Contents

INTRODUCTION ............................................... 1
COASTAL MAINE AT A GLANCE ................................. 2
BROADBAND
  Economic Feasibility ........................................ 4
  Connecting Remote Communities to the World ............. 6
TRANSPORTATION
  Vulnerability to Sea Level Rise ................................ 8
  Financing the Response to Rising Seas ....................... 10
  CO₂ Emissions ................................................ 12
ENERGY
  Home Heating .................................................. 14
TRADE
  Domestic Connectivity ....................................... 16
  International Connectivity ................................... 18
  Lobster Imports and Exports ................................ 20
WORKING WATERFRONTS
  Ocean Traffic .................................................. 22
  From Sardines to Yachts: Belfast Transforms Waterfront .... 24
  Protections .................................................... 26
CIVIC INFRASTRUCTURE
  Nonprofit Employees and Volunteers ....................... 28
  A Labor of Love for Cheryl Crowley ......................... 30
DATA NOTES ..................................................... 32

Introduction

Infrastructure Connects and Shapes Maine’s Island and Coastal Communities

Driving north into Maine, under the pale green arch of the Piscataqua River Bridge, some breathe a sigh of relief... I’m home. Whether it’s driving along the highways or scenic back roads, tying up a boat at the wharf, turning up the thermostat on a cold winter day, or getting online at the coffee shop, the state of our infrastructure underpins who we are, what we do, and how we thrive as communities. It gives us insights into how well we are prepared to respond to a rapidly changing and less predictable future along the coast of Maine.

The Island Institute’s Waypoints: Community Indicators series uses compelling, often never-before-seen data to communicate the character of our communities along with the challenges and opportunities before us. Previous editions have grounded us in the truths we often hold to be self-evident about the coast of Maine, and provided a look into community trends that have surprised us. The publications help coastal and island leaders make data-driven decisions and tell compelling stories of what distinguishes their communities to their constituents, state and federal legislators, grant-makers, and the press.

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Waypoints are defined as points that “indicate a change in direction, speed, or altitude.” We hope that this edition helps communities along the coast of Maine make informed decisions on where to head from here.

Key takeaways include:

CHANGE IS CONSTANT AND UNPREDICTABLE
Species shifts impact where fishing activity takes place. Changes in trade policy alter where goods are exported. Managing the unknowns when planning for infrastructure upgrades can be challenging, especially for small communities.

YANKEE INGENUITY MATTERS
One-third of the coast lacks a strong economic case to build out 21st century internet service, yet communities are utilizing local financing options and public-private partnerships to get the job done. Creativity and resourcefulness are key to meeting infrastructure needs.

REGIONAL THINKING IS REQUIRED
The state of infrastructure in one community often has implications for those surrounding it. Regional collaboration can help unlock more durable solutions.

INFRASTRUCTURE IMPROVEMENTS ARE NOT MONOLITHIC
Progress can be made incrementally to drive towards a larger shift. Programs that direct investment in sustainable options in heating, waterfront protections, and broadband are moving the needle on the coast of Maine.

Waypoints are defined as points that “indicate a change in direction, speed, or altitude.” We hope that this edition helps communities along the coast of Maine make informed decisions on where to head from here.

—The Island Institute Community Data Team
Coastal Maine at a Glance

Age, income, and self-employment trends, combined with small populations, distinguish the coast and islands from the rest of the state and nation.

**WHY THIS MATTERS**

10 coastal communities in southern Maine hold the **HIGHEST MEDIAN HOUSEHOLD INCOME IN MAINE**

5 coastal communities in Downeast Maine hold the **LOWEST MEDIAN HOUSEHOLD INCOME IN MAINE**

10 coastal and island communities have more than 10,000 residents. None are north of Brunswick.

15% of coastal and island communities have fewer than 3,500 residents.

25% of coastal and island communities have fewer than 750 residents.

Maine’s median age is the highest in the country.

Maine 44.6

U.S. 37.9

Smaller, rural communities have capacity and financial challenges that can limit investments in infrastructure and economic development. It’s difficult for these communities to change demographic pressures themselves. This prompts a need for creative approaches to infrastructure financing, trade relations, and civic networks to bridge resource gaps.

