Dear Chairman Graves and Ranking Member Napolitano:

Thank you for the opportunity to submit for the record the following testimony in response to the Subcommittee’s March 9, 2017 hearing on “Building a 21st Century Infrastructure for America: The Role of Federal Agencies in Water Infrastructure.”

This testimony addresses two areas of critical concern to our organizations: (1) the importance of National Environmental Policy Act review for water infrastructure projects; and (2) the importance of prioritizing the use of natural and nature-based water resources infrastructure.

I. Robust Environmental Reviews Produce Better Projects and Save Taxpayer Dollars

Careful compliance with the National Environmental Policy Act (NEPA) is fundamental to making sound decisions on federal water projects. NEPA ensures that the public and agency decision makers will have the information they need to understand the impacts of a proposed action and to know whether reasonable alternatives exist to achieve the project goals while causing less environmental harm. NEPA’s public comment requirements ensure that the concerns and input of affected stakeholders’ are taken into account by federal agencies before final decisions are made.

However, during the March 9, 2017 hearing, a number of members and witnesses commented that NEPA and other regulations, were a major cause of delay in infrastructure projects. This theory has been comprehensively examined and rebuffed by numerous studies, including studies conducted by the Congressional Research Service and the U.S. Department of the Treasury.

The most recent report was released by the Treasury Department in December 2016 (attached). This report, like the others, found that “a lack of funds is by far the most common challenge to
completing” major infrastructure projects. The report listed three additional challenges to large-scale infrastructure projects in order of their impact on the project development process. The second largest challenge was lack of consensus when multiple public and private entities and jurisdictions are involved. The third largest challenge was capital costs increasing at a greater rate than inflation. The last, and smallest challenge by far, to large-scale infrastructure projects was the environmental review and permitting process.

The Treasury Department report also noted, however, that this small challenge could be addressed through successful implementation of recently–passed legislation addressing the permitting processes under NEPA. As the Committee is aware, changes to the NEPA process for U.S. Army Corps of Engineers (Corps) civil works projects was enacted in the Water Resources Reform and Development Act of 2014. As a result, additional legislative changes to the NEPA process are unwarranted. To effectively advance critical infrastructure projects, Congress should instead allocate sufficient funds.

The Congressional Research Service (CRS) has likewise concluded, on multiple occasions, that NEPA is not a primary or major cause of delay in project review. In fact, CRS has found that the most commonly identified causes of delay are completely unrelated to the NEPA review process. In one report, CRS concludes that for transportation projects, the lack of funding, securing community consensus, and accommodating affected stakeholders, including utility companies and railroads, account for the vast majority of delays. In another report, CRS determined:

“[T]here is little data available to demonstrate that NEPA currently plays a significant role in delaying federal actions” and “factors outside the NEPA process were identified as the cause of delay between 68% and 84% of the time.”

Robust environmental review and meaningful public input under NEPA lead to better, more effective water resources projects. Indeed, as eight past chairs of the Council on Environmental Quality have concluded, NEPA review is a prerequisite for responsible agency action:

[C]onsideration of the impacts of proposed government actions on the quality of the human environment is essential to responsible government decision-making. Government projects and programs have effects on the environment with important consequences for every American, and those impacts should be carefully weighed by public officials before taking action. Environmental impact analysis is thus not an impediment to responsible government action; it is a prerequisite for it.

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In testimony before the House Armed Services Committee regarding plans to address problems with obsolete nuclear reactors at the Savannah River site, then Secretary of Energy Admiral James Watkins, testified:

“Looking back on it, thank God for NEPA because there were so many pressures to make a selection for a technology that it might have been forced upon us and that would have been wrong for the country.”

Effective environmental reviews are critical for water resource projects that often have a profound effect on the environment and on public safety and well-being. NEPA reviews are typically the only opportunity for members of the public to provide input into these projects. Effective NEPA reviews expose the true cost of environmentally damaging and ill-conceived proposals, leading to better and far less damaging projects and substantial savings for federal taxpayers.

