

Statement

Of

The National Wildlife Federation

Before the

Transportation and Infrastructure Committee  
United States House of Representatives

For the hearing on the

The Foundations for a New Water Resources Development Act

April 16, 2013

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**STATEMENT OF MELISSA SAMET  
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**UNITED STATES HOUSE OF REPRESENTATIVES  
TRANSPORTATION AND INFRASTRUCTURE COMMITTEE  
THE FOUNDATIONS FOR A NEW WATER RESOURCES DEVELOPMENT ACT  
April 16, 2013**

Chairman Shuster, Ranking Member Rahall, and members of the Committee, thank you for the opportunity to present a statement on the Foundations for a New Water Resources Development Act. The National Wildlife Federation greatly appreciates the opportunity to offer our views on changes to the U.S. Army Corps of Engineers (Corps) planning process that are needed to ensure that Corps projects protect public safety, sustain fish and wildlife, and promote sustainable economic development.

The National Wildlife Federation is the nation's largest conservation education and advocacy organization with more than four million members and supporters and affiliate conservation organizations in forty-eight states and territories. The Federation has a long history of interest and involvement in the management and protection of the nation's rich array of water resources and has long called for modernization of the Corps' planning process and programs. The Federation also works closely with the Water Protection Network, a coalition of more than 200 grassroots, regional, and national organizations from across the country working to improve the way the Corps plans and constructs water projects.

The current approach to federal water resources planning has produced far too many projects that have significantly damaged the nation's rivers, coasts, and wetlands. These projects destroy vital fish and wildlife habitat; often increase flood risks for downstream communities; and deprive the nation of vital ecosystem services, including clean water, natural flood protection and carbon sequestration. They also undermine sustainable economic development by harming tourism, recreation, hunting, fishing, and other economies that rely on a healthy environment. Outdated operating plans for many of these projects are adding to this damage.

The nation can no longer afford this business as usual approach to project planning. We face increasingly limited federal funding for water projects at the same time that communities across the country are suffering from the unintended consequences of many already-constructed water resources projects, more intense storms like Hurricane Sandy, more frequent and intense floods and droughts, and rapidly rising sea levels. Congress has already provided more than \$60 billion in federal disaster assistance to the region impacted by Sandy, and Hurricane Sandy was neither the first nor the last extreme weather event that we will face. If we fail to ensure that water resources planning can better protect people and wildlife before disaster strikes, the devastation from future storms will be even higher.

To address these challenges, it is vital that the next Water Resources Development Act maximize protection of our rivers, floodplains, and other natural resources to improve the

safety of our communities and protect fish and wildlife. Corps planning must solve – instead of cause – water resources problems so that people and wildlife can thrive as the earth’s climate continues to change.

As this Committee is aware, Congress enacted important reforms in the Water Resources Development Act of 2007 to change the direction of federal water resources planning. Among other key reforms, Congress directed that all federal water resources projects – including operation of the nation’s vast array of existing water infrastructure – must protect and restore the environment, seek to promote sustainable economic development, and seek to avoid the unwise use of floodplains.<sup>1</sup> To carry out this directive, Congress directed the Corps to, among other things, protect and restore the functions of natural systems and to mitigate any unavoidable damage to those systems.<sup>2</sup>

The National Wildlife Federation urges the Committee to enact the simple, common sense reforms outlined in Section IV of this statement to further this critical water policy. Among other things, these reforms would direct the Corps to utilize low impact, natural solutions to reducing flood damages wherever practicable, and to modernize management of existing projects to account for current needs and environmental conditions, including more extreme weather and rising sea levels. The proposed reforms would provide the Corps with the direction and authority it needs to ensure that water resources projects protect people, jobs, and wildlife.

The National Wildlife Federation also urges the Committee to protect the integrity of the nation’s environmental laws and affirm the continued use of the existing framework and process for conducting environmental reviews of Corps water projects. The National Environmental Policy Act and coordination with agencies like the U.S. Fish and Wildlife Service disclose the true environmental and economic costs of Corps projects and allow decision makers and the public to determine whether those projects are deserving of investment by federal taxpayers. They produce better, less damaging projects and have saved hundreds of millions in taxpayer dollars while protecting wetlands vital to flood protection, migratory waterfowl, and clean water.

The conservation community has strongly opposed language in the Senate Water Resources Development Act of 2013 (sections 2032 and 2033 of S.601) that would undermine the effectiveness of the environmental review process and the integrity of the nation’s environmental laws.<sup>3</sup> The Corps also opposes such efforts. In a recent letter to the Senate

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<sup>1</sup> 42 U.S.C § 1962–3 (Section 2031 of Public Law 110–114, 121 Stat. 1082).

