

The Sustainable Working Waterfronts Toolkit

Final Report



SUSTAINABLE WORKING WATERFRONTS TOOLKIT: FINAL REPORT

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I. National Importance of Working Waterfronts

Working waterfronts and the waterways that connect them are an important component of the U.S. economy. Working waterfronts provide critical access for water-dependent activities. They also create dedicated space for those engaged in tasks like cleaning and storing gear, loading and unloading materials or the day's catch, and conducting related land-based operations.

Nationally, ocean- and Great Lakes-related economic activity in 2009 accounted for 130,855 businesses that employed 2.4 million full-time and part-time employees. Those employees received \$84.25 billion in wages and benefits, and produced \$217.78 billion in GDP (Gross Domestic Product). In terms of relative importance to the overall U.S. economy, this represents 3.41 percent of total GDP and 4.85 percent of total employment. When accounting for multiplier or ripple effects, total economic contributions of ocean-related activities in all U.S. coastal counties amounted to 6.75 million jobs, \$284 billion in wages, and \$645 billion in value-added or GDP. Total contributions for the ocean economy represented 2.8 to 3.4 times the direct effects attributed to first-round spending alone (see Appendix B).

Many of the country's coastal and riparian cities and towns emerged as a result of growth occurring around commercial ports that hosted thriving working waterfronts. The history, culture, and community identity of these places is inextricably linked to the existence of the working waterfront. Each working waterfront has its own history, story, and cast of characters rooted in its specific community. Yet despite the differences in appearances and activities between working waterfronts in Maine, Florida, Mississippi, California, or Michigan, the underlying reasons and causes that lead to the disappearance or conversion of these waterfronts are often similar. When working waterfront uses are converted to non-working waterfront uses, the loss of water-dependent businesses often has unexpected cumulative negative impacts on surrounding communities and related working waterfront jobs.

Across the U.S., coastal and riparian communities are subject to economic, technological, legislative, ecological, and demographic changes that challenge the continued viability and/or development of their working waterfronts. Working waterfronts face pressures from competing uses, changing regulations, increasing tax burdens, aging infrastructure, coastal hazards, and emerging waterfront uses. The loss of working waterfronts can negatively impact coastal communities economically, culturally, and environmentally. Changes to the physical environment, such as climate change impacts and other environmental forces, also affect both the shorelines that facilitate access to and from the water and the waters upon which commercial fishing, maritime trade, and recreational tourism activities are conducted. For all these reasons, preservation of existing waterfronts for uses that depend on access to the water is vitally important.

Frequently, efforts to preserve a particular working waterfront from the threat of conversion to non-working waterfront use occur in a piecemeal fashion and on a parcel-by-parcel basis. In many cases, the rate of loss and conversion to non-working waterfront uses has outpaced community action to address the issue. In order for working waterfronts to remain economically

vibrant, coastal and riparian communities need to increase their capacity to withstand changing demands on the waterfront and develop creative solutions to maintain water access for businesses and users. Understanding the historic changes and trends of the nation's working waterfronts, as well as the contribution of these working waterfronts to local and regional economies, is critical to informing decision-makers, business owners, and others about the importance of protecting and maintaining working waterfront infrastructure. In order to equip communities, states, and regions with the ability to develop creative solutions to address their specific issues, decision-makers must have access to strategies and tools that have been used in the past to successfully preserve working waterfronts.

II. The National Working Waterfront Network: Working to Address National Needs

In response to the increasing need for sharing information, ideas, and strategies for success, two national working waterfronts and waterways symposia have already occurred. The first was held in 2007 in Norfolk, Virginia; the second was held in 2010 in Portland, Maine. A third symposium is scheduled for March 2013 in Tacoma, Washington.

The first symposium focused on growing a unified understanding of the nature of varied challenges that working waterfronts face. The second symposium focused on solutions to these challenges. A priority and major outcome of the second symposium was development of a network across which challenges and success stories could be shared. This concept germinated into the National Working Waterfront Network (NWWN), a nationwide network of businesses, industry associations, nonprofits, local governments and communities, state and federal agencies, universities, Sea Grant programs, and individuals dedicated to supporting, preserving, and enhancing our nation's working waterfronts and waterways. The NWWN's mission is to increase the capacity of waterfront communities and stakeholders to make informed decisions, balance diverse uses, ensure access, and plan for the future of their working waterfronts and waterways.

The NWWN strives to:

- Support outreach and education activities that facilitate research and information-sharing, including national symposia and a web-based clearinghouse;
- Develop and provide access to the historical, economic, financial, legal, and policy information and resources NWWN members and partners seek to address working waterfront and waterway issues;
- Celebrate our nation's working waterfronts and waterways.

Based on feedback from nationwide working waterfront efforts, including symposia and the NWWN, it became clear that creation of a central clearinghouse was necessary to help communities and organizations find information on the suite of tools available. The Economic

Development Administration, a division of the U.S. Department of Commerce, recognized the need to collect and synthesize information about the economic impacts and historical trends of working waterfront conversion to non-working waterfront uses. Additionally, it saw the benefit of providing resources related to the challenges and opportunities for preserving working waterfronts and waterways as key economic drivers in communities. In order to fulfill this objective, a subcommittee of the NWWN was formed to pursue a collaborative agreement with the EDA (Proposal to Economic Development Administration, CFDA 11.312) to develop a *Sustainable Working Waterfronts Toolkit*.

III. Methods

Upon receipt of the EDA cooperative agreement (*EDA Investment Number 99-07-13873*), the NWWN subcommittee formalized into the EDA Project Team involving staff from seven partner institutions: Coastal Enterprises, Inc., Florida Sea Grant, Island Institute, Maine Sea Grant, the National Sea Grant Law Center, the Urban Harbors Institute at the University of Massachusetts Boston, and Virginia Sea Grant. The Island Institute (PI), Maine Sea Grant, and the National Sea Grant Law Center provided project leadership and coordination. The Island Institute greatly appreciates the leadership from Maine Sea Grant and National Sea Grant Law Center on this project and particularly the time they spent on the project that was not reflected in the original budget.

Several collaborators were involved in the project, many volunteering a significant amount of time. They assisted the Project Team by conducting research, writing case studies, and providing valuable feedback. Collaborators included:

- Thomas Ankersen, Director, University of Florida Conservation Clinic, UF Levin College of Law;
- Mark Brederland, Extension Educator, Michigan Sea Grant;
- Elizabeth Durfee, NOAA Coastal Management Fellow, Michigan Department of Environmental Quality;
- Suzanna Stoike, Sea Grant Fellow, Washington Department of Ecology;
- Kenneth Walker, Program Analyst, NOAA/OCRM; and
- The Maine Coastal Program.

To guide its work, the Project Team formed an Advisory Committee comprised of working waterfront experts from around the country. Through the duration of the project, the Advisory Committee provided feedback on project priorities and reviewed case studies, website design, preliminary findings, and project reports. Advisory Committee members were:

- Charles Adams, Food and Resource Economics Department, University of Florida;
- David Ashton, Port of Portland (Oregon);
- Michael Dickerson, Craft3, Ilwaco, Washington;
- Dennis Ducsik, Massachusetts Coastal Zone Management Program;
- Julie Harrington, Center for Economic Forecasting and Analysis, Florida State University;
- Lewis Lawrence, Middle Peninsula Planning District Commission (Virginia);
- Gil Sylvia, Oregon State University; and
- Jody Thompson, Auburn University Marine Extension and Research Center, Mississippi-Alabama Sea Grant Consortium.

This project would not have been possible without generous matching support provided by the Project Team member institutions and partner organizations listed below:

- 1772 Foundation;
- Coastal Enterprises, Inc.;
- Island Institute;
- Munson Foundation;
- University of Florida;
- The University of Maine;
- University of Massachusetts Boston;
- University of Mississippi School of Law; and
- Virginia Institute of Marine Science.

To complete the various tasks associated with developing the *Sustainable Working Waterfronts Toolkit* (as outlined by the EDA in its funding opportunity announcement, July 7, 2011), the Project Team formed six work groups:

- **The Historic Trends Work Group** documented historical and current trends, along with drivers of change for the nation's working waterfronts;

- **The Economic Work Group** analyzed trends related to the economic impact of working waterfronts;
- **The Financing Work Group** identified financing mechanisms that communities can employ to support implementation of strategic options;
- **The Law & Policy Work Group** identified law and policy tools communities can implement, and explored the potential to develop a legal community able to assist communities with various policy approaches to preserving their working waterfronts;
- **The Tools in Action Work Group** highlighted successful implementation of various tools through a collection of case studies from communities around the country;
- **The Toolkit Portal Work Group** created a web-based toolkit where information gathered and synthesized by all the work groups is available to the public. A final report was also developed to communicate project findings.

