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Access to the Waterfront: Issues and Solutions Across the Nation

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Access to the Waterfront

*Issues and
Solutions Across
the Nation*





Access to the Waterfront: Issues and Solutions Across the Nation Executive Summary

A tide of demographic and economic change is moving through coastal towns, harbors, and communities throughout the United States. As the various regions and states confront the resulting conflicts over access to beaches, shorelines, and waterways, they are recognizing the need to identify and share tools and solutions.

In December 2006, Maine Sea Grant, with support from Hawaii Sea Grant and an advisory committee from the National Sea Grant network and Coastal Zone Management programs, surveyed over 140 extension professionals, coastal managers, and other individuals to characterize the scope of coastal access issues nationwide and the effects on coastal communities, and to inventory solutions and tools being implemented by Sea Grant and other programs.

Viewed through the eyes of survey respondents, there are no exclusively regional trends—access to and from the coast is a challenge in communities from Alaska and Hawaii to California, Oregon, and Washington, along the Gulf Coast states, around the Florida peninsula, and up the entire East Coast to Maine. With nowhere to swim and nowhere to land, recreational, commercial, and industrial users of the coast are competing for access.

Multiple factors are driving these changes, including increasing population and development, rising coastal property values, declines in fishing and other industries, and shifting land ownership patterns. Resulting pressure on remaining public areas and infrastructure also means increased stress on fragile coastal habitat, and coastal managers have limited resources to address this pressure. Disasters like hurricanes and storms magnify and exacerbate conflicts.

But solutions are emerging, and Sea Grant, Coastal Zone Management, and numerous other public and private entities throughout the country are developing tools to create and preserve access. Private entities are conserving land, fishermen are partnering with land trusts, and citizens are voting for bonds to protect working waterfronts. States are implementing tax relief programs, while towns are revising zoning ordinances and mapping access points, and extension agents are designing education programs. But they need help. Case studies and stories from around the country, taken from the survey and follow-up discussion with respondents, exemplify the geographic and demographic scope of the issue, prompting discussion of a nationwide strategy to address coastal access conflicts at the local, regional, and national level. Such a strategy would include funding for infrastructure maintenance, land acquisition, code enforcement, planning, research, and data collection. This funding would be supported through legislative and policy action at the national, state, regional, and municipal levels. A national coastal access clearinghouse Web site would enable the continued sharing of solutions and tools, as well as outline the roles of various entities and organizations, ranging from Sea Grant programs to federal, state, and local governments, among others.

Open and seamless access to and from the water, supported by a national strategy, will ensure that our nation is vibrant and diverse, and that the delicate ecosystems where land meets water continues to sustain and inspire future generations.



Photos: Shutterstock

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I Introduction

Across the country, conflicts over access to beaches, shorelines, and waterways are increasing as our coastal towns and communities undergo major demographic and economic changes. As the various regions and states confront access challenges, they are recognizing the need to identify and share the tools and solutions that are being used throughout the nation.

In December 2006, Maine Sea Grant, with support from Hawaii Sea Grant and an advisory committee from the National Sea Grant network and Coastal Zone Management programs, surveyed over 140 extension professionals, coastal managers, and other individuals to characterize the scope of coastal access issues nationwide and the effects on coastal communities. The survey inventoried the diverse approaches implemented by Sea Grant and other programs to address these themes. And it also asked respondents to identify needs for future action. Details on survey respondents are provided in Appendix A at the back of this report.

The survey and results contained in this report were presented May 9, 2007, at the Working Waterways & Waterfronts 2007 Symposium in Norfolk, Virginia, a national symposium on water access hosted by Virginia Sea Grant.

The purpose of the survey was to identify trends in coastal access throughout the nation and to highlight solutions and success stories. By covering the issues through the eyes of survey respondents, we hope to inform the discussion of a nationwide strategy to address coastal access conflicts.

Many of the Case Study descriptions are taken directly from the survey responses, and do not necessarily represent the view of Maine Sea Grant or the National Sea Grant network.

Many scallop boats are old shrimp trawlers that, after being displaced from Gulf states, have been retrofitted to harvest sea scallops. *Photo: Erin Seiling/Virginia Sea Grant*



Recreational boats line docks that once housed commercial boats. Photo: Erin Seiling/Virginia Sea Grant

II Nowhere to Swim, Nowhere to Land: The Survey Results

The survey revealed that access to the coast is an issue everywhere in the country. Though few regional trends emerged, most issues were widespread. Increasing population is resulting in private residential development of the coast, with related pressure on industrial, recreational, and public access infrastructure and the coastal environment. These shifts are impacting everyone from commercial fishermen, tour boat and marina operators, and private property owners, to low income families, visitors, and entire coastal communities.

Looked at another way, the access issues outlined by the survey respondents could be categorized as rural, suburban, and urban. Rural issues include declines in access for the commercial fishing sector and traditional communities as housing needs spread to previously undeveloped areas. Suburban issues include lack of access for commercial fishing, as well as pressure on recreational access points and infrastructure, beaches, and boating facilities. In urban areas, these same pressures are felt along with industrial access issues, such as shipping, channel dredging, residential construction, and infrastructure maintenance.

However, these categories may be too simplistic. Access to the coast, whether from land or from the water, is a complex challenge that affects people up and down America's shorelines. The following are some of the stories that emerged from the survey.

Loss of access for commercial fishermen

Some of the first places where access troubles have surfaced are in our working waterfront communities, where changes are amplified by downward trends in some sectors of the commercial fishing industry. As waterfronts shift away from fishing and related support industries like ice and bait, fishermen are forced to travel longer distances to land their catch. Loss of access and related infrastructure for commercial fishermen leaves waterfront land available for private, non-industrial development.

The coastal town of Bayou La Batre, Alabama processes much of the shrimp, oyster, and crab from some 200+ vessels, as well as catch from the other Gulf states. Yet dock space is shrinking, and without dock space, the whole marine industry tumbles, including support businesses like diesel mechanics, welders, shipbuilding, and seafood processing.

The downturn in the fishing industry during the current stock rebuilding process has precipitated the loss of fishing industry infrastructure in Massachusetts, most of which is to non-water-dependent uses. The fishing industry is at risk of not having adequate waterfront infrastructure should their landings grow as predicted.

In south-central California, some harbors are questioning the need to maintain commercial fishing-related infrastructure, in part because of misperceptions about the health and sustainability of local fisheries. While a few local fisheries are in decline, many have recovered or have continued to be sustainable. Without this infrastructure, the commercial fishing community will not be able to supply fresh, local seafood and maintain the fishing heritage of the region. *"The lack of understanding about what's in good shape and what's not, and the assumption that all local fisheries are in trouble, appears to have exacerbated the economic problems faced by fishery participants, providers of support goods and services, and associated communities."*—survey respondent from California

Conflicts between industrial/commercial waterfront uses and residential uses are also occurring in Alaska, the Gulf Coast, the Florida Keys, and the Southeast.



Photo: Melissa Schneider/Mississippi-Alabama Sea Grant

...without dock space, the whole marine industry tumbles, including support businesses like diesel mechanics, welders, shipbuilding, and seafood processing.



Communities that wish to maintain their culture and values are faced with difficult choices when increasing property values could displace longtime residents and family businesses.



Maine's working waterfront
Photos: Natalie Springuell/Maine Sea Grant

From island fishing villages to bustling urban seaports, the loss of working waterfront is felt throughout entire communities where fishing is a major contributor to the economy. The cause of this decline is influenced by multiple factors, including dwindling fish stocks (real or perceived), restrictions and regulations, high fuel prices, and global competition. Communities that wish to maintain their culture and values are faced with difficult choices when increasing property values could displace longtime residents and family businesses. As prices and taxes soar in developed areas, people look further afield and move to previously overlooked areas where real estate is still relatively affordable. In this sense, coastal fishing communities are facing similar challenges as traditional working landscapes everywhere, such as the rangelands of the western U.S., the family farm, and logging towns on the fringe of our nation's forestlands.

In Maine, declining commercial access is leading to conflict at public landings. *"Newcomers to fishing towns bring different attitudes about commercial activity and a lower tolerance for the smell of stored fishing gear, bait, and the early morning gunning of truck and boat engines."* —survey respondent from Maine

In places like McClellanville and Wadmalaw Island, South Carolina, the price of seafood is declining, primarily due to competition from inexpensive imports. Fishermen are unable to keep up with fuel costs and rising property values and taxes. *"There are fears that the cultural and historic heritage of the traditional fishing villages in South Carolina will also disappear, their character changed beyond recognition."* —survey respondent from South Carolina

"The other affected parties are very widespread. They vary from the people who catch the seafood to the people who build the nets to the people who pack the fish or shrimp into boxes and even those who pop the heads off shrimp to be processed. Basically what I'm saying is that this is a fishing community and everyone here depends on the commercial fishing industry in one way or another. This affects everyone from people who own boats worth tens of thousands of dollars to people who own fish and shrimp processing plants worth millions of dollars. This is our livelihood, this is how we pay our bills and how we put food on our tables; if there is nowhere to dock shrimp boats, a community that has been here for over one hundred years will disappear." —survey respondent from Florida

Recreational Access Conflicts

In communities that are shifting from traditional working waterfront to residential land uses (as well as in more suburban areas) access to the coast or the water for recreation (fishing, boating, swimming, etc.) is a major challenge. After impacts on commercial fishing, recreational access was the second most common issue cited by survey respondents. More people moving to the coast, a growing tourism economy, and the demographics of wealth and leisure are driving increased pressure on recreational infrastructure: marinas, docks, moorings, boat ramps, and associated facilities.

According to the most recent National Survey on Recreation and the Environment, 122 million people go to the beach every year, 95 million people take to the water in some kind of boat, and 80 million go fishing. These millions of recreational users are competing with each other, with fishermen, and with multiple other users for space where land meets water.

As pressure on limited resources and infrastructure increases, access for recreation and boating is lost and conflicts result. Despite the popularity of the coast as a destina-

tion, many regions noted that funding for operations and maintenance of access infrastructure is declining. Most of the survey respondents described challenges getting from the land to the water. But once on the water, there is another set of issues about getting from the water to the land. Waterway congestion, especially inland waterways, is becoming more common.

Despite soaring gas prices and a sagging economic market in Washington state, new boat sales continue to climb. At the same time, regional population growth is causing per capita shortfalls in boat launching and moorage facilities, riverbank access for kayaks and other human-powered watercraft, and waterfront parks and trails, and congestion in urban waterways and popular destination areas.

In Hawaii, recreation congestion of jet skis, surfing, swimming, diving, parasailing, and kayaking. In tourist areas is forcing the state to consider nearshore ocean zoning as a remedy.

In the Great Lakes, deep-water channels provide access for commerce and industry, as well as space for marinas, docks, and other access points. Yet where commercial activity has ceased, so has the dredging that maintains the channels, leaving recreational and public access areas with maintenance dilemmas. *"Most marinas are at maximum capacity and wish to expand. Similarly, some key fishery areas have seasonal issues with sand movement and require dredging, yet since they are not deep-water commercial areas, funding from the Army Corps of Engineers is extremely hard to obtain, and loss of these harbors could devastate local economies."* —survey respondent from Michigan

Shrinking Access for the Public

Ultimately, these changes affect the general public, meaning those people who do not own coastal property but wish to access the beach or waterfront. Individuals, families, and especially those with lower incomes are faced with an absence of public land, parks, boat ramps, and other facilities. Urban low income populations may live less than a mile from the coast, yet many may have never dipped their toes in the water. Barriers such as port terminals, commercial and industrial complexes, harbors, transportation infrastructure, and private development limit accessibility for a large segment of the public. In some areas, a lack of existing public land means more people have to use less space and limited services such as rest rooms, parking, and transportation.

In Maryland, there is very little publicly accessible waterfront other than the easternmost Atlantic seashore, which is very accessible albeit several hours away from the urban centers of Annapolis, Baltimore, and Washington, D.C.



Photo: Bob Goodwin/Washington Sea Grant

...millions of recreational users are competing with each other, with fishermen, and with multiple other users for space where land meets water.

Fishing piers—often coastal visitors' first experience with ocean fisheries—are included in the working waterfronts description from the N.C. Waterfront Access Study Committee.

Photo: Michael Halminski/Coastwatch





Changing landscape in Wells, Maine
Photo: Catherine Schmitt/Maine Sea Grant

On the Atlantic coast of Maryland and Delaware, the availability of access has not changed, there are simply more people visiting the beach every year. Most of the Chesapeake Bay and its tributaries are lined by privately owned lands with no public access. *“Everyone wants free or low-cost public access until it is in their backyard. There is a fear of too much activity, trash, and any ‘riff-raff’ that might come with access, particularly launching sites.” — environmental planner from Maryland*

In coastal Alabama, those who are employed by the service industry have a hard time finding affordable places to live close to where they work, placing burdens on transportation systems, increasing commuting times and traffic, and fragmenting communities.