For example, preparation of a supplemental environmental impact statement led the Corps to save more than 4,300 acres of wetlands that would have been destroyed had the Corps followed its original plan for raising levees along the Mississippi River. Environmental review of a proposed project to dredge Bolinas Lagoon, one of the most pristine tidal lagoons in California, demonstrated that the environmentally destructive project was in fact unnecessary, saving taxpayers $133 million. The environmental review process exposed the devastating impacts of the Yazoo Backwater Pumping Plant project in Mississippi, prompting the George W. Bush Administration to veto the project, protecting 200,000 acres of wetlands and saving taxpayers more than $220 million.

When resource agency concerns are ignored or necessary studies are not done, the results can be devastating. Prior to construction of the Mississippi River Gulf Outlet (MRGO) in Louisiana, the U.S. Fish and Wildlife Service raised serious concerns and recommended additional environmental and hydrologic modeling, but the Corps ignored this advice. By 2000, the MRGO had impacted over 600,000 acres of coastal ecosystems surrounding the Greater New Orleans area and destroyed over 27,000 acres of wetlands that once served as an important buffer from storm surge. During Hurricane Katrina, the MRGO funneled Katrina’s storm surge into New Orleans, resulting in devastating and deadly flooding in St. Bernard Parish and the lower Ninth Ward.

The Corps continues to rely on outdated NEPA analyses in highly dynamic environments like the Mississippi River Delta, despite both vastly changed conditions and vastly improved scientific understanding of the impacts of the Corps’ management of the flood control and navigation systems that affect those environments. The solution to this dangerous problem is to conduct a comprehensive update of these outdated NEPA analyses and to modernize the Corps’ management practices in accordance with those studies.


II. Federal Agencies Should Prioritize Natural and Nature-Based Water Infrastructure

Communities are increasingly suffering the adverse impacts of more intense storms and more frequent floods. These impacts often reverberate throughout the nation’s economy, particularly when severe weather strikes vulnerable areas like coastal Louisiana that support critical industries and nationally significant navigation infrastructure.

For many decades, Federal efforts to protect communities from storms and floods have focused primarily on constructing gray infrastructure such as levees, floodwalls, and dikes. While these projects have provided some benefits, they have also caused significant—and often avoidable—harm to rivers, coasts, wetlands, and floodplains and the many vital and free services those resources provide. The health of these already degraded natural systems continues to decline due to rising sea levels, rising water temperatures, salt water intrusion, invasive species, and the increasing frequency and intensity of extreme drought and storm events.

It is imperative that the Federal government embrace a new paradigm for water resources planning that protects both communities and water resources. Smart investments in natural and nature-based infrastructure can create resilient, self-sustaining, and cost-effective protections for communities. As aptly stated by the President of the Reinsurance Association of America:

“One cannot overstate the value of preserving our natural systems for the protection of people and property from catastrophic events.”

As Chairman Graves is fully aware, this value is demonstrated in Louisiana’s 2012 Comprehensive Master Plan for a Sustainable Coast which is proposing to spend half of its funding over the next fifty years on such measures.

Natural and nature-based infrastructure make use of natural systems such as wetlands and healthy rivers to protect communities. Wetlands act as natural sponges, storing and slowly releasing floodwaters after peak flood flows have passed, and coastal wetlands buffer the onslaught of hurricanes and tropical storms. Restoring a river's natural flow and meandering channel, and giving at least some floodplain back to the river, slows down floodwaters and gives the river room to spread out without harming homes and businesses. A single acre of wetland can store 1 to 1.5 million gallons of floodwaters. Just a one percent loss of a watershed’s wetlands can increase total flood volume by almost seven percent.

Natural and nature-based infrastructure also protects the many free services that the nation’s rivers, floodplains, and wetlands provide to people and wildlife. For example, healthy rivers,

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floodplains, and wetlands provide vital fish and wildlife habitat and allow people and wildlife to benefit from natural flood cycles.10

Living shorelines are a prime example of nature-based infrastructure. Living shorelines are constructed with natural materials including vegetation, fiber logs, and marsh sills to protect coasts from erosion. Use of living shorelines is a demonstrably viable and environmentally-preferable alternative to traditional structural approaches to shoreline hardening like bulkheads.