A. Historic Trends Work Group Methods

Lead: Urban Harbors Institute at University of Massachusetts Boston

The objective of the Historic Trends Work Group was to compile information to address significant knowledge gaps regarding societal trends affecting working waterfronts around the nation, as recognized by the EDA. Working waterfront preservation efforts have often been hampered by this lack of data. It is difficult for policymakers to develop and implement effective strategies to address changing conditions without understanding the forces behind those changes. The Historic Trends Work Group researched, identified, and assessed the national and regional drivers and trends affecting working waterfronts. It performed an in-depth review of academic and popular periodicals, books, government reports, trade publications, grey literature, and websites; conducted interviews with local, state and federal government staff, port authority and industry representatives, and property owners; and drew from its two-plus decades of research on and technical assistance provided to working waterfront communities. The Work Group synthesized this research and produced a narrative report on historical changes and historical drivers of change, recent trends, and factors that are projected to affect the future of working waterfronts throughout the United States. Project advisor Gil Sylvia reviewed and provided feedback on the Historic Trends final report. The report is available in Appendix A. A comprehensive bibliography was compiled and is available on the National Working Waterfront Network (NWWN) website at www.WaterAccessUS.com/histlit.cfm.

B. Economic Work Group Methods

Lead: Florida Sea Grant

The objective of the Economic Work Group was to provide a comprehensive evaluation of the current status and future prospects for ocean-related economic activity in 11 coastal regions of the United States. Economic analyses were conducted for 11 U.S. coastal regions comprised of 30 coastal states and 443 counties within 50 miles of the coastline or located in the coastal zone as established by the Coastal Zone Management Act. Analysis focused on the six major sectors or industry groups as defined by the National Ocean Economics Program: *Marine Construction*, *Marine Living Resources*, *Offshore Minerals*, *Ship and Boat Building and Repair*, *Coastal Tourism and Recreation*, and *Marine Transportation*. Data were extracted from the 1997, 2002, and 2007 Economic Censuses, along with annual data from 1997 to 2010 from the Regional Economic Information System. Total economic contributions of ocean-related activities were evaluated using IMPLAN® (IMPact analysis for PLANning software and data) regional economic multipliers, which capture the effects of supply chain activity or input purchases (indirect effects) and re-spending of income by employees, business owners, and governments (induced effects). Findings were compiled into a final report, which was reviewed by project advisors Julie Harrington and Charles Adams. The report can be found in Appendix B. The Work Group also compiled a list of resources in an economic literature review, which is available at www.wateraccessus/econlit.cfm.

C. Financing Work Group Methods

Lead: Coastal Enterprises, Inc.

The objective of the Financing Work Group was to identify potential funding sources and models for working waterfront-related projects at the state and federal level, as well as through private foundations and trade associations. Waterfront land ownership and infrastructure issues are central to many working waterfront challenges. Making investments in infrastructure and land acquisition to preserve or enhance working waterfronts are costly propositions. To assist working waterfront stakeholders in identifying potential funding sources and financial models, the Financing Work Group researched finance tools that have been used, or have the potential to be used, to address working waterfront issues. With assistance from CEI 2012 summer intern Bill Murdock of Peaks Island, Maine, information was compiled primarily through Google Internet searches using key terms and phrases. Commonly used terms and phrases included: “Working Waterfront Programs,” “Working Waterfront Loan Fund,” “Financing Tools,” “Grants,” “Grant and Loan Guide,” “Coastal Program,” “Department of Conservation,” “Department of Marine Resources,” “Division of Marine Fisheries,” “Tax Incentives,” “Loan Programs,” “Loan Guarantee Programs,” “Dedicated Revenue,” “Subsidies,” “Information Repositories,” “Preservation Programs,” and “Technical Assistance.”

Many reports and studies were reviewed and analyzed to hone in on the funding sources for working waterfront projects. After the information was compiled in draft form, local experts and

practitioners (both state and federal) were contacted (via email and phone) to provide opinions regarding the inclusiveness and factual accuracy of material collected by the Financing Work Group. All funding sources were assembled into a master Excel spreadsheet that feeds a searchable database, which has been made available to end users via the *Sustainable Working Waterfronts Toolkit* at www.wateraccessus/financetools.cfm. The Financing Work Group's analysis of key findings is also available in Appendix C.

D. Law and Policy Work Group Methods

Lead: National Sea Grant Law Center

The objective of the Law and Policy Tools Work Group was to identify law and policy tools that could be implemented to address working waterfront issues on the federal, state, or local level. Based on previous research by Project Team members and input from the project Advisory Committee, the work group decided to focus on exploring the six tools most applicable to working waterfronts: (1) the federal Coastal Zone Management Act; (2) the Public Trust Doctrine; (3) land use planning, including comprehensive planning and zoning; (4) historic preservation; (5) land conservation and acquisition; and (6) tax policy. The Work Group began by compiling a list of law and policy articles. An academic literature review was conducted using Westlaw (legal database), Academic Search Premier, and Google Scholar. The Work Group's annotated bibliography is available on the NWWN website at www.wateraccessus/lawlit.cfm. Additional research was conducted using traditional legal research methods and personal interviews.

As part of their work on the Coastal Zone Management Act and with significant input from Kenneth Walker at NOAA's Office of Coastal and Resource Management, the Work Group also updated and revised the 1997 NOAA Ocean and Coastal Resource Management technical report, "Coastal and Water-dependent Uses: Coastal Management Programs, Meeting the Needs of our Nation" (OCRM Program Policy Series, Technical Document 97-1). The updated report, entitled *Working Waterfronts and the CZMA: Defining Water-dependent Use*, provides guidance on how state and local policymakers can utilize water-dependent use definitions to achieve working waterfront preservation goals. The report is available in Appendix D. The Conservation Clinic at the University of Florida Levin College of Law contributed to the *Toolkit* by conducting additional research on state ports legislation (Appendix E) and tax increment financing (Appendix F).

Many of the law and policy tools highlighted in the *Sustainable Working Waterfronts Toolkit* on the NWWN website cannot be effectively implemented without the assistance of lawyers working in both the private sector and for local and state government. A network of attorneys with relevant experience and knowledge who are willing to work with waterfront stakeholders is needed to facilitate local implementation of the suite of law and policy tools available. To begin the discussion of how to form and utilize such a network, the Law and Policy Work Group convened a small group of lawyers with expertise in either providing pro bono services or representing working waterfront clients. The resulting report, *Engaging the Legal Community in*

Working Waterfronts (Appendix G), outlines various strategies that could be undertaken by the National Working Waterfront Network to develop and encourage the growth of a Working Waterfront Legal Community.

E. Tools in Action Work Group Methods

Lead: Maine Sea Grant

The objective of the Tools in Action Work Group was to provide compelling examples and context for how the tools could be used. The Work Group developed resources to help working waterfront stakeholders learn about the tools highlighted in the *Sustainable Working Waterfronts Toolkit*. The *Sustainable Working Waterfronts Toolkit* will help engage and educate stakeholders by connecting the abstract tools to concrete examples where these tools are being used. On the ground, actual implementation of these tools often involves the use of multiple tools. Providing models of how they have been used in other places can be extremely helpful. The Work Group compiled a collection of 19 case studies from communities and states from around the country that demonstrate the implementation of a variety of tools for sustaining working waterfronts. The goal of these case studies is to raise awareness of success stories and build capacity in other communities to benefit from these “lessons learned.”

To enable readers to quickly assess the applicability of each case study to their own situation, the team identified several main categories, including the central issues the featured working waterfront was facing (*Issues*), the predominant types of uses present at the working waterfront site (*Uses*), and the key tools practitioners applied toward preserving the waterfront (*Tools*). Project advisors Jody Thompson and Lewis Lawrence were an integral part of the Tools in Action Work Group. Each project advisor reviewed two or three case studies. These case studies are available in Appendix H and also individually on the NWWN website at www.wateraccessus/cslist.cfm.

The Work Group identified common themes that appear throughout a number of case studies. These themes were collected into a set of “best practices” that refer specifically to the 19 case studies assembled by the Tools in Action Work Group. The best practices are available in Appendix H.

The Tools in Action Work Group also compiled a collection of existing resources and “how-to” guides that have been used to advance working waterfront preservation efforts. These resources were selected either because they (1) were utilized by communities featured in the case studies to meet a specific community-based need; or (2) provide additional information related to the case studies. These are included on the *Implementation Resources* tab on the NWWN website at www.wateraccessus/edresources.cfm.

F. The Sustainable Working Waterfronts Toolkit: Methods for Building the Web-based Portal

There is a clear need for a central clearinghouse of information about the value of working waterfront infrastructure to coastal communities and ideas for addressing the challenges facing these communities. This clearinghouse is necessary to help communities and organizations find information on the suite of tools available. To fulfill this need, the Project Team decided to adapt an existing website (www.wateraccessus.com), which was being used by Project partners to announce upcoming working waterfront events and news items of interest. The new website for the National Working Waterfront Network has two components: a resource center, the *Sustainable Working Waterfronts Toolkit* available at: www.wateraccessus.com and a social networking center, the Working Waterfront Community Center available at workingwaterfronts.ning.com.

IV. The Sustainable Working Waterfronts Toolkit

The *Sustainable Working Waterfronts Toolkit* is a web-based information portal that contains a wealth of information about the historical and current uses of waterfronts, as well as the economic value of working waterfronts. It includes legal, policy, and financing tools communities can use to preserve, enhance, and protect these valuable areas, along with a growing collection of case studies demonstrating how these tools have been applied. Sharing this information with communities is an essential first step toward increasing knowledge and awareness of the range of tools and options that are available. Working waterfronts vary greatly across the country and face a broad range of issues. As such, a single, common approach to solving those challenges does not exist. The *Toolkit* is meant to help stakeholders approach a range of working waterfront issues and be accessible to a variety of people and organizations facing various scenarios.

