Photo by Joanne Arnold

The State of Maine's Working Waterfront

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About MCFA & This Report

The Maine Coast Fishermen's Association (MCFA) is an industry-driven non-profit working to restore the fisheries in the Gulf of Maine and sustain Maine's fishing communities for future generations. The organization was started in 2006 by fishermen from Port Clyde with the goal of improving fisheries management to better serve Midcoast Maine's inshore fishermen. The organization's founding members, fishermen who spent their lives on the water, created the organization to amplify their voices in fisheries policy, and most importantly, to protect their communities and way of life. Since its founding the organization has expanded far beyond Port Clyde, from the edge of New Hampshire to the Canadian border, and continues to work with fishermen from a variety of fisheries including groundfish, shrimp, lobster, bluefin tuna, herring, whiting, menhaden, monkfish, and scallops. Through our work, MCFA has spent endless hours in Maine's iconic fishing communities and learned about the concerns and obstacles many fishermen are facing, including access to the waterfront for them to conduct business.

In 2017, Portland fishermen became increasingly concerned about a rezoning proposal slated for a wharf within the waterfront central zone of Commercial St. There was uncertainty whether the development posed any immediate threats to the fishermen and their businesses, but it unquestionably heightened concerns about potential future developments and increased the speculative value of waterfront properties in the area. Fishermen were also worried that their daily routines might be threatened by competitive businesses that were less understanding of the daily activity of commercial fishing. The Fishermen's Association supported the efforts of Portland fishermen to stop the proposed development from being built on the water and began efforts to advocate on behalf of commercial fishermen for resources and awareness of Maine's working waterfront.

With the spotlight on Portland's working waterfront, it quickly became apparent that other coastal communities and fishing businesses were also worried about changes happening on the waterfront and that it was time to further investigate the current status of the working waterfront for commercial fishing activity. In the past Maine has had an active Working Waterfront Coalition with more than 150 members, led by Maine Sea Grant, Coastal Enterprises, Inc. and the Island Institute, and the last significant published report on working waterfront access was the Island Institute's *The Last 20 Miles* in 2009.

With generous support from Ram Island and other Maine Community Foundation donors, the Maine Coast Fishermen's Association was able to spend six months, from April – September 2019, visiting communities along the coast to examine the current status of infrastructure and hear concerns about the future of Maine's working waterfront. This report shares information accumulated from interviews, conversations, meetings, and research to help elevate the value and attention paid to working waterfronts for commercial fishing and provide suggestions for next steps. It also provides initial criteria that could be used to evaluate working waterfront sites that may be most vulnerable. We hope it sparks new conversations and continues to shine a light on the needs of Maine's commercial fishing communities.

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Executive Summary

Working waterfronts are more than just a place of business for commercial fishermen; they are a hub of information, a collection of salty characters, a safe haven, a meeting room, a space for support, and they are well-deserving of both a place in Maine's history and its future. Communities along Maine's rocky coast are home to large wharves that bring millions of pounds of lobster over the dock to much smaller wharves that are used by one or two fishermen to store and maintain gear. They are in various stages of repair with some being "top of the line" while many others are in need of new planks and pilings. They are all necessary for fishing activity, to access the water, and most importantly to return home to after a day, or many days, at sea. Commercial fishermen are dependent upon safe, stable, reliable, and accessible working waterfronts for numerous aspects of their lives. But Maine's working waterfronts are increasingly fragile due to the many challenges facing the commercial fishing industry, changes to Maine's economy and culture, and the warming climate.

This report serves to update our collective knowledge and inform future steps for the protection and preservation of Maine's working waterfront from the lens of the commercial fishing industry. Our research included one-on-one interviews, literary research, and feedback from a broad group of advisors. While we were able to learn directly from just 10 of Maine's coastal communities, the lessons are applicable along the coast.

Commercial fishermen and coastal municipalities continue to feel working waterfronts are extremely vulnerable to development pressure and to the future impacts of climate change and sea level rise. Although there are a few state programs available to preserve and protect Maine working waterfront infrastructure, these programs have not been able to address the breadth and scope of working waterfront challenges. There are very few opportunities for funding for commercial fishing businesses on the working waterfront and some of these funding opportunities are extended to a variety of marine-dependent uses that require waterfront access, such as marinas and boatyards; it is often difficult for commercial fishing businesses to compete with these much larger businesses.

Maine's working waterfront is a collection of public and private infrastructure and both were identified as in need of repair and protection. But the definition of working waterfront infrastructure used by commercial fishermen went beyond wharves and piers and included adjacent land essential for parking and gear storage. Discrete working waterfronts, those small piers or wharves that dot the coast and are used by one or two fishermen, were noted as especially fragile and often overlooked. Specific criteria for identifying at-risk properties can include the utility of the property for commercial fishing businesses, economic and community significance of the property, level of threat of conversion, and ability to combat and adapt to climate change.

Public understanding and appreciation for the work along Maine's coast continues to demand attention to diffuse conflict and celebrate the value of working waterfronts to coastal communities. Specific educational efforts targeted at current and future waterfront property owners within coastal communities were identified as an important tool. Signage on working waterfront properties to celebrate and highlight their culture, history, tradition, and economic contribution to the community may also be of benefit. Coastal communities continue to use their comprehensive plans and ordinances to protect working waterfront properties with varying degrees of success. Of note, municipal harbormasters are on the front lines of working

waterfront issues and will need to play an increasing role in conflict resolution as competing uses for waterfront access increase.