Scientific research demonstrates that when shorelines are hardened with grey infrastructure, the function and resilience of valuable ecosystems are reduced.11 Bulkheads are particularly harmful, often destroying the habitat in front of them.12 Additional adverse effects of bulkheads include: prevention of upslope migration of tidal wetlands as sea level rises13; disruption of the food web14; reduction of biodiversity; and a reduction of ecosystem services at the bulkhead site and surrounding areas.15 Bulkhead induced erosion contributes to the destruction of marsh plants16 and the ultimate destruction of marshes as a natural form of erosion prevention.17

10 In a healthy, functioning river system, natural floods deposit nutrients along floodplains creating fertile soil for bottomland hardwood forests. Sediment transported by floods form islands and back channels that are home to fish, birds, and other wildlife. By scouring out river channels and riparian areas, floods prevent rivers from becoming overgrown with vegetation. Floods also facilitate breeding and migration for a host of fish species, and provide vital connectivity between habitat areas. In the deltas at the mouths of rivers, floods release freshwater and sediment, sustaining and renewing wetlands that protect coastal communities from storms and provide nurseries for multimillion dollar fisheries.


14 Sarah M. Heerhartz et al., Shoreline Armoring in an Estuary Constrains Wrack-Associated Invertebrate Communities, 39 ESTUARIES &COASTS, 171-88 (2016); Sarah M. Heerhartz et al., Effects of Shoreline Armoring on Beach Wrack Subsidies to the Nearshore Ecotone in an Estuarine Fjord, 37 ESTUARIES &COASTS, 1256-68 (2014).


By causing erosion on either side of the structure, bulkheads also jeopardize their own stability and create the need for ongoing and costly maintenance and additional shoreline armament. Failure rates for coastal armoring, like bulkheads, can be high. When bulkheads and similar structures fail, infrastructure and human safety are put at risk. Hurricanes, in particular, can cause significant damage to bulkheads.

By contrast, living shorelines enhance coastal habitats, including by creating nursery grounds for fish and shellfish, providing feeding grounds for shorebirds and wading birds, and helping reduce water pollution. A substantial body of scientific literature also demonstrates that living shorelines are more effective at preventing erosion and are highly resilient to storms.

Living shorelines can be better at protecting the coast from storm damage than bulkheads. A survey of the North Carolina coast after Hurricane Irene showed no visible damage in living shoreline projects, while 76 percent of bulkheads suffered damage. While living shorelines may not be appropriate everywhere, they are in many cases, a better solution than building hard structures. The use of living shorelines, like other natural and nature-based infrastructure, should be strongly encouraged.


24 Id.
Natural and nature-based infrastructure provide important additional benefits by supporting the
nation’s outdoor economy and creating jobs. Natural and nature-based infrastructure protects the
rivers, coasts, and wetlands that form the basis of the nation’s outdoor economy. In 2011, “90.1
million Americans, 38% of the U.S. population 16 years old and older, enjoyed some form of
fishing, hunting or wildlife-associated recreation” contributing $145 billion to the national economy
in the process. 25  “This equates to 1% of gross domestic product; meaning one out of every one
hundred dollars of all goods and services produced in the U.S.”26

Healthy rivers, coasts and wetlands are equally critical to the nation’s commercial fisheries. Healthy
coensts “supply key habitat for over 75% of our nation’s commercial fish catch”27 that support vital
economies. For example, commercial fishing in Florida’s Apalachicola River and Bay contributes
$200 million annually to the regional economy and directly supports up to 85 percent of the local
population.

Natural and nature-based infrastructure projects that restore the nation’s waters are also an
important creator of jobs that are “inherently local and cannot be exported.”28  Restore America’s
Estuaries reports that coastal restoration “can create more than 30 jobs for each million dollars
invested” which is “more than twice as many jobs as the oil and gas and road construction industries
combined.”29

In Louisiana, analysis of a proposed $72 million project to restore a 30,000-acre expanse of degraded
marsh near downtown New Orleans known as the Central Wetlands Unit shows that it could create
689 jobs (280 direct jobs and 400 indirect and induced jobs) over the project’s life.30
Implementation of the entire $27.6 billion dollars of restoration in Louisiana’s Master Plan over the
next fifty years would multiply those jobs hundreds of times over.