<sup>2</sup> *Id.*

<sup>3</sup> *See, e.g.*, Letter from the National Wildlife Federation to Members of the Senate, dated April 8, 2013 (opposing consideration of S.601 until sections 2032 and 2033 are stripped from the bill); Letter from 132 Conservation Organizations to Members of the Senate, dated April 9, 2013 (same); Letter from American Rivers, Clean Water Action, Defenders of Wildlife, Earthjustice, Endangered Species Coalition, Natural Resources Defense Council, National Wildlife Federation, Oceana, Ocean Conservancy, Physicians for Social Responsibility, Sierra Club, and The Wilderness Society to Members of the Senate, dated April 10, 2013 (same); *see also* Letter from the Association of

Environment and Public Works Committee, the Assistant Secretary of the Army for Civil Works urged Congress to “affirm continued use of the current foundational environmental framework for all water resource project decisions” and to “support efforts to evaluate the full range of reasonable alternatives, ensure the integrity of [the Corps’] analysis, and promote better environmental stewardship.”<sup>4</sup> The administration also urged that Congress “should not prescribe regulatory deadlines, limit public participation, or constrain the Federal review process of the potential impacts” of Corps proposals.<sup>5</sup>

## I. Poorly Planned Federal Water Projects Harm Communities, Wildlife, and the Economy

Poorly planned water resources projects cause considerable social, economic, and environmental harm while often failing to solve critical water resources problems. During the past 20 years, federal water projects have played a major role in making freshwater species the most imperiled group of fish and wildlife in North America. At the same time, the nation’s flood damages have increased at an alarming rate. Outdated operating plans for Corps projects have also significantly increased flood risks for communities, caused unnecessary harm to the environment, and aggravated contentious water quantity conflicts.

A new approach to planning is critical to reverse this damage and to allow people and wildlife to thrive in the face of the more intense storms, more frequent and intense floods and droughts, and rapidly rising sea levels that are becoming the new norm. For example, it is expected that:

- The Atlantic Coast will experience rising sea levels, warming ocean waters, enhanced coastal storms, and ocean acidification, all of which place both natural systems and coastal communities at risk.<sup>6</sup> During the last century, sea level has increased by approximately 8 inches on average around the globe. Scientists project that the global mean sea level could increase by an additional 1 to 4 feet by the end of the century, and could increase by as much as 6.6 feet.<sup>7</sup> New science suggests that the area off the Atlantic Coast is a “hot spot” for a relatively higher rate of sea-level rise than the global average.<sup>8</sup>

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State Wetland Managers and the Association of State Floodplain Managers, dated April 10, 2013 (opposing sections 2032 and 2033 of S.601).

<sup>4</sup> Letter from the Assistant Secretary of the Army for Civil Works to the Chairman of the Senate Environment and Public Works Committee, dated March 14, 2013.

<sup>5</sup> *Id.*

<sup>6</sup> Burkett VR and Davidson MA (Eds.). 2012. *Coastal Impacts, Adaptation and Vulnerability: A Technical Input to the 2012 National Climate Assessment*. Cooperative Report to the 2013 National Climate Assessment, pp. 150.

<sup>7</sup> Parris A, Bromirski P, et al. 2012. *Global Sea Level Rise Scenarios for the United States National Climate Assessment*.

<sup>8</sup> Sallenger, Jr. AH, Doran KS, and Howd PA. 2012. Hotspot of accelerated sea level rise on the Atlantic Coast of North America. *Nature Climate Change* 2: 884-888.

- Coastal Louisiana will suffer from a combination of sea level rise, subsidence and more frequent and severe hurricanes. Recent projections show that the combined effect of sea level rise and subsidence, which can exceed 1 centimeter a year, may result in water levels rising by as much as 2 meters (more than 6.5 feet) by 2100 in much of the Mississippi River Delta. Over the past 50 years, total hurricane intensity has increased by about 80 percent and over the past several decades the number of category 4 and 5 hurricanes has increased due at least in part to increased sea surface temperatures.<sup>9</sup> Louisiana's 2012 *Comprehensive Master Plan for a Sustainable Coast* proposes to meet these challenges with a bold program of wholesale ecosystem restoration combined with aggressive measures to increase the resiliency of coastal communities.<sup>10</sup>
- The Midwest will see more heavy rainfall events that will contribute to higher flood risk along the Mississippi River.<sup>11</sup> The frequency of extremely heavy rainfall events has increased by up to 40 percent during the last 31 years for the central United States.<sup>12</sup> Climate projections for this century indicate that those big storms that historically only occurred once every 20 years are likely to happen as often as every 4 to 6 years.<sup>13</sup>