In New Jersey’s residential shorefront communities, the lack (or prohibition) of parking and restroom facilities severely limits or prohibits public access to both oceanfront beaches and bay shorelines. Unmentioned, unmarked, or deliberately hidden access paths to the shoreline are common, adversely affecting public access.

Crowding the Coast

Loss of public access and conflicts over waterfront uses and activities could be viewed as the natural result of population growth in the coastal zone, which is now home to approximately 153 million people—more than half the U.S. population.

Yet at the root of the changes affecting our coast, and access to it, is not just more people, but different demographics (wealthier and older) and related development pressure (private residential and rental construction). In the next few decades, coastal areas will see a growing proportion of older Americans, as the number of people over 65 is projected to grow 147% over the next 50 years. These newcomers and transplants are drawn to the coast for reasons other than economic ones (i.e., not for natural resource-based or industrial employment).

Those who responded to the survey overwhelmingly cited rising property values and taxes, followed by construction of condominiums and second homes, as the greatest drivers of waterfront transformation and resulting changes in public access.

In Briny Breezes, Florida, a real estate investment company wants to build 90 low-rise million-dollar condominiums, a marina, and a 300-room luxury hotel on 43 acres of barrier island in south Florida. The trouble is, a community of 500 mobile homes already occupies the site. These residents, mostly retirees, are struggling to decide whether to stay or sell at a significant profit. In Mayport, developers are buying waterfront to construct condominiums, pushing out the wholesale fish houses. Elsewhere in Florida, a boatyard was offered \$50 million by a condominium developer, an amount almost impossible to refuse. The trends are the same for the rest of the Southeast, which is the top destination for retirees.

Even in the Great Lakes, mom-and-pop cottages or old industrial sites with deep-water access are being converted into multi-story condominiums, in some cases subsidized by state brownfields funds.

In Oahu, Hawaii, beachfront homeowners are selling to real estate companies, who then rent out the houses to vacationers, a practice of questionable legality in areas that are not zoned for seasonal housing.

The New Jersey coastline’s proximity to the urban corridor and continued transportation development are contributing to a shift from industrial to residential development.

These changes are driven by changing coastal real estate markets. Not only does affordable housing become an issue as land/property values rise, but affordable land for ANY kind of coastal dependent activity is similarly constrained.



A boardwalk between a private condominium development and the shore ensures continuous public access; a brick planter separates public and private spaces, while permitting clear views of, and from, ground floor units. Photo: Bob Goodwin/Washington Sea Grant



Once a hub of commercial fishing, the city of Hampton, Virginia, now hosts many pleasure craft and recreational boats. Photo: Erin Seiling/Virginia Sea Grant

Loss of public access and conflicts over waterfront uses and activities could be viewed as the natural result of population growth in the coastal zone, which is now home to approximately 153 million people—more than half the U.S. population.



Photo: Melissa Schneider/Mississippi-Alabama Sea Grant

Legal Frameworks Complicate Access Issues

In the majority of states, everything seaward of the shoreline is public, and everyone has a right to be on the beach, although there is still a challenge getting to the beach. The Public Trust Doctrine is a common-law principle that supports the general public's right of coastal access for certain coast-dependent activities. While the Public Trust Doctrine has certain elements that apply to all states (i.e., the state holds certain legal interests in the coastal area for the benefit of its citizens), each state applies the Public Trust Doctrine in accordance with its property law and historical background. In a handful of states, shorefront property owners hold title to the intertidal zone and the public in these states has the right to access the intertidal only for certain purposes. Within such complicated legal frameworks, public use of private property is not necessarily a "right" under current laws.

A related challenge is that marine enterprises traditionally require a lot of land, and cannot by their nature use land more efficiently (such as by switching to multi-story operations). While marine industries could relocate to more affordable locations, those areas are often occupied by residential uses, conservation land, or other industrial uses.

In the Pacific Northwest, for example, some water-dependent enterprises are moving from fast-growing metropolitan shorelines to smaller, more peripheral urban harbors. In Massachusetts, the opposite is happening: small fishing communities have been moving and consolidating to larger fishing towns like New Bedford or Gloucester. In smaller communities, where smaller boats are still working commercially, there is competition over moorings. *"The pressure is so great that fishermen have to put their baby's name on the mooring as soon as they are born in order to secure a spot."*—survey respondent from Massachusetts

The result of these demographic and development trends is that less of our coastline is accessible to the majority of Americans (especially low-income Americans and Americans with disabilities). As waterfront-dependent uses are displaced by "waterfront-desirable" uses, private docks and marinas are built at the expense of public ramps, and access is eliminated, restricted, or else becomes cost-prohibitive.

Canals through the Louisiana tidewaters historically were dug by private interests but utilized by fishermen. Now, landowners are blocking access or installing tolled gates across the canals, actions that have been supported by court rulings. Riparian owners are claiming ownership of water bottoms, prohibiting access to crabbers and crawfishermen unwilling to pay a fee. Shorelands held in the public trust are being converted to private ownership through reclamation.

Public access to the shoreline on Maui was historically largely across private property. Over the last decade, access to Maui's shorelines is becoming more restricted as residents erect fencing, remove signs, allow vegetation to obscure access points, or post security personnel to block the public's access to the shore (in the case of some hotels). County governments are hesitant to enforce laws which guarantee the right of public access to the sea, shorelines, and inland recreational areas, as well as transit along the shorelines, and to provide for the acquisition of land for the purchase and maintenance of public rights-of-way and public transit corridors.

Perhaps the most famous case of blocked public access is on the beaches of California. For years, homeowners in Malibu have posted "private property" and "no trespassing" signs on public portions of the beach, and some went so far as to hire private security guards. In June 2005, property owners at Malibu's Broad Beach bulldozed public portions of the beach, moving sand onto their property and in effect eliminated the public beach. The Attorney General for the State of California filed suit on behalf of the Coastal Commission and State Lands Commission against the landowners for violation of the state's Coastal Act, interference with legal public access to the beach, and conversion of beach minerals. The trend has spread to other areas, including Pismo Beach, where existing public access paths are being fenced and closed by property owners.

Clearly, coastal property owners and residents have rights, although those legal rights vary from state to state (◀ see box).



Photo: Melissa Schneider/Mississippi-Alabama Sea Grant

There are costs and liabilities associated with public use of private property—police, beach cleaning, etc. Property owners may not want "their" beach being treated—and promoted—as a public area. With more people moving to small communities, the system of access that once functioned quite well between locals and long-time property owners is failing in some areas. Even where land was privately owned historically, there is less tolerance for traditional shared uses, such as fishing and beach access. Those who already live on the coast fear that their neighborhoods will be torn up to make way for parking and restroom facilities, and for busloads of day visitors. They are concerned about liability, habitat degradation, and loss of privacy and tranquility.

Life on the Edge

Coastal population and development increases can result in habitat loss and water quality degradation. While the coastal population is not growing that much faster than in the rest of the country, the nature of the coastal landscape means there is less land available to accommodate increased growth. With fewer areas available for public use, existing state parks and conservation areas are under more pressure, with resulting impacts on wildlife and natural resources. In many areas, these pressures are exacerbated by sea level rise and coastal erosion, since much of what land is available is ecologically sensitive and valuable habitat, such as salt marshes, sandy beaches, dunes, and bluffs. The human dimension of our coastline involves complex relationships with natural forces (see box ▼).

Sea level rise

For the average observer, rising sea level is a difficult concept to grasp. A change of one centimeter per year is imperceptible and, as humans, we tend to perceive our surroundings as permanent. According to a 2000 report by the Heinz Center for Science, Economics and the Environment, hundreds of thousands of homes within 500 feet of the United States coast may be lost to rising seas over the next 50 years. The most recent assessment by the Intergovernmental Panel on Climate Change projects that global sea levels will rise another .18 to .59 meters by the end of the next century (this projection does not include potential contributions from melting of the Greenland ice sheet). In some parts of the U.S., the effects of global sea level rise are magnified by local erosion, subsidence, and other natural and human-directed processes.

For example:

- The outer banks of North Carolina are already collapsing.
- Sea walls are going up in Florida, as tons of sand are dumped onto beaches in futile attempts to replenish eroding shorelines.
- Hawaii has lost 25% of its beaches in the last 50 years.
- In Alaska, projects designed to armor shorelines against erosion directly block access to the coast, further impeding access when they become damaged, and they present safety and aesthetic concerns.
- On Texas beaches, erosion is changing the boundaries between public and private lands.

The goal of this report is to highlight the national extent of coastal access conflicts and present solutions, rather than specifically analyze the environmental impacts of coastal access. However, many survey respondents see environmental effects as integral to the conversation about access. In their view, it could be said that we are loving our coast to death, as wildlife and their habitats will experience the ramifications of taking no action to address coastal access conflicts in the United States.



Marina in New Bern, North Carolina
Photo: Natalie Springuell/Maine Sea Grant

"Providing access to shorelines is a double-edged sword. We are finding that as shoreline access is opened, the marine resources become depleted quickly."
—survey respondent from Hawaii

“If citizens don’t have access to the water, they won’t care about the quality of that water.”
—survey respondent from Maryland



Photo: Shutterstock

The Do-Nothing Scenario

How accessible will our coastlines be in the future? While the information provided by the survey is from a small number of people around the country, all of the respondents perceived a real increase in access conflicts and offered dire predictions for the future of our coasts if no action is taken to address these conflicts:

- Without space to dock or moor their boats or sell their catch, commercial fishermen will be forced to relocate or get out of the business.
- As working waterfronts decline and second home ownership and vacation rentals increase, communities will lose seasonal vibrancy.
- An aging demographic will strain local economies.
- Where local economies are now based on tourism, communities will struggle to retain the working waterfront, which is a draw to tourists yet is often assessed at a lower property value and thus threatened by pressure of conversion to tourism-based uses.
- Changing demographics in coastal communities may alter attitudes towards traditional uses, such as aquaculture. Aquaculture and similar activities, especially those that interfere with navigation or views from land, will face mounting opposition from “sophisticated opponents.”
- A continued shift towards privatization will increase conflict between residential and industrial users of the waterfront, often at the expense of lower-income families. People in the work force will be unable to afford to live in coastal towns. Access will be lost completely, or else limited to waterfront property owners and those who can afford rising costs of parking, fuel, entrance fees, boating fees, etc.
- A lack of enforcement and planning will result in increased litigation over private versus public rights.
- Unless continual and accelerated investments are made in recreational access to the shoreline, the per capita share of access will be eroded by sustained high population growth. At the same time, putting more and more boats onto inland waterways will cause further congestion and diminish the quality of the boating experience for everyone.
- Communities wishing to preserve access will face mounting costs of land and infrastructure maintenance. Beaches and parks may be closed if states and towns do not have the funding or staff to manage public access areas.

Pressure on resources will degrade fish and wildlife habitat, air and water quality. Degraded water quality will negatively affect the remaining water-dependent uses. Wildlife populations will decline if tourism in coastal areas continues to grow without limits. At the same time, further reduction in public interface with the water will result in poorer stewardship of our environment. Visitor experience and expectations will change. Fewer will care about the coast because fewer can access it.

With continued building on the coast, damages from natural disasters will be more costly for everyone, especially if we continue to rebuild in coastal areas that have been devastated by a natural disaster. In this case, we already have a graphic, terrible example of what happens when we do not address human interaction with the coast: Hurricane Katrina.

SPECIAL SECTION

Decreasing Access to the Coastal Zone in a Post-Hurricane Landscape

Waterfront Access in the Gulf of Mexico: Before the Hurricanes

Before the devastating hurricane season of 2005, the Gulf of Mexico region was facing mounting coastal access challenges. U.S. Census figures traced an influx of people to the southern states, including Florida, Alabama, Mississippi, Louisiana, and Texas. Most of these people were rushing to the coastal margins, increasing demand for commercial and recreational development in areas once considered valuable only to the fishing industry, for forest products, as open range, or simply not suitable for permanent habitation. The coastal counties, previously insulated from national growth trends with economies dependent on small fish, shrimp, and crab harvesters, were facing more intense development. Mirroring national trends, access to coastal waters, wetlands, and beaches had become more difficult for both the commercial fishing industry and marine-oriented facilities, not to mention the secondary impacts of erosion and pollution.

Coastal communities throughout the Gulf of Mexico have undergone a socio-economic transformation as well. Even before the hurricanes, the cultural identity of a location known for its working waterfronts essentially no longer existed. The economy had already become based on the service industry, catering to seasonal residents, absentee homeowners, motels, resorts, and leisure activities. Processing plants and docks that once were the foundation of the seafood industry were a lesser element within a 21st Century business complex of T-shirt shops, fast food restaurants, and sun-and-sand recreation. This phenomenon was nowhere more evident than in Harrison and Hancock counties in Mississippi and from Destin to Panama City, Florida. In Mississippi, while casinos and resorts had rejuvenated an area of high unemployment through creation of higher paying jobs, those residents who could not or did not participate in the boom were displaced as land values, higher taxes, and buyouts compelled them to move inland.