The *Toolkit* is hosted on the NWWN website, currently maintained by Virginia Sea Grant. The *Toolkit* brings all of the information, resources, and knowledge developed through this project together in one place and in a user-friendly format. Website users can access information from multiple perspectives, including three stakeholder groups: Decision and Policy Makers, Waterfront Landowners, and Waterfront Users. Newcomers to the website may find the “user introduction” pages valuable as a means of identifying their user group and accessing information directly from that page. Website users who are more familiar with the issues, and who are seeking specific information, can find it by going directly to specific subpages. Users may also enter the website through an interactive map highlighting case studies. Finally, users may log onto the website through the online community center, which allows them to tap into the nationwide expertise of NWWN members.

As described above, the Project Team has developed several stand-alone reports, including the Urban Harbor Institute’s *History, Status, and Trends of Working Waterfronts*; the University of Florida’s *Economic Analysis of Working Waterfronts in the United States*; the National Sea Grant Law Center’s *Working Waterfronts and the CZMA: Defining Water-dependent Uses* and

Engaging Lawyers in Working Waterfronts; and the Conservation Clinic’s *State Funding for Ports: Selected State Summaries and Links to Resources* and *The Tiff Over TIF: Extending Tax Increment Financing to Municipal Maritime Infrastructure*. Other available products include Coastal Enterprises, Inc.’s database of financial tools, and 19 case studies highlighting communities, regional efforts, and various tools and strategies. As their titles suggest, these resources explore particular working waterfront issues or tools in more depth. They are all available as downloadable PDFs on the NWWN website at www.wateraccessus.com.

The *Sustainable Working Waterfronts Toolkit* is organized around five main thematic areas:

- Historic Trends;
- Economics;
- Financing;
- Law and Policy; and
- Tools in Action.

The following sections summarize the content of each of these thematic areas.

A. Historic Trends

The Historic Trends section explores the history and evolution of working waterfronts, the drivers of change to waterfronts, the current status of key waterfront industries, and the significant trends that will affect waterfronts in the future. The *Historic Synopsis* section examines the origins of our working waterfronts and the role they played in the creation, growth, and prosperity of our country. Waterfronts on every coast and navigable waterway provide a living record of how our nation was settled. As these waterfronts continue to evolve, they reflect varying community goals, assets, opportunities and pressures across the country. The *Drivers of Change* section outlines demographic, economic, environmental, regulatory, and technical drivers of change that have spurred transformation of waterfronts over time. These drivers shaped the development of historic waterfronts and continue to effect change on waterfronts today.

The *Waterfront Industries* section outlines current key water-dependent industries in the following areas: Marine Construction, Marine Living Resources, Offshore Minerals, Ship and Boat Building and Repair, Coastal Tourism and Recreation, and Marine Transportation. These waterfront industries are important not only for their economic contribution, but also for their cultural and societal impact on local communities. The *Status and Trends* section describes significant trends and the associated drivers that will impact working waterfronts in the future. These trends include successes and failures in the commercial fishing industry due to regulatory and environmental factors; impacts of climate change, including sea level rise; global trade

patterns and port and infrastructure expansion; increase in recreational boating and the tourism-based economy; and potential growth of the renewable energy industry. In addition, the full report, *History, Status, and Trends of Working Waterfronts*, is available for those seeking more detailed information and discussion.

B. Economics

The Economics section of the *Toolkit* analyzes and describes facets of the U.S. ocean economy, defined by the National Ocean Economics Program to include six major sectors or industry groups: Marine Construction, Marine Living Resources, Offshore Minerals, Ship and Boat Building and Repair, Coastal Tourism and Recreation, and Marine Transportation. To help promote the long-term prosperity of coastal communities and their working waterfronts, it is essential to document their current economic status and future prospects. The research introduced in this section of the *Toolkit* does so by providing a comprehensive evaluation of all ocean-related economic activity for 11 coastal regions of the United States. An introductory narrative section provides a brief glance at the state of the U.S. ocean economy and some of its specific sectors, including high-profile industries such as marine cargo shipping, commercial fishing, and ocean-going cruise ships. Provided links allow stakeholders to more fully explore the detailed economic information and results contained in the full report. The Economics section also provides an example – using Duval County, Florida – of how data and economic analyses in the report can be applied to specific localities.

C. Financing

The Financing section provides users access to a database that contains information on finance tools grouped into the following categories: State Resources, Federal Resources, Trade Associations, and Foundations. *State Resources* include working waterfront funding mechanisms for 30 coastal states (including Great Lakes states). The *Federal Resources* is a compilation of federal programs and independent sources with national scope that qualify to be used on working waterfront issues. *Trade Associations* is a list of organizations (many of which work across state lines) that represent members and interests aligned with working waterfront issues. Finally, the database includes a list of private philanthropic *Foundations* that have either funded working waterfront projects or have focused on aspects of coastal communities' economies. In addition to the sources of support, this section of the *Toolkit* identifies different financing tools used to address issues facing our working waterfronts. These include: Grants, Loans, Loan Guarantees, Dedicated Revenue, Tax Incentives, Technical/Planning Assistance and links to additional Information Repositories. The Financing section is meant to be a central inventory of summarized information about these tools, with links to learn more about each program or benefit.

Users can search the finance tools database by selecting a state or specific geographic region (Northeast, Mid-Atlantic, Southeast, Great Lakes, Gulf of Mexico, or Pacific Coast). From there, they can quickly hone in on resources available in their particular state/region. Users can also

search the database by program type or by freeform to locate tools by program name, acronym, department, or keyword. Each listing within the database provides a brief summary and a direct link to a specific website location that will deliver enhanced information.

D. Law and Policy

This section of the *Sustainable Working Waterfronts Toolkit* provides a general overview of law and policy tools that communities can use to protect and enhance their working waterfronts. Except in a few states such as Maine and Florida, working waterfronts have not been a primary focus for policymakers. As a result, very few legal tools and policy approaches have been developed with working waterfronts in mind. Fortunately, a number of tools developed to address similar coastal management issues can be successfully applied in the working waterfront context at various governmental levels (local, state, federal). The *Toolkit* contains information on how state and local policymakers can apply water-dependent use definitions, land use and tax policy, historic preservation laws, and land conservation and acquisition programs to address working waterfront needs. For each of the previously listed tools, the *Toolkit* provides a general overview, highlights community examples of successful implementation, and supplies links to additional resources that explore it in more detail.

E. Tools in Action

Models of stakeholders working cooperatively to partner and resolve working waterfront issues can be found from coast to coast. The Tools in Action section of the *Toolkit* highlights these models, which are captured in case studies and resources collected from across the country. The goal of this section is to raise awareness of success stories and build capacity in other communities to benefit from these “lessons learned.” These case studies and their related resources have been developed to help NWWN members learn how their peers have applied working waterfront tools in the real world. Case studies demonstrate the implementation of a variety of tools, contain direct links to other sections of the *Toolkit* to provide more detailed information; highlight transferability, best practices, issues and challenges; and include local contacts and additional resources. They can be searched by mapped location, tool, keyword, or region/topic.

In many communities, working waterfront preservation efforts are advanced by the use of existing resources and “how-to” guides, or, in some cases, new resources may have been developed to meet a specific community-based need. The *Implementation Resources* section of the website compiles key resources related to working waterfront case studies to provide guidance to those seeking to launch new initiatives. Resources can be searched by keyword. Results are sorted by tool and include references to related case studies, along with a brief description of the resource.

V. Tools for Implementing a Working Waterfront Initiative

Although few tools have been specifically created with working waterfronts in mind, the sheer number of tools that have the potential to be used to address working waterfront needs is impressive (Table 1). This section of the report highlights how three key stakeholder groups – Decision and Policymakers, Waterfront Landowners, and Waterfront Users – can utilize the range of working waterfront tools to achieve working waterfront preservation goals. This synthesis was developed as a template for the case studies featured in the Tools in Action section, and each study identifies the tools from these lists that have been applied in that case study. The compilation, which includes a glossary defining each term listed in Table 1 is available at www.wateraccessus/glossary.cfm, reflects the collective working knowledge of the Project Team and major findings from the various tracks of research. Stakeholder groups cannot necessarily use every tool and so developers of working waterfront initiatives need to match the right tools with appropriate stakeholders.

