Access Projects: How Can We Address Permitting Delays

Topic Links	Speakers	Presentation Titles
D4.1	Mike Montone	<i>No PowerPoint</i>
D4.2	Victoria Foster	West Indian Manatee: Federal Protection and Regulation
D4.3	Tim Rach	<i>No PowerPoint</i>
D4.4	Patricia Harrell	<i>No PowerPoint</i>

Session E1: Waterfront Design & Open Space

Topic Links	Speakers	Presentation Titles
E1.1	Dan Adams	Choreographing Shared Industry and Recreation on the Working Waterfront
E1.2	Samantha Islam	Open Space as Waterfront Use: A Mixed Methods Study on the Gulf Coast [No PowerPoint]
E1.3	Pat Doher	Preparing Michigan's Waterfront Communities for Redevelopment
E1.4	Lewis Lawrence	How do Local Governments Fund Dredging Projects?

Session E2: Climate Adaptation

Topic Links	Speakers	Presentation Titles
E2.1	Rob Holmes	Cartographic Visualization of Dredging in Florida
E2.2	Thomas Hawkins	To Sink or Swim? Water Dependent Infrastructure and Sea Level Rise Adaptation Policy
E2.3	Steve Ryder	Protecting Valuable Shorelines and Eliminating Erosion
E2.4	Judd Schechtman-Rosenman	Toxic Storm: Climate Change, Coastal Flooding and Land Uses Solutions to Hazardous Materials and Brownfields in Floodplains

Session E3: Oral Histories and the Working Waterfront: Informing Decision-making and Waterfront Heritage Preservation

Topic Links	Speakers	Presentation Titles
E3.1	Joshua Wrigley	Voices from the Fisheries: Sharing Oral History Materials
E3.2	Barbara Garrity-Blake	Coastal Voices of North Carolina: Community Collaboration on the Waterfront
E3.3	Natalie Springuel	Oral Histories, Radio Style
E3.4	Stephanie Showalter Otts	Preserving the Working Waterfront: Oral Histories from Around the Nation

Session E4: Anchoring Conflicts on Florida's Waterways: A Case Study

Topic Link	Speakers	Presentation Title
E4	Richard Moore Gary Klein Bill Sargent	Anchoring Conflicts on Florida's Waterways: A Case Study

Session P3: Solving the Abandoned/Derelict Vessel Dilemma

Topic Links	Speakers	Presentation Titles
P3.1	Steve Greaves	Washington State's Derelict Vessel Removal Program
P3.2	Richard Moore	Preventing Derelict Vessels in Florida
P3.3	Jennifer McCann	Practical and Sustainable Solutions for the Disposal of End-Of-Life Boats

Session P4: NWWN Policy Roundtable: Bracing for Working Waterfront Policy Change

Topic Link	Speakers	Presentation Title
P4	Jack Wiggin Nicole Faghin Hugh Cowperthwaite John Sprague	NWWN Policy Roundtable: Bracing for Working Waterfront Policy Change

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Tampa, Florida
November 16 – 19, 2015