Click here for more resources on this topic.
Economic Feasibility

One-third of the coast lacks a strong business case to build out the 21st century internet infrastructure that is increasingly needed by business owners, students, fishermen, elderly residents, and others in their day-to-day lives.

The density of homes and businesses along roads drive the economic return on building out reliable, high-speed internet infrastructure. Absent other reasons to build infrastructure in a place with low premise density, private companies may be less willing to invest in updated fiber infrastructure. Communities can improve the economics of a project by expanding the customer base or by helping to obtain a subsidy for the construction costs.

PREMISE DENSITY
This map shows density of addresses, or “premises,” along the road network.

**WHY THIS MATTERS**

- **0 NONE** No customer base
- **1-6 VERY LOW** Revenue generated from customer base may not be sufficient to fully offset operating costs of internet service provider (ISP)
- **7-15 LOW** Revenue generated likely covers ISPs operating costs but may not allow for market rate returns on capital investments
- **16-22 MEDIUM** Premise density is such that it may be sufficient to generate an economically viable project
- **23+ HIGH** There is a decent business case for private investment to have already built the infrastructure

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**ROGUE BLUFFS**
Broadband infrastructure built with support from a USDA grant.

**ISLESBORO**
Broadband infrastructure built with support from a municipal bond.

**CLIFF ISLAND**
Broadband infrastructure built with support from private investment in an LLC.

**CRANBERRY ISLES**
Broadband infrastructure built with support from a USDA grant.

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**PREMISE DENSITY ACROSS MAINE, 2019**

- MAINE
  - 25% 0 NONE
  - 22% 1-6 VERY LOW
  - 12% 7-15 LOW
  - 20% 16-22 MEDIUM
  - 22% 23+ HIGH

- COAST AND ISLANDS
  - 37% 0 NONE
  - 17% 1-6 VERY LOW
  - 19% 7-15 LOW
  - 15% 16-22 MEDIUM
  - 13% 23+ HIGH

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Click here for more resources on this topic.
Connecting Remote Communities to the World

LACK OF ACCESS TO FAST, RELIABLE, AND AFFORDABLE INTERNET service has long been a leading factor working against the sustainability of small town life on the coast of Maine. Rural towns with poor internet service are finding it difficult to attract young families. Businesses are unlikely to locate where internet service is spotty, and senior residents increasingly rely on dependable communications networks to support their ability to age in place.

Lisa Hanscom knows this as well as anyone. She owns a family-run blueberry business and manages a pair of Airbnb rentals located at her farm in Roque Bluffs, a small community of 300 people in Downeast Maine. She served as first selectman, and as such, is well acquainted with the struggles of residents to access good, reliable internet service.

“We have inadequate internet to advertise blueberry products, interact with buyers, and deal with rental customers. I am unable to increase the quality and quantity of my businesses specifically because of the poor internet speeds,” she says.

The community recently came together to bring broadband to the entire town in locations where internet is poor or even inaccessible.

“There are many more of me—farmers, fishermen, lobster sellers—who are either paying exorbitant prices for better connectivity or are struggling to make this inadequate technology work for them,” Hanscom says. “I hope that we will not have to wait 30 years to lift all of our boats, all of our communities, to bring this real opportunity to all of those who dream to better themselves and their families.”

High-speed, reliable internet service ensures equitable access to education and healthcare, supports civic engagement, and spurs economic diversification and development. Geographic isolation and sparse populations mean Maine’s rural communities lag behind the rest of the nation in quality of internet service and economic productivity.

More Maine towns are realizing a future backed by broadband is possible through improved planning. They are starting the process by forming community broadband working groups to bring in local residents with diverse backgrounds.

More than one-third of the coast lacks a strong economic case for providers to build out broadband infrastructure for 21st century internet service. As they see the digital divide widening, many island and coastal communities are taking charge by developing community-driven broadband solutions that will result in a stronger economic future for all. Communities like the Cranberry Isles (above) are utilizing local financing options and regional collaborations to get the job done.