Table 1. Working Waterfront Tools

Category	Tools
Policy and Regulation	Building Code; Coastal Zone Management Program; Design Standards; Exaction; Historic Preservation; Litigation; Moratorium; No Net Loss Policy; Police Power; Public Trust Doctrine; Real Estate Disclosure; Special Purpose Political Subdivision; User Fee; Visual Access
Financing	Appropriation, Bond Financing, Dedicated Revenue, Economic Development Entity, Foundation, Grant, Loan, Loan Guarantee Subsidy, Tax Increment Financing, Trade Association
Planning	Action Planning, Business Recruitment Plan, Comprehensive Plan, Disaster Recovery Planning, Growth Management, Harbor Management Plans, Historic Resources Survey, Land Use Planning, Marine Spatial Planning, Six Hats Exercise, Smart Growth, Special Area Management Plan, SWOT Analysis; Waterfront Master Plan
Zoning	Contract Zoning, Form-based Code, Impact Fees, Incentive Zoning, Overlay Zoning, Private Zoning, Shoreland Zoning, Water Dependent Use, Water Dependent Use Zoning, Zoning, Zoning Ordinance
Taxation	Ad Valorem Tax, Current Use Taxation, Excise Tax, Income Tax, Property Tax, Real Estate Transfer Tax, Sales Tax; Special Assessment, Special Taxing Districts Tax, Tax Abatement/Deferral, Tax Incentives
Community/Stakeholder Engagement	Branding, Coalition, Conflict Resolution, Focus Group, Initiative, Partnerships, Stakeholder Analysis, Technical Assistance, Visioning Exercise
Mapping, Inventory, Study	Build Out Analysis, Coastal Access Site Inventory, Community Assets, Mapping/Inventory, Economic Analysis/Assessment, Force Field Analysis, Legal Tools Inventory, Legislative Task Force, Marketing Study, Natural Resource Inventory, Needs Assessment Repository, Visual Preference Survey, Working Waterfront Inventory
Land Conservation, Transfer, Acquisition	Acquisition; Compensation, Conservation Easement, Conveyance, Covenant, Deed Restriction, Easement, Eminent Domain, Land Bank, Land Trust, Lease, Liability Waiver, Purchase of Development Rights, Right-of-Way, Transferable Development Rights, Transferable Slip Rights, Working Waterfront Conservancy
Private Agreements	Consideration, Contracting for Access, Installment Contract, Lease-Option Contract, Private Use Agreements, Use Permitting

A. Decision and Policymakers

Individuals responsible for formulating policies or making official decisions at the local, state, and federal government level, referred to collectively as “Decision and Policymakers,” have the widest range of tools available to them to address critical working waterfront infrastructure needs. Decision and Policymakers have the legal authority to implement sustainable working waterfront policies through laws, regulations, and government programs. The list below illustrates how Decision and Policymakers can utilize the various categories of tools to achieve working waterfront objectives.

Table 2: Working Waterfront Tools for Decision and Policymakers

Category	Tools
Policy and Regulation	Decision and Policymakers may adopt formal policies or regulations to address discrete working waterfront issues. Building and development codes, for example, may impose water-dependent use requirements. Permitting programs can be designed to require consideration and mitigation of the impact of a working waterfront conversion on water-dependent business or uses.
Financing	Many states have created special funding programs to preserve working waterfront access. Money for such programs can come from a variety of sources, including grants, general fund revenue, and the issuance of state and municipal bonds. Indirectly, taxes can also be used by a government entity as a means of raising funds the public can invest in the acquisition of public access or working waterfronts. A land gains tax, real estate transfer tax, impact fees, or tax increment financing can all be explored for these purposes.
Planning	Local governments can use comprehensive plans, including waterfront master plans, harbor management plans, and special area management plans, to incorporate provisions to preserve and plan for the needs of working waterfronts.
Zoning	Zoning may be used to help fully realize any working waterfront goals, especially if those goals have been clearly articulated in local comprehensive plans. For example, zoning may help ensure that water-dependent uses, such as marinas, maintain priority and that other authorized uses, such as commercial spaces, are compatible. For example, Portland, Maine has worked hard to preserve its working waterfronts through zoning that ensures compatibility of uses located on the piers and the city waterfront, while being sensitive to the long-term operation and maintenance needs of pier owners as fishing in the Gulf of Maine has declined. (www.wateraccessus.case_study.cfm?ID=32)
Taxation	Impacts of high waterfront taxes can be mitigated through changes in tax policy that provide incentives for maintaining working waterfront access or protection. For example, a change in tax policy to an ad valorem, or “current use,” tax that assesses working waterfront property based on the value of land as it is currently being used can help communities retain water-dependent business that may be struggling to pay property taxes assessed on the fair market value or “highest and best use” of the property.
Community/Stakeholder Engagement	Working waterfront stakeholders in any given community are those who are most affected by changes to the waterfront. As such, their engagement and participation is critical in visioning, planning, and implementing actions along the waterfront. Without the stakeholders at the table, initiatives are much less likely to succeed. The Middle Peninsula Planning District Commission in Virginia, for example, established the York River Use Conflict Committee to gain a better understanding of existing uses and conflicts along the York River and inform the development of policy recommendations.

Category	Tools
	www.wateraccessus/case_study.cfm?ID=38
Mapping, Inventory, Study	To clearly delineate their programs and policies, Decision and Policymakers must gather information about their working waterfronts. North Carolina and Alabama, for example, established legislative study committees in response to public concerns regarding loss of traditional working waterfronts. Maine and other states have inventoried and mapped working waterfront land (including ownership patterns), providing for the first time a comprehensive understanding of the status of working waterfront access and a baseline for tracking change.
Land Conservation, Transfer, Acquisition	Sometimes the most effective means of protecting or enhancing a working waterfront is to buy the property. A local government, for instance, may choose to purchase a dock or marina to ensure continued public use and access. Private owners, nonprofit organizations, and government agencies can form public/private partnerships to pursue the purchase and acquisition of working waterfront property and interests.
Private Agreements	Although a government decision-making body cannot require private entities to enter into contracts, policy can be crafted providing incentives for agreements that support working waterfronts. These can be implemented through other tools identified above, such as zoning. Additionally, local and state governments also own working waterfront infrastructure and can enter into private agreements like any other private land owner.

B. Waterfront Landowners

Waterfront landowners fall into two categories: (1) those that personally use their property to access the water for business or recreation; and (2) those that provide access to other water-dependent businesses or users. Given the high cost of waterfront land and rising property taxes, most private waterfront landowners are under tremendous pressure to either sell or convert their property to facilitate seemingly more lucrative and different uses. However, waterfront landowners around the country are taking advantage of a variety of tools to preserve working waterfronts. In addition, waterfront landowners can encourage local, state, and federal governments to address working waterfront issues through legislative study committees, comprehensive planning, and funding programs.

Table 3: Working Waterfront Tools for Waterfront Landowners

Category	Tools
Policy and Regulation	Although waterfront landowners do not have the authority to enact laws, regulations, or policies, they are key stakeholders directly impacted by such enactments. As such, they are in a position to influence the decision and policymaking process. The public support of waterfront landowners is often essential to securing the passage of legislation to provide incentives to maintain the working status of waterfront lands.
Financing	Waterfront landowners can take advantage of grant programs and loan funds dedicated to preserving their lands as working waterfronts, or for specific waterfront uses, such as commercial fisheries.
Planning	Planning processes are dependent on the input of stakeholders and waterfront landowners, who have an important stake in the outcome of comprehensive plans, harbor management plans, marine spatial plans, and other plans. Although decision-making

Category	Tools
	authority resides with governmental bodies, waterfront landowners can raise issues of concern and offer potential solutions by actively participating in planning processes.
Zoning	The ability of waterfront landowners to adapt to changing conditions is often constrained by zoning laws. Some constraints, such as water-dependent use requirements, might be viewed as positive from a working waterfront perspective. Other constraints can work at cross-purposes with working waterfront initiatives, for example, when property is zoned residential and commercial activities are considered non-conforming uses. Although decision-making authority rests with governmental entities, working waterfront landowners can seek changes in zoning laws that negatively impact their ability to maintain their businesses. For example, waterfront, marine use, and other forms of zoning have been used in many communities to ensure that certain sections of a community are specifically identified as working waterfront areas. This approach encourages new waterfront landowners to locate their water-dependent businesses in appropriate districts, and protects existing businesses from conversion.
Taxation	Waterfront landowners may be able to reduce their tax burden by allowing access (working waterfront and otherwise) to their land. Tax incentives may include income tax deductions, reduced property taxes, reduced estate taxes, avoidance of capital gains taxes, and gained investment interest. In some states, incentives might also include a current use taxation structure for open space, or for working waterfronts that provide access for commercial fishing activities. Landowners also stand to gain income and receive tax reductions when land trusts or public entities purchase easements on their lands (such as if a land trust or other entity purchases a parcel's working waterfront access rights from a landowner). Tax incentives may also be available to help waterfront landowners cope with rising property values.
Community/Stakeholder Engagement	Waterfront landowners are critical stakeholders in discussions related to the protection of working waterfronts, including planning efforts, zoning decisions, mapping and inventory efforts, and other projects. Decisions made as a result of these discussions can affect property values and tax rates, the viability of business, traditional way of life, and other high-stakes issues. Waterfront landowners should be encouraged to actively engage in the policy process.
Mapping, Inventory, Study	Although private waterfront landowners generally do not conduct mapping inventories or studies of waterfront property, they and their property feature prominently on maps and in studies. Having an understanding of the scale of private waterfront ownership in a region gives owners clout, and helps municipalities plan for potential conversions. Waterfront landowners can therefore benefit from actively participating and cooperating in data collection efforts.
Land Conservation, Transfer, Acquisition	Waterfront landowners can place easements on their land that provide for working waterfront access; they can transfer access rights to specific user groups; or they can engage in acquisition of new lands, specifically for working waterfront uses. Waterfront landowners and developers can utilize financial incentives built into permitting programs that transfer access rights to users or other waterfront developments. In some states, like Maine, landowners have used conservation easements to maintain docks and prevent conversion to non-water-dependent uses.
Private Agreements	Private waterfront landowners can enter into various kinds of agreements with water-dependent users to provide access. Through such agreements users secure rights of access, while the landowner gains some kind of benefit or compensation. These arrangements can take the form of informal agreements, (e.g., when a clammer is granted a verbal agreement by a waterfront landowner to cross private land to access clam flats), or through written contracts, (e.g., where the agreement is stipulated in a lease). The landowner may receive a financial benefit or simply enjoy a feeling of goodwill.