This report provides a snapshot of Maine working waterfronts focusing specifically on the commercial fishing industry. It includes suggestions for a path forward that aim to protect the working waterfront and encourage investment in the working waterfront, commercial fishing businesses, and fishermen. Through collaboration, innovative thinking, and a holistic examination of the working waterfront, Maine can ensure a thriving future for its fishing and seafood businesses. We can also do this by creating opportunities that allow fishing businesses to more fairly and aggressively compete with new development; aid them in enduring environmental changes; assistance that allows fishermen to cope with new policy, regulation, quota, and management; and mental health resources that humanize the industry and benefit fishermen-wellbeing. While commercial fishing businesses and Maine seafood are important to the state's economy, Maine fishermen are the most important and biggest asset. Ensuring a future with robust working waterfronts helps keep our coastal communities strong and Maine fishermen and their businesses prospering and healthy.

Methodology

A diverse group of organizations, fishermen, and businesses served as advisors for this project. The advisory group was used to share information, discuss ideas, select key coastal communities to interview, and vet the process and the findings for this work. The group met twice over the six-month process and the investigator met with each member individually either in-person or on the phone throughout the project.

Most of the information gathered was done in-person or on the phone via informal meetings and interviews. The communities that were used as focal points for the information gathering were Portland, Harpswell, Boothbay Harbor, St. George, Surry, Stonington, Milbridge, Cutler and Jonesport. These communities were chosen based on geography and inclusion in past reports. Communities were also selected based on their diverse fisheries, populations, and differing social landscapes such as year-round residency and tourism. As an example, very little fishing occurs out of Surry, but numerous fishermen have moved from Stonington to Surry seeking less expensive housing and a better school system.

Defining working waterfront

Working waterfront is often described as something that provides access to the water such as wharves or piers and is utilized for both recreation as well as commercial activities including aquaculture. It also pertains to marinas, boatyards, and other marine-related businesses that are reliant on waterfront for business activity. While this more general definition of working waterfront is inclusive of the many activities and businesses that require waterfront access, the interviews and research done for this report are specific to the working waterfront for commercial fishing activity. Therefore, for the remainder of this report, working waterfront refers to working waterfront specific to commercial fishing businesses.

Over sixty interviews were conducted during a 6-month period with fishermen, town staff, town selectmen, and community members, with most interviews and meetings held with fishermen. Past reports were reviewed in order to identify work that has already been done, data that can be compared, and any trends that are consistent throughout the reports. A list of previous working waterfront plans and reports is in Appendix a. Surveys were also shared and gathered online and at the 2019 Maine Fishermen's Forum. Information gathered from the surveys was used to guide interviews and provide suggestions for things that should be further investigated. Appendix b provides the questions that were used to frame interviews.

While staff capacity did limit the amount of time for research and travel, many of the interviews and information revealed that the themes explored in this report are applicable to most of Maine's coastal communities. Throughout the report, we noted lessons learned and specific tools that communities shared to address an issue. The "path forward" section contains suggestions that are founded in models from other industries and vetted via the interview process and other communications.

A Path Forward

The working waterfront is a hub of activity and an economic driver for many of Maine's coastal communities. A vibrant working waterfront requires healthy fishing businesses, safe infrastructure, supportive communities, and a strong plan to prepare for a changing climate. The following recommendations are a culmination of suggestions and ideas extracted from conversations, interviews, and previous reports to stimulate thinking about a path forward to sustain Maine's working waterfront. The overall feasibility and details of these ideas have not been fully vetted and will require further research.

These recommendations are designed to create proactive, positive, and solution-based suggestions that may be carried out by Maine's nonprofit community, university extension programs, or state and local governments in order to plan for a future that includes a thriving working waterfront in Maine's coastal communities.

Celebrate the Uniqueness of Working Waterfront Communities

- **Engage stakeholders in working waterfront communities to understand each other's values.** Create a "Care and Maintenance of Coastal Maine Guide" for use by coastal communities. Harpswell, Moosabec , and Stonington have all had iterations of guides that were made available to real estate businesses, renters, new residents, general stores, libraries, and other local businesses, to share information about the sights, sounds, smells, and even tastes associated with living in a fishing community. These guides, created by Maine Sea Grant (Harpswell and Moosabec) and the Town of Stonington, utilized the senses, stories, and photos of the waterfront to share with people unfamiliar with fishing activity. They explained why some of these activities occurred in order to both celebrate fishing as well as mitigate future conflict because of uncertainty and a lack of understanding.

  A new iteration should include information pertaining to living near the water such as ordinances that are important for ocean health like those that relate to septic system maintenance, pesticide-use and shoreland zoning; and, information about sea-level rise, storm surges, and flood zones/FEMA. Creating a holistic guide that includes commercial fishing activity alongside ocean health and necessary maintenance for homes by the water would help communities plan for a future that includes commercial fishing and a healthy working waterfront.

- **Design creative new ways to highlight preserved working waterfront properties to raise awareness and celebrate the economic, environmental, and cultural values of Maine's working waterfronts.** For example, farmland that has been protected can enroll in programs such as the Forever Farm campaign from Maine Farmland Trust. A similar outreach campaign could be developed for working waterfront properties and include stories from fishermen about their culture, history, tradition, and economic contribution to the community. Creating outreach and content that can be shared via a website or newsletter will help convey the importance of Maine's working waterfronts to coastal residents and visitors.

