

Washington Office
101 Constitution Ave., N.W.
Suite 375 East
Washington, D.C. 20001
(202) 789-7850
Fax: (202) 789-7859
Web: <http://www.asce.org>

TESTIMONY OF
Norma Jean Mattei, P.E., M.ASCE
ON BEHALF OF
THE AMERICAN SOCIETY OF CIVIL ENGINEERS
BEFORE THE
ENVIRONMENT AND PUBLIC WORKS COMMITTEE
UNITED STATES SENATE
ON
THE WATER RESOURCES DEVELOPMENT ACT
FEBRUARY 10, 2016

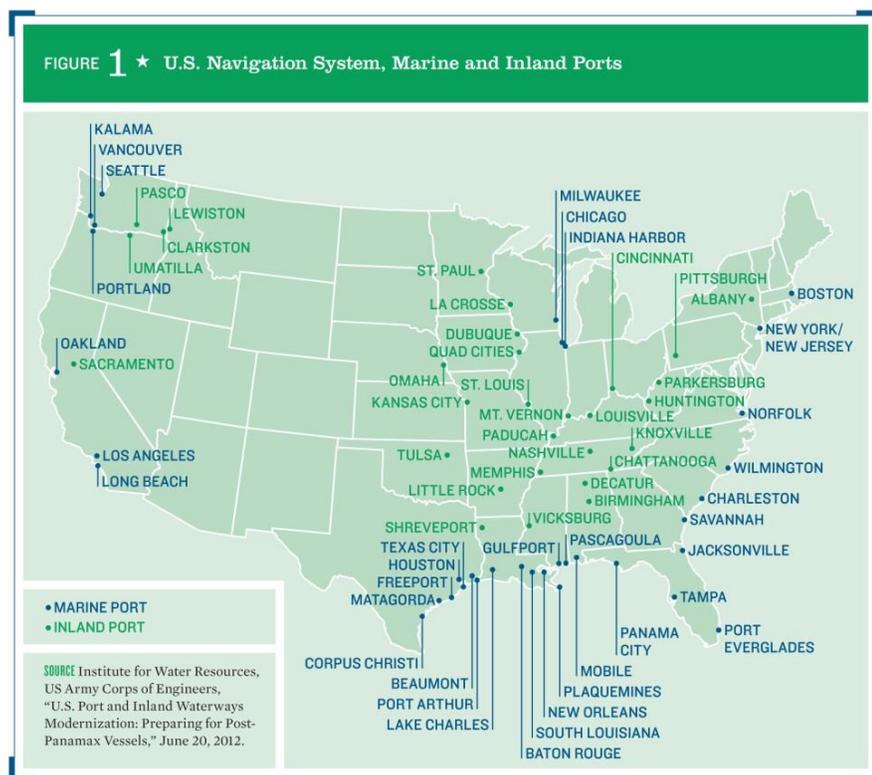
Chairman Inhofe, Ranking Member Boxer, and Members of the Committee:

It is an honor for me to appear before this committee on behalf of the American Society of Civil Engineers (ASCE)¹ to discuss the importance of water resources projects to our nation’s overall economic health.

ASCE commends the Environment and Public Works Committee for holding a hearing today on the Water Resources Development Act (WRDA) and for continuing to make the legislation a priority in the 114th Congress. The Society is pleased to present to the Committee our views on the state of our nation’s water resources infrastructure and to express the impact that ignoring capital improvement, operations and maintenance has on the nation’s ability to compete in a global economy. In addition we are pleased to offer our views on innovative financing and the need to continuing being both stewards of the built and natural environment as we design, build and construct our nation’s infrastructure. A Water Resources Development Act that fosters economic growth, job creation and the built environment will allow the nation to remain competitive and sustainable in the Twenty-First Century.