ROQUE BLUFFS

In Roque Bluffs, residents who planned to run businesses out of their homes had to sell because their internet service was so slow. Home-bound, elderly patients cannot connect over the internet in order to interact with their doctor or nurse. Elementary, high school, and college students must drive 30 minutes round-trip into Machias to accomplish their online homework, and older continuing education students cannot complete their online exams because of the inconsistency of their internet connectivity, in some cases resulting in not being able to pursue their career of choice.

SWAN’S ISLAND

Like many rural municipalities along Maine’s coast, Swan’s Island is made up of multiple villages, where internet service varies widely within the community. By bringing in diverse perspectives and seeking creative financial options, broadband can be brought to whole communities. On Swan’s Island, a citizen working group is designing and assessing broadband infrastructure options that can be built and operated either by the existing provider or with other potential providers to find balance between the community’s goals and risk.

The Cranberry Isles community celebrates an award to complete its broadband project after leveraging planning grants to support their application for USDA funds.

Community broadband working groups to bring in local residents with diverse backgrounds.

More than one-third of the coast lacks a strong economic case for providers to build out broadband infrastructure for 21st century internet service. As they see the digital divide widening, many island and coastal communities are taking charge by developing community-driven broadband solutions that will result in a stronger economic future for all. Communities like the Cranberry Isles (above) are utilizing local financing options and regional collaborations to get the job done.

Addresses Per Mile, 2019

<table>
<thead>
<tr>
<th>0 NONE</th>
<th>1-6 VERY LOW</th>
<th>7-15 LOW</th>
<th>16-22 MEDIUM</th>
<th>23+ HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1-6</td>
<td>7-15</td>
<td>16-22</td>
<td>23+</td>
</tr>
</tbody>
</table>
Vulnerability to Sea Level Rise

Rising seas and more frequent flooding threaten to fragment Maine’s connected coast. Nearly 6% of coastal and island roads are at risk of becoming inaccessible to emergency services with two feet of sea level rise, a scenario that is likely to occur by 2100.

Global average sea level has risen by about 7–8 inches since 1900, with almost half of this rise occurring since 1993 as oceans have warmed and land-based ice has melted.

Transportation networks are key to a thriving coast. Residents and businesses alike depend on well-maintained roads to commute to work, transport seafood to market, and access emergency services. However, when roads are flooded, it can become very challenging to reach someone in need. Additionally, the increased travel time and maintenance costs can have significant impacts on the well-being of our communities.

The Coastal Risk Explorer uses projected sea level rise scenarios to understand which locations will be cut off from emergency services and are most vulnerable. The Nature Conservancy in Maine developed the tool in partnership with Bowdoin College, the Maine Geological Survey, and Blue Sky Planning Solutions. You can explore this tool at maps.coastalresilience.org/maine.
Financing the Response to Rising Seas

Town leaders are looking for innovative ways to fund infrastructure projects.

MANY COASTAL COMMUNITIES ARE GRAPPLING with more frequent instances of flooding and storm surge events. As a result, town leaders are planning for an uncertain future with increasing sea level rise projections and are exploring ways to finance needed upgrades to roads, bridges, and docks.

In Portland, sea level rise is being incorporated into the zoning and building permitting process. “When the city is working with the many infrastructure changes that we contemplate, sea level rise is now part of the design consideration,” said Bill Needelman, Portland’s waterfront coordinator. “If you’re going to spend money and just end up with exactly what you have right now, it’s all loss,” he said. “You can make yourself more resilient at the same time that you’re building your tax base and continuing to have a vital community.”

After completing its sea level rise scenarios study, the island of Vinalhaven now approaches its infrastructure planning with an eye toward resiliency. “We’ve got a long list of things we’d like to do, so it’s about prioritizing those things,” said Andy Dorr, the island’s town manager. Part of that is taking advantage of the natural life-cycle replacement of infrastructure such as bridges, sidewalks, and roadways. For instance, Vinalhaven’s Carrying Place Bridge is in poor condition and will soon need to be replaced. As the town discusses the design for a replacement bridge, it’s considering whether the bridge should be raised to a height that will accommodate rising water in its expected lifetime.

Beyond the bridge, sea level rise threatens commerce and transport as extreme high tides currently flood the downtown area parking lots even on sunny days, and high-water levels have kept the ferry from docking. Impacts to ferry service will increasingly affect tourism and emergency services. To tackle these issues, the town has formed a sea level rise committee and has received grant funding for vulnerability and engineering studies.

