



Testimony for Senate Environment and Public Works Committee hearing:

“Oversight: Modernizing our Nation’s Infrastructure”

February 8, 2017

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Intro to ASBPA and DNREC

Founded in 1926, the American Shore and Beach Preservation Association (ASBPA) is a 501(c)3 nonprofit that advocates for healthy coastlines by promoting the integration of science, policies and actions that maintain, protect and enhance the coasts of America. From its formation, ASBPA has worked with Congress to pass significant legislation to define and refine a strong and necessary role for the federal government in the management and preservation of our nation’s shorelines.

It is the mission of the Delaware Department of Natural Resources and Environmental Control to protect and manage the state’s vital natural resources and protect public health and safety, provide quality outdoor recreation and to serve and educate the citizens of the First State about the wise use, conservation and enhancement of Delaware’s environment

Coastal Infrastructure carries many benefits to our country.

When the word “infrastructure” comes up, most people think of steel and concrete, bridges and ports. But I’m here to talk about water and coastal infrastructure that is just as critical to the American economy and creates (and protects) just as many jobs, but does so with sand and sediment, roots and grass.

This is not an environmental request. I’m speaking as a representative of a coastal state government, and as president of an organization whose members include dredging companies such as Great Lakes Dredge and Dock and Weeks Marine, engineering firms such as HDR and CB&I, academic institutions and

researchers from California to Texas to New Jersey, and tourism boards in Florida and around the country.

Infrastructure refers to the structures, systems, and facilities serving the economy of an industry, country, or area, including the services and facilities necessary for its economy to function. Water and coastal infrastructure, just like man-made infrastructure, is about assets that society depends on – and, most particularly, it is about U.S. jobs. Creating jobs and protecting jobs, blue collar jobs and white collar jobs, American jobs that cannot be outsourced.

Just as importantly, this coastal infrastructure is used by visitors from every state in the USA as well as countless foreign countries. If we don't maintain our shorelines, many of those visitors will travel elsewhere for their coastal experience, taking with them their money and our coastal jobs.

Let's look at a shore protection project. Typically these projects include a federal investment and a state/local cost share. Such projects are authorized by Congress because a wide beach and high vegetated dunes protect inland property and infrastructure. In fact, flood and storm damage risk reduction is the only benefit the U.S. Army Corps of Engineers (USACE) is allowed to calculate when determining the benefit-cost ratio of a beach project. Delaware, like many other coastal states, has very good examples of how the investment in coastal infrastructure results in dividends that are not well known and are certainly not accounted for. Two examples illustrate this point.

Prime Hook National Wildlife Refuge, owned and managed by the U.S. Department of the Interior, is not only important for its environmental value, but it is critical for maintaining America's hunting and fishing industries and all the jobs associated with it. The refuge was damaged badly when the beach and dunes that separated fresh water wetlands from the tidal salt water of Delaware Bay were destroyed by Superstorm Sandy. These wetlands are very valuable for migratory waterfowl, which is the key management goal of the refuge

The Dept. of the Interior received Sandy recovery funding of \$38 million to restore the beach and dune system through a beach nourishment project, and also to create a network of channels for a new tidal wetland that would replace the old impounded area. Based on our knowledge of Delaware Bay beach nourishment contract prices, had DOI addressed the breaches as the erosion problem first presented itself an investment in the range of \$2-3 million would have avoided the wholesale wetland damage and the subsequent need for \$38 million to repair it. A preventive investment would have saved 90% of the final cost, because it's always cheaper to prevent and preserve than to repair and restore.

The other example is Rehoboth Beach. The Corps of Engineers determined a favorable cost/benefit analysis during the feasibility study for that project. The benefits analysis, as is the case for all Corps shore protection projects, determined the amount of storm damages avoided if a wider beach and design dune was constructed between the open-ocean and upland buildings, utility infrastructure, and roads. The resulting project constructed in 2005 has, indeed, provided the expected storm damage protection --but it has also protected the economic engine that is a coastal community beach and strengthened its ability to recover quickly after numerous storms.

With the rise in importance of the service industry to our national economy we must pay attention on how to bolster that sector via government investment. According to The Business Insider website, "In 1939 the services to manufacturing employment ratio was 2.1:1. Today it is 9.9-to-1." This is from a

2014 report and that rise is continuing. The importance of the service industry as a national employer cannot and should not be ignored. Nor should the fact that service jobs such as these are local jobs; they cannot be outsourced and the money mostly stays in the local economy.