C. Waterfront Users

Many who rely on access to working waterfronts for their livelihood or other activities do not have a guaranteed right to that access. Working waterfronts can be publicly owned, managed by a quasi-public entity like a port authority, or privately owned. Competing, and at times conflicting, demands on waterfront space can result in the loss of access for traditional waterfront activities and water-dependent uses. Loss of access frequently impacts the user more than the landowner. Lacking ownership interest in their working waterfront and the direct ability to make laws, change zoning, or other regulatory decisions means that waterfront users have the fewest tools at their disposal. However, they are often key partners in the implementation of working waterfront initiatives. Displacement of waterfront users is frequently the catalyst for communities to come together and figure out how to protect land usage and access.

Table 4: Working Waterfront Tools for Waterfront Users

Category	Tools
Policy and Regulation	Working waterfront users can have considerable influence on local and state policies and regulations like tax or policy incentives for waterfront landowners that grant preferences to working waterfronts. In addition, many waterfront users are businesses that require access to the water, and often make important contributions to the local economy and character of coastal communities.
Financing	For many users of working waterfront infrastructure, tools for financing capital improvements or ongoing operations and maintenance costs are not directly applicable. Users, for instance, cannot get a loan or a grant to make an investment on somebody else's property. Working waterfront users, however, frequently help finance the ongoing viability of the infrastructure they use through the payments of taxes, fees, and rent. By entering into leases or other business arrangements, waterfront users may be able to help provide the financing needed to keep the infrastructure operational. In addition, many public financing programs require a commitment from the waterfront landowner to support water-dependent uses for a specific period of time. Users may also influence the funding for public financing through the provision of stakeholder input, or by advocating for a specific appropriation, bond financing, or dedicated revenue.
Planning	Waterfront users can be important participants in planning processes. This is true whether policymakers are developing comprehensive land use plans, harbor management plans, special area management plans, or engaging in marine spatial planning. Some strategies, like development of business recruitment and growth management plans, can be quite focused on the needs of working waterfront users. Concerns about losing a historic industry often drive these planning processes. For example, in Gloucester, Massachusetts, the comprehensive planning process helped identify issues facing waterfront users and provided a forum for negotiating compromises that allow continued access to the working waterfront.
Zoning	Waterfront users are often impacted by zoning decisions. Changes in the economic condition of the working waterfront can cause waterfront landowners to seek changes to or exemptions from zoning ordinances that may shift or displace traditional uses. The public process around zoning decisions gives waterfront users a chance to participate in the decision-making process and contribute to the development of solutions that work for the community, users, and landowners.
Taxation	Waterfront users often indirectly benefit from tax incentives for working waterfronts. Tax programs, including current use taxation, property tax abatement and other tax incentives,

Category	Tools
	can help landowners maintain working waterfronts on their property. This in turn ensures continued access for water-dependent uses. Waterfront users also support working waterfronts through tax payments, which are often the revenue source for public financing of working waterfront initiatives.
Community/Stakeholder Engagement	Waterfront users are often the most identifiable stakeholder in a community's working waterfront. Users can influence the local and state decision-making and policy processes by utilizing community and stakeholder engagement tools like coalition-building and forming partnerships.
Mapping, Inventory, Study	Some inventories, mapping projects, or studies may come from and be conducted by users or groups working closely with working waterfront users. Others may emerge as part of a public process. Participation in mapping, working waterfront inventories, and other studies can be an extremely important way to influence decisions being made by others about working waterfronts.
Land Conservation, Transfer, Acquisition	Waterfront users in some communities have purchased development rights, easements, covenants, or otherwise placed restrictions on properties they rely on to increase the likelihood of continued water access. Waterfront users are at a high risk for displacement around the time a working waterfront is being transferred or sold. They can work with the sellers, land trusts, and the community to acquire the property for the benefit of the broader community.
Private Agreements	Private arrangements between the landowner and user can help ensure that specific users or a community of working waterfront users maintains water access. Formal private agreements like leases, private use agreements, or other contracts, can provide revenue for the landowner and certainty for the user. Informal arrangements that allow access across private property can also be important; however, many coastal communities have seen that, as pressures on landowners increase, users of working waterfronts are likely to see changes to or the ending of these informal arrangements. Users with informal agreements are particularly at risk for displacement when a property is transferred, particularly if the new owner does not have a connection to those working waterfront users. In any private agreement, a tangible benefit to the landowner will help fortify the agreement, should it need to go before the court.

VI. Key Findings and Recommendations

The key findings from this project are outlined below in three major theme areas:

- Working waterfronts are economically and culturally important;
- Working waterfronts are changing and the threats facing them are also changing; and
- Working waterfronts are difficult to define and measure.

Within each of these themes, there are multiple findings followed by recommendations as to how the issues identified in the finding might be addressed. Recommendations are divided into three categories based on the nature of the action to be undertaken. The recommendations identify (1) actions that the National Working Waterfront Network should undertake (NWWN), (2) areas where further research or writing is needed (RESEARCH), and (3) areas that need the attention of federal policy and decision-makers (POLICY).

The table below provides a summary of the key findings and recommendations, followed by the analysis of these findings.

Table 5. Summary of Key Findings and Recommendations

<p><u>Theme #1: Working waterfronts are economically and culturally important</u></p> <p>Key Findings:</p> <ul style="list-style-type: none"> A. Working waterfronts play an important role in our nation’s economy. B. Working waterfronts play an important role in the culture of our nation’s coastal communities. C. Working waterfronts are inherently tied to their geography and natural resources. D. Working waterfront lands and/or infrastructure facilitate important access to public resources. E. Once working waterfront land is converted to other uses, it is likely lost forever as a working waterfront. F. Creative solutions abound and need to be shared. <p>Recommendations:</p> <ul style="list-style-type: none"> 1.1 Maintain the nation’s inventory of working waterfronts to meet current and emerging needs of waterfront uses. (POLICY) 1.2 Recognize the importance of working waterfronts at the highest levels of government in policies, guidance documents, and federal actions that could impact working waterfronts. (POLICY) 1.3 Identify and explore the cultural aspects of working waterfronts and their role in coastal communities. (RESEARCH) 1.4 Identify tools that are used in other place-based industries that could serve as models for federal and state support for working waterfront preservation at the local level. (RESEARCH) 1.5 Facilitate the sharing of information, ideas, and best practices about working waterfront preservation. (NWWN)
<p><u>Theme #2: Working waterfronts are changing, as well as the threats facing them.</u></p> <p>Key Findings:</p> <ul style="list-style-type: none"> A. Working waterfronts are often affected by external environmental, economic, and social forces; forces that communities cannot always control or anticipate. B. The external forces are changing and these changes vary across regions, making it hard for communities to identify solutions to the problems facing their working waterfronts. <p>Recommendations:</p> <ul style="list-style-type: none"> 2.1 Recognize the inability of local communities to address large-scale drivers of change and focus federal efforts on minimizing the impact of these drivers on working waterfronts. (POLICY) 2.2 Incentivize the conversion of non-working waterfront land, particularly historic working waterfront infrastructure, back to working waterfronts. (POLICY) 2.3 Develop a body of literature that analyzes the best governmental policies to protect current uses in the face of change, analyze the effectiveness of current programs, such as current use taxation, and develop best practices for their implementation. (RESEARCH) 2.4 Identify and explore strategies for revitalization or protection of working waterfronts no longer in use, but with potential future use. (RESEARCH) 2.5 Conduct ongoing research on the drivers of change of the nation’s working waterfronts, especially small-scale working waterfronts. (RESEARCH) 2.6 Develop a better understanding of the impacts of environmental forces, such as storms and climate change, on

- 2.7 the nation's working waterfront infrastructure. (RESEARCH)
Facilitate a national conversation about the changing nature of working waterfront drivers of change and how best to address or prepare for them. (NWWN)

Theme #3: Working waterfronts are difficult to define and measure, and thus protect.

Key Findings:

- A. The scale of a working waterfront determines how effectively it is measured, which in turn determines how much protection it receives.
- B. There is no centralized mechanism or data source for tracking data related to working waterfront infrastructure and businesses.
- C. The lack of a mechanism for measuring the societal and cultural – as opposed to economic – value of working waterfronts renders them susceptible to conversion.
- D. In the research world, working waterfronts are not viewed as a discipline or field of study, which limits the collective knowledge base needed for effective policy decisions.
- E. The elusive definition of small-scale water-dependent industries results in a lack of dedicated funding or protective measures (i.e., it is hard to protect what you struggle to define).
- F. The lack of financing mechanisms dedicated specifically to working waterfronts renders their protection challenging.
- G. Working waterfront issues fall under the jurisdiction of many federal and state agencies, and there is no coordinated working waterfront policy.