Demographic changes within the commercial fishing sector further complicated the overall picture. Younger generations chose other careers as recent immigrants replaced traditional fishing enclaves. Moreover, a decline in the fishing sector was, and is, attributable to globalization of the industry and cheaper imported seafood. All this took place at a time when insurance premiums, fuel, supplies, and labor continued to rise and boats were blocked from waterways they had been using for almost 100 years.

Recreation and charter boat fishing were important industries in the Gulf Coast states, as well as culturally important activities. Gigging flounder, netting soft-shell crabs, harvesting oysters, and cast-netting from banks were all important to both the culture and economy of the region, and all required access to the diminishing coast. Coastal kayaking and canoeing along the Gulf Coast were becoming more popular, conflicting with high-powered leisure craft and work boats.

This was the picture before Hurricanes Katrina and Rita.



Photo: Louisiana Sea Grant Program

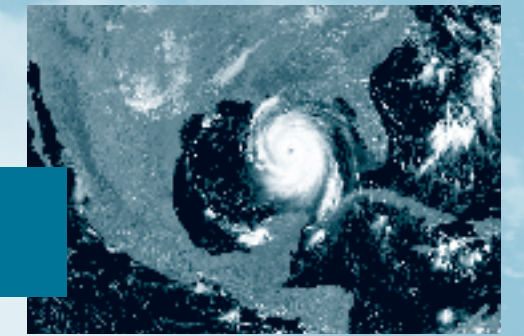


Photo: NOAA; Background photo: NASA



Photo: Rodney Emmer/Louisiana Sea Grant

Even before the hurricanes, the cultural identity of a location known for its working waterfronts essentially no longer existed.



Above photos: Natalie Springuel/Maine Sea Grant

Views of inundated areas in New Orleans following breaking of the levees surrounding the city as the result of Hurricane Katrina. Photo: NOAA/Lieut. Commander Mark Moran



The landscape was characterized by foundations, slabs, piles of debris, and houses that floated from their foundations.



Aftermath in Biloxi Photos: Natalie Springuell/ Maine Sea Grant

A New Meaning to Coastal Access: After the Hurricanes

Decreasing access to the coastal zone of the Gulf of Mexico conjures images of public marinas being replaced with private clubs, seafood processing plants and commercial docks being converted to restaurants and casinos, and condominiums rising from sand dunes, blocking views and closing traditional paths to the shoreline. These trends have not gone away. Instead, their impact has been magnified by the hurricane disasters of 2005.

Hurricanes Katrina and Rita were the most destructive and costly natural disasters in U.S. history. Wind, rain, and storm surge demolished homes and businesses and claimed the lives of over 1,300 people. As a result of the hurricanes, major parts of coastal Louisiana and Mississippi were destroyed. Post-hurricane reports used common descriptors to capture the horror: “demolished, obliterated, decimated.” Communication was non-existent or incapacitated because telephone lines and cell phone towers were down. Dispatch services for police, fire, and emergency were destroyed at the time they were needed the most. The landscape was characterized by foundations, slabs, piles of debris, and houses that floated from their foundations. From Texas to Alabama, beached vessels, collapsed bridges, uprooted trees, and other debris littered the ground and lakes and blocked waterways. In coastal Mississippi and Alabama

the receding storm surge carried debris and contents from demolished homes and businesses into Mississippi Sound.

In Florida, the combined impacts of recent hurricanes were also substantial and statewide. The Florida marine and boating industry is an \$18.5 billion enterprise that incorporates the recreational and commercial boater, marinas, boatyards and supporting infrastructure, and there are currently over one million registered recreational boats in Florida, more than 2,000 marinas, and thousands of small marine and boating retail businesses. Hundreds of marinas suffered damage, with many destroyed. Thousands of boats were either damaged or destroyed. An industry economic impact assessment indicated losses to this infrastructure at well over \$1 billion.

Coastal access gained a new meaning in this post-disaster world, first in Louisiana and Mississippi, but by extension to the other hurricane-prone coastal states. Hurricane storm surge sank the fishing fleet and recreational and commercial vessels and swept debris into waterways, blocking navigation canals, harbors, and launches. Roads, bridges, docks, ice plants, and support facilities were destroyed. Consequently, when the survivors returned to fish, crab, or shrimp, they did not have access to the estuaries, offshore, or supplies. New issues immediately emerged as a result of the disasters. How to remove boats from the navigation channels and marshes? Where to store boats so they can be reclaimed and repaired, or disposed? Where to purchase ice for the boat? Who should clear the roads and rebuild docks and bridges so products can be offloaded, sold, and moved to markets across the United States?

Local governments' first responsibility was search and rescue, evacuation, medical services, firefighting, law enforcement, and pollution abatement. When the situation was stabilized, public and private attention turned to recovery. Emergency crews began removing debris, waste, and hazardous materials in order to repair vital infrastructure, e.g., power lines, communication networks, sewage plants and lines; stabilizing or rebuilding bridges and roads; and draining flood waters. The long-term priority is to replace, rebuild, or relocate what was lost with environmentally-designed structures that are stronger and better able to withstand future disasters. Realistically, restoration of impacted commercial and recreational fisheries infrastructure and removal of vessels is not on the priority list.

Access to fishing grounds and rejuvenating the fishery sector depends on a sequence of activities. Roads, harbors, and waterways blocked by boats, debris, litter, houses, and trees must be cleared. The large harbor at Mobile, Alabama, was closed because of debris. If this can happen to a major port, imagine the state of smaller fishing ports that are further removed in time and activity. For example, the Empire waterway and harbor in Louisiana was closed for months after Hurricane Katrina.

Larger ports have the financial ability and political status to receive immediate help. The smaller harbors must wait for the U.S. Coast Guard and the Federal Emergency Management Agency (FEMA) to clear sunken boats in waterways and harbors. Commercial and recreational vessels and boats in the marsh or not in navigable waterways are the responsibility of the owner. Yet abandoned boats are not the only problem. Docks, lifts, launches (ramps), and businesses were destroyed also. Consequently, even if a fisherman could repair his boat and wanted to fish, he could not purchase ice, fuel, or have immediate access to repair facilities. Smaller ports nearest to the fishing grounds and the homes of many fishermen had no power, water, or waste treatment plants for months after the storm. Even when roads were opened, it usually was only one lane for emergency responders. Residents, business owners, and the public were prohibited access to salvage what they could.

Long-term ramifications of the hurricanes include how the reclaimed land will now be rebuilt. For example, in Biloxi, Mississippi, as the damage from the hurricanes is cleared, waterfront land becomes available. Much of this land is now on the market and is heavily targeted for private condominium and casino development. Tourists and gamblers have long come to Biloxi for the casinos, and the hurricanes have drawn even more people in who are curious to see the coast. Water-dependent businesses, such as seafood processing plants, boatbuilders, docks, ice sellers, and marinas, cannot compete with the real estate market. In an unexpected turn of events, the post-disaster building boom, though on one hand a sign of recovery, is also triggering a decrease in public and working waterfront access. In the meantime, damage has resulted in a huge crunch for lodging and visitor amenities and a loss of parking options at the waterfront.

Rebuilding Access for the Fishing Industry and the Public

Florida, Alabama, Mississippi, Louisiana, and Texas are all addressing coastal access issues in several ways. The federal and state governments cannot operate in isolation, and the Gulf of Mexico states are turning increasingly to public/private partnerships to address access issues. Federal and state funds are being appropriated to agencies and local governments to improve access and to protect the renewable coastal resource base. Land is purchased and boat launches with sanitary facilities and trash collection are being built. Marinas are encouraged to participate in offering pumpout stations for their renters and for transient boaters. Universities are conducting research on socioeconomic issues, evaluating public policy and regulations, characterizing the resources, compiling data, and creating online databases that can be used for better management of coastal resources, and making recommendations for improving coastal programs, including access. Finally, attorneys, social scientists, and planners are assessing legal concepts, public policies, and non-regulatory tools that will contribute to building and maintaining a sustainable coast and economic base. One of the applications of these efforts is to suggest processes for streamlining the implementation of restoration and access projects so they may be in place more quickly. Local governments are investigating multiple uses of projects, such as drainage networks that incorporate functioning wetlands. Some suggest that new legislation or other policy actions must be taken and that funding must go to capital investments, such as public wharves and launches.

Over 4,000 commercial vessels in the area were destroyed, damaged, and or washed on shore. Photo: NOAA/ Collection of Wayne and Nancy Weikel, FEMA Fisheries Coordinators



Photo: Melissa Schneider/Mississippi-Alabama Sea Grant



Stranded boats Photos: Louisiana Sea Grant Program

Marine extension agents can make a difference during recovery after a disaster by helping the fishing community gain access to their boats, marinas, and supplies.

Sea Grant Programs Address Coastal Access in a Post-Hurricane Landscape

Outreach and education remain important missions for the Sea Grant programs. Brochures, publications, workshops, and meetings are used to define coastal problems, propose solutions, and provide data. Marine extension agents can make a difference during recovery after a disaster by helping the fishing community gain access to their boats, marinas, and supplies. Hazard response and recovery is a relatively new issue for Sea Grant, and one that required innovation and initiative. Hopefully, these experiences will inform other Sea Grant extension programs when similar assistance is expected of them after a hurricane or other disaster strikes their state.

Louisiana Sea Grant

Louisiana Sea Grant focused on activities that would expedite the safe return of the commercial and recreational fishermen, including collaborating with FEMA Disaster Reservists by providing reliable and timely information to fishermen wanting to get back to work, helping displaced residents wade through the system to obtain travel-trailers, and helping restore infrastructure and providing support to out-of-state rescue personnel. Louisiana Sea Grant also organized a team of public and private partners to mark dangerous hurricane debris in the waterways with orange buoys and PVC pipe and collect GPS coordinates for future removal.

As a result of hurricanes Katrina and Rita, all of the ice plants were destroyed, eliminating the ice-making and storage capacity in the coastal zone. Shell Oil Company, a significant oil and gas producer in Louisiana and throughout the Gulf of Mexico, donated \$500,000 for purchase, delivery, and installation of three industrial ice machines that could produce 20 tons of ice daily. Louisiana Sea Grant worked with Shell Oil Company, the Louisiana Seafood Promotion and Marketing Board, and the Louisiana Department of Wildlife and Fisheries to find locations and operators for the ice-making machines. The first ice machine was producing ice just under a year after the hurricanes.



Ice plant necessary to preserve commercial fish caught in Plaquemines Parish. Photo: NOAA/Collection of Wayne and Nancy Weikel, FEMA Fisheries Coordinators



With a donation from Shell Oil Co., an ice house was installed at the Port of Cameron. The ice houses previously at the port were destroyed by Hurricane Rita in September 2005. Photos: Louisiana Sea Grant Program



A surplus boat lift is loaded on a truck at Valdez, Alaska, for transportation to Plaquemines Parish, Louisiana. Photo: NOAA/Collection of Wayne and Nancy Weikel, FEMA Fisheries Coordinators



Boat going into water. Photo: Louisiana Sea Grant Program

Because storm surges destroyed launching equipment, even seaworthy boats could not be placed in the water. The Port and Town of Valdez, Alaska, donated a surplus 60-ton Marine Travelift to Plaquemines Parish, Louisiana. Louisiana Sea Grant worked in conjunction with the Washington and Alaska Sea Grant programs, the Pacific Coast Congress of Harbormasters, and the Port of Valdez, Alaska, and others to transport the equipment from Alaska to Louisiana, where it is now helping the fishing industry get back to work.

Finally, Louisiana Sea Grant's outreach efforts included exhibits of storm surge maps highlighting hurricane vulnerability, educational materials (produced with the help of Louisiana Sea Grant Legal Program) about legal issues, such as explanations of FEMA guidelines, state building codes, the National Flood Insurance Program, and similar topics. The first set appeared in April 2006, only seven months after Hurricane Katrina.

Mississippi-Alabama Sea Grant Consortium

In coastal Alabama and Mississippi, already increasing development pressure multiplied in the months after the storms, bringing the issue of working waterfronts, already a concern pre-Katrina, to the forefront in the fishing community. The Alabama Sea Grant Extension, with the Mississippi-Alabama Sea Grant Consortium, organized workshops in both states to discuss the issue and present the efforts of other states. As a result of the workshops, commercial and charter fishing, processing, shipbuilding, real estate and tourism interests formed the Alabama Working Waterfront Coalition. The Coalition provided funding to Auburn University to inventory the working waterfront in Mobile County, Alabama. The inventory will give a snapshot of the status of the working waterfront, as well as provide a tool for community education. The Coalition is also pursuing legislative changes to the current use tax language to include water-dependent and water-enhanced businesses.