THE IMPACT OF UNDER-INVESTING IN OUR NATION’S PORTS AND INLAND WATERWAYS

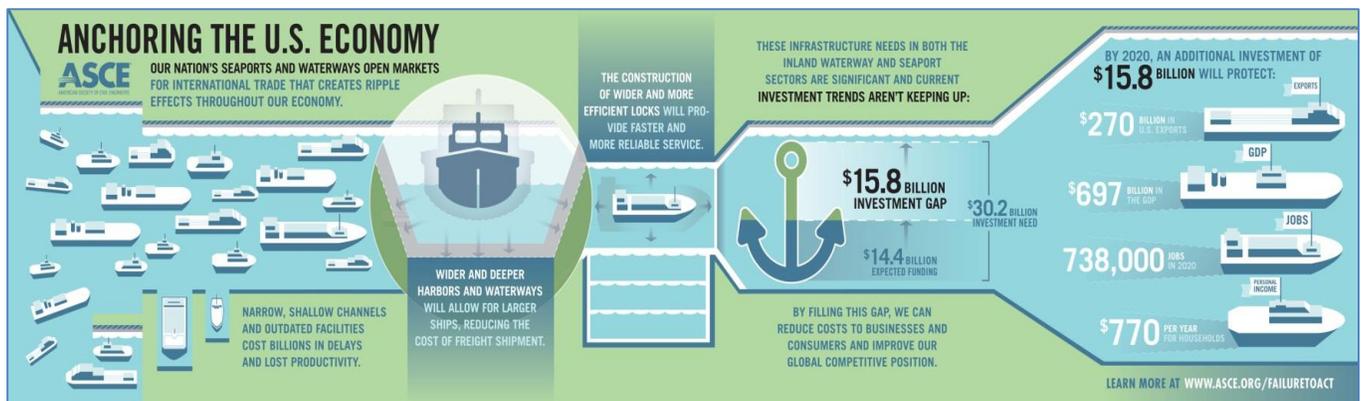
The United States has 300 commercial ports, 12,000 miles of inland and intra-coastal waterways and about 240 lock chambers, which carry more than 70 percent of U.S. imports by tonnage and just over half of our imports by value. In 2013, ASCE gave the nation’s waterways infrastructure an overall grade of “D+” due to the age of many facilities and the fact that the current system of inland waterways lacks resilience. To remain competitive on a global scale, U.S. marine ports and inland waterways will require investment in the coming decades beyond the \$14.4 billion currently expected. Thankfully, with the 2014 passage of WRRDA and updates to the Harbor Maintenance Trust Fund, ports and harbors across the country can now count on an assured revenue stream to address their dredging needs. Additionally, WRRDA changes made to the Inland Waterway Trust Fund and an increase to diesel barge tax will help add and reallocate precious dollars to ensure a more robust and equitable



¹ ASCE was founded in 1852 and is the country's oldest national civil engineering organization. It represents 150,000 civil engineers individually in private practice, government, industry, and academia who are dedicated to the advancement of the science and profession of civil engineering. ASCE is a non-profit educational and professional society organized under Part 1.501(c) (3) of the Internal Revenue Code.

distribution of funds. We applaud the Committees work to update these two important infrastructure funds in WRRDA 2014.

According to ASCE’s 2012 *Failure to Act*² economic study on the nation’s marine ports and inland waterways, aging infrastructure for marine ports and inland waterways threatens more than 1 million U.S. jobs. Additionally, between now and 2020, investment needs in the nation’s marine ports and inland waterways sector will total \$30 billion, while planned expenditures are only about \$14 billion, leaving a total, federal, investment gap of nearly \$16 billion over the upcoming years. However, the costs attributable to delays in the nation’s inland waterways system were \$33 billion in 2010. These costs reverberate throughout the economy given the heavy reliance of energy inputs like petroleum and coal on inland waterway transportation. Furthermore, this cost is expected to increase to nearly \$49 billion by 2020. These costs are large, and do not even address the landside connections or the “inside the fence” infrastructure that is the responsibility of the port authority. Therefore, the nation will either need to pay for much needed investments in the nation’s ports and harbors now, or will pay more severally in lost labor, lost exports, and lost GDP down the road.



The nation’s marine ports and inland waterways have historically been the critical links that make international commerce possible. However, with the scheduled expansion of the Panama Canal by 2015, the average size of container ships is likely to increase significantly, affecting the operations of those major U.S. ports that handle containerized cargo. Currently, many of those U.S. ports will still require significant infrastructure upgrades to handle the larger ships and therefore remain competitive. The needed investment in marine ports will include harbor and channel dredging, while inland waterways will require new or rehabilitated lock and dam facilities.

TABLE 16★ Lost Trade Due to the Gap in Inland Waterways and Marine Ports Investments (in billions of 2010 dollars)

YEAR OR PERIOD	EXPORTS	IMPORTS	TOTAL TRADE
2020	-42.8	-20.5	-63.3
2040	-141.6	-63.6	-205.2
2012-20	-270.1	-157.4	-427.5
2021-40	-1,711.8	-775.6	-2,487.4
2012-40	-1,981.9	-933.0	-2,914.9

SOURCES EDR Group and LIFT model, University of Maryland, INFORUM Group, 2012.

² www.asce.org/failuretoact

If the nation makes an additional investment of \$15.8 billion between now and 2020, the U.S. can eliminate the current drag on economic growth and protect:

- \$270 billion in U.S. exports.
- \$697 billion in GDP.
- 738,000 jobs in 2020.
- \$872 billion in personal income, or \$770 per year for households.

Unless America’s infrastructure investment gaps are filled, transporting goods will become costlier, prices will rise, and the United States will become less competitive in the global market. As a result, employment, personal income, and GDP will all fall.

ENSURE THE SUCCESS OF THE NATIONAL DAM SAFETY PROGRAM AND LEVEE SAFETY INITIATIVE

In the Water Resources Reform and Development Act of 2014, Congress reauthorized the National Dam Safety Program and stood up a new National Levee Safety Initiative. The Dam Safety Program, first authorized in 1996 has for more than two decades helped inventory and assess the condition of nearly 84,000 dams across the country and provide assistance to improve state dam safety programs. Because of the program we know the average age of dams in this country is 52 years old. Nearly 14,000 of those dams are considered high-hazard, and that number continues to rise. Many of these dams were built as low-hazard dams protecting undeveloped agricultural land. However, with an increasing population and greater development below dams, the overall number of high-hazard dams continues to increase. The number of deficient dams is estimated at more than 4,000, which includes 2,000 deficient high-hazard dams. The Association of State Dam Safety Officials estimates that it will require an investment of \$21 billion to repair these aging, yet critical, high-hazard dams. We encourage the committee to use its oversight authority to ensure the program continues to produce important life-safety benefits. In addition, the next critical step of developing robust dam safety processes will require a rehabilitation program. Organizations such as ASDSO and the American Society of Civil Engineers (ASCE), with the National Dam Safety Program at FEMA, advocate strong state and federal programs, promote awareness of the need for improvement of the nation’s infrastructure, and support federal legislation to launch a dam rehabilitation financing program.