### **Over Reliance on Large-Scale Structural Projects**

The Department of the Army Inspector General has found that the Corps has an institutional bias for constructing costly, large scale structural projects.<sup>14</sup> These types of projects damage the functioning and productivity of natural systems, putting the public, the environment, and the economy at risk. This lesson was made tragically, and abundantly, clear when Hurricane Katrina slammed into New Orleans. Poorly planned Corps projects led to major losses of Louisiana's vital coastal wetlands that were not available to help buffer Katrina's storm surge, funneled and intensified that surge into New Orleans, and encouraged the development of high-risk areas that suffered the brunt of the flooding. The city's fate was sealed by the Corps' flawed design and construction of levees and floodwalls that were supposed to protect the city, but did not.

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<sup>9</sup> Mississippi River Science and Engineering Team, *Answering 10 Fundamental Questions About the Mississippi River Delta*, 2012 at 34 (<http://www.mississippiriverdelta.org/files/2012/04/MississippiRiverDeltaReport.pdf>).

<sup>10</sup> *Louisiana's Comprehensive Master Plan for a Sustainable Coast* 2012. Coastal Protection and Restoration Authority of Louisiana. Baton Rouge, LA.

<sup>11</sup> Groisman PY, Knight RW, and Karl TR. 2001. Heavy precipitation and high streamflow in the contiguous United States: trends in the 20th century. *Bulletin of the American Meteorological Society* 82(2): 219-246.

<sup>12</sup> Groisman PY, Knight RW, and Karl TR. 2012. Changes in Intense Precipitation over the Central United States. *Journal of Hydrometeorology* 13: 47-66.

<sup>13</sup> U.S. Climate Change Science Program (CCSP). 2008. *Weather and Climate Extremes in a Changing Climate. Regions of Focus: North America, Hawaii, Caribbean, and U.S. Pacific Islands. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research.* [Thomas R. Karl, et al. (Eds.)]. Department of Commerce, NOAA's National Climatic Data Center, Washington, D.C.: 164 pp.

<sup>14</sup> Department of the Army Inspector General (Case No. 00-019), *Investigation of Allegations against the U.S. Army Corps of Engineers Involving Manipulation of Studies Related to the Upper Mississippi River and Illinois Waterway Navigation Systems*, November 2000 (finding that the Corps deceptively and intentionally manipulated data in an attempt to justify a \$1.2 billion lock expansion project and that the Corps has an institutional bias for constructing costly, large scale structural projects).

As this Committee is well aware, the flooding of New Orleans devastated families, destroyed homes, and displaced entire communities. It also caused enormous economic losses:

“During the first 10 months after the hurricane, the city suffered an over-the-year average loss of 95,000 jobs. At the trough of the job loss, in November 2005, employment was 105,300 below the previous year’s November figure. By June 2006, the over-the-year job loss, though smaller, was still substantial (92,900). Lost wages over the 10-month period from September 2005 to June 2006 were about \$2.9 billion, with 76 percent of the loss attributable to the private sector.”<sup>15</sup>

More than seven years later, New Orleans still has not fully recovered.

Despite the changes enacted in the Water Resources Development Act of 2007, the Corps continues to promote the same type of large scale structural projects that led to so many problems during Hurricane Katrina. While structural flood damage reduction projects will be necessary in some instances, they should be the option of last resort. Structural projects destroy wetlands and floodplains that provide natural flood protection, clean water, and vital fish and wildlife habitat. Structural flood projects often increase flooding downstream, induce development in high risk areas, and make coastal communities far more vulnerable to storms.

Nonstructural and restoration measures, on the other hand, can solve many water resources problems while protecting and improving the health of the nation’s rivers, floodplains, wetlands, and coasts. Healthy rivers and floodplains play an important role in absorbing excess flood waters and slowing its movement downstream. A single acre of wetland can store 1 to 1.5 million gallons of flood water,<sup>16</sup> while just a one percent loss of a watershed’s wetlands can increase total flood volume by almost seven percent.<sup>17</sup>

Healthy rivers, floodplains, and wetlands also allow people and wildlife to benefit from natural flood cycles. For example, 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 multibillion dollar fisheries.

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<sup>15</sup> Michael L. Dolfman et al, *The effects of Hurricane Katrina on the New Orleans Economy*, Monthly Labor Review (June 2007).

<sup>16</sup> Environmental Protection Agency (EPA). 2001. Functions and Values of Wetlands. EPA 843-F-01-002c. (<http://water.epa.gov/type/wetlands/outreach/upload/functions-values.pdf>).

<sup>17</sup> Demissie M. and Khan A. 1993. Influence of Wetlands on Streamflow in Illinois. Illinois State Water Survey, Contract Report 561, Champaign, IL: 44-45.