Photo: Melissa Schneider/Mississippi-Alabama Sea Grant

Florida Sea Grant

Immediately after the hurricanes, Florida Sea Grant agents assumed leadership roles in official emergency response efforts. For example, in Escambia County, located adjacent to Alabama, marine agents surveyed waterways for navigational hazards, such as damaged markers and sunken vessels. Working with Florida's Clean Marina Partnership and with funding from FEMA, Florida Sea Grant developed the State Marine Assessment Action Response Team (SMART), comprised of self-contained teams of Sea Grant agents who enter areas following a hurricane and help identify navigational/water hazards, assess damage to marinas/boaters, and help in marine/boat recovery efforts. In 2006, Florida Sea Grant implemented the first SMART training in Pensacola with attendees from Texas, Louisiana, Mississippi, Alabama, Florida, and Georgia. Caches of materials for post-hurricane recovery efforts by SMART teams have been stored in strategic locations throughout Florida.

In March 2007, BoatUS and the Marine Industries Association of Florida sponsored a two-day symposium on "preparing marinas for hurricanes." Florida Sea Grant participated and provided financial support. More than 170 marina operators and owners, insurance brokers, retailers, and others within the marine sector attended.

This section was drafted by Rodney E. Emmer, Ph.D., Associate Professor of Research at Louisiana Sea Grant College Program and Louisiana State University, and Lisa Schiavinato, Legal Coordinator of the Louisiana Sea Grant Legal Program. It was edited by Maine Sea Grant, Mississippi/Alabama Sea Grant Consortium, and Florida Sea Grant.

III Solutions and Tools to Address Coastal Access Challenges

The diverse challenges described thus far have inspired an equally diverse array of solutions and innovative tools, some of which have been used with particular success in various parts of the country. In the following section, several tools available to address coastal access conflicts will be introduced through a series of case studies. Though this document does not cover the details of how exactly to apply each tool, the case studies should give the reader a sense of the diverse array of options available. Specifically, this section will cover:

- Land conservation and acquisition tools
- Zoning
- Waterfront mapping and inventories
- Taxation options
- Private individuals or entities addressing public access
- State laws and regulations
- Local government efforts
- Focused studies and planning
- Waterfront revitalization
- Education

These are by no means the only tools available to address coastal access challenges in the United States, but the analysis of survey results revealed that these are the ones most commonly applied with success. Some of the tools are quite new, and hold great promise even if the outcome has yet to be determined. And these tools, as well as this report, should be viewed as a companion to efforts of the Coastal Zone Management Program (see box ►).

Land Conservation and Acquisition

Public or private acquisition of waterfront lands ensures public access in perpetuity through the legal framework of the final sale agreement, for example, through a conservation easement, transfer of development rights, or covenant. The challenge with this approach is the increasingly high cost of waterfront properties, which is an incentive for property owners to sell their land for residential development. Often the success of land conservation lies in public/private or federal/state partnerships with matching funds provided by diverse sources, and in some markets, the funding needs to be raised quickly. A few examples of land conservation projects that also protected coastal access:

NOAA'S COASTAL AND ESTUARINE LAND CONSERVATION PROGRAM (CELCP) was created by Congress in 2002 to provide state and local governments with matching funds to acquire high-priced coastal properties. The first CELCP project successfully protected bird and wildlife habitat and recreational use on the four-mile long Deer Island near Biloxi, Mississippi.

NEW JERSEY'S COASTAL BLUE ACRES PROGRAM is a state funding program to help municipalities protect or restore beaches damaged by storms, while also protecting recreational access. The 1995 bond act that created the program appropriated \$6 million (75% grant/25% loan) for the purchase of undeveloped land that is threatened by future storms, or serves as a buffer to protect other land from storm damage. An additional \$9 million was appropriated for the purchase of land severely damaged by storms (50% grant/50% loan). To be eligible for acquisition, the property must have lost at least half of its value due to storm damage.

Coastal Zone Management and Access

The Coastal Zone Enhancement Program was created under Section 309 of the federal Coastal Zone Management Act in 1990. The program is designed to encourage states and territories to develop programs in several areas, including public access. Section 306A gives CZM programs authority to make grants to coastal states to provide or improve public access.

A 1998 assessment of state CZM Section 309 programs by Rhode Island Sea Grant found that coastal states have given significant attention to access issues. The report also found that, as funding to purchase coastal property has dramatically decreased, emphasis has shifted to technical assistance and public outreach. In their report, Rhode Island Sea Grant recommended that the types of tools and programs used to acquire public access be documented, and that a stronger effort by NOAA to communicate specific public access success of state Coastal Zone Management programs was needed. Hopefully, the solutions described in this section will fulfill, in part, Rhode Island's recommendation.



In coastal North Carolina, working waterfronts include docks for large "head boats" that offer fishing trips & other excursions. Photo: Michael Halminkil/Coastwatch



On the shore of Lake Superior in Grand Marais, Minnesota Photo: Bob Goodwin/Washington Sea Grant

LAND TRUSTS sometimes work with communities to protect waterfronts. One particularly successful example is from Grand Marais, Minnesota, where much of the harbor and shoreline were protected from development by land trusts. The land is now maintained as parks, a municipal campground, the harbor itself, and other uses open to the public. In Hawaii, the Maui Coastal Land Trust has been very successful in acquiring conservation easements on critical coastal parcels (see Case Study: ▼), and a Maui developer who planned 52 residences on a coastal parcel redesigned his project to better accommodate the community's vision of preserving coastal access. After the public outcry in response to his original design, as well as through education provided by University of Hawaii Sea

Grant, the developer cut back the number of residences to 13, and dedicated 20 acres (1,300 feet of sandy shoreline) as a public conservation easement, complete with public access road and parking lot, to the Maui Coastal Land Trust. This easement includes all of the coastal land on the property; the closest structure will be over 400 feet back from the shoreline.

CASE STUDY: The Maui Coastal Land Trust

Recent acquisition of 277 acres of coastal land at the former Waihe'e Dairy property ensures the site, once slated for development as a destination golf resort, will be forever conserved for recreation, archaeological preservation and education, as well as habitat for native plants and animals. The 250-acre Waihe'e Coastal Dunes

and Wetlands Reserve will conserve and protect over 24 acres of coastal spring-fed wetland, 103 acres of dune ecosystem, and more than eight acres of riparian habitat for the recovery of native birds and vegetation. In recent years, at least six endangered species, including the Hawaiian stilt and Hawaiian coot, and two endangered plants have been reported from the site. The public will always have access to the more than 7,000 feet of Waihe'e Reserve shoreline. The Waihe'e Reef, one of the longest and widest reefs on Maui, is an extensive system that parallels the shoreline along the northeast side of the property. This system provided an excellent fishing site in ancient Hawaii and is still a favorite among fishermen.

A conservation easement now protects this waterfront area with a 400-foot setback Photo: Zoe M. Norcross/Hawaii Sea Grant



CONSERVATION EASEMENTS, a traditional land conservation tool, can also be used to protect working waterfront properties. In Maine, the York Land Trust partnered with lobstermen to purchase and protect a traditional fishing dock and adjacent plot of land. The land trust holds a conservation easement protecting the scenic view and water quality, and the lobstermen own and operate the dock and property for commercial fishing. Similar partnerships are being encouraged through a state bond program for protecting waterfront used for commercial fishing activities (see Case Study: ▼). Proposed federal legislation, the Working Waterfront Preservation Act, was reintroduced on March 1, 2007 (at the time of this writing, the bill was under consideration by the Senate Finance Committee).

CASE STUDY: Maine's Working Waterfront Bond

Only 25 miles of Maine's 5,000-mile coastline are currently still available for working waterfront use, and much of this area is in private hands and vulnerable to real estate market trends. The Maine Working Waterfront Coalition, made up of more than 100 organizations and individuals, mounted a well-publicized campaign to address the issue. As a result, a widely supported state referendum was passed in 2005 to allocate \$2 million of bond funds towards the protection of working waterfront lands. The bond, Land for Maine's Future, had historically required public access in its funded projects but did not specifically address working waterfronts. The funding assists both municipal governments and/or private efforts in meeting the sale value of working waterfront properties. It also retains a working waterfront covenant on the land, which ensures the parcel remain a working waterfront property in perpetuity. Of the 100 or so inquiries in 2006, the program was able to fund the protection of six properties dedicated to commercial fisheries access. Though the number of initially funded projects is small, there is widespread interest and support for extending the program.



Pier in York, Maine Photo: Catherine Schmitt/Maine Sea Grant

Zoning

Zoning enables communities to designate permitted use of lands within a certain area, and map these uses as distinctive from other parcels of land. Zoning is often applied to areas of a town or municipality that local government wants to maintain as open space, residential, commercial, or industrial use, and it may regulate anything from housing density to building height. Through zoning, towns and cities can designate how specific parcels of land can be used. For example, recreational zoning can be used for protecting public access to waterfront lands for boating or swimming. Marine zoning is a powerful tool for towns whose commercial waterfront is being converted to private or residential areas; Annapolis, Maryland has used zoning to ensure the economic and cultural health of its waterfront, and Virginia communities are utilizing build-out analyses to help plan their futures.



Photo: Shutterstock



Chesapeake Bay Bridge
Photo: NOAA/Rich Bourgerie

CASE STUDY: In Maryland, Maritime Zoning Districts Protect Heritage and Stimulate Business

Annapolis, Maryland, “America’s Sailing Capital,” likes to claim that it is home to more maritime businesses than anywhere else between Newport, Rhode Island and Fort Lauderdale, Florida. Apart from state government (Annapolis is the state capitol) and the U.S. Naval Academy, the city’s maritime industries, both commercial and recreational, are significant contributors to the economy. Perhaps even more importantly, Chesapeake Bay culture is the heart and soul of the city and its Eastport neighborhood.

Annapolis’s success as an active mixed-use harbor is the result of foresight and planning on the part of city managers over 20 years ago. As early as the 1970s, Annapolis already faced what today seems to be ubiquitous throughout the nation’s coastlines: demand for waterfront property for condominium development was consuming shorefront lands traditionally used by working boatyards and other commercial marine services. At the time, zoning laws allowed mixed uses in the maritime districts. World War II-era boatyards were sold or subdivided, and non-water-dependent uses began filling in, thereby changing the character of the city’s 150+ year heritage as a major East Coast maritime center.

In 1987, Annapolis passed a new zoning law to protect the commercial waterfront, creating “Maritime Zoning Districts” to encourage maritime business to locate on the waterfront. As a result, Annapolis and its Eastport community are bustling with boatbuilders, sailmakers, marine mechanics, welders, yacht brokers, and marine architects on a commercial waterfront that continues to thrive and grow.

As a cautionary note, Eastport is not immune to current rising property values. Watermen are finding it harder to maintain their waterfront properties. While zoning has helped keep the actual waterfront free of condos and high rise hotels, nationwide trends in rising property values may force Annapolis to look for new ways to keep its fishermen afloat.

CASE STUDY: Zoning Build-outs used as Graphical Tools in Virginia

In the coastal zone, land use *is* water use. Upland development decisions impact not only water quality, but also the amount and quality of water access sites available for myriad uses. Residents often assume that their community’s zoning regulations will protect them from inappropriate development. A graphical representation of development of all buildable land under current zoning, and how the development pattern influences water quality and access, can help citizens understand the implications of existing policy. This “build-out analysis” allows the community to glimpse its future if all land is developed to the maximum extent allowed under current regulations. Utilizing a matching grant from EPA’s Smart Growth Program, Virginia Sea Grant initiated the completion of a Geographic Information System (GIS) build-out analysis for Lancaster County, Virginia. The project, “Developing a Vision for Land Use and Waterfront Access in Lancaster County,” produced a graphic representation of what Lancaster County would look like if all parcels of land were developed as currently zoned, informing the upcoming dialogue concerning revisions of the county’s Comprehensive Plan.



Amory’s Seafood has operated on the Hampton, Virginia, waterfront for over 80 years. Once a hub for commercial fishing and seafood processors, Amory’s is one of the last vestiges of the former Hampton industry. Photo: Erin Seiling/Virginia Sea Grant

Waterfront Mapping and Inventories

Many states report using inventories and mapping for everything from education about public access launch ramps to monitoring conversion of working waterfront lands into other uses. The foundation of nearly any planning for waterfront access starts with an inventory of existing access and ownership patterns. Inventories are conducted by state agencies and nonprofits. They cover public and private infrastructure, and are used in public education, needs assessments, and policy discussions. The evolution of GIS has provided coastal managers with a simple graphic display tool generating a visual interpretation of data; a spatial database management tool for complex inventories; and a robust data analysis tool for policy decisions and long-range planning. The following examples from throughout the country were reported as successful uses of mapping and inventory tools (this is far from a complete list of mapping initiatives):

- The Florida Fish and Wildlife Conservation Commission is compiling a statewide inventory of access facilities.
- The New Jersey Department of Environmental Protection has completed an inventory and map of all public access points.
- Georgia Sea Grant developed the state’s first coastal access inventory, including all existing docks, and plans to publish a guide for the public based on the inventory and provide the results to coastal and upland decision-makers.
- Mississippi Sea Grant, along with the new Working Waterfront Coalition, is funding an inventory and GIS mapping project of existing public and private facilities, as well as projected needs for recreational commercial boating on the Mississippi coast.
- In Minnesota, state parks along the Lake Superior coast have created maps showing locations of all public launches, as well as private launches that allow emergency access for small boats.
- The South Carolina Office of Ocean and Coastal Resource Management is collaborating with Clemson University on a public beach access/infrastructure inventory, and the South Carolina Department of Natural Resources recently conducted a boat ramp infrastructure survey.
- In Maine, the private nonprofit Island Institute recently completed an in-depth mapping analysis of access in all coastal towns in the state. The maps cover public and private infrastructure, marine zoning, boatyards, marinas, private fishing docks, and more. The maps are helping make the case for public support for working waterfront access initiatives by providing concrete statistics on, for example, the amount of private land with access points that is under threat of conversion.
- Washington’s Interagency Committee on Outdoor Recreation has a Web-based mapping tool that provides information about marinas and boat ramps in western Washington waters. In addition, the Department of Ecology’s BEACH program is currently mapping all public access in Washington’s coastal zone as part of the Boundaries Project.
- The California Coastal Commission produces the California Coastal Access Guide, a book of information and maps that identifies coastal public access sites. In some cases, the publication has been helpful in preserving public access to sites that were otherwise unknown by the public.
- In Louisiana, the Office of State Lands is conducting a legislatively-mandated survey of public and private lands, including water bottoms, in an attempt to clarify public/private boundaries.