While it is hard to estimate exactly how assessed values will change for parcels that experience flooding, sea level rise will cause Vinalhaven’s tax base to shrink and shift to inland residents. With 1.6 feet of sea level rise projected by 2050, more than two-fifths of residential properties and more than two-thirds of commercial properties on Vinalhaven will experience flooding. This scenario will put almost $35 million in assessed value at risk, more than 6% of the island’s total tax base.

Several other Maine coastal communities are working with engineers and scientists to explore the potential impacts of sea level rise and storm surge as their first step toward designing thoughtful solutions that will help them prepare, but funding these projects remains a major challenge.

An incremental approach has helped Damariscotta improve its infrastructure. The town used state grant funds to study projected sea level rise scenarios for its historic downtown, but finding the funding to make the full improvements to their infrastructure has been challenging, according to Town Manager Matt Lutkus. Damariscotta’s planned infrastructure efforts, some of which are underway or completed, include enhancing a park bordering the harbor; sidewalk and culvert replacements; improvements to the public parking area along the harbor; and installing a flood wall to protect the downtown. In total, these improvements will cost the town millions of dollars.

Grant money exists to fund studies, Lutkus noted, but most infrastructure grants either go to communities with more dire needs or don’t provide enough money to enable the town to get projects completed. So, Damariscotta has been tackling the projects it can—often with the help of private donors—in the hopes that future generations can build on what is being done now.

Communities are learning from each other and are coming up with new financing models. Owen Casas, the town administrator for South Thomaston, leveraged initial planning grants to find matching funds to address frequent high-tide flooding of a critical road. But future funding for such projects is uncertain. While progress is being made, there are a broader set of questions about the role of communities in financing large infrastructure projects along a changing coast.
Transportation along the coast includes shipping, commercial fishing, and ferry traffic. Each year, the state’s two largest ferry operators—Maine State Ferry Service and Casco Bay Lines—emit over 8,000 metric tons of CO₂, the equivalent of about 0.1% of the state’s annual transportation emissions.

Since 2014, Casco Bay Lines has been powering its fleet with a biodiesel mix which annually avoids about 450 metric tons of CO₂ emissions that would have otherwise come from fossil fuels.

Maine is a state large in area with a small and dispersed population. As a result, the distances that people and goods must travel—by land, sea, and air—exceed those in more densely settled areas. Even though emissions are highest along heavily traveled highways, they are also relevant on smaller roads that lead to service centers and down peninsulas. As state policymakers consider the transportation sector’s CO₂ emissions, rural road traffic—which makes up 72.4% of the state’s total annual vehicle miles (the third highest in the nation)—is increasingly relevant.
Home Heating

Heating fuel choices are limited for Maine’s island and coastal homes. Increasingly, homeowners are choosing high-performance heat pumps, which are powered by electricity.

Maine continues to rank as the state most dependent on heating oil in the nation. Due to the limited reach of natural gas infrastructure, 62% of Mainers heat their homes with heating oil—a costly, carbon intensive fuel that is imported from out of state. Driven by recent technology advancements, policy mandates, and incentives, consumers are increasingly choosing heat pumps as a strategy to minimize the economic and environmental impact of home heating.

Islands top the list with the highest number of incentivized installations per total housing units along the coast. Often motivated to make the switch by higher-than-mainland heating fuel prices, many island communities have successfully utilized collective purchasing programs to make it easier and more affordable to install heat pumps.

Returning to the map, consider this: Islands top the list with the highest number of incentivized installations per total housing units along the coast. Often motivated to make the switch by higher-than-mainland heating fuel prices, many island communities have successfully utilized collective purchasing programs to make it easier and more affordable to install heat pumps.
Domestic Connectivity

Maine’s coastal communities are spurring economic growth through their “traded industries”: fishing, finance, management, arts, entertainment, and recreation.

**TRADED INDUSTRIES**

Traded industries are industries that concentrate in a particular region but sell products and services across their borders to other regions. They are essential to economic growth as they bring new money into the region and are often associated with higher wages and productivity than local industries. These industries may not be the largest employer.