Recommendations:

- 3.1 Develop a consensus definition of working waterfronts to guide federal, state, and local decision-making, policy, and programs. (POLICY/NWWN)
- 3.2 Establish working waterfronts as a national priority and develop a mechanism to ensure coordination between federal agencies. (POLICY)
- 3.3 Encourage use of underutilized financing mechanisms and/or develop new mechanisms to invest in existing working waterfront infrastructure. (POLICY)
- 3.4 Identify key socio-economic metrics for small-scale working waterfronts and develop systems to compile and track such data. (RESEARCH)
- 3.5 Encourage the broadening of existing funding sources, both public and private, and other support programs to include working waterfronts. (NWWN)
- 3.6 Encourage the publication of academic articles on working waterfront topics by identifying research needs, approaching potential authors, and sponsoring article-generating panels at conferences and workshops. (NWWN)

Theme #1: Working waterfronts are economically and culturally important

Working waterfronts are important economic and cultural features of our nation's coastal communities and they contribute significantly to the national economy. Working waterfronts provide a place for water-dependent businesses to be located and they support important coastal jobs. When working waterfronts decline, our ocean and coastal economy lose on multiple levels: our national GDP declines, access to the water is lost, and the critical connection to shore-side markets and infrastructure vanishes.

There is also a strong cultural connection between working waterfronts and the wider community where they are located. Working waterfronts help give many of our coastal communities the character that residents have long valued, in addition to driving the underlying economic activity of coastal communities throughout the nation.

Because working waterfronts are so important, communities, businesses, and people around the country have identified ways to ensure that their coastal jobs, economic drivers, and industries remain viable. Their ideas and solutions highlight the seriousness and importance of this issue. Their efforts offer models that can be replicated in hundreds of other harbors, ports, and communities to further enhance the protection of our nation's working waterfronts.

A. Working waterfronts play an important role in our nation's economy

As mentioned earlier, working waterfronts represent an important component of the U.S. economy. Nationally, ocean- and Great Lakes-related economic activity in 2009 accounted for:

- 130,855 businesses,
- Employing 2.4 million full-time and part-time employees,
- Receiving \$84.25 billion in wages and benefits, and
- Contributing a total of \$217.78 billion in GDP (Gross Domestic Product).

In terms of relative importance to the overall U.S. economy, this represents 3.41 percent of total GDP and 4.85 percent of total employment. Thus, the economic benefit of working waterfronts to our communities, ports, harbors, cities, counties, and states is high. As such, they warrant the same level of analysis and policy consideration as any other significant economic driver.

B. Working waterfronts play an important role in the culture of our nation's coastal communities.

Just as working waterfronts play a critical role in local and regional economies across the country, working waterfronts are central to the culture and character of coastal communities. Many of our nation's towns were settled because of their proximity to the water, capitalizing on the transportation networks and commercial opportunities that the sea and other large bodies of water, such as the Great Lakes, had long provided. As a result, many of our nation's working waterfronts have, for generations, played a critical role in the community identity of many coastal towns and regions; they are in fact a central part of the social fabric of these communities. Our coastal communities as a whole, not just our water-dependent businesses, increasingly recognize the larger societal value of working waterfronts and the need to protect them.

C. Working waterfronts are inherently tied to their geography and natural resources.

By their definition, working waterfronts exist in very specific locations. Being next to the water means existing in a specific place, in a specific community, and in the historical context of that community. When working waterfronts are lost, businesses and activities dependent upon them cannot succeed, jobs are lost, and the home community or port suffers. Although this means that working waterfronts are inherently local and place-based, they are also integrally tied to larger national and international trends and, as such, need state and federal support.

There is much to be learned from other place-based, natural resource-dependent industries and, in particular, the state and national policies that have been put in place to ensure the future health of their affiliated industries. Historic properties, family farms, and working forests face many of the same issues as working waterfronts, and their preservation movements can be looked to for ideas, inspiration, and models. There are programs for forestland and working farm conservation that ensure our communities continue to benefit from these important places. Such programs often recognize that there is a larger public good in keeping these businesses in our communities than just the number of jobs created or maintained. These places provide character and a sense of community that can draw other unrelated businesses. Similar programs that recognize the non-economic values of working waterfronts to their home communities do not exist.

D. Working waterfront lands and/or infrastructure facilitate important access to public resources.

Working waterfronts, either the land itself or the physical infrastructure on that land, facilitate access to navigable waters and natural resources, such as fisheries and oil. To ensure a vibrant working waterfront, the waterfront land and the physical infrastructure must be protected. For example, a fish house in South Carolina is clearly a critical component of infrastructure for that area's fishing industry. And a stretch of intertidal lands is clearly critical for the New England clam or worm fisherman.

Working waterfronts are owned and managed in various ways, which impacts how they facilitate access to public resources. They may be publicly owned and managed, publicly owned but managed by a quasi-public entity such as a port authority, or they may be privately owned. The variations in ownership can make it challenging for governmental entities to address infrastructure needs. Although public and quasi-public working waterfronts can be regulated directly, private working waterfronts can only be indirectly regulated through land use, tax, and other policies.

Pursuant to the public trust doctrine (a common law legal doctrine recognized in various forms in every coastal state), navigable waters and the submerged lands underneath them are held in trust by the states for the benefit of the public. The public's access rights under the public trust doctrine vary by state, but generally the public has a right to use public trust lands and waters for fishing, navigation, and commerce. Many coastal states also recognize the public's right to access these areas for recreational purposes. When working waterfronts, such as a marina, face

conversion to other non-water dependent uses, such as hotels or restaurants, it can mean the loss of access to public trust lands and waters. Because the public depends on working waterfronts to access public resources, all levels of government should ensure that there is a sufficient amount of working waterfronts to meet their community's access needs.

E. Once working waterfront land is converted to other uses, it is likely lost forever as a working waterfront.

Existing facilities and sites are invaluable assets. Given the high replacement costs of purchasing waterfront property, constructing new infrastructure, and the need to comply with limitations imposed by environmental laws and regulations to protect coastal resources, existing working waterfronts are of great value. Once existing sites are converted to non-water-dependent uses, the future opportunities for working waterfront activities in a community are severely diminished. After a working waterfront has been converted to another use, be it a hotel, dockominium, waterfront park, or any other use, chances are extremely slim that it will be converted back to a waterfront that supports industry. The new use may very well be entirely compatible with a community's long-term plan, but it is important to recognize that the stock of waterfront properties available for industry is finite. Maintaining the nation's current overall inventory of working waterfront lands is critical, as the infrastructure needs of emerging waterfront uses, such as renewable wind, tide and current energy, or even emerging fisheries, are not yet fully understood.

F. Creative solutions abound and need to be shared.

Communities along our coasts are hard at work trying to preserve their working waterfronts. These communities are creating innovative solutions through collaborative partnerships. In many cases, they are applying various tools initially intended for other uses to address working waterfront challenges. Sharing these ideas and tools across the nation will help other communities and harbors tackle their own working waterfront challenges. Although working waterfronts in every community face different pressures and challenges, the end goal – preserving the jobs that are associated with our coastal economy – is frequently the same. As such, many solutions are transferable, including the following:

- **Planning:** To be successful, waterfront communities and businesses must engage in long-term strategic planning to adapt to changing conditions and withstand downturns. Local governments should ensure that their comprehensive plans, harbor management plans, and similar planning documents adequately address working waterfront issues. Through such planning efforts, all key stakeholder groups can be engaged in cataloging resources, identifying issues, and shaping goals and strategies for their communities.
- **Mapping:** Mapping is an excellent tool for integrating data about working waterfronts. Mapping studies and inventories provide key pieces of information and help coalitions of working waterfront users, landowners, and others who care about helping preserve the

businesses that make up working waterfronts. Overall, raising the level of public awareness about the uses and contributions of working waterfronts, both economic and cultural, is fundamental to establishing public support and advocacy. Many partnerships and coalitions will be formed or expanded as a product of this public awareness.

- **Partnerships and Coalitions:** Working waterfront preservation activity is often driven by waterfront users, whose businesses and livelihoods may be at risk. Landowners who provide working waterfront access (either for their own business or private use, or for other users) are critical. They often feel the squeeze of rising costs the most and experience the greatest pressure to sell or convert their waterfront lands. The key to building a successful coalition is bringing together landowners, large and small, who care about their working waterfront with users whose livelihoods are threatened.

Recommendations:

- 1.1 Maintain the nation's inventory of working waterfronts to meet current and emerging needs of waterfront uses (POLICY);
- 1.2 Recognize the importance of working waterfronts at the highest levels of government in policies, guidance documents, and in federal actions that could impact working waterfronts (POLICY);
- 1.3 Identify and explore the cultural aspects of working waterfronts and their role in coastal communities (RESEARCH);
- 1.4 Identify tools that are used in other place-based industries that could serve as models for federal and state support for working waterfront preservation at the local level (RESEARCH);
- 1.5 Facilitate the sharing of information, ideas, and best practices about working waterfront preservation (NWWN).

Theme #2: Working waterfronts are changing, as well as the threats facing them.