The foundation of nearly any planning for waterfront access starts with an inventory of existing access and ownership patterns.



Maine coastal home. Photo: Natalie Springuel/Maine Sea Grant

Eastport, Maine Photo: Catherine Schmitt/
Maine Sea Grant



Photo: Clipart.com

Taxation options

Land value increases are usually accompanied by rising property taxes. In many cases, even if landowners want to hold onto their parcels, they simply can no longer afford the taxes that, in some cases, have doubled, tripled, even quadrupled in just a few short years. Most regions reported rising property taxes as a chief driver of conversion of waterfront property to private ownership that often eliminates public access. New tax schemes can be used as an incentive to protect lands that are assessed according to a particular use. Maine has recently gone down this road, and Mississippi and Alabama are considering the option.

CASE STUDY: Current Use Taxation Targeting Maine's Working Waterfront

Traditionally, waterfront lands are taxed at their highest and best use, meaning they are taxed at the potential that they could make in their most remunerative form (usually private residential). Taking a cue from open space and tree growth taxation, Maine now has a current use taxation program for working waterfront lands. As of April 2007, landowners can apply to have their commercial fishing-related parcels of land assessed at current use rather than "highest and best" use. The initial concept was approved by voters and passed through the legislature, although it has become apparent (through a series of Winter 2007 workshops hosted by Maine Sea Grant, the Maine Revenue Service, and several other members of the Maine Working Waterfront Coalition) that there are several kinks to work out before the program has a marked impact on protection of working waterfront.

CASE STUDY: Alaskans Tax Cruise Ship Passengers Accessing their Ports

The most traditional approach to using taxes as a tool to protect waterfront access is when taxes are used by government entities to collect funds for particular programs. However, such taxes need not be limited to increases in property, income, or other taxes levied on citizens. They can be fees levied on particular uses that generate funding for the management of that use. Historically, cruise ships traveling in Alaska paid no state taxes on income generated while in Alaskan waters. In August 2006, Alaskan residents voted to tax each cruise ship passenger \$46 to offset the costs of monitoring and support to these vessels incurred by the waterfront towns who host them. The tax will go into effect Summer 2007, so the level of success is yet to be determined, but taxes are one way to generate funding for the maintenance of coastal infrastructure.

Private individuals or entities protecting public access

Throughout the country, there are many waterfront landowners and private organizations who are committed to public access. Sometimes this translates into landowners managing their private lands with the public in mind. One example of this is in Hawaii, where private landowners have removed encroaching vegetation to ensure lateral access along eroding shorelines. A new pier in Providence, Rhode Island, has been dedicated for public access as part of a new redevelopment project. In many other cases, groups of individuals may band together to raise funds to protect a particular waterfront area for public enjoyment. For example in Florida, the Cortez Commercial Fishing Festival has been an important educational opportunity, as well as a source of revenue for purchase of environmentally sensitive lands immediately adjacent to a historic fishing village.

CASE STUDY: Coastal property owners in Maine seek common ground rather than rely on litigation

A cooperative beach management agreement for the protection of piping plover habitat was achieved in the Town of Wells, in which coastal property owners voluntarily provided access for specific types of activities needed to protect the endangered bird. The cooperative agreement, which provides a model for other towns in Maine, resulted from cooperation of representatives from the town, federal and state fish and wildlife agencies, Maine Audubon Society, and property owners.

CASE STUDY: Fishtown: Where Locals, Tourists, and Fishermen Meet

Imagine fishermen going about their business on an active wharf, alongside tourists who take pictures and marvel at the rustic nature and authentic fishy smell of it all. Welcome to Fishtown, on the shores of Lake Michigan in Leland, Michigan. Fishtown is an important tourist attraction, with its ice houses, fish houses, smoke houses, and fishing tools, both modern and historic; its active fishing dock, where whitefish and other species have been processed, purchased, and sold since the 1900s, where charter boats head out daily and where fishermen still land their catch.

Fishtown had already been placed on the State and National Register of Historic Places when the longtime commercial fishing family and owners decided they had to sell the village, including buildings, boats, and fishing licenses, despite their traditional commitment to public access and preserving cultural heritage. In response, local citizens formed the Fishtown Preservation Society, a nonprofit organization with a mission to raise \$4.5 million to protect Fishtown's heritage for the public. The Society surpassed its fundraising goals thanks to an outpouring of support from individuals, foundations, and good old-fashioned fundraising, including "Save Fishtown" buttons. In February 2007, they had successfully raised enough money to purchase the property from the sellers who were thrilled to ensure the protection of their family's Great Lakes commercial fishing heritage, rather than sell the property on the open market. The future of Fishtown includes maintenance of historical structures, and interpretation and education programs on the wharf. And of course, Fishtown will keep on being what it has always been about: fishing.

State laws and regulations

State governments are a central player in how access is managed at the town, county, and statewide level. Several states have passed laws declaring public rights to access the shore (examples on pages 24 and 25 include Texas, California, and Washington). As an alternative, state legislatures can pass laws that address what uses are compatible with the goals of waterfront management, such as Florida's recent Working Waterfront Legislation.



Piping Plover Photo: Gene Nieminen/U.S. Fish and Wildlife Service

Throughout the country, there are many waterfront landowners and private organizations who are committed to public access.



Photo: Clipart.com

CASE STUDY: Florida Working Waterfront Legislation Protects Fisheries and Recreational Coastal Access

In Florida, there are more than one million registered boaters in the state, and boating access infrastructure, already overtaxed, is facing a wave of waterfront privatization that threatens two Florida traditions, commercial fishing and recreational boating. Competition for once-abundant space on the water has increased, with growing conflicts

among user groups and with marine resources such as manatees, sea grasses, and corals. After a fitful beginning, the Florida Legislature began to confront the access issue by passing the 2005 Working Waterfront Legislation. Key to the legislation is its definition of a working waterfront: a “working waterfront” can be either recreational or commercial in nature, and is “a parcel of real property that provides access for water-dependent commercial activities or provides access for the public to the navigable waters of the state.” Some examples are docks, wharves, lifts, wet and dry marinas, boat ramps, boat hauling and repair facilities, commercial fishing facilities, boat construction facilities, and other support structures on the water. Thus the term “working waterfront” in Florida has been expanded to include waterfronts that serve the access needs of recreational boaters, as well as commercial maritime industries.

The new legislation has provisions that require local governments to address public access through the comprehensive planning process. The new legislation also codifies the Waterfronts Florida Partnership Program, a cooperative arrangement between the Florida Department of Environmental Protection and the Florida Department of Community Affairs, that assists certain designated coastal communities with a variety of issues related to their waterfronts, including revitalization and the provision of public access. The legislation also includes a complex property tax deferral program that local governments may adopt and apply to “working waterfront” property, enabling waterfront owners to defer paying property taxes until there is a change in ownership or use. Finally, the law directs the Florida Department of Environmental Protection to survey state parks for additional public access capacity.

According to the **TEXAS OPEN BEACHES ACT**, the dry sand portion of Gulf Coast beaches below the vegetation line is guaranteed open to the public, even if the upland is privately owned. The Act declares it to be “public policy of this state that the public, individually and collectively, shall have the free and unrestricted right of ingress and egress” to the state’s beaches. The Act further makes it illegal for landowners to create any barriers or erect any signs that state the beach is private. The challenge for the state is a lack of enforcement, especially when the shoreline changes as a result of storms and erosion. As the coastline disappears, shorefront homes can violate the act if they are found to be seaward of the line of vegetation. Lawmakers addressed the issue in 2003 by providing a two-year grace period to enable property owners to salvage their homes and property.

California manages coastal access through the **CALIFORNIA COASTAL ACT**, state-wide legislation implemented by state agencies and, more recently, an increasing number of partners. The California Constitution states: “No individual, partnership, or corporation claiming or possessing the frontage or tidal lands of a harbor, bay, inlet, estuary, or other navigable water in this state shall be permitted to exclude the right of way to such water whenever it is required for any public purpose and the Legislature shall enact such law as will give the most liberal construction to this provision so that access to the navigable waters of this state shall always be attain-

able for the people thereof.” The state’s goals for the coastal zone are to “maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners.”

As for implementation, the California Coastal Commission has planning and regulatory powers. Local governments must develop Local Coastal Programs in accordance with the Act’s access policies, and these plans must be reviewed and certified by the Commission. The California Coastal Conservancy also implements the Act, not through regulatory powers but through its authority to acquire land and provide technical and financial assistance for access. The Act was strengthened in the 1990s, giving the Commission the power to issue “cease and desist” orders to end violations, remove unpermitted development, and require restoration where coastal resources are damaged. Cease and desist orders issued by the Commission have resulted in the removal of unpermitted “private property” signs and fencing.

WASHINGTON’S SHORELINE MANAGEMENT ACT, adopted by public referendum in 1972, has three broad policies: to encourage water-dependent uses, to protect shoreline natural resources, and to promote public access. According to the Act, local governments must develop Shoreline Master Programs, which are essentially a town or city’s shoreline comprehensive plan. The shoreline management jurisdiction extends 200 feet inland from the line of Ordinary High Water and shoreline master programs are integrated with the comprehensive plan and development regulations required under the Growth Management Act. Many local shoreline master programs require public access whenever non-water-dependent uses, other than single family residences, are permitted on the shoreline. In Seattle and other major industrial waterways, shoreline master programs restrict conversion of waterfront land to non-water-dependent uses, or from heavy industrial water-dependent uses to purely commercial water-dependent uses; e.g., from a shipyard to a recreational marina. In addition, the Act also implements the Public Trust Doctrine, which provides that the waters of the state are a public resource for the purposes of navigation, conducting commerce, fishing, recreation and similar uses, and that this trust is not invalidated by private ownership of the underlying land.

HAWAII’S ACT 50, adopted by the Legislature in 2000, requires cultural impact statements as part of the environmental impact statement law for all developments requiring a state permit. In the past, a lack of focused discussion on access for Native Hawaiian issues in the land use planning process led to the destruction of many historical sites, put limitations on access and gathering rights, resulted in the loss of many natural resources necessary for the survival of the Hawaiian culture, and prompted litigation. The Legislature identified the need to clarify that environmental assessments or environmental impact statements should identify and address effects on Hawaii’s culture, and traditional and customary rights. The act was inspired in part by litigation in the 1990s.

Fearing that a mega-resort development would limit access to a popular surfing and traditional fishing area, the environmental community, as well as Hawaiian cultural practitioners, inspired the Native Hawaiian Legal Corporation to work with Sierra Club Legal Defense (now Earth Justice) to help protect natural and cultural resources in all of Hawaii. The resulting landmark 1995 Supreme Court decision in *PASH and Pilago v. Hawaii County Planning Commission* confirmed that all people have the right to access the shoreline for recreation, subsistence, and gathering practices. Native Hawaiians now have legal standing to contest development proposals that may impact their cultural and traditional practices. And all government agencies have a legal obligation to determine the impacts of proposed developments on cultural practices and the community.



Seattle, Washington Photo:NOAA



Photo: Clipart.com



Photo: Clipart.com

Ports can purchase and hold waterfront lands, and assemble parcels over time to permit large scale developments that support waterfront revitalization.



Photo courtesy Port of Everett



Due to soaring land values, many former fish markets, such as this one in Morehead City, North Carolina, are being replaced by new waterfront developments. Thus, the North Carolina Waterfront Access Study Committee explored options to support working waterfronts and other public access projects. Scott Taylor/Coastwatch

Local government efforts

Local municipalities can pass new regulations to address the specifics of waterfront development. For example, after a temporary moratorium in 2004, the City of Islamorada, Florida, passed Ordinance 05-13 in 2005 to protect the transient use of hotels and motels in certain areas. The ordinance prevents the conversion of existing hotels within its “Tourist Commercial Zoning District” to single-family dwellings or “condotels.” The ordinance also clarifies that hotels and motels are not residential uses. These provisions have not yet come into effect, however, because an appeal has been filed with the state.