**DOWNEAST REGION**

High concentration of resource extraction industries

**MOUNT DESERT ISLAND REGION**

High concentration of arts, entertainment, and recreation industries

**COASTAL INDUSTRIES RELATIVE TO THE STATE, 2018**

Coastal communities are serving more than their local communities in these traded industries, exporting goods and services to other communities in Maine and around the country.

**WHY THIS MATTERS**

Four out of five of Maine’s most heavily traded industries are concentrated in Maine’s coastal communities. With the exception of manufacturing, employment in traded industries is higher along the coast. Goods and services move beyond the coastal region and serve the rest of the state and country.
International Connectivity

Almost $2 billion of international exports flow through Maine’s nine coastal ports each year, connecting Maine’s coastal communities with every continent in the world except Antarctica.

**KEY: Exports Through Maine Coastal Ports, 5-Year Average, 2014-2018**

- **0 - $2 million**
- **$2 million - $20 million**
- **$20 million - $1.5 billion**

**PORTLAND: $246 million**
Connected with Europe, Portland’s top export is semiconductors.

**SEARSPORT: $11 million**
Searsport primarily imports oil from Canada.

**EASTPORT: $159 million**
Linked with Asia, Eastport exports wood pulp.

**CALAIS: $1.4 billion**
Closely linked with Canada, Calais exports lobsters, fish, and energy products produced outside of Maine.

**WHY THIS MATTERS**
Exports drive economic growth, supporting jobs and incomes statewide. Maine’s coastal ports serve as essential gateways for Maine and other states to trade with the rest of the world. They connect the state with every continent except Antarctica and export virtually every product imaginable, including hundreds of millions of dollars of lobster, fish, wood pulp, semiconductors, and more.

**TRADE WITH CANADA**
Maine has a unique relationship with Canada, our neighbor and largest trade partner. Due to the location of processing facilities, some products passing through Maine’s coastal ports are both imported and exported. For example, Canada has particular processing opportunities for lobster, fuels, and wood products that Maine does not. This means that some raw products are exported from Maine to Canada and then imported back into Maine as value-added products.

**INTERNATIONAL EXPORTS FROM MAINE’S COASTAL PORTS**
5-YEAR AVERAGE, 2014-2018

- **North America** $1.5 billion
- **Europe** $224.3 million
- **Asia** $121.9 million
- **Australia and Oceania** $3.9 million
- **Africa** $3.4 million
- **South and Central America** $1.8 million

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Lobster Imports and Exports

Lobster connects Maine to the world. Maine lobsters are eaten locally, shipped to other parts of the country, and exported internationally—primarily as live lobsters.

U.S. LOBSTER LANDINGS, 2017

- 77% MAINE $423 million
- 8% OTHER STATES $47 million
- 15% MASSACHUSETTS $52 million

Over the past decade, lobster landings in Maine have doubled. During this time, lobster buyers and dealers grew the supply chain, infrastructure, and markets. Global trade relationships increasingly matter in the industry’s ability to grow its markets and play an important role in keeping lobster prices relatively stable.

WHY THIS MATTERS

Significant insight into the lobster trade provided by the Maine Lobster Dealers’ Association.

TO THE DOCK

LOBSTER VALUE INCREASES AS IT MOVES THROUGH THE SUPPLY CHAIN.

TOTAL U.S. LOBSTER EXPORTS, JULY 2017-JUNE 2019

- $588.2 million
- $52.5 million

July 2017-June 2018

- EUROPE $105.9 million
- CHINA $94.6 million
- NORTH AMERICA $249.1 million

July 2018-June 2019

- EUROPE $86.3 million
- CHINA $182.2 million
- NORTH AMERICA $188.3 million

Exports to Europe declined due to a trade agreement between the EU and Canada.

Exports to China have declined since tariffs were imposed in July 2018, falling from 27% of total exports to 15%.

Maine lobster travels all over the world. A Maine lobster could cross more than four borders before reaching its final destination on someone’s dinner plate. For example, a lobster landed on the Stonington dock could be exported to Canada, processed, and re-imported back to Maine, then travel south to Boston, where it could be shipped to Asia. In this process, the Maine brand is obscured.