The beach in Rehoboth (as in most communities nationwide) supports obvious jobs like restaurant wait staff, life guards, retail sales people and real estate sales and rental personnel. What is not often counted is how many carpenters, plumbers, roofers, doctors, lawyers, teachers, electricians, inland retail managers and clerks, and travel corridor jobs (to name but a few) are directly linked to healthy, thriving coastal communities. Many of these jobs exist because so many coastal resort properties are second homes or rental properties, which serve Americans from every state and visitors from every land. People directly employed at the beach community often live in adjacent communities, which then benefit from their local shopping and need for schools and professional services.

These two shore infrastructure projects are examples of the economic benefits as well as the ecosystem protection that directly flow from federal investment in beach protection. The benefits are clear, but they are not always valued or monetized. When we as a nation are making our investment choices for the public's money, we must know the full suite of values that stem from that investment and those costs incurred due to a lack of investment.

Coastal infrastructure investment creates jobs

Beach project construction is a job bonanza in itself. Restoring a beach starts with engineers, geologists, and biologists working in tandem to design a project by taking into account shore geomorphology, local coastal dynamics and site-specific ecology. The project is carried out with dredges or trucks, heavy equipment, bulldozers, and, when a vegetated dune is included, planters. This means construction crews, foremen and support staff, like cooks and administrators.

That is just the start. The beach, as mentioned in the Delaware examples above, is job magnet itself—according to economist James R. Houston, Ph.D., beaches get more recreational use in the U.S. than all our national parks combined¹. Therefore beaches support tourism jobs throughout coastal communities. This adds up to a major economic impact – beaches help generate \$225 billion annually to the national economy². Dr. Houston goes on to state that “for every \$1 the federal government spent on beach nourishment in 2012 (\$44 million), it collected about \$570 (\$25 billion) annually in tax revenues from beach tourism.”

Furthermore, beaches protect communities from coastal flooding, reducing the likelihood that hurricanes and coastal storms will significantly disrupt the local economy and result in job losses. These wide beaches and high dunes also protect upland property and infrastructure from waves and flooding, which can speed a community's recovery and reduce insurance and repair costs. Strong coastal infrastructure means local businesses are still in business after a storm, and coastal residents will be able to get back into their homes quickly and with fewer repairs.

¹ (Houston, J. 2013. “The economic value of beaches – a 2013 update” Shore & Beach 81(1), 3-11)

² (Houston, J. 2013. “The economic value of beaches – a 2013 update” Shore & Beach 81(1), 3-11)

This job and property protection is true with coastal wetlands, which also reduce storm and flood risk for property and infrastructure, and provide recreation benefit. Wetlands also support fisheries and, in areas like the Gulf Coast and Chesapeake, a major fishing industry. A detailed study of Gulf Coast restoration, which is primarily wetland restoration with some beach and mangrove restoration, determined that 88,000 new jobs would be created in the Gulf Coast with an investment of \$25 billion in coastal infrastructure over 50 years³. Studies of estuarine restoration – from the Gulf of Maine to the Chesapeake to North Carolina – consistently show that for every \$1 million invested, approximately 30 jobs are created or protected⁴.

Investment in coastal flood risk management saves money

Of course coastal infrastructure such as beaches, dunes and wetlands, as well as inland water infrastructure like stream- and riverbank restoration, are essential to the U.S. economy for more than just their job creation potential. They are, simply put, wise fiscal investments.

Investing in coastal infrastructure will save the federal government money by reducing post-disaster recovery payments. Federal investment in shore protection was estimated to have saved \$1.9 billion in damages during Hurricane Sandy⁵. With a \$65 billion recovery price tag, imagine how much we could have saved if we'd invested a fraction of that money to update our coastal infrastructure before the storm rather than after.

To illustrate this point, assume that a third of the \$65 billion in losses from Sandy were from direct wave and tidal forces. This roughly \$20 billion in losses were primarily from Massachusetts to Maryland, maybe a quarter of the lower 48 states' ocean and Gulf coasts. Now, if that same amount of post-disaster response and recovery funding had been invested over the entire nation's coastline over the past 20 years, the pre-disaster mitigation investment would have been \$1 billion per year. Arguably this is a far better investment on its face, without factoring in the human suffering and loss of life from Sandy. The current coastal storm damage reduction for the entire nation by the federal government is the neighborhood of \$100 million -- a far cry from the justifiable investment needed.