Maui County is the first county in Hawaii to adopt a science-based planning tool for the establishment of construction setback distances. Maui buildings are being constructed farther away from the shoreline, which reduces the risk of erosion to the structures and the need for shoreline armoring, protecting lateral coastal access. Maui County also has an ordinance that prohibits grading of the primary dune or grading of any dune in the shoreline construction setback area.

In some areas, especially in the Great Lakes, West, and Gulf coasts, **PUBLIC PORT AUTHORITIES, NAVIGATION DISTRICTS, MUNICIPAL HARBOR DEPARTMENTS**, and similar entities play important roles in supporting waterfront-dependent industries, providing moorage for both commercial fishing and recreational vessels, and preserving waterfront lands for future water-dependent uses. For example, ports can issue bonds to finance infrastructure to support moorage and fisheries-related services. Ports can purchase and hold waterfront lands, and assemble parcels over time to permit large scale developments that support waterfront revitalization. Examples from Washington state include redevelopment of the North Marina Basin by the Port of Everett, Port of Bellingham/Waterfront Futures redevelopment plans, and the Port of Seattle’s Bell Harbor Cruise Ship Terminal and visiting pleasure-craft moorage. Ports can create cross-subsidies between upland commercial development and traditional water-dependent uses, or between commercial uses occupying upper floors and water-dependent uses at dock level in the same buildings, as demonstrated by Massport’s Boston Fish Pier. Ports can engage private developers to implement major revitalization projects. Ports are accountable to their constituents through their boards of commissioners and must operate in transparent ways comparable to local governmental bodies.

Focused Studies and Planning Efforts

Planning offers waterfront communities the opportunity to develop a vision for the future of their waterways and come together to identify ways to achieve their goals. In some cases, such as with comprehensive plans, the vision may effectively represent how a community would like to evolve into the future, but may not have any enforceable mandates, so it is up to the community to ensure that the plan is applied. In other cases, such as Special Area Management Plans (SAMPs) and legislatively-mandated studies, the plans are actual road maps that a town or harbor needs to follow to adhere to the law. In either case, planning tools are used to highlight access issues and identify potential solutions, in many cases, quite successfully as the following examples illustrate.

NORTH CAROLINA’S WATERFRONT ACCESS STUDY COMMITTEE was established by the North Carolina General Assembly in 2006 to “study the loss of diversity of uses along the coastal shoreline of North Carolina and how these losses impact access to the public trust waters of the state.” The Legislature sought the panel’s guidance on potential solutions, including “incentive-based techniques and management tools,” to sustain riparian land-use diversity and public access along the state’s coastal shorelines. By statute, the North Carolina Sea Grant executive director was named to chair the 21-member study committee. The General Assembly is expected to consider the recommendations during the 2007 session. The committee was established on the heels of Sea Grant’s June 2006 conference, North Carolina’s Changing Waterfronts: Coastal Access and Traditional Uses, which drew more than 200 people, and extensive media coverage of access issues in North Carolina.

In **PUERTO RICO’S COASTAL ACCESS PLANNING EFFORT**, private entities, legislative offices, government officials, researchers, conservation practitioners, and non-governmental organizations are all partnering to address coastal access issues throughout the island. The planning effort will review the laws germane to the coastal zone, assess cases of lack of access, study coastal processes, debate the legal framework of private and public use of the coastal zone, present technical solutions through mapping and zoning, monitor access sites, and provide information. University of Puerto Rico Sea Grant is involved in the process at various levels: mapping (flood maps), public policy, site visits, and informing the public.

THE HARBOR TECHNICAL ADVISORY COMMITTEE OF MINNESOTA AND WISCONSIN (HTAC) is an assemblage of stakeholders for the Duluth-Superior port that advises the Metropolitan Interstate Council (MIC) on harbor-related issues. Since its inception in the late 1970s, the HTAC has brought together interested parties from local, state, and federal agencies along with citizen, environmental, and industry representatives to provide a forum for discussing harbor-related issues and concerns, promote the harbor’s economic and environmental importance to the community, and provide sound planning and management recommendations to the MIC.

CASE STUDY: Planning Nets Safe Harbor on Lake Superior’s Remote Coast

Minnesota’s rugged Lake Superior coast has few places where boaters can access the lake or seek shelter during bad weather. Harbors and public boat launches are few and far between and the big lake can quickly become dangerous for small craft. For example, a small craft that launched in Duluth, Minnesota, and traveled northeast along the coast to good fishing areas would not find another safe take-out point for 18 miles. In response, the Minnesota Department of Natural Resources (DNR) has been working to increase the number of safe harbors on the Lake Superior coast.

The decision to create a harbor is not without opposition, related to damaging the relatively undeveloped coast, increasing road traffic, increasing property taxes, and other concerns. A committee of private citizens representing all positions formed and met monthly for more than eight years (and some are still meeting) to make the safe harbor a reality. The committee chose a site 10 miles from the Duluth Harbor, roughly halfway to the next harbor. Building the new harbor required the cooperation of, and cost-sharing by, the City of Duluth, Minnesota DNR, the U.S. Army Corps of Engineers, two townships, and one county. The land for the proposed harbor was owned by several private owners, both townships, and the city. The city’s land had been deeded to it in trust by a Duluth founding family with the requirement that it remain in the public trust to provide the public with access to the lake. Building a safe harbor at this location was challenged as potentially violating the trust, but the final decision was that the trust would not be violated. Based on this concern, however, the project design was altered to increase public access from shore to the lake. This land is now leased from the city by the DNR. The two townships donated small lots, and the private property was purchased from willing sellers.

Construction began in earnest in 2005 and involved building a bridge, moving sections of two roads, and building two breakwaters. The resulting McQuade Public Access is scheduled to open in Fall 2007. The new design provides three ramps, two docks, handicap-accessible fishing from the breakwater, safe passage for walkers from the parking lot beneath the road to the launch area, a public picnic area, and parking for 54 cars/trailers.



Photo: NOAA



Lake Superior coast. MDRNR Trails and Waterways



Artist’s rendering—McQuade Public Access. Minnesota Department of Natural Resources



Canoes under Providence Place Mall
Photo: Austin Becker/Rhode Island Sea Grant

CASE STUDY: Urban Planning Includes Coastal Access

Rhode Island’s recently adopted Urban Coastal Greenways Policy combined technical and stakeholder experience to develop a new policy with enough flexibility to support development, public access, and habitat protection goals. As part of the revision of a Special Area Management Plan (a regulatory document approved by the state and upheld by the federal government) for the four cities at the head of Narragansett Bay (the “Metro Bay” area), the University of Rhode Island Coastal Resources Center/Rhode Island Sea Grant College Program coordinated with the state’s Coastal Resources Management Council to create a new flexible buffer regulation called the Urban Coastal Greenways Policy (UCG), which offers an alternative to the existing statewide 200-foot buffer policy.

Initially developed more than 30 years ago, the older policy is still useful for rural and suburban areas, but the state found it inadequate for urban shoreline redevelopment, given the waterfront’s hardened edge and built environment. This new policy was drafted in an effort to customize coastal vegetative buffer regulations for the urban landscape of the Metro Bay region. The policy is intended to balance development of the Metro Bay shoreline with environmental protection, restoration, and public access through a more flexible and streamlined regulatory structure. As part of the UCG process, a Priority Lands Analysis mapping exercise helped assess the conservation, restoration, and scenic values of coastal Metro Bay properties. Buffer requirements vary and reflect the unique characteristics of each urban area. The UCG also provides compensation options for development applicants; thus a developer, depending on site location, may choose to reduce a property’s buffer width by providing new public access, using low-impact development techniques to treat stormwater, or creating new public amenities for the whole community to enjoy.

Waterfront Revitalization

The waterfront can be an economic advantage for a community, as people and businesses are attracted to land near or adjacent to the water. Yet waterfronts present unique challenges. Not all land adjacent to the water can be developed, and much of the shoreline may provide critical ecological functions and thus is subject to building restrictions.



In Astoria, Oregon, a viewing tower and interpretive signs provide visitors with views of the Columbia River Estuary and glimpses of Native American historical occupancy of the area.
Photo: Bob Goodwin/Washington Sea Grant

SMART GROWTH approaches provide one possible tool for communities seeking to balance economic benefit with environmental protection. In cities and older suburbs, smart growth approaches invest time, attention, and resources in restoring community and vitality. New development is generally more town-centered, transit- and pedestrian-oriented, and has a greater mix of homes, offices, shops, and other uses. Open space is preserved or enhanced. Smart growth principles were developed in 1996 by the Smart Growth Network, which is a group of private, public, and non-governmental organizations working together to improve the quality of development in neighborhoods, communities, and regions across the United States. These principles help guide growth and development in communities that have a vision of what they want their future to be and of what they value in their community; however, the principles do not directly address coastal and waterfront communities. Coastal smart growth elements were drafted by a collaborative team from EPA, NOAA, and the U.S. Department of Agriculture.



Scenic water vistas, tree-lined streets, inviting bike paths, parks and green spaces encourage all ages to experience the many year round activities that draw people to Sturgeon Bay, Wisconsin. The waterfront experience is enhanced by public access, shoreline walkways, marinas, informational plaques, observation points, and self-guided tours. Photo: Bob Goodwin/Washington Sea Grant

Smart Growth Principle As adopted by the national Smart Growth Network*	Waterfront and Coastal Element Each element is intended to distill the waterfront-related aspects of a smart growth principle to help communities address their unique waterfront characteristics
1. Mix land uses	Encourage working waterfronts and water-dependent uses that promote a stable, year-round waterfront community
2. Take advantage of compact building design	Effectively use land to maximize waterfront and water-based activities in appropriate areas
3. Create a range of housing opportunities and choices	Accommodate seasonal population fluxes while retaining the livability and affordability of the community
4. Create walkable communities	Assure physical and visual access to and from the waterfront for the public
5. Foster distinctive, attractive communities with a strong sense of place	Protect, preserve, and enhance coastal character while capturing local opportunities for growth
6. Preserve open space, farmland, natural beauty, and critical environmental areas	Protect natural coastal features and processes by designing with respect for the sea and the land-sea interface
7. Strengthen and direct development toward existing communities	Encourage revitalization of waterfronts
8. Provide a variety of transportation choices	Encourage waterborne transportation options to compliment land-based options
9. Make development decisions predictable, fair, and cost-effective	Facilitate state and federal waterfront permit processing at the local level
10. Encourage community and stakeholder collaboration in development decisions	Seek participation from a diversity of sectors to represent the values and legacy of the public trust of coastal waters

* Draft principles pending approval

In cities and older suburbs, smart growth approaches invest time, attention, and resources in restoring community and vitality. New development is generally more town-centered, transit- and pedestrian-oriented, and has a greater mix of homes, offices, shops, and other uses.

Several decades ago, many reaches of the nation's urban coasts were inaccessible, underused, disconnected from the downtowns they once served, and suffering from dilapidation and abandonment. In 1980, the CZMA was amended to provide financial assistance for states to redevelop their deteriorated waterfronts. Since then, well over 300 waterfronts have been revitalized with CZM Section 303 funding. Degraded coastal environments are being restored as industrial sites are cleaned up and contaminated harbor sediments are capped. Historic structures are being reused for new people-friendly activities. Traditional and new marine industries are being protected from encroachment by non-water-dependent uses. Plazas, parks, trails, boardwalks, viewing towers and fishing piers are luring people back to the water's edge; and waterfront festivals and events, aquariums, maritime museums and harbor tours are delighting them when they get there. Waterfronts are being re-linked with the downtown cores their wharves and docks originally served. In Washington's Port of Everett, a six-year, \$300 million development project is expected to transform the North Marina into a community destination spot. The development, dubbed Port Gardner Wharf, will include waterfront condominiums and retail shops, as well as marine businesses and an expanded marina.

Outreach and Education

Education and outreach efforts are integral to nearly every tool described above. CZM and other state and federal programs, nonprofits and waterfront interest groups are all involved in educational efforts to address the growing challenges of coastal access. Through extension agents who are in contact with coastal residents and other stakeholders, Sea Grant programs in particular are focusing outreach and education efforts on coastal access issues (See Appendix B).



Photo: Natalie Springuell/Maine Sea Grant

IV Where Do We Go From Here?

The National Coastal Access Survey and follow-up research summarized in this report clearly show that access to the nation's coast is an issue that is rising in importance in virtually all parts of the country, with some places experiencing more acute changes and others following not far behind. Coastal access throughout the U.S.—for fishermen, recreational boaters, industrial needs, the beach-going public and so many others—is either declining or facing increased pressures and conflicts.

There are a number of creative solutions that states, organizations, and individuals are pursuing to address coastal access challenges, many of which are outlined in this report. The fact that these solutions are so diverse points to three important conclusions: The first is that it would be far too simplistic to point to any as the most important; the tools and solutions need to be as localized as the issue. The second is that, given the widespread nature of the problem as a whole, there is a need for national strategies that support local efforts. The third conclusion is that the toolbox is not yet full. In other words, there are many additional tools that could be implemented to address local problems, and even national trends.