In Florida, restoration of the Everglades will produce more than 442,000 jobs over the next 50 years
and almost 23,000 short- to mid-term jobs for the actual restoration work.31  Restoring the
Everglades is also predicted to produce a return of four dollars for each dollar invested.32

The Department of the Interior’s FY2010 investment of $156 million for ecosystem restoration
activities in the Chesapeake Bay, Great Lakes, and Everglades supported more than 3,200 jobs and
contributed $427 million in economic outputs.33  The full economic output is even greater, however,

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National Overview, Issued August 2012.
26 Id.
27 Restore America’s Estuaries, Jobs & Dollars BIG RETURNS from coastal habitat restoration (September 14, 2011)
28 Id.
29 Id.
30 Environmental Defense Fund, Profiles in Restoration: The Central Wetlands Unit, Part VI (May 3, 2010)
(http://blogs.edf.org/restorationandresilience/category/central-wetlands-unit/).
31 Everglades Foundation, Everglades Restoration a 4-to1-Investment
http://everglades.3cdn.net/79a5b78182741ae87f_wvm6h3vhn.pdf).
32 Id.
33 The Department of the Interior’s Economic Contributions (Department of the Interior, 2011) at 106
as the $427 million does not capture the net benefits associated with the restoration of
environmental goods and services not bought and sold in markets.\textsuperscript{34}

In Oregon, a $411 million investment in restoration from 2001 to 2010 generated an estimated $752
to $977 million in economic output.\textsuperscript{35} The 6,740 restorations projects completed during that time
supported an estimated 4,600 to 6,500 jobs, including jobs in construction, engineering, wildlife
biology, and in supporting local businesses such as plant nurseries and heavy equipment
de companies.\textsuperscript{36} On average, $0.80 of every $1.00 spent on a restoration project in Oregon stays in the
county where the project is located and $0.90 stays in the state.\textsuperscript{37} Importantly, the monies spent on
restoration are “an enduring investment” whose value “continues to accrue and pay out over
generations. Improvements in habitat and fish and wildlife populations provide recreation and
commercial opportunities as well as ecosystem services that are fundamental to our health,
productivity, and quality of life.”\textsuperscript{38}

Restoration projects can also provide critical business opportunities during difficult economic times:

“During the economic recession, a habitat restoration project kept our marine transportation
business afloat. We were able to keep many of our people working to rebuild a critical part
of the marine environment that had been all but lost in North Carolina.”\textsuperscript{39}

\section*{III. Conclusion}

To protect communities, wildlife, and a healthy economy, Congress should ensure robust
environmental reviews that fully comply with the National Environmental Policy Act, and prioritize
the use of natural and nature-based water resources infrastructure. Our organizations look forward
to working with you to achieve these important goals.

Sincerely,

Alliance of Nurses for Healthy Environments  
American Rivers  
American Sustainable Business Council  
Clean Water Action  
Earthjustice  
Environment America  
Izaak Walton League of America  
League of United Latin American Citizens  
Missouri Coalition for the Environment  
National Wildlife Federation  
Natural Resources Defense Council  
Sierra Club  
Southern Environmental Law Center

\textsuperscript{34} Id. at 5.
\textsuperscript{35} Whole Watershed Restoration Initiative, Oregon’s Restoration Economy, Investing in natural assets for the benefit of
\textsuperscript{36} Id.
\textsuperscript{37} Id.
\textsuperscript{38} Id.
\textsuperscript{39} Restore America’s Estuaries, \textit{Jobs & Dollars BIG RETURNS from coastal habitat restoration} (September 14, 2011)
(http://www.estuaries.org/images/81103-RAE_17_FINAL_web.pdf) (quoting Simon Rich, General Manager of
Stevens Towing Company).