WRDA 2014 also created a National Levee Initiative, which, once funded will begin the same process the dam infrastructure underwent 20 years ago. It is estimated that there are 100,000 miles of levees in the U.S. Currently only about 10% of levees

will begin the same process the dam infrastructure underwent 20 years ago. It is estimated that there are 100,000 miles of levees in the U.S. Currently only about 10% of levees



have been inventoried and assessed. The Levee Safety Initiative provides the mechanism to expand the inventory and assessment process. We encourage the committee to continue its oversight and provide any additional policy changes or resources necessary to ensure the success of this program.

EXPLORE ALTERNATIVE FINANCING

In the Water Resources Reform and Development Act of 2014, Congress authorized the Army Corps of Engineers to study the feasibility of partnering with the private sector to deliver projects through alternative methods. ASCE recognizes and supports Public Private Partnerships (PPPs) as one of many methods of financing and delivering infrastructure improvements. ASCE supports the use of the P3 project delivery method when federal, state, or local funding is not available to address capacity or safety issues in a timely manner and the public interest is protected. Any public revenue derived from PPPs must be dedicated exclusively back to comparable infrastructure facilities in the state or locality where the project is based. Revenue and assessment of revenue should be reported annually to the general public in a public forum available to access by all. We also recommend that P3 contract's includes at a minimum performance criteria that address long-term viability, life cycle costs, return on public and private investment, takeover and turnback, projected yearly revenue, identification of responsible parties and their roles, and residual value. Transparency is a key element in all aspects of contract development, project implementation and any subsequent operation. PPPs can be an effective method of project financing and delivery. PPPs do not replace the need for public funding of infrastructure projects. ASCE supports the use of PPPs only when the public interest is protected and where professional engineers serve in responsible positions of authority regarding engineering to further safeguard the public interest.

MAXIMIZE MULTIPLE CO BENEFITS OF PROJECTS

ASCE supports and encourages project sponsors to survey co benefits that can be achieved by looking beyond a singular authorized purpose. For example, ASCE supports the use of beneficial use of dredged material. The federal government should revise its methodology for economic analysis of dredging costs to reflect gaining the benefits of using dredged material for coastal protection, environmental stewardship and other beneficial uses as well as to avoid disposal costs. Government and private entities that develop and execute projects requiring dredging be stewards for the beneficial use of dredged material. Dredged material be managed as a resource using life-cycle dredged material management plans that consider regional sediment management needs; dredging frequencies, locations, and quantities; as well as landscape use and change. Contaminated sediments, considering the contaminant and degree of contamination, be evaluated for selected beneficial uses. Any dredging plan includes a comprehensive monitoring plan that considers site requirements, beneficial uses, and environmental impacts.

Issue

RESTORE THE ENVIRONMENT

Too often the built environment can cause adverse impacts on the natural environment. Civil engineers have the training and tools necessary to ensure that projects meet their intended purpose, but do so in a manner that pays particular attention to ecosystem values. ASCE is working with members to update best practices for storm water management, flood control and coastal protection infrastructure. ASCE is focused on few issues in particular that are relevant to WRDA:

- Ensuring green infrastructure practices are fully considered in storm water management plans
- Revisiting flood control structures to maximize environmental benefits (for example, studying the potential environmental benefits of restoring wetlands in southern Louisiana using large scale sediment diversions)
- Promoting the use of shoreline protection that incorporate multiple lines of defense³, including the use of living shorelines, natural infrastructure and resilient construction practices.

³ See John Lopez, *The Multiple Lines of Defense Strategy to Sustain Coastal Louisiana, Lake Pontchartrain Basin Foundation*, 2006.

CONCLUSION

In conclusion, ASCE applauds the Senate Environment and Public Works Committee for taking strides to address our nation's aging water resources. In the 2017 Report Card ASCE will once again grade the nation's infrastructure. WRDA bills provide an important opportunity to help raise the grades.

Deferring water resource projects creates costs that reverberate throughout our economy, causing exports and GDP to fall, threatening U.S. jobs, causing a drop in personal income, and putting vessel operators at increased risk. ASCE urges Congress to continue working on WRDA bill every two years. A two year cycle provides certainty to project sponsors, keeps the price tag of the legislation manageable and can cut down on the backlog of projects. ASCE looks forward to working with the Senate Environment and Public Works Committee as you move forward on this legislation.

Thank you, Senator Inhofe. This concludes my testimony. I would be pleased to answer any questions.