What are the needs?

We already have tools that are effective at addressing coastal access challenges. They are at the root of the success stories that can serve as models throughout the nation. But, given that access conflicts are not going away, where do we go from here?

The goal of the survey and this report was to help raise awareness of these issues at the national level and to focus attention on planning for next steps. An important part of the survey asked respondents to explore the questions: Where do we go from here? What are the pressing needs to address the issues identified in the survey? Who should be involved? And finally, what are the priorities for the development of a potential national strategy on this issue? The identification of needs and priorities drives action, and it is our hope that the following details can spark a national discussion on strategies and next steps. This final section addresses the priority needs proposed by survey respondents. Several important trends emerged as rising to the top of the needs list. They can be loosely categorized into the following:

- Increased outreach/education
- Community planning that addresses coastal access
- National and/or local policy and legislative action
- Enforcement of existing regulations
- Funding for public acquisition of land and infrastructure
- Research on multiple aspects of the issue
- Inclusion of coastal property owners
- Consideration of waterfront ecosystems

Each will be addressed on the following pages.



Photo: Melissa Schneider/Mississippi-Alabama Sea Grant

Increased outreach and education about coastal access issues was at the top of the list of needs.

...community planning can provide a strategic framework for making decisions about the waterfront.

1. The need for increased outreach/education

Increased outreach and education about coastal access issues was at the top of the list of needs, according to most survey respondents. Though national trends point to increased coastal access conflicts, there remains a lack of understanding about the scope of the issue, how it affects both industry and the public, and how to address it in ways that meet diverse stakeholder and environmental needs. The following covers some of the key outreach and education needs posed by survey respondents:

A NATIONAL COASTAL ACCESS CLEARINGHOUSE WEB SITE: The immediate need for increased information flow could be met through a centralized Web site, perhaps maintained by the Sea Grant network, that would support local and national efforts by providing a vast array of local, regional, and national tools and data. [Note: In its 1998 analysis of the CZM program, Rhode Island Sea Grant also recommended such a clearinghouse of information. The need is now even greater.]

INCREASED INFORMATION ABOUT THE SCOPE AND IMPORTANCE OF THE ISSUE: Local communities need more guidance on how to recognize the costs and benefits of coastal access for the public and for water-dependent businesses.

INCREASED INFORMATION ABOUT DECISION-MAKING STRUCTURES AND LEGAL FRAMEWORKS: The Public Trust Doctrine, state laws, municipal and county regulations, home rule, agency enforcement, litigation, eminent domain, takings, private property rights, lateral access, conservation easements, current use valuation... these are only some of the decision-making structures in place. Understanding how decisions are made and researching existing options is a daunting task, especially for volunteers in municipal government. There is a great need for increased information about how individual state and municipal decision-making structures affect coastal access, what local decision-making options already exist, and how to use them.

INCREASED INFORMATION ABOUT TOOLS: Survey respondents were nearly unanimous that there is a great need for information about tools that can be used to address a diverse array of coastal access problems. Many tools have been highlighted in this report in the hopes of continuing this conversation. Specifically, survey respondents identified needing more information about the following:

- Ways to include public access when development occurs
- Environmental code enforcement
- Resolution of conflict among user groups
- Tools to address affordable housing
- The role of litigation in effecting change

2. The need for community planning that addresses coastal access

Community planning, be it through comprehensive plans, coastal plans, harbor plans or other efforts, is where towns, parishes, and counties can outline their vision for the future. As we have learned, community planning can provide a strategic framework for making decisions about the waterfront. To date, the level of importance that coastal access is given in community planning often remains low. Local communities can have a tremendous impact on coastal access but, according to survey respondents, they need some help and information, including:

- Help in conducting needs assessments to best determine how to meet the growing future demand for public access. Zoning build-out analysis, as Virginia has done, is one way to assess these needs (p. 20).
- Information about the economic and cultural values of coastal access at the local level, as Hawaii law now mandates (p. 25).

- Information about existing community planning tools for addressing multiple uses of waterfronts.
- Facilitation of local planning efforts including: visioning and comparisons of current trends versus “better” options; community mapping of valued access points; processes that improve communication between and among harbor users and government; the establishment of a strong participatory framework.
- Several respondents outlined the need for a stronger, more centralized voice of communities acting together on a regional basis and for help in forming collaboratives among smaller groups or industry associations who share access issues to help them participate effectively in decision-making processes that affect their interests. The Harbor Technical Advisory Committee of Minnesota and Wisconsin is a good example (p. 27)
- Nearly all survey respondents had recommendations about engaging a wide array of stakeholders in any coastal access initiative. Those to include, who may not be readily apparent, include developers, local legislators, port and harbor managers, health departments, Coast Guard, Army Corps of Engineers, insurance companies, and private property owners.

3. The need for national and/or local policy and legislative action

Coastal access issues are, by and large, local issues. To that end, survey respondents emphasized that any national strategy should focus on facilitating decision-making at the local level. An effective national strategy would empower local agencies to improve or increase access for stakeholders in that state. A good model is the federal Coastal Zone Management Act of 1990 (in reference to CZMA, one respondent noted: “we don’t need to re-invent the wheel”). Below are a number of national and local policies proposed by survey respondents. Many of them are related to providing funding for waterfront land/infrastructure, and others are national policies that would be aimed at enhancing state programming.

NATIONAL STRATEGIES

- ◆ Consider national legislation for working waterfronts. Currently under consideration by the U.S. Senate is a bill modeled on Maine’s Working Waterfront Land Bond that would provide federal monies towards protection of working waterfront lands nationwide. [The Working Waterfront Preservation Act, S. 741, introduced on March 1, 2007.]
- ◆ Broaden legislative definition of working waterfront to include water-dependent activities, such as boatyards and commercial marinas.
- ◆ Include a public access component in use of federal transportation funds.
- ◆ Increase federal funding or incentives for states through CZMA, USEPA, DOT, NOAA, Wallop-Breaux, Coastal Impact Assistance Program, Dingell-Johnson, non-highway fuel taxes, Pittman-Robertson and others.

STATE AND LOCAL STRATEGIES

For the private sector

- ◆ Provide incentives for waterfront tourism businesses, private property owners, and coastal lands developers to maintain public access. There could be some mechanism to compensate them when they agree to provide access.
- ◆ Offer model cooperative agreements between private entities that guarantee access to specific user groups (for example, between private property owners and wildlife resource agencies in Wells, Maine, see page 23).

Coastal access issues are, by and large, local issues.

...important and often under-realized, is adequate implementation of local coastal and/or comprehensive plans and codes...

As coastal property values continue to escalate, securing access infrastructure and the land beneath it becomes more and more difficult.

AT THE MUNICIPAL LEVEL

- ◆ Explore policies that encourage no net loss of commercial fishing waterfront access.
- ◆ Consider a permitting process that would require or encourage public access as a part of waterfront development, as with Rhode Island's Urban Coastal Greenways Policy (p. 28).
- ◆ Establish sectors of local government dealing specifically with the operation, maintenance, and accounting of municipally-owned beaches and waterfronts.

AT THE STATE LEVEL

- ◆ Clearly define the public's rights to tidal waters of the state, as well as ownership and rights of use of land below mean high tide, as in Texas and California.
- ◆ Consider legislation that ensures lateral access along coastlines, as in Hawaii.
- ◆ Create incentives for larger shoreline building setbacks that are linked to natural hazard preparedness and mitigation.
- ◆ Consider tax incentives such as California's Prop 13 and Maine's Current Use Taxation (p.22) that keeps long-time property owners from losing their land.
- ◆ Consider tax incentives for land trusts protecting coastal access.
- ◆ Develop tools that make changes to existing public access points, beaches, and marina facilities contingent on findings about uses that may be displaced.

4. The need for enforcement of existing regulations

Many states and municipalities already have adequate laws and regulations in place to address coastal access needs. Yet for a variety of reasons, ranging from lack of funding for personnel or lack of adequate implementation plans (and even due to local political issues), these laws and regulations go unenforced. Respondents from at least a dozen states highlighted that better enforcement of existing laws needs to be the first step in addressing coastal access issues, including enforcing rights of ways and restricting private exclusive use of public resources. Equally as important and often under-realized, is adequate implementation of local coastal and/or comprehensive plans and codes, particularly where coastal access and waterfront planning is addressed.

5. The need for funding for public acquisition of land and infrastructure

In the case of commercial, industrial, and recreational needs, coastal access is dependent on waterfront infrastructure, such as piers, wharves, docks, ramps, boathouses, and parking lots. As coastal property values continue to escalate, securing access infrastructure and the land beneath it becomes more and more difficult. In addition, infrastructure needs to be maintained on a regular basis or it will eventually become unsafe and/or shut down. Currently, survey respondents report significant funding shortfalls for infrastructure maintenance, let alone improvements or expansion. Not surprisingly, a majority of survey respondents identify the need for a significant pool of funding for public acquisition of coastal lands, infrastructure, and maintenance.

6. The need for research on multiple aspects of the access issue

RESEARCH ON SPATIAL AND TEMPORAL CHANGES

Many states have already completed (or begun) inventories and maps of coastal access (see page 21). Many respondents commented that the first step is to assess the adequacy of each state's existing coastal access, through the inventorying and mapping process. Yet there is also a great need for spatial data that systematically correlates the complexity of issues facing waterfront lands and how they are changing over time. Such data needs are vast. A few examples revealed by the survey include:

- Changes in waterfront land ownership patterns and how these affect coastal access for specific industry groups or the public
- Conversion of waterfront lands to private interests
- Projections and potential impacts of sea level rise and erosion
- Linking decision-making structures with the application of geographic information technologies to plan for optimal use of coastal shorefronts and adjacent waterways
- Characterizing, mapping, and forecasting recreational boating patterns and activities, both in time and geographic space
- Modeling projections of infrastructure needs vs. capacity

ECONOMIC AND SOCIAL SCIENCE RESEARCH

Economic and social science research is key to gaining a better understanding of relationships between demographic change, shifting public demand, and use patterns along the coast. Such research can help assess (or encourage/discourage) public support/opposition for management actions, policies, and incentives. Survey respondents pointed to a number of social and economic research needs outlined below:

- What are the economic costs and benefits:
 - ◆ of implementing various local policies (such as transfer of development rights and conservation easements) that maintain public access?
 - ◆ of public policy and regulatory/non-regulatory tools that affect the rate of public to private conversion of waterfronts and waterway access points?
 - ◆ of mixed uses versus second home and condominium development?
 - ◆ of taxation programs that value waterfront land at current use rather than highest and best use?
 - ◆ of doing nothing?
- What are the economic benefits of waterfront industries and their multipliers? What would be lost without these industries?
- What is the long-term impact on a community's character as social and economic forces drive significant changes in waterfront ownership, use, and development?
- What are the incentives to retain water-dependent and water-related facilities that serve public needs and reflect social values?

7. The need to include coastal property owners in this dialogue

The rights of landowners can not be underestimated, as the volume of litigation concerning coastal property access demonstrates. Waterfront landowners have their own suite of justifiable concerns, emphasizing the need for forums in which conflicting interest groups can begin a dialogue to resolve these issues.

...there is also a great need for spatial data that systematically correlates the complexity of issues facing waterfront lands...

Waterfront landowners have their own suite of justifiable concerns...

Appendix A: The 140 Survey Respondents

Regardless of their views, numerous survey respondents commented on the need to consider waterfront ecosystems in the dialogue, particularly in light of coastal erosion and sea level rise.

8. The need to consider waterfront ecosystems

While this report was not intended to address the environmental consequences of people accessing the coast, it is short-sighted to eliminate natural resources from consideration.

Some survey respondents noted that it is crucial for all members of the public, including those that will never be able to own waterfront land, to “have access and be able to enjoy the resource and be part of the resource management scheme; otherwise they will not have a connection to the resource and will not care about the resource.” Many cautioned that access opens the coast up to increased environmental impact. Regardless of their views, numerous survey respondents commented on the need to consider waterfront ecosystems in the dialogue, particularly in light of coastal erosion and sea level rise. This need points to a whole new slate of research questions, mostly outside the scope of this report, but no less significant than the ones described above.