WHY THIS MATTERS

Maine and Canada Lobster Trade, July 2018-June 2019

- MAINE $379.4 million
- CANADA $299.3 million
- TOTAL $678.7 million

MAINE AND CANADA LOBSTER TRADE, JULY 2018-JUNE 2019

- JONESPORT/BEALS $31.6 million

TOTAL U.S. LOBSTER LANDINGS, 2017

- STONINGTON $58 million
- VINALHAVEN $37 million

More than a quarter of Maine’s total lobster landings by value in 2018 came from these top three ports.

Click here for more resources on this topic.
Ocean Traffic

The Gulf of Maine is a busy place, filled with activities that can be difficult to track and often shift over time.

**RECREATIONAL BOATING 2012**

While recreational uses are not always known, fishing, scuba diving, whale and bird watching are common activities in the Gulf of Maine.

**MOUNT DESERT ROCK**

While recreational uses are not always known, fishing, scuba diving, whale and bird watching are common activities in the Gulf of Maine.

**JEFFERY’S BANK**

Decision-making about shifting current uses or potential new ocean uses is complicated. While the Gulf of Maine may appear as an empty blue void on maps, it is filled with highly-valued commercial and recreational activity that helps define the state’s coastal economy and connection to the world. The availability of data to represent the multiple ways in which the ocean is used varies, as tracking and reporting methods are still expanding. These maps show where a few of the many types of fishing, transportation, and recreational vessels were operating over the course of a year.
A PART OF BELFAST’S WATERFRONT that was characterized by graffiti-covered, decrepit industrial buildings was remade in dramatic fashion when Front Street Shipyard established its yacht service there in 2011.

It might seem like an overnight success story. In fact, it’s a story that owes its happy ending to two groups of people who saw opportunity and were willing to work to find a way for each to win. Cleverly though it might sound, the Front Street Shipyard and Belfast’s city government truly achieved a win-win. It may not have come to fruition without a bit of legal innovation with a name only a lawyer could love: contract rezoning.

The story begins with the demise of the sardine industry. In 2001, the Stinson Seafood plant on the city’s northeasterly waterfront was for sale. Wayne Marshall, the city’s planner, remembers Stinson asking $1.3 million for the property. “It was pretty much an unusual beast,” this 1,000 feet of shorefront that was dormant industrial, yet close to the heart of downtown. It was flat, a plus for redevelopment, yet narrow, hemmed in by Front Street.

As the economy strengthened in the first decade of the century, the property drew interest from developers. Rather than allow a buyer to impose a sale, Wayne Marshall, the city’s planner, remembers Stinson asking $1.3 million for the property. “It was pretty much an unusual beast,” this 1,000 feet of shorefront that was dormant industrial, yet close to the heart of downtown. It was flat, a plus for redevelopment, yet narrow, hemmed in by Front Street.

By June 2008, Roberts and his group were ready to bail. Investors dipped in their toes, but none committed. By late 2009 and into early 2010, Marshall said, “The property was becoming increasingly derelict. You could see water through the building from the street side. The owner was doing nothing. It was a safety hazard.”

The fate of the property, and the city’s vision for a public waterfront walkway, hung in the balance. If the building remained decrepit for another five years, city councilors could be blamed for driving too hard a bargain. In late 2010, the city learned of an inquiry about the property from four men: Taylor Allen, owner and operator of Rockport Marine; JB Turner, former president of Lyman-Morse in Thomaston, Steve White, owner and operator of Brooklyn Boat Yard, and Ken Priest of Kenway Composites. The group planned not a boatyard, but a shipyard, capable of handling large yachts and commercial vessels at the Belfast site.

The new investors accepted what Marshall describes as non-negotiable terms—the harbor walk through the property, a dock for commercial fishermen, removal of the building in the worst shape, and the city retaining a performance bond. In December 2010, the new entity, Front Street Shipyard, purchased the property. The business demolished the troubled building in 42 days.

In 2004, Tom Roberts, a would-be developer from New Jersey joined by four partners, applied to the city to redevelop the sardine plant as 22 residential condominiums, 14,000 square-feet of retail space and offices, a restaurant, and a 62-slip marina offering boat repair and storage.

He agreed to begin negotiating with the city on a contract rezoning deal—the first time the city employed this mechanism.