Working waterfronts are impacted by various external factors. These factors, whether they are environmental (sea level rise), economic forces (real estate market), or social (increasing populations), all exert great pressure on working waterfronts. The forces of change vary by community and particularly by region of the country. It is important to note that these forces are of a nature and magnitude that community-level planning often cannot control or even anticipate. In many cases, these forces change over time and a particular driver of change in one region can strengthen even as it is waning in another region. Significantly, many of the forces affecting working waterfronts are only beginning to be understood, such as the impact of sea level rise on port infrastructure. The end result is that working waterfront decline is sometimes well

underway, and perhaps irreversible, before communities have even had a chance to understand the ramifications of that loss, let alone prepare for it or try to prevent it.

A. Working waterfronts are often affected by external environmental, economic, and social forces; forces that communities cannot always control or anticipate.

The drivers of change along the nation's waterfronts often are not directly related to the working waterfront itself. Rather, the drivers are broad societal trends that have significant direct and indirect effects on working waterfronts. For example, in recent decades the coastal areas of the nation have attracted a disproportionate number of people, escalating the demand for land for residential/vacation housing and related commercial development. These trends are particularly evident in the mid-Atlantic region. The increase in demand for coastal real estate and the resulting increase in land values, put economic pressure on existing traditional working waterfront activities that occupy desirable waterfront locations. Working waterfront businesses have difficulty competing with the full range of alternative land uses, many of which provide higher economic returns. However, as mentioned above, the value of working waterfronts to coastal communities and to the local and regional economy is often measured in terms beyond real estate value.

The drivers can also be changes in the demand for various marine-related industries, whether brought about by natural resource depletion, technological advances, globalization, shifting demographics or consumer preferences, or competition. These changes may result in less activity at a particular working waterfront and increase pressure to convert to other uses. As these businesses grow, decline, consolidate or shift locations, the underlying working waterfronts can have a hard time adapting.

These drivers of change are difficult to predict and their social and economic impacts are often profound. For example, the global era of the intermodal shipping container began in 1955 with the modest shipment of a few dozen containers. This relatively simple technology rapidly transformed the shipping industry, altering the scale and geography of ports and the status of dockworkers worldwide. More broadly, containerization affected local development patterns and helped create the global economy. Today, the expansion of the Panama Canal and the opening of the Northwest Passage are having equally profound impacts on ports worldwide. The ripple effect of these external factors is significant to all our nation's working waterfronts.

B. The external forces are changing and these changes vary across regions, making it hard for communities to identify solutions to the problems facing their working waterfronts.

The external drivers of change are themselves changing. In the mid 2000s, the real estate bubble put unprecedented pressure on working waterfront landowners. The value of the underlying land was often much higher when converted to other uses not compatible with working waterfronts. After the bubble burst and the recession started, the primary stressors impacting working waterfronts grew to include not only the real estate market but also a broad range of stressors,

such as the economic viability of waterfront businesses and access to capital for infrastructure improvement and maintenance. As recent natural and man-made disasters have demonstrated, increased frequency and power of storms, oil spills, and rising sea level are all very real threats to working waterfronts.

There is also significant regional variability in the external factors that drive change along our nation's waterfronts. In New England, the groundfish industry is struggling in the face of significant quota cuts, and the working waterfronts that rely on the groundfish fleet for their business are threatened. Underutilized wharves and piers are subject to repurposing regardless of future growth in fish stocks, and returning those wharves to infrastructure that can support fisheries is difficult and rarely happens. In other regions like the Great Lakes, it is not resource depletion but declining water levels and the lack of federal and state funding for dredging projects that present the most pressing challenge for their working waterfronts.

External forces are in a constant state of flux, and to further complicate matters, they frequently combine with each other. This is particularly true when one of the external forces occurs suddenly. A storm or an oil spill can tip the scale irreversibly for a working waterfront that is already struggling with dwindling fish stocks or deferred maintenance. When forces combine, impacts that might be significant on their own can become almost insurmountable.

External forces, however, can also present an opportunity for our nation's working waterfronts. The increasing demand for renewable energy, for example, has opened the door for offshore wind and tidal energy, both of which will be reliant on safe and efficient access to the water. Communities and ports that are poised to provide the infrastructure needed for these emerging waterfront industries are the ones that will see new jobs funnel into their waterfront economies.

Recommendations:

- 2.1 Recognize the inability of local communities to address large-scale drivers of change and focus federal efforts on minimizing the impact of drivers of change on working waterfronts (POLICY);
- 2.2 Incentivize the conversion of non-working waterfront land, particularly historic working waterfront infrastructure, back to working waterfronts (POLICY);
- 2.3 Develop a body of literature that analyzes the best government policies to protect current uses in the face of change, analyze the effectiveness of current programs, such as current use taxation, and develop best practices for their implementation (RESEARCH);
- 2.4 Identify, and explore strategies for revitalization or protection of working waterfront no longer in use, but with potential future use (RESEARCH);

- 2.5 Conduct ongoing research on the drivers of change of the nation’s working waterfronts, especially small-scale working waterfronts (RESEARCH);
- 2.6 Develop a better understanding of the impacts of environmental forces, such as storms and climate change, on the nation’s working waterfront infrastructure (RESEARCH);
- 2.7 Facilitate a national conversation about the changing nature of working waterfront drivers of change and how best to address or prepare for them (NWWN).

Theme #3: Working waterfronts are difficult to define and measure, and thus protect.

Adequate systems to measure the multi-scale and multi-dimensional economic and societal impacts of working waterfronts currently do not exist, making it difficult to design effective policies to help working waterfronts thrive. Working waterfronts exist in very rural and very urban parts of the country, and everywhere in between. However, there is limited centralized tracking of data related to working waterfront infrastructure that enables effective analysis at all scales, large to small. Indeed, there is no centralized place for exchanging information about working waterfronts. Available information is scattered among hundreds of agencies, associations, and organizations.

This project and report are an effort to address the lack of centralized economic and societal information about working waterfronts, as well as to address how existing non-working waterfront tools can be re-purposed. But much more needs to be done to differentiate between the various types of working waterfronts and how to more effectively capture their societal impact relative to the community in which they reside. More also needs to be done to find or create targeted tools and financing options that are purposely designed and thus presumably more effective in protecting working waterfronts.

A. The scale of a working waterfront determines how effectively it is measured, which in turn determines how much protection it receives.

Scale matters. There are significant differences in the scale of working waterfronts between a large container port that supports multinational shipping companies and a small dock that supports a handful of fishing boats. Whereas the economic value of the container port is likely quantified through various market-data tracking mechanisms, the economic and social value of the small-scale working waterfront infrastructure is much harder to track. In addition, better economic data exists for large-scale working waterfront infrastructure, and particularly port infrastructure, than for small-scale working waterfronts and harbor infrastructure.

Ports like Tacoma, Los Angeles, and New York, and the businesses they support, are significant components of the global economy; as such, their economic impacts are “trackable” using existing economic data sources. Statistics on the number of businesses, employment, wages, and

contribution to GDP are readily available at the scale of these larger operations. Large ports also have organized (via national and international associations) to protect their assets and take advantage of emerging opportunities. Such professional associations also engage in research to track economic and societal trends relevant to their businesses, which they use to inform marketing strategies and lobbying efforts. In the aggregate, these activities make it easier for large port supporters to articulate their economic value and for research projects like this one to report on that economic impact.

It is, however, much harder to articulate and track the economic value and contributions of smaller working waterfronts and the businesses dependent upon them. It is difficult to quantify the economic and cultural value of a community dock, or even a collection of marinas and boatyards in single harbor, due to a mismatch in scale of available ocean economy statistics and the difficulty of collecting and aggregating economic data independently. Data disclosure or confidentiality issues are also a significant complicating factor in conducting economic analyses of smaller working waterfronts. To protect the confidentiality of individual businesses, the U.S. Bureau of Labor Statistics and the Bureau of Economic Analysis are required to suppress data whenever there are fewer than four observations for a particular industry within a geographic unit. This can be a significant issue when analyzing data at the county level. The end result is that small-scale working waterfronts are often undervalued, or not even measured at all.

Having the capacity to clearly articulate the economic impact of an industry or port area leads to policy solutions focused on protecting and augmenting that economic impact. For our nation's ports, this is a good thing. But it is important to recognize that these policy solutions are often not targeted at addressing the issues facing the nation's boatyards, marinas, and fishing piers – infrastructure that is often at the heart of more rural working waterfronts.

There is also a particular set of challenges to small-scale businesses within large ports (as opposed to small-scale businesses within small working waterfronts) that have not been adequately explored in this project. These challenges deserve attention because the tools or solutions to help these facilities might be different than those available to similar businesses in small or rural communities.

B. There is no centralized mechanism or data source for tracking data related to working waterfront infrastructure and businesses.

Many government agencies, industry associations, private sector organizations, and even academic institutions hold pieces of the data needed to paint a comprehensive picture of our nation's working waterfronts. The scattered nature of the data further compounds the challenges above related to working waterfront scale, making any sort of comprehensive analysis of working waterfront impacts on both our nation and our local economies very difficult.

At the state level, the data sets are often focused on the specific areas that a particular agency needs to address its specific mandate, such as manufacturing, recreational or commercial fisheries, recreational boating, waterfront development, trade, land use planning, historical

preservation, urban and waterfront planning, brownfields, etc. Each one of these areas plays a role in working waterfronts, but each one falls within the jurisdiction of different state agencies. Because there is no single central agency in any state that touches on all these areas, the sources of data are widespread and difficult to aggregate and use to draw meaningful conclusions that benefit working waterfronts as a whole.