More recently we've seen areas of Florida that had maintained their beaches and dunes suffer far less damage from Hurricane Matthew last year than those areas without a good coastal infrastructure program.

Portions of Florida State Road A1A, a critical evacuation route in Flagler County, Florida, were completely destroyed by waves and flooding during Hurricane Matthew. Fixing, maintaining, and protecting the road could cost hundreds of millions of dollars⁶, which will be borne by the federal government. Had the Flagler County Beach project – authorized in the WIIN Act in 2016 -- been

³ https://www.mathereconomics.com/wp-content/uploads/2015/07/Knowledge_Center_Walton_Foundation_White_Paper.pdf

⁴ http://www.habitat.noaa.gov/pdf/RAE_Restoration_Jobs.pdf

⁵ <http://www.nad.usace.army.mil/Portals/40/docs/ComprehensiveStudy/Estimate%20of%20Sandy%20damages%20avoided.pdf>

⁶ <https://flaglerlive.com/102824/a1a-options/>

authorized, funded and implemented earlier, this damage may have been avoided. These scenarios play out time and again: Wide beaches and high dunes protect other infrastructure and jobs.

With water and coastal infrastructure, we will either pay now to build and maintain it, or pay a lot more later in repair and recovery.

Additional benefits and needs

Another advantage of beaches, dunes and wetland is their environmental value. From sea turtles to shorebirds to commercial and non-commercial fisheries, wildlife of all sorts live, breed and feed on what we consider our coastal and water infrastructure.

Barrier beach systems are shock absorbers for the high energy waves and tides generated by coastal storms. The nation's most biologically beneficial wetlands and estuaries are often protected from open Pacific, Atlantic, Gulf of Mexico and Great Lakes waves by a barrier beach. Erosion over time, stabilization of inlets for ships and boats and high waves and tides during a storm can change the placid and protected waters of a back bay into a very energized water body, resulting in a greatly diminished fishery.

This directly impacts those who work our coastal fisheries as their sole profession, and who feed America and the world. Practically all of our commercial fish stock depend on these quiet coastal areas; back bays, wetlands and estuaries for their very existence. Investment in maintaining the sandy shores and wetlands is a clear and undeniable investment in the valuable fishing industry of this nation.

The Environment and Public Works Committee is in a unique position to see the full picture of the nation's infrastructure needs, and to act in a very effective fashion. For example, the interstate highway system has become the most heavily relied upon transportation mode for the movement of goods and services around the nation. The heavy truck traffic on a road system that was originally designed for private automobile use creates higher danger to those cars and congestion that is reaching a tipping point in many regions of our country.

This is an issue that EPW is tasked with considering as part of the infrastructure needs analysis. We believe that renewed use and dependency on both rail and waterway transportation systems is inevitable. Restoring and maintaining shipping channels and ports will require removal of sediment, sediment that can and should be utilized to rebuild the vital green infrastructure of beaches, dunes, wetlands and islands that are ideal for wildlife habitat.

Financing and public-private-partnerships are important, but federal funding is critical to ensure projects are actually done.

So what can Congress do to protect our country's invaluable coastal resources? First and foremost, fund coastal infrastructure.

ASBPA is recommending at least \$5 billion over ten years to rebuild and restore our nation's beach, dunes, wetlands and other coastal flood risk reduction infrastructure. This should include building already authorized, but unfunded, coastal projects around the country. These projects all have a positive

benefit cost ratio (meaning they have been determined to have a positive return on investment), but unlike those in the Northeast that were funded by the Hurricane Sandy Supplemental, they have to compete for annual appropriations and new start limitations.

This \$5 billion investment should also include funding directly to states that have coastal projects they would like to see implemented but don't have the funding to start. While federal involvement from the Corps of Engineers is critical to every water project, allowing states the opportunity to lead on some projects has shown in some places to be more cost effective and to get projects built quicker. We're seeing this in Louisiana on a number of their coastal restoration projects where they are using money from the RESTORE Act, Natural Resources Damage Assessment (NRDA) and National Fish and Wildlife Foundation (NFWF) funding following the BP Deepwater Horizon Oil Spill.