Protect Vulnerable Working Waterfront Infrastructure

- **Explore other funding opportunities to protect at-risk working waterfront properties including programs that are not reliant upon the state for funding or oversight.** These may include grant programs, low-interest rate programs or other investment capital. Funding for traditional programs such as the Working Waterfront Access Protection Program (WWAPP) through the Land for Maine's Future Program should also be continued.
- **Infrastructure beyond piers and wharfs should be considered for protection**. Adjacent land for parking, gear storage, and other water dependent needs are equally important to consider. For example, discrete working waterfronts may be of focus as they are often outside of the scope of usual funding opportunities and especially vulnerable to climate change and sea-level rise. (Discrete working waterfronts are described later in the report under Economic Vitality.)
- **Develop and refine criteria for measuring and prioritizing working waterfront properties.** Suggestions for criteria for evaluation can be found in Appendix d. and include criteria such as utility of the property for commercial fishing businesses, economic and community significance of the property, level of threat of conversion, and the ability to combat and adapt to climate change.

Document Information and Data about the Status of Maine's Working Waterfront

- **Continuously assess the status of working waterfronts to inform decision-making.** Create a method to continuously evaluate the health of Maine's working waterfront. This will make it easier to update reports like the Island Institute's *The Last 20 Miles*, understand solutions that succeed and those that fail, and prioritize areas that are most vulnerable to loss whether due to development or climate change. A platform for continuous evaluation would also create a clearinghouse for how properties are being used and where pressure is of most significance due to increasing tourism, summer residents, and an aging and changing year-round population. Identifying a few specific, easily replicable metrics to start will help create a foundation for this process. These metrics should be identified by an ad hoc partnership of organizations involved with working waterfront issues (i.e. Maine Sea Grant, Island Institute,

In October of 2018, Boothbay Harbor's Working Waterfront was named by Maine Preservation as one of Maine's most endangered places. The threat to Boothbay Harbor's working waterfront that is identified by Maine Preservation is applicable to most of Maine's coastal communities: *A study by the Maine State Planning Office states that by 2050 most of Maine's coast will be classified as Suburban/Urban due to economic pressures inducing communities to shift to non-maritime commercial and residential uses. Only eight of the 20 miles of working waterfront are owned and dedicated to use by the public; the remaining 12 miles are privately owned and vulnerable to changing uses. At any point this land could be developed for hotels, or other commercial or residential uses, permanently removing access for commercial fishermen.* The organization also points to appropriate zoning and funding as integral to preserving the working waterfront.

Coastal Enterprises, Inc., Maine Coast Fishermen's Association) along with state and municipal governments and community stakeholders to design a realistic and efficient approach.

- **Document the impact of climate change to Maine's working waterfront infrastructure.** Fishermen are on the frontlines of a changing ocean and should be encouraged to document and photograph their wharves during each season, after storm-surges, and at king tides. Communities such as Harpswell are using this type of documentation to record the impact of sea-level rise and storm surges on roads that are most vulnerable to sea-level rise. These images can be used to not only illustrate visually the change in working waterfront infrastructure over time, but also to seek funding for improvements in the future.

Key Findings

ECONOMIC VITALITY

Most commercial fishermen who responded to the written survey perceive access to the working waterfront as a problem for them to conduct their business. When asked what the working waterfront means to them, fishermen often included aspects such as bait, trucking, fuel, ice, and other means that allow them to operate their business whether on or off the water. Therefore, it is important to consider the overall economic impacts on commercial fishing businesses when planning for the future of the working waterfront. As one fisherman mentioned in an interview, "*If my wharf is failing or I need to sell it's because my entire business is failing.*"

Commercial fishing businesses need to have opportunities and resources to fairly compete with new and modern developments that are vying for waterfront space, access, and views. Competition and development were identified as looming threats in every interview with fishermen. Their concerns were specific to things such as increasing property values, aquaculture, offshore development, and competition from non-commercial use on public boat landings specifically in the warmer months by recreational boaters.

According to the Island Insitute's *The Last 20 Miles* from 2009, there are approximately 16-miles of working waterfront for commercial fishing. The report assumes 100-ft per access point, and of the 1,555 working waterfront points identified, only 888 provide access that supports commercial fishing activities, or just over 16-miles. Of those 888 points, only 62 provide what they consider "prime working waterfront" which includes all-tide access, adequate parking, and on-site fuel for commercial fishing businesses, or just over one mile.

Private & Public Infrastructure

> *"I was talking to the owner yesterday and he said that the real estate hawks have been watching his business which contracts he keeps/losing, and they show up the day he loses a contract, say they know he's going through hard times, and will offer him a buyout. He is getting old, late 70s but still fishes. If he ever has to sell, this will be a big loss to the community."*

In both interviews and surveys, a combination of private and public working waterfront areas were identified by fishermen as spaces that they were concerned about risk for conversion, disrepair, and conflicting use, but it is difficult to determine the magnitude of risk without further investigation. The cost of working on the waterfront is increasing as more recreational boaters seek berthing space. One fisherman from Yarmouth was frustrated that his dock space went up "400%" in the previous year because he is now also competing with the cost that high-end boaters are willing to pay for slips.

Below are the properties and communities that were specifically named in the surveys that warrant further investigation.

- Chebeague Island Stone Pier
- Spruce Head
- Boothbay Harbor Carter's Wharf
- Scarborough, Pine Point
- Cape Elizabeth, Kettle Cove State Park
- Portland
- Royal River
- Little John Island
- South Freeport
- Orr's Island
- Orland
- Seal Cove
- Bar Harbor

Public spaces are concerning to commercial fishermen and municipalities because their use fluctuates throughout the year, being most utilized during the summer months. Public boat landings can be extremely crowded and a source of frustration for commercial fishermen trying to gain access to the ocean. Because municipalities own them, funding to repair and maintain these spaces is often limited.