Marshall remembers more than 25 meetings with Roberts, who landed financing for his proposal in 2005. One key provision the city wanted in any deal with Roberts was his approval of a long planned public walkway along the harbor, through the project site. The walkway idea originated in the late 1990s, Marshall said, with a renewed effort to establish it when the Armistice Bridge—the former U.S. Route 1 bridge, now known locally as the footbridge—was rebuilt in 2003.

In its negotiations with Roberts, the city also worked to establish protections for a small lobster fleet and maintain public access from both the harbor and land. The contract between the city and Roberts was signed, but despite the deal, Roberts and his partners sought to sell the property and the project, perhaps because of a souring real estate market.

By late 2009 and into early 2010, Marshall said, “The property was becoming increasingly derelict. You could see water through the building from the street side. The owner was doing nothing. It was a safety hazard.”

The city government and Front Street Shipyard collaborated to create a thriving working waterfront with public access.

A waterfront walkway winds through Belfast’s Front Street Shipyard, alongside the largest marine travel lift on the East Coast.

“It was unlike almost anyone else I’ve worked with,” Marshall said. Not only was the city taking the new company at its word, but the partners trusted the city. “I’m not sure a lot of people would have purchased a single-family home with these conditions.”

What has followed has been described by both city officials and the shipyard as a love fest. The two parties have exchanged nearly 40 parcels of land, and right of ways and building height restrictions have been modified. And they were not city giveaways—the shipyard paid $600,000 for what had been a city parking lot.

“All I remember is this day,” said Turner, now president and general manager of Front Street Shipyard. “They had a vision for what they wanted Belfast to be,” he said. “They worked with us, arm in arm, to make everything possible that we wanted to do.”

Construction began in January 2011, and in July of that year, the Front Street Shipyard opened its doors with a community picnic that 450 people attended.

“All of a sudden, Belfast was on the map,” Marshall said, with large yachts, some from the Caribbean and Europe, which had come solely for the service at the yard. The city landed a $1.9 million federal grant to rebuild Front Street with upgraded curbs, sidewalks, higher-grade asphalt to allow large vessels to be hauled, and new water lines.

“We would not have seen one nickel of that if not for Front Street Shipyard,” he said.

And, of course, the city benefits from the property taxes paid by the shipyard and the 100-plus skilled employees, whose wages average more than $18 an hour.

“It’s probably the only shipyard in North America where you can actually walk through the travel lift area,” Turner observed, but it’s more than a recreation area. “We brought a working waterfront back to Belfast.”

—Tom Groening
There are multiple ways to protect working waterfronts, which are critical to Maine’s coastal economy. Every fishing trip starts and ends at a dock and the success of many marine businesses depends on access.

FRENCHBORO
Improved shared working waterfront facilities and dredging are priorities for this small island community where fishing is the primary source of employment.

CURRENT LAND USE FOR THE WORKING WATERFRONT PROGRAM
The state of Maine’s land use taxation program allows property owners to pay taxes on the value of the property as a working waterfront instead of the value of the property for condos, homes, hotels, or other “higher” value uses.

As of 2017, there are 114 ACRES across 34 COMMUNITIES with 86 PARCELS in this program.

WORKING WATERFRONT ACCESS PROTECTION PROGRAM (WWAPP)
Part of the state-run Land for Maine’s Future program, WWAPP supports projects that sustain access to the waterfront for commercial fishing and aquaculture in exchange for development rights.

To date, 25 PROPERTIES totaling 42.3 ACRES have received funds.

U.S. ARMY CORPS OF ENGINEERS DREDGING
The U.S. Army Corps of Engineers maintains navigation channels and water depths, helping to connect working waterfronts to ocean resources.

As of 2017, there are 66 DREDGING LOCATIONS in Maine.
Nonprofit Employees and Volunteers

Maine’s nonprofit sector and volunteers connect coastal residents to resources that help their communities thrive.

In 2018, 425,346 volunteers contributed 39.2 million hours in the state of Maine.