Innovative financing that allows for public-private partnerships may prove helpful on some smaller scale projects. For example, we have begun to see environmental mitigation banking generate funds for important coastal projects. Finance schemes that allow companies or communities to reduce their flood insurance by building dunes have created helpful incentives for coastal infrastructure.

However large scale projects that will drive job creation and protect communities need federal investment. Industry will not build a beach simply for tax credits, they need to be paid. And since the public and our national economy benefit from sound and substantial coastal infrastructure, it must be the federal government that provides the funding. This federal funding is most effectively harnessed when working in cooperation with the state that manages its coast, and other necessary partners.

Furthermore, federal investment in water and coastal infrastructure will ensure projects are coordinated regionally and provide benefits across coastal communities. We don't want to see "random acts of restoration" which often prove ineffective and economically inefficient. We also don't want to see only the wealthiest communities receiving coastal protection.

Robust involvement by federal agencies, particularly funding projects, will ensure projects are effective and the benefits are distributed evenly around the coast. The Coastal States Organization which represents the 35 coastal states encourages Congress to take a close look at the Coastal Zone Management Act as one way to deliver more of the needed science, technical knowledge and funding to states and localities on many infrastructure projects - The CZMA creates a federal - state partnership that acknowledges that states and localities manage their own coastlines - and provides a mechanism to provide help without usurping state authorities and control.

Finally, Congress has an important role to play in oversight of our federal agencies with water and coastal infrastructure in their jurisdictions. One of the most important things ASBPA advocates for is Regional Sediment Management (RSM) and Beneficial Use of Dredged Material (BUDM). The placement of dredged sand and other sediment on beaches, dunes, and coastal wetlands can serve multiple benefits, including flood and storm risk reduction, ecological restoration, and adaptation to sea level rise. As sediment sources become increasingly scarce, the USACE and other agencies must manage sediment as the valuable and limited resource it is.

I'm not telling you anything you don't already know. In the past two Water Resources Development Acts, Congress has continued to push the USACE to proactively do RSM. Thank you.

In the recently passed WIIN Act, Sec. 1122 “Beneficial Use of Dredged Material” established pilot projects to allow the USACE to fund beneficial placement beyond the federal standard of “least cost disposal.” Sec. 1204 authorized a “South Atlantic Coastal Study,” which directs the Corps to conduct a study of coastal areas located within the geographic boundaries of the South Atlantic Division to identify the risks and vulnerabilities of those areas to increased hurricane and storm damage as a result of sea level rise. This study will also include a focus on sediment resources and coastal erosion issues.

Like the North Atlantic Coast Comprehensive Study authorized after Hurricane Sandy, this study will ensure coastal projects are coordinated regionally and are achieving multiple benefits, and help the Corps and other agencies find new and better ways to guide the management and preservation of America’s coasts. Thank you for these efforts. They are smart uses of federal funds. We urge Congress to ensure that both of these sections get implemented, which will require both oversight of the USACE and funding.

Summary

Water and coastal infrastructure, such as beaches, dunes, wetlands and the like, may not fit the traditional vision of steel and concrete stretching as high or as far as they eye can see. But they are just as critical to our nation’s economy and well-being, and they provide just as many, if not more, jobs and other economic benefits. Natural water and coastal infrastructure provide jobs via construction and restoration; via recreation (including hunting and fishing) and tourism; via support for the coastal community’s local economy; and via protection of property and local business from flood and storm damage. Investing in coastal infrastructure is also a wise investment, since if we don’t invest now we’ll pay more in recovery from damages later.

We urge Congress to invest \$5 billion over 10 years in coastal infrastructure. Financing options and incentivizing private investment is helpful for smaller localized projects, but to really create jobs and make a sound investment the federal government needs to fund coastal projects.

Congress should also continue to support Regional Sediment Management, and provide oversight of federal coastal agencies to ensure coastal infrastructure programs in the WIIN Act get implemented, but these will also take funding. A sound and long-term investment in coastal infrastructure will help put Americans back to work, create a strong economic return on investment and save money in the long run.

Thank you for your consideration, and for your efforts to protect and preserve America’s coast.

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