Position or Title	Affiliation or Organization	State
Environmental assessment section chief	U.S. Minerals Management Service	
Coastal training program coordinator	Kachemak Bay National Estuarine Research Reserve	AK
Director	Bristol Bay Coastal Resource Service Area	AK
Marine advisory agent	Alaska Sea Grant	AK
Environmental education coordinator	Gulf of Mexico Alliance - Dauphin Island Sea Lab	AL
Extension environmental associate	Alabama Sea Grant	AL
Professor	Auburn University	AL
Director	MS-AL Sea Grant Consortium	AL/MS
Coastal community development advisor	California Sea Grant/UCCE	CA
Extension director	California Sea Grant/UCCE	CA
Marine advisor	California Sea Grant	CA
Marine advisor	California Sea Grant	CA
President	Save Our Access Path, Inc.	CA
Director	Department of Agriculture	CT
Director	EPA Long Island Sound Office	CT
Environmental planner	Department of Environmental Protection	CT
Marine advisory service	Delaware Sea Grant	DE
Anonymous	Anonymous	FL
Anonymous	Anonymous	FL
Assistant professor	Florida Sea Grant	FL
Certified Green Guide; Florida Master Naturalist	None	FL
Coastal training program coordinator	Apalachicola National Estuarine Research Reserve	FL
County extension director	Florida Sea Grant	FL
Director	St. Andrews Waterfront Project	FL
Executive director	Apalachicola Bay Chamber of Commerce	FL
Executive director	Florida Keys Commercial Fishermen's Association	FL
Extension agent	Florida Sea Grant	FL
Grants coordinator	City of Palm Bay	FL
Marina compliance specialist	City of Naples	FL
Marine engineering manager	Lee County	FL
Marine extension agent	Florida Sea Grant	FL
President	Journeys of SGI, Inc.	FL
Realtor and developer	Prudential Resort Realty	FL
Resource management coordinator	Rookery Bay National Estuarine Research Reserve	FL
Senior marine planner	Monroe County Department of Marine Resources	FL
Associate director	University of Georgia Marine Extension Service	GA

Position or Title	Affiliation or Organization	State
Division director	Department of Natural Resources	GA
Marine extension service director	University of Georgia	GA
NEMO coordinator	Georgia Sea Grant	GA
Program manager	Department of Natural Resources	GA
Public service assistant	UGA Marine Extension Service	GA
Associate director	Hawaii Sea Grant	HI
Associate professor	Maui Community College	HI
Chair	Hawaii Ocean Safety Team	HI
Director	Hawaii Sea Grant	HI
Extension agent	Hawaii Sea Grant	HI
Extension agent	Hawaii Sea Grant	HI
Extension agent	Hawaii Sea Grant	HI
Extension agent	Hawaii Sea Grant	HI
Extension leader	Hawaii Sea Grant	HI
Geologist	Hawaii Sea Grant	HI
Planner	Office of Planning	HI
Planner	Hawaii County Planning Department	HI
Professor of urban and regional planning	University of Hawaii	HI
Program manager	Hawaii Coastal Zone Management Program	HI
Ranger	Department of Land and Natural Resources	HI
Retired geologist	None	HI
Anonymous	Anonymous	LA
Anonymous	Anonymous	LA
Associate executive director	Louisiana Sea Grant	LA
Biologist	U.S. Fish and Wildlife Service	LA
Board member and treasurer	Restore Our Water Access	LA
Coastal advisor	Louisiana Sea Grant	LA
Director of operations	St. James Parish Council	LA
Environmental specialist	St. Tammany Parish Government	LA
Legal coordinator and associate research professor	Louisiana Sea Grant	LA
Permit coordinator	Lafourche Parish Coastal Zone Management	LA
Program coordinator	Louisiana Department of Environment	LA
Advisory leader	MIT Sea Grant	MA
Coastal program manager	Cape Cod Commission	MA
Marine advisor and anthropologist	MIT Sea Grant	MA
Tidelands policy coordinator	Office of Coastal Zone Management	MA
Deputy director	National Sea Grant Office	MD

Appendix A: The 140 Survey Respondents

Position or Title	Affiliation or Organization	State
Division director	Department of Natural Resources	MD
Environmental planner	Anne Arundel County	MD
Environmental planner	St. Mary's County	MD
Extension program leader	Maryland Sea Grant	MD
Senior planner	Department of Technical & Community Services	MD
State underwater archaeologist	State Historic Preservation Office	MD
Extension associate	Maine Sea Grant/UMCE	ME
Extension associate	Maine Sea Grant	ME
Marine extension agent	Maine Sea Grant	ME
Marine extension associate	Maine Sea Grant	ME
Senior fishery biologist	U.S. Fish and Wildlife Service	ME
Stewardship coordinator	Wells National Estuarine Research Reserve	ME
Volunteer	Sierra Club	ME
District extension agent	Michigan Sea Grant	MI
Extension educator	Minnesota Sea Grant	MN
Maritime educator	Minnesota Sea Grant	MN
Professor of extension	Minnesota Sea Grant	MN
Research coordinator and research associate	MN Sea Grant and Natural Resources Research Institute	MN
Associate professor	USM Gulf Coast Research Laboratory	MS
Director	National Sea Grant Law Center	MS
Extension professor	Mississippi-Alabama Sea Grant	MS
Manager	Mississippi Development Authority	MS
Stewardship coordinator and research biologist	Grand Bay National Estuarine Research Reserve	MS
Extension director	North Carolina Sea Grant	NC
Manager of planning and access programs	Department of Environment and Natural Resources	NC
Southern sites manager	North Carolina Coastal Reserve	NC
Coastal training program coordinator	Great Bay National Estuarine Research Reserve	NH
Coastal processes specialist	New Jersey Sea Grant	NJ
Director	NJ Council of Diving Clubs	NJ
Environmental scientist I	NJ DEP Coastal Management Office	NJ
Fisheries agent	New Jersey Sea Grant	NJ
Marine scientist	Haskin Shellfish Research Lab, Rutgers University	NJ
Policy associate	New York/New Jersey Baykeeper	NJ
Research assistant professor and extension agent	Stevens Institute of Technology/ NJ Sea Grant	NJ
Extension educator	Ohio Sea Grant	OH
Associate director for research	Puerto Rico Sea Grant	PR
Director	Puerto Rico Sea Grant	PR

Position or Title	Affiliation or Organization	State
Coastal training program coordinator	Narragansett Bay National Estuarine Research Reserve	RI
Marine research associate	Rhode Island Sea Grant	RI
Research counsel	RI Sea Grant Legal Program	RI
Extension leader	South Carolina Sea Grant	SC
Fisheries extension specialist	South Carolina Sea Grant	SC
Human dimensions specialist	NOAA Coastal Services Center	SC
Human Dimensions Specialist	NOAA Coastal Services Center	SC
Human dimensions specialist	NOAA Coastal Services Center	SC
Manager, shellfish management section	Department of Natural Resources	SC
Sustainable seafood initiative coordinator	South Carolina Aquarium	SC
Associate director	Texas Sea Grant	TX
Coastal community development specialist	Texas Sea Grant	TX
County extension agent	Texas Sea Grant	TX
Marine business management specialist	Texas Sea Grant	TX
Research assistant	Galveston Bay Information Center	TX
Communicator	Virginia Sea Grant	VA
Director of regional planning	Middle Peninsula Planning District Commission	VA
Marine business and coastal development specialist	Virginia Sea Grant	VA
Coastal Zone Management Program planner	Department of Ecology	WA
Outdoor resources planner	Office of the Interagency Committee	WA
Retired	Washington Sea Grant	WA
Senior outdoor resource planner	State of Washington, Outdoor Recreation	WA
Manager	Wisconsin Coastal Management Program	WI
Treaty fisheries coordinator	Department of Natural Resources	WI
Anonymous	Anonymous	
Anonymous	Anonymous	
Anonymous	Anonymous	
Anonymous	Anonymous	
Anonymous	Anonymous	
Anonymous	Anonymous	
Anonymous	Anonymous	

Appendix B: Sea Grant and Coastal Access

Of the 144 respondents to the survey, 63 (or nearly half) represented Sea Grant programs. The program participation varied tremendously from one program to the next (and for this reason, specific comparisons between programs are not very useful). Of the 63 Sea Grant responses, 22 came from the Southeast and Gulf of Mexico region. Most programs had one to three staffers respond, though Hawaii Sea Grant had the most staff participation of any program in the survey (six staffers responded). Of the 30 Sea Grant programs in the country, all but six were represented in the responses. Lack of participation could be due to either a lack of knowledge about the survey (though program-wide communication was fairly extensive) or perhaps due to a perception in those states that coastal access is not currently an issue or else would be covered by respondents from neighboring states.

No program reported an extension position exclusively dedicated to the issue of coastal access. Instead, coastal access appears to be a cross-disciplinary issue for many programs with the topic often falling under the purview of extension agents whose expertise might normally lie in waterfronts, coastal communities, fisheries, boating and recreation, or other areas. Thus, it is important to note that many programs reported zero to a fraction of one full-time position (FTE) dedicated to the topic. Likewise, multiple programs reported just getting started on this issue and anticipated a growth in program need (Georgia and South Carolina, for example). Finally, at least five programs with more than one survey participant did not all report effort equally, signaling that there is often not clear tracking of effort in coastal access within the programs.

Similarly, responses to the question about how long Sea Grant programs have been involved in this issue were widespread, both within and between programs. Some programs responded that the topic has been addressed since program inception, or 20+ years. In these cases, a closer look signaled a general approach to coastal access as an interdisciplinary topic overlapping many more traditional extension program areas. Several programs have directly and effectively addressed access issues for more than a decade, but the survey results show that the last five years have seen a nationwide increase in need, and a corresponding though slower increase in dedicated Sea Grant programming. In many cases, those who reported dedicated programming specifically in the last five years tended to have more concrete solutions and tools to report (examples include NJ, HI, ME, MS/AL). The case studies in this document cover some of these examples.

A program's strategic and implementation plan is often where the rubber meets the road on actual commitment to specific programming, including budgetary allocations. Thus, it is important to note that almost 100% of the programs that

answered the question about coastal access being reflected in their strategic plan responded in the affirmative. Likewise, the National Sea Grant Office reports that all state Sea Grant programs address coastal access. That said, a deeper analysis of the responses implies that most program strategic plans may simply address coastal access as part of a greater approach to coastal community development, fisheries, or other topic areas.

Programs reported a variety of tools used to address coastal access and many of these are highlighted in the individual case studies covered in this document. Following are some examples of other Sea Grant extension efforts reported in the survey:

- New Jersey Sea Grant continues to partner with the state's Department of Environmental Protection to inventory public access, develop guidelines for public access points, conduct community forums, and provide outreach and educational materials on New Jersey's Public Trust Doctrine and coastal access rules and regulations.
- Hawaii Sea Grant publications include the recently published "Natural Hazard Considerations for Purchasing Coastal Real Estate in Hawaii: A Practical Guide of Common Questions and Answers," and the "Hawaii Coastal Hazard Mitigation Guidebook." Hawaii Sea Grant has worked with the county government in an attempt to enforce zoning ordinances, and they have held several community meetings to identify ways the public can address vacation rentals in their area.
- South Carolina Sea Grant is in the process of assessing coastal access issues in the state from a fisheries and land-use planning perspective. Once issues are identified, they will develop case studies related to the different prominent issues, and conduct an educational forum of community stakeholders to start developing solutions that are specific to South Carolina.
- Maine Sea Grant has been actively working with partners in the Maine Working Waterfront Coalition for nearly five years. It is a program-wide effort that includes all extension and communications staff. The suite of tools used have included: forums to address regional concerns and possible solutions for coastal access issues, printed materials to mitigate user conflicts and to explain coastal access law in laymen's terms (such as "Public Shoreline Access in Maine: A Citizen's Guide to Ocean and Coastal Law"). Maine Sea Grant and partners have recently been awarded a grant from the National Sea Grant Law Center to conduct research and outreach on three key coastal access tools: cooperative agreements, land conservation tools, and municipal and tax options. *(continued)*

- Virginia Sea Grant hosted Working Waterways & Waterfronts 2007, a national symposium on water access in May 2007.

- Florida Sea Grant is working with the Florida Fish and Wildlife Conservation Commission, the Florida Department of Community Affairs' Waterfronts Florida Program, the University of Florida Levin College of Law, and the Urban Harbors Institute of the University of Massachusetts, in partnership with local and regional governments, to develop science-based methods, spatial data, and model policies in support of waterway access planning initiatives. Included are a comprehensive, statewide inventory of recreational boating access facilities; development of economic models to forecast future boater demand for waterway access facilities; analyses of waterway use patterns derived from map-based boater surveys and aerial reconnaissance; and development of a model for site suitability analyses of future boating facilities.

Sea Grant programs are in an ideal position to address many of the needs identified in this report, and we have highlighted cases where many already are doing so. Nevertheless, several Sea Grant survey respondents said they lack the funds to operate useful extension programs on coastal access issues, though they recognize a great need in their area. Finally, the time may have come for Sea Grant programs to explicitly address coastal access in their strategic and implementation plans. At this point, most programs simply address coastal access as part of a broader approach to coastal community development or fisheries or other topic area, which effectively limits the amount of time and energy extension staff can realistically spend on this issue. Sea Grant is also positioned to apply and direct research funds to many of the research needs identified here, while continuing to link research with extension.

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The central graphic features the "Sea Grant" logo in white serif font with a stylized white bird above the text. Below it is the NOAA seal, which is a blue circle containing the text "NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION" and "U.S. DEPARTMENT OF COMMERCE" around the perimeter, with "NOAA" in the center and a stylized white bird.