Nonprofit Employees

- None
- 0.1% - 2.5%
- 2.6% - 5%
- 5.1% - 10%
- 10.1% - 20%
- > 20%

Nonprofits help communities access resources from inside and outside of Maine. These organizations enrich the state by building diverse partnerships to provide innovative solutions and services. They also employ a significant number of people in communities along the coast and islands.
Cheryl Crowley offers a vivid metaphor for the challenges and rewards of working to support a small island community. “It’s like painting a house,” she says. “I hate all the scraping. But then, after the final coat is applied, it’s Ahhhhh!”

Crowley has been scraping away, remaigning, and applying a fresh coat to her beloved Cliff Island for years. Though she had to have her arm twisted to consent to an interview about her volunteer work, she is, in fact, one of a small number of folks on this island of about 50 year-round residents plugging away at keeping it vital.

The journey that led Crowley, 56, to Cliff Island—which lies at the southeast edge of the Casco Bay archipelago, the last stop on the outbound ferry run—is as angular as its shore. Her family has visited the island since 1916, but she grew up in Trumbull, Connecticut, where her father was a school teacher. While in high school, Crowley worked as a nanny for a family on the island. She attended and graduated from the University of Maine at Farmington. Following in her father’s footsteps, she became a teacher, working in special education in the Gray-New Gloucester system in southern Maine. Later, she ran a group home for disabled adults in central Maine.

After her first marriage ended, she moved to the island in 1996, while her grandparents were still living there, and never left. She reconnected with high school friend David, and married and had a family. His family had a cottage on nearby Stave Island. “He migrated south to Cliff,” she jokes. The couple have three girls, one still attending Casco Bay High School in Portland. And it was being the parent of school-aged children that led to her volunteer work, a natural progression for many, she observes.

“The challenges and, being available, I started getting busy,” she recalls.

Crowley began substitute teaching, then lending a hand in administrative work, such as helping to hire a teacher for the island’s one-room school. Even though her daughters no longer attend, and the school has just two students, she remains actively involved.

“I can’t let it go,” she says with a smile. “I love the nature of it—being in the elements, skiing in the middle of a snowstorm,” she says, adding, along with the deeper, multi-generational relationships that form. “I see that in my girls. They’re so accepting.”

Crowley explained. The elements that must be supported for such vitality include affordable housing and a school, along with what had been at the now-secured property—store, fuel depot, and access to the water. To that list she adds jobs and access to broadband internet as necessary components. Sustainable Cliff Island is still working on plans for the waterfront parcel. The old fuel tanks have been removed, and the wharf is being rebuilt. The store could be revived in some form, and she said, the small house might serve as a residence for an island teacher.

“We need to gut the house,” she said. “It needs a lot of work.”

The property also might help serve the island as the base for a health clinic. Earlier on in her island volunteer work, Crowley dove into health care-inspired by her mother, a nurse—and persuaded Portland city officials to hold EMT classes on the island. She and husband David now are two of the island’s three EMTs. Crowley and Peggy Aker, a summer resident, have worked to expand medical services. “We’ve created an informal health center,” she said, clarifying that the “center” looks like a Rubbermaid bin with supplies.

Focusing on health is a passion for Crowley. Working on offering home care for aging island residents is another project on her agenda.

“I love it,” she says. “It’s one of those things that doesn’t divide a community.”

Island life agrees with her.

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Roger Berle, a fellow Cliff Islander, has worked closely with Crowley on a number of projects.

“I’m a huge fan,” he said, adding that he’s known her since she was a child.

“She’s sharp. She is patient. She’s quick to understand where people are coming from,” Berle said, adding that Crowley has one foot in the year-round community and one foot in the summer community, he said, making her effective.

“She is quietly persistent, a quiet but effective leader,” he continued, with “a wonderful personality” that gives her “a way with people.”

On the day we talked, Crowley was in Portland to attend a meeting of the Casco Bay Lines board of directors, hoping to lay the groundwork for designating a private space in its terminal for cancer patients while they wait for their ferry back home.

And in explaining her plans, she disclosed something about her approach to her community work. Rather than demand change, she said her goal for the meeting was to gently introduce the idea. When asked what drives her volunteer work, she says, “I like problem-solving. I like to collaborate.”

—Tom Groening
The Island Institute works to sustain Maine’s island and coastal communities, and exchanges ideas and experiences to further the sustainability of communities here and elsewhere.