In contrast, there are a handful of wharves in Downeast communities such as Stonington that have invested heavily in upgrades to accommodate record-breaking lobster landings. Some fear these communities may have overextended themselves. If recent higher landings and prices fall, there's concern that wharves in these communities may not be able to maintain their upkeep and/or that it will be too costly for them to adapt their infrastructure to cater to other fisheries besides lobster.

Lessons learned

- Pine Point in Scarborough applied for and received funding from the Working Waterfront Access Protection Program (WWAPP) to protect commercial fishing access.

However, this property abuts shared space for public parking and access. While the property is protected by a covenant providing commercial fishermen with permanent access to the water, there have been significant conflicts during the summer months as non-commercial visitors to other parts of the property compete for parking and waterfront space. This illustrates that while a specific access point may be preserved, it does not necessarily avoid conflict or beget ease of use during peak tourist season. Access to the working waterfront has two points of entry: to the water via the wharf, and to the wharf via vehicle traffic and parking. One does not precipitate the other, but they are both necessary for commercial fishermen to conduct business.

Parking & Gear Storage

Whether public or private infrastructure, parking along the waterfront was repeatedly cited during surveys and interviews as a source of conflict and potential barrier to commercial fishermen gaining access to their boats in an efficient and timely manner. This includes spaces for vehicles, trailers, and boats, and can have real financial consequences when fishermen need to budget extra time in their day to address parking and/or the cost of parking increases due to market pressure. In *The Last 20 Miles*, adequate parking is listed as a key criteria used to define "prime working waterfront". Most working waterfront areas have parking issues that are exacerbated in the summer months when tourists and recreation users increase in an area.

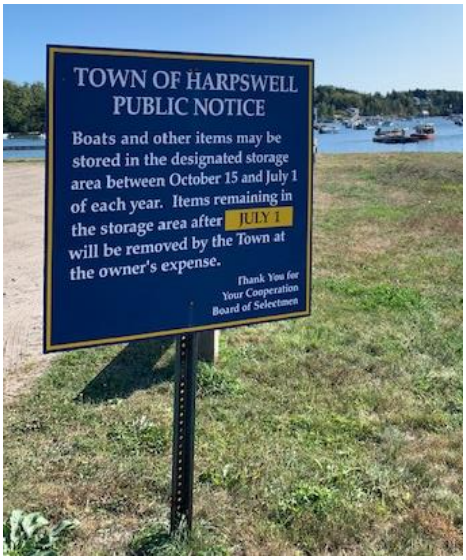
> *"Not enough parking for recreational fishermen and commercial fishermen both. With absolutely no enforcement of parking. It gets needlessly worse each summer."*

Parking in coastal communities in Maine is becoming an increasing issue for everyone, not just commercial fishermen, but it is imperative that designating parking for commercial fishermen is included in any town plan investigating ways to mitigate parking issues such as those described at Pine Point in Scarborough (above). It is also important to consider the seasonality of many of Maine's coastal communities and identify how to accommodate fluctuating use that dramatically increases in the summer months.

Parking for commercial shellfish harvesters can be especially difficult with a limited number of access points to launch a small boat and park a trailer. It is important to not only protect waterfront properties and their related infrastructure, but the land adjacent to the waterfront that has the potential to be used as parking is an important asset as well. In numerous communities the ability to store, maintain, and repair gear was also cited as extremely limited and a factor contributing to the viability of working waterfront.

Many fishermen are moving further from the coast to be able to afford a home and inland communities may be less accustomed to seeing numerous traps, buoys, and nets being stored in front yards. And while moving further inland may save some money on mortgage payments and rents, traveling to and from the coast with gear increases the cost of doing business for fishermen in terms of both time and money. A major gear reduction or closure in the lobster industry would place major pressure on lobstermen not just to adapt to this change in their business, but to identify where to store their gear if they are unable to use it at sea.

Lessons learned



- In Stonington, an ad hoc committee was formed to deal with parking issues. The formation of the committee not only addressed a critical issue, but also helped achieve more buy-in from community members and ensured inclusion of those who would be most impacted by new rules, such as fishermen.

- In 2017, after an on-going dispute regarding the ownership of Cedar Beach in Harpswell, it was agreed that the public would still be allowed access, but the agreement stipulated that the town monitor the beach twice a day during the summer season. In order to fulfill its agreement, the town solicited volunteers. This model could be applied to public boat ramps to monitor use and ensure parking restrictions, time-limits, and other ordinances are being respected.

"Discrete Working Waterfronts"

Along the coast of Maine are numerous small working waterfronts, or *discrete working waterfronts*. These much smaller wharves or piers are often used by one or two fishermen, represent some of the oldest wharves in the community, typically do not offer berthing, may be home to small fish houses, and are usually used for gear maintenance and storage rather than access to the water. They are often quite old and would likely not meet requirements of the Army Corps of Engineers if they needed any permitting in order to be replaced or repaired. Occasionally, the true owner of the property is unclear, or they are held in an arrangement (legal or a gentleman's agreement) with fisherman and property owner or fisherman and municipality. In some cases, when the fisherman who uses the wharf passes, the fate of the wharf is uncertain; it can either fall into the water in disrepair or revert back to the owner of the property who may not be connected or associated with commercial fishing.

These discrete working waterfronts are extremely vulnerable to storm surges and sea-level rise because of their location, age, and level of decay. Losing these discrete working waterfronts to events pertaining to climate change, transfer of property ownership to non-commercial interests, or because there is no plan for their future, would literally alter the landscape of fishing communities. It would also put more pressure on some of the larger wharves as more fishermen need access to them for gear storage and maintenance.