Important data related to working waterfronts also resides in the private sector. Trade associations that are in the business of advocating for the industry they represent, and therefore need compelling and current statistics, often have more accurate or timely information than the government. Trade associations must protect the interests of their members and their data is often proprietary. In addition, just as data resides in many different branches of the government, it also resides in many different sectors of industry, such as manufacturing, trade, commercial and recreational fishing, boating etc.

C. The lack of mechanisms for measuring the societal and cultural – as opposed to economic – value of working waterfronts renders them susceptible to conversion.

As we have seen, much of the value that working waterfronts and their water-dependent businesses bring to coastal communities is less tangible than monetary contributions. It is not just about economics. This societal value has much to do with cultural significance and the character of the nation's coastal communities. This is particularly true at the smaller end of the scale of working waterfronts, such as a lobster cooperative in Maine that supports 20 fishermen, a family-owned fishing operation in Alaska's Inside Passage, a fish house in North Carolina where a dozen fishermen land their catch, or a charter boat captain in Alabama who needs dock space in the wake of Hurricane Katrina. Small businesses such as these are important to the culture and economy of coastal communities, and their conversion to summer homes, condominiums, and other non-water-dependent uses dramatically alters a community's character.

There is currently no mechanism available to measure the impact of these losses beyond economics. We can speculate that the new uses may mean more tax income for the town, or may result in businesses that are more lucrative than those they replace, but many coastal residents value the role that traditional working waterfronts play in their community's vitality as a whole. Because of the limited data both on the economic impact (as described above) and on the societal impact of working waterfronts, waterfront communities often lack the meaningful statistics needed to advocate for the protection of working waterfront lands and infrastructure.

D. In the research world, working waterfronts are not viewed as a discipline or field of study, which limits the collective knowledge base needed for effective policy decisions.

There is no centralization of information, literature, and resources that look at, think about, and provide the basis for discussions about working waterfronts as an entity. This project is the first step in creating those resources. Much of the data used in this report and the literature surveyed in this project come from existing fields of study. Working waterfronts as a field of study in its own right does not yet exist. For example, searching academic databases for "working

waterfronts” leads to a variety of different bodies of literature, such as land use planning, that have only tangential relationships to working waterfronts. In the end, much as working waterfront data is scattered among agencies and organizations, working waterfront research is also scattered throughout the literature of a variety of disciplines. For example, working waterfronts are frequently found as a subset of a body of research that examines land use planning, coastal zone management, community economic development, and coastal access issues. All of these disciplines contribute valuable insights to the understanding of working waterfronts, but the success of working waterfront preservation or enhancement hinges on a collected knowledge base that can better inform policy decisions from the local to the federal level.

As a nation, we have struggled to tell the story about working waterfronts and their importance from the jobs/economics perspective as well as from the societal perspective. Improved compilation, analysis and thinking about working waterfronts as a cross-cutting discipline will help develop the analysis and ideas that lead to better information and policies that are designed specifically for working waterfronts.

E. The elusive definition of small-scale water-dependent industries results in a lack of dedicated funding or protective measures (i.e., it is hard to protect what you struggle to define).

Definitions are important. How working waterfronts are defined in law, policy, and funding programs can make a difference in whether a waterfront stays working. Clear definitions of water-dependent uses are necessary to guide planning, permitting, and funding decisions. Clear definitions also help with data collection and the identification of academic research questions.

Relevant definitions of water-dependent use and other similar terms can sometimes be found in state coastal management programs, local comprehensive plans, or local harbor management plans. Many state water-dependency definitions are similar, as detailed in the project report “Working Waterfronts and the CZMA: Defining Water-dependent Use,” because the federal Coastal Zone Management Act requires states to give priority consideration to “coastal-dependent uses” that most states refer to as “water-dependent uses.” Local governments interested in protecting working waterfronts and water-dependent uses can incorporate similar definitions and requirements into local land use plans and zoning ordinances. However, terminology and scope vary depending on the needs and priorities of each community and state, and water-dependency definitions may not always offer adequate inclusion and protection for working waterfronts. As such, a fundamental starting point for enhancing working waterfronts policy is a review of state and local water-dependency definitions.

It is important to note that waterfront landowners may seek to define water-dependency based on how they wish to use their particular parcel of land. Such definitions may be different from those codified in the law or promoted by water-dependent users. For example, Florida’s decision to include hotels and motels in their definition of “working waterfront” was controversial because those are not traditional water-dependent uses; that is, uses that need to be physically located on

the water to survive. Definitional confusion or uncertainty can create stumbling blocks for the protection of water-dependent uses.

F. The lack of financing mechanisms dedicated specifically to working waterfronts renders their protection challenging.

There are very few federal programs, economic development entities, philanthropic foundations or trade associations that have grants available specifically for working waterfront-related projects. The federal programs that do exist are often not directly intended to target working waterfront infrastructure, but have some economic impact component that makes them candidates for working waterfront efforts. Many of the programs do include working waterfronts as an allowable way to spend funds, and have been used this way in various ways around the country. Although this approach has helped to address some of the challenges, particularly infrastructure and working waterfront land preservation challenges, the programs' lack of specificity makes them ineffective in addressing the drivers of change that threaten working waterfronts. Some regions of the country have more funding tools available to them and this is likely a direct correlation to the length of coastline, the scale of the local economy dependent on the working waterfront, varying degrees of development pressures and real estate trends, and local efforts to preserve and protect the land/water interface

Working with the philanthropic community to increase support of working waterfront related projects is an avenue that deserves exploration. There are 1.1 million nonprofits in U.S., and perhaps 5-10% of them are charitable with grant-making programs. Of these tens of thousands of grant-making nonprofits, this project's research identified only 24 that have stated objectives in assisting working waterfront themes. Our research identified a few foundations that support a wide range of initiatives that include commercial fishing activities, marine research, natural resource conservation, energy efficiencies, community economic development, environmental health and regional food systems. Working waterfront advocates stand to gain from proactively seeking philanthropic support.

Finally, there is an opportunity to tap into the private sector and trade associations to gain support for working waterfront efforts. This report lists (see Appendix C) 52 different Trade Associations that represent working waterfront-related businesses and issues nationwide. In general, these associations are membership-based affiliations that advocate on behalf of industry and are not direct funding sources for working waterfront projects. However, they collectively count on millions of members and have considerable influence on legislation and regulation at state and federal levels. By forming alliances of mutual interest with trade associations, working waterfront advocates can gain considerable influence in the halls of Congress.

G. Working waterfront issues fall under the jurisdiction of many federal and state agencies, and there is no coordinated working waterfronts policy.

There are very few national level programs that are specifically designed to address the nation's working waterfronts. Although many agencies address aspects of working waterfronts that touch

on their areas, such as economic development or access to fisheries, these efforts are not coordinated on the national level. The Coastal Zone Management Act's requirement that states give priority consideration to "coastal-dependent uses" is a national planning mandate, but state coastal management programs have significant flexibility in implementing this mandate, and the protections afforded working waterfronts vary considerably from state to state. The Keep America's Waterfronts Working Act of 2011 (H.R. 3109), introduced in the 112th Congress by Representative Chellie Pingree (D-ME), sought to address this lack of federal attention by authorizing the National Oceanic and Atmospheric Administration to establish a Working Waterfront Grant Program. As introduced, states with approved working waterfronts plans would be eligible to compete, through established mechanisms under the Coastal Zone Management Act, for grants to "preserve and expand access to coastal waters for persons engaged in commercial fishing, recreational fishing businesses, aquaculture, boatbuilding, or other water-dependent coastal-related business."

On the state level, there have been some targeted programs to address individual drivers of change. For example, the Stan Mayfield Working Waterfronts Florida Forever grant program was created by the 2008 Florida Legislature and is administered by Florida Communities Trust within the Florida Department of Environmental Protection. Grant funds are used to acquire working waterfront lands for fee simple or less-than-fee simple interest. Much can be learned from the experience of individual states and communities, but there are limited information-sharing mechanisms. The case studies developed as part of this project are a good first step towards raising awareness of the success stories and common challenges.

Recommendations:

- 3.1 Develop a consensus definition of working waterfronts to guide federal, state, and local decision-making, policy, and programs (POLICY/NWWN);
- 3.2 Establish working waterfronts as a priority national goal and develop a mechanism to ensure coordination between federal agencies (POLICY);
- 3.3 Encourage use of underutilized financing mechanisms and/or develop new mechanisms to invest in existing working waterfront infrastructure (POLICY);
- 3.4 Identify key socio-economic metrics for small-scale working waterfronts and develop systems to compile and track such data (RESEARCH);
- 3.5 Encourage the broadening of existing funding sources, both public and private, and other support programs to include working waterfronts (NWWN);
- 3.6 Encourage the publication of academic articles on working waterfront topics by identifying research needs, approaching potential authors, and sponsoring article-generating panels at conferences and workshops (NWWN).

The *Sustainable Working Waterfronts Toolkit* is available at:

<http://www.WaterAccessUS.com>

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