There are no specific funding sources available that can benefit these discrete working waterfronts and those that *might* be applicable, such as those found at the Maine Coastal Program, are part of much larger opportunities and would need to be applied for with partners and/or the municipality and are not focused on specifically benefiting commercial fishing businesses.

Discrete working waterfront properties are extremely vulnerable. In one survey, Lowell's Cove on Orr's Island was specifically cited as a space with multiple discrete working waterfronts and of great concern. The survey was completed in March of 2019. In December of that year one of the three small piers in Lowell's Cove fell into the water in a storm. (Pictured at right.)

Climate Change & Sea-level Rise

Maine's commercial fishing industry is on the frontlines of climate change impacts, facing more severe storms at sea; contending with rapidly changing and unpredictable weather patterns; and adapting to warming waters, migrating species, and fluctuating seasons. And in the intertidal, clam harvesters are facing influxes of invasive species and expanding closures because of increasing rain events, ocean acidification, and algal blooms.

> The commercial fishing industry is a web of activity that includes shoreside infrastructure, like wharves, and operations that extend inland like bait, ice, fuel, storage, and trucking. Examining the impacts of sea-level rise and climate change mitigation without considering unintentional consequences has the potential to disseminate significant change throughout the network.

The working waterfront infrastructure will be increasingly impacted by sea-level rise, king tides, and major storm surges, especially the most vulnerable discrete working waterfronts noted previously. These climate change impacts will influence the future use of both public and private working waterfront properties.

Not only are coastal communities grappling with the potential threats to working waterfront infrastructure, fishing families who live on the coast and own waterfront-dependent businesses face the increasing burden of flood zone insurance. Potential rate increases for flood insurance threaten to further raise the cost of living in coastal communities and create uncertainty in the real-estate market if the high cost of insurance deters future buyers.

Lessons learned

- Stonington has both sea-level rise and working waterfront reserves that allow them to act swiftly to purchase property for conservation and/or repair properties damaged due to sea-level rise. Harpswell is also looking at this model as part of their Climate Resilience Taskforce planning.

COMMUNITY CULTURE

For many in Maine's coastal communities, fishermen, fishing, and the ocean are core to the culture of the area and that ethos is headquartered at the wharves that dot the shoreline. In one interview a fisherman recalled that when he was younger, "the wharf was where everyone hung out." When he was a child, he could run down to the wharf and see what "the old guys" were doing and try to get on a boat to go fishing for things like lobster, menhaden, or groundfish. Even as he got older, he could find "the old guys" and other fishermen at the wharf to ask them questions about fishing, gear, and boat maintenance. He still goes to the wharf to visit with other fishermen, but the desire to linger, the connection to the past, and knowledge of some of the older fishermen was no longer there.

As the nature of the population within coastal communities change and tourism activity increases, it is important to acknowledge the fishing community as a valuable part of the culture and heritage. Local dialogue and changes in public policy can help provide support for commercial fishing activity, preserve important infrastructure, including discrete working waterfronts,

> *Solastalgia* is a newly coined term that describes the stress one feels when their environment is changed, particularly due to climate change impacts or severe storms. This term could also be applied to a fisherman that is nostalgic for his community because it has undergone major development and/ or loss of working waterfront.

and celebrate the historical significance and knowledge that comes from "the old guys" and fishing families.

Comprehensive Plans & Ordinances

Many fishermen who responded to the survey were familiar with their town ordinances yet less than half thought those ordinances were working to protect the working waterfront in their community. As coastal municipalities begin to plan for sea-level rise, there is an opportunity for the towns to also reexamine the working waterfront in their current comprehensive plan and identify new or emerging priorities for the community and ensure that ordinances exist that reflect these priorities.

Of the communities interviewed, only Cutler did not have a comprehensive plan that mentioned the working waterfront specifically. While many do make mention of these topics, not all of them have ordinances that directly protect the waterfront, leaving some commercial fishing businesses vulnerable to conversion, development, or sea-level rise. Portland, Boothbay Harbor, Port Clyde/St. George, Surry and Jonesport have town ordinances specific to working waterfront uses. (See Table 1). Coastal communities, like all Maine communities, have limited staff and budgets making it difficult to uphold ordinances that can impact the waterfront.

It should be noted that across municipal comprehensive plans there are also varying definitions of working waterfront leaving some open to interpretation when trying to clearly understand ordinances and zoning. As populations in coastal communities change and summer residences increase, this could become more of an issue when ordinances and zoning are questioned and need to be interpreted to defend a business or position.

Lessons learned

- A right-to-fish ordinance was suggested in the Cundy's Harbor report from 2004 and it is worth considering in more communities. The ordinance is modeled after the agriculture industry's "right-to-farm" that has been adopted by a handful of Maine communities. This right-to-fish ordinance "permits some

The Human Dimension of Working Waterfronts

For most fishermen, being a fisherman is far more than an occupation; it is a way of life, a calling, a passion. Fishing is their identity.

The working waterfront is an extension of this and great change or loss to a working waterfront is impactful to more than just a fisherman's business. Where once fishermen need only worry about maintaining the boat, checking the weather, and finding the fish, they now have numerous activities and uncertainties competing for mental space, and that includes conserving the working waterfront. The well-being and mental health of fishermen must be considered in the preservation of the working waterfront.

Many commercial fishermen suffer from some form of anxiety, depression, and PTSD. While little data exists about the mental health of fishermen, most fishermen interviewed for this report mentioned some form of avoidance, chronic fatigue, and "helplessness."

The unpredictable future of commercial fishing and the fragility of the working waterfront are both heavily impacting the health of fishermen. There is an opportunity to heighten awareness about this growing epidemic and create opportunities for fishermen to learn more about depression and tools for coping.

'nuisance' like conditions due to fishing related activities…" This ordinance is not legally binding but does characterize commercial fishing as a priority for the community.

- The St. George comprehensive plan includes action specific steps to "ensure adequate future public access to shoreline areas while maintaining the environmental integrity of the coast and promoting the retention and development of open space in waterfront areas, and enhancing the working waterfront, wherever economically feasible". Included under each priority are clearly stated actions (i.e. Ensure there is off-street parking and, where necessary/feasible pedestrian sidewalks to satisfy existing needs at the town landings.) and identifies who is responsible (in this instance the Harbor Committee). Being specific about the intentions and identifying who is responsible for each step ensures that the plan is realized.
- Portland has an extensive waterfront chapter in its comprehensive plan and continues to ban residential and hotel development on the water side of Commercial Street. The waterfront zones do allow limited non-marine development for office, restaurants and retail, subject to performance standards protecting marine use. In two waterfront zones, recreational berthing is limited to existing marinas with no opportunity for non-commercial berth expansion.

Municipal Harbormasters

Harbormasters are often the interface between the town and the activity along the working waterfront. Their duties are broad, ranging from harbor management and planning, mooring and dockage management, and public education to emergency search and rescue operations. Harbormasters are a fundamental part of the working waterfront and sometimes current or former fishermen themselves. As with Maine's population in general, Maine's coastal communities are experiencing an aging population of harbormasters and some communities lack a harbormaster all together.

Harbormasters have an intimate knowledge of the waterfront and, most importantly, the people who work and recreate along the shore. When an older harbormaster retires, it can have a profound impact on how the working waterfront functions. Occasionally, harbormasters and fishermen have gentleman's agreements and an understanding over things like moorings and storage that are built on trust and understanding. These undocumented agreements between prior harbormasters and fishermen may not be upheld by new harbormasters and this can cause confusion and friction.

Harbormasters are vital to the stability and growth of working waterfronts but are often overlooked in discussions about preserving Maine's working waterfront. The burden on Maine's working waterfronts and the harbormasters who manage them continues to increase. For example, the rise in aquaculture along the coast requires the active involvement of harbormasters and acquiring additional knowledge about aquaculture regulations. Harbormasters along the coast would benefit from resources towards building their capacity to participate in important discussions and maintaining both the health of the waterfront and the commercial fishing industry in their community.

Current Use Valuation of Working Waterfront

Intended to support commercial fishing activities, the current use taxation for working waterfront was enacted to "encourage the preservation of Maine's working waterfront and to prevent the conversion of this land to more intensive uses as the result of economic pressures caused by high property taxes." The town assessor calculates the value of the property based on its use as working waterfront rather than the value of the property at its highest and best use. This benefit is applied specifically to the value of the land and does not take into consideration the value of the [commercial fishing] business associated with the property.

Most recent data from 2017 shows that only 86 working waterfront properties have taken advantage of this program. Other types of properties with current use programs include open space and farmland with 2690 and 5589 parcels enrolled, respectively.

The low enrollment in the current use taxation program is likely due to a few reasons: 1) the property's highest and best use is working waterfront activity and therefore there is no benefit, 2) the difference in tax value between the highest and best use and working waterfront designation is not significant enough, and 3) the fee for withdrawing the property from the program is too significant, thus discouraging enrollment. The penalty for removing a property prior to 10 years is 30% of the difference between the 100% working waterfront valuation and the fair market value. Failure to report a change in use results in the assessment of an additional 25% removal penalty.

Working Waterfront Access Protection Program (WWAPP)

The Working Waterfront Access Protection Program (WWAPP) is part of the Land for Maine's Future program. WWAPP funds are used to purchase development rights through an agreement between the state and property owners so that it remains a working waterfront in perpetuity. Since established in 2011, 25 properties have been protected under WWAPP.

While WWAPP has been an instrumental program conserving working waterfront properties in communities such as Port Clyde, Boothbay Harbor, and Harpswell, the program is limited, and not all properties are appropriate for its use. In Portland, for example, the expenses associated with working waterfront property along Commercial Street's Waterfront Central Zone are too high and many of the wharves host a variety of other businesses, like restaurants and law firms, that are not within the guidelines of the program.

For some, relinquishing development rights is too great a cost to be able to participate in the program. While some fishing families are already planning for and training the next generation of fishermen, others are uncertain about the potential of their families' role in the future of the fishing industry. This great uncertainty, along with the unpredictability of commercial fishing in general, beget a need for extensive planning, thought, and consideration when deciding whether WWAPP is an appropriate option for working waterfront owners.

There are also a fair amount of working waterfront properties that are not appropriate for the program due to other circumstances such as: the money required to repair the wharf is comparatively small; the type of property, by definition, does not fall under the guidelines of the program, such as a public boat ramp used by commercial fishermen, boaters, and tourists; or, the type of project or upkeep to the property is not specific to commercial fishing activity, such as increasing parking for commercial fishermen.

WWAPP is a strong program and has benefited many communities, properties, and families, but it is not a universal program that can benefit the variety of working waterfronts along Maine's rocky coast. Likewise, given its current funding level, the program is undercapitalized compared to the number and value of potential projects. Wharf-owners face a substantial decision to sell development rights and while a useful solution for some properties in need of repair or preservation, it is not appropriate for all fishing families and working waterfront owners.

Other possible opportunities for funding and resources for the working waterfront can be found in Appendix c.

Lessons learned

- The Port Clyde Fishermen's Co-op has had success utilizing funds from WWAPP to renovate and improve their property while also making it available to fishermen who depend on fisheries other than lobster such as groundfish and scallops. Prior to WWAPP Port Clyde groundfish boats were leasing a privately held property.

Conclusion

Maine is seeing a lot of changes in its coastal communities as tourism increases and the desire to retire near the water becomes more popular. While coastal communities adjust to both a changing population and a changing climate, it is imperative for coastal towns and the state to proactively plan for a future that includes commercial fishing and the working waterfront. Many of Maine's fishermen are dependent on lobster for the majority of, if not all of their income, and future changes to the lobster industry will have a significant impact on the economy and resiliency of the working waterfront. Failure to monitor changes to the working waterfront and to develop a plan that ensures the ability to not only conserve working waterfront but to aid in its ability to thrive will lead to the disappearance of Maine's fishing communities. This report is an effort to heighten awareness and actions that will help preserve Maine's working waterfront and not just protect a way of life, but ensure that fishermen are able to plan, adapt, and prosper into the future.

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Table 1: Select town data and information on working waterfronts

Town	Population (2017)	Moorings	Dredging Needs	Comp Plan WW	Comp Plan SLR	Zoning Ordinances	Properties in WWAPP
Portland	66,882	913	Y	Y	Y	Mixed-use	0
Harpswell	4,893	2,408		Y	Y		3
Boothbay Harbor	2,189	895		Y	Y	Maritime-water dependent	1 (This does not include Barter's Island)
Port Clyde/St George	2,591	1,200		Y	N (developing strategy)	Commercial Fisheries/Maritime Activities District	2
Surry	1,472	0	Y	Commercial Fishing	N	Commercial Fisheries and Maritime Activities	
Stonington	1,294	521	Y	Y	Y		1
Milbridge	1,349	125	Y	Y	Y		0
Cutler	507	84		N	N		0
Jonesport	1,333	250		Y	Y	Mixed-use	1 (This does not include Beals)

Appendix a: Previous working waterfront reports

- Cutler Harbor Study (1986)
- The Right Tack: Charting Your Harbor's Future (1995)
- Harpswell Fishing Industry Profile (1999)
- Preserving Coastal Fishing (2002)
- Maine Coastal Program Newsletter: Working Waterfront Creative Approaches to Change (2003)
- Paths and Piers: A Study of Commercial Fishing Access in Downeast Maine Coastal Communities (2003)
- Contributions of Working Waterfronts to the Maine Economy (2004)
- Cundy's Harbor Working Waterfront Study (2004)
- ME Waterfront Access Status and Future (2006)
- The Last 20 Miles (2007)
- Linking Commercial Fishing to Land-Use Planning (2010)
- Can Coastal Management Programs Protect and Promote Water-Dependent Uses? (2010)
- Economic Analysis of Working Waterfronts in the United States (2013)
- Sustainable Working Waterfront Toolkit (2013)
- Casco Bay Report (2017)
- NOAA Fisheries Reports (Yearly Report)
- Accessingthemainecoast.com

Appendix b: Guiding Questions for interviewing commercial harvesters

1. Tell me what the working waterfront means to you.
2. How long have you lived and fished here?
3. Tell me what has changed.
4. Are there any wharf properties you are currently worried about?
5. What is an example of a working waterfront that is thriving to you?
6. What type of support (infrastructure or otherwise) does your wharf business need right now? (Tell me some ideas that would help you succeed.)
7. How is you/ your business doing in general in the current climate?
    a. Climate change and sea-level rise.
    b. Fisheries management/policy.
    c. Well-being, family, community.
8. Would you mind telling me what else is worrying you right now? (As it pertains to your community and business.) What are you hearing on the radio from others?
9. What does the future of the working waterfront look like to you? (What do you think this area will look like in 5-10 years?)
10. What is something that you think can be done to improve or protect Maine's working waterfronts?

Appendix c: Working waterfront tools

Maine State Programs:

- Maine Coastal Program, Coastal Community Planning Grants (https://www.maine.gov/dacf/municipalplanning/financial_assistance.shtml)
- Maine Sea Grant (https://seagrant.umaine.edu/extension/coastal-access-and-working-waterfronts/)
- Shore and Harbor Planning Grants (https://www.maine.gov/dmr/mcp/grants/shore-and-harbor-planning-grants.html)
- Small Harbor Improvement Program (SHIP) (https://www.maine.gov/mdot/pga/ship/)
- Community Development Block Grant Program (CDBG) (https://www.maine.gov/decd/community-development/cdbg-program)
- Accessing the Maine Coast (https://www.Accesingthemainecoast.com)

Community opportunities (Some of these are previous suggestions from the National Working Waterfront Network and previous Working Waterfront reports):

- Comprehensive Planning
- Waterfront Planning and Climate Resiliency Planning
- Waterfront Ordinances
- Zoning (mixed-use and commercial fishing)
- Protecting Waterfront Access and working with Land Trusts
- Supporting Water-Dependent Businesses
- Community Working Waterfront Fund
- Community Sea-level Rise Fund
- Tax Increment Financing (TIF)

Federal programs

- National Working Waterfront Network (formally referred to as the Sustainable Working Waterfront Toolkit)(https://nationalworkingwaterfronts.com)

Appendix d: Criteria for evaluating waterfront properties

These criteria draw heavily upon the evaluation criteria used by the Working Waterfront Access Protection Program through the Land for Maine's Future program. We also reviewed the February 2019 report from the Land Conservation Task Force (https://www.maineconservationtaskforce.com) and the Report on Conservation in Maine presented to the Maine Community Foundation in August 2019 (https://www.mainecf.org/wp-content/uploads/2019/10/Jessica-Burton-Conservation-in-Maine-2019.pdf) to gain further insight into potential criteria.

The definition of working waterfront for commercial fishing incorporates more than just piers and wharves, but covers other critical infrastructure needed to maintain a viable business that relies on access to Maine's coastal waters. Criteria to identify the potential working waterfront properties at greatest risk must also include the impact of future storm surge events and sea level rise. While state programs tend to focus on the overall benefits to the state from a working waterfront property, private funding should also target unique working waterfront properties that enhance local community value and connection to the commercial fishing industry. Discrete wharves may be of particular focus as they are often a key piece of infrastructure in a harbor but may only serve a few fishermen and therefore not rise to the attention of larger parcels.

Criteria for Evaluation:

1. **Utility of the Property for Commercial Fisheries Business**
   - Does the property provide all tide access?
   - Does the property or project offer protection for adequate parking and options for gear storage?
   - Is there on-site fuel, ice, bait and other necessities for commercial fishing businesses?

2. **Economic and Community Significance of the Property**
   - How many fishermen are using the property? Year-round or seasonally?
   - Are there similar properties available for the fishing community in this area or is this property unique?
   - What is the value of the landings and related cumulative economic impacts to the community?
   - Is there community support for protecting the property?
   - Are there alternative properties in the vicinity or is this property unique for this community?

3. **Level of Threat of Conversion**
   - How much have property values increased in the last 5 years?
   - Have there been any previous unsolicited offers on this particular property?
   - Is the current access via informal arrangement and thus threatened by potential changes in ownership?

4. **Ability to Combat and Adapt to Climate Change**
   - Is this property threatened by the impacts of climate change?
   - Does this property or project have means to address future threats of sea-level rise or storm surges?

This matrix provides an overview of the general categories of working waterfront properties with some examples of places and their potential infrastructure needs. Funding could be directed at each of these classes of working waterfront properties or targeted at a specific class.

CLASS	DESCRIPTION	EXAMPLES	POTENTIAL NEEDS
I	**Dealer-owned** Access to bait, fuel, berthing, moorings, parking. Protected by zoning. On-site lobster sales. All-tide access? Protected (WWAPP)	Greenhead Lobster, Stonington	Adapt to new fisheries/markets Sea-level rise mitigation
II	**Co-op or family-owned** Access to bait/fuel/moorings. Some parking. Private/public access. Aquaculture?	Cundy's Harbor Port Clyde Owl's Head Milbridge	Adapt to new fisheries/markets Sea-level rise mitigation Updated infrastructure (cooler) Increased/better parking Marketing
III	**Discrete working waterfronts** Private access. No zoning. Ambiguous ownership Municipality-owned	Lowell's Cove, Orr's Island Orr's Island Bridge	Structural Historical/cultural preservation
IV	**Public boat ramps** Public access. Support commercial and recreational. Municipality-owned	Chebeague Island Stone Pier Cape Elizabeth, Kettle Cove	Structural Parking

Guidance on Fishermen Interview Techniques

One notable aspect of this report is that the investigator and author lives on Orr's Island, Maine, part of Harpswell, and is married to a commercial fisherman. This somewhat unique situation created bias, but also created an opportunity in which to ask more people about the working waterfront in relaxed settings. These informal conversations led to unstructured interviews but more thoughtful and deeper conversations. The ability to appropriately conduct interviews with fishermen should be thoroughly considered in order to strengthen future reports and better understand the input and concerns of harvesters. If fishermen are unable to have a seat at the table, it is crucial that their input be sought via other proper processes and in a way where they can openly and easily provide input. In order to facilitate future dialogue, the following guidance is suggested:

Guiding framework for interviewing commercial harvesters.

- Try to learn about the fishery and community of the fisherman that you are interviewing.
- Don't try to be an insider. Even if you are indirectly connected to a fishing family, fishermen will still think of you as an outsider and assume that you "just don't get it." So, ask a lot of questions and practice good listening.
- Be upfront and direct with fishermen. Tell them what you need to know and why, and how you are going to use that information. Be clear about what you are asking them and explain how your efforts are intended to support their industry.
- Validate the fisherman's insight, suggestions, and opinions. It doesn't mean you have to agree but this builds trust and lets the fisherman know you are listening.
- Fishermen tend to be visual and share information via storytelling. Rather than asking a fisherman, "Where do you see yourself in five years," ask them, "Imagine yourself fishing with your grandkids in five years, what are you seeing and talking about?"
- Fishermen tend to process information and think deeply about questions that are important to them, so be sure to follow up after the interview and ask if there's anything they thought about more after you have chatted. (Regardless, you should always follow up with a thank you.)
- Fishermen are often guarded when being asked questions and will cross their arms. Be aware of their body language and listen to it just as you listen to their words.
- Understand that as the interviewer you are gaining more than the fishermen. Acknowledge that but take the time to also ask the fishermen about what *they* need regarding the interview topic.
- Do not rush off just because you have what you need. Fishermen work in an isolating occupation and overall, they like to talk about their work and learn more about what other people are doing in the industry.
- Fishermen are also known to share the most information as they are standing up to leave or walk out the door. Plan on being able to go with the flow, spend more time than you anticipate, and not always be able to write things down. (This is called the doorknob phenomenon in some fields.)
- Try not to use your laptop to take notes. Putting a physical object between you and the fisherman, especially something like a laptop, is a physical boundary, a reminder that the interview is being documented, and breaks eye contact.
- When your project is complete, share it with the fishermen whom you interviewed.