The use of nonstructural and restoration measures also avoids the risks of catastrophic failure and overtopping created by structural projects like levees and floodwalls. The likelihood of such failures has caused the Association of State Floodplain Managers to urge communities to use nonstructural measures whenever possible instead of constructing new levees, which should be used only as an option “of last resort.”<sup>18</sup>

Importantly, nonstructural and restoration measures are an important tool for complying with federal law and long-standing federal policies which require the federal government to use the most environmentally protective measures possible to solve water resources problems.<sup>19</sup> These mandates can best be achieved by utilizing nonstructural and restoration measures where they will solve all or a portion of a water resources problem and are practicable. Such approaches will typically cost less than structural measures and will provide additional important benefits to public health and welfare, fish and wildlife, and economies that rely on a healthy environment. The use of nonstructural and restoration approaches will also improve the ability of natural and human communities to adapt to climate change.

Nonstructural measures include coastal and floodplain protection, relocation of flood-prone properties, water conservation and efficiency, improved management of existing water resources projects, pricing mechanisms, and navigation scheduling. Restoration measures include re-establishing the natural form, function, and hydrology of rivers, floodplains and wetlands through such things as the removal or modification of levees, dams, river training structures, cut offs, and culverts, and reestablishment of natural floodplain inundation.

As demonstrated by the success stories presented in Attachment A, these nonstructural and restoration measures can solve significant problems while providing additional important benefits that include clean water, fish and wildlife habitat, recreational opportunities, sustainable economic development, and an increased ability for people and wildlife to adapt to climate change. The critical importance of such measures is now well recognized. For example, restoration and non-structural measures are so important that Louisiana’s *2012 Comprehensive Master Plan for a Sustainable Coast* is proposing to spend three quarters of its funding over the next fifty years to accomplish them.<sup>20</sup>

### ***Outdated Operating Plans***

The Corps operates hundreds of projects across the country, including 12,000 miles of inland commercial navigation channels, more than 690 dams, and 75 federal hydropower facilities. Outdated operating plans for this vast array of existing water infrastructure are putting the

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<sup>18</sup> Association of State Floodplain Managers White Paper, National Flood Policy Challenges, Levees: The Double-edged Sword, Adopted February 13, 2007.

<sup>19</sup> *E.g.*, Clean Water Act Section 404, 33 U.S.C. §1344; Clean Water Act Section 404(b)(1) Guidelines, 40 C.F.R. Part 230; WRDA 2007 Section 2031(a), (a)(2), and (a)(3), 42 U.S.C. § 1962–3; WRDA 1974, 33 U.S.C. § 701b-11; Executive Order 11990 (Protection of Wetlands); Executive Order 11988 (Floodplain Management).

<sup>20</sup> *Louisiana’s Comprehensive Master Plan for a Sustainable Coast* 2012. Coastal Protection and Restoration Authority of Louisiana. Baton Rouge, LA. at 36-37.

public at risk, damaging the economy, causing significant harm to the environment, and aggravating increasingly contentious water supply conflicts.

Poorly managed federal projects destroy vital habitat, alter critical fish and wildlife life cycle processes like fish spawning, alter natural hydrologic cycles, destroy wetlands and backwater habitats, increase sedimentation, prevent sediments from reaching and restoring vital coastal wetlands, prevent nutrient-rich floodwaters from nourishing floodplain soils and plant communities, and facilitate encroachment of invasive species.

For example, the Corps has not evaluated the environmental, economic, or public safety implications of its operation and maintenance (O&M) of the Mississippi River Navigation System in decades. Instead, the Corps continues to rely on environmental impact statements completed some 35 years ago and continues to carry out the same activities that the U.S. Geological Survey has documented as playing a major role in the dramatic decline in the ecological health of the Mississippi River and the species that rely on it.<sup>21</sup>

Among other things the Corps' O&M activities are destroying critical habitats including the rivers' backwaters, side channels and wetlands; altering water depth; destroying bathymetric diversity; causing nonnative species to proliferate; and severely impacting native species.<sup>22</sup> The Corps has ignored alternatives to its O&M practices that could both maintain a vibrant navigation system and improve the health of the river.

As demonstrated in Attachment B, an extensive body of recent peer-reviewed scientific literature demonstrates that the Corps' construction of river training structures as part of its O&M activities is significantly increasing the risks of floods for riverside communities. These structures, which are intended to reduce navigation dredging costs, have increased flood levels by up to 15 feet in some locations and 10 feet in broad stretches of the river where these structures are prevalent.<sup>23</sup>

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<sup>21</sup> U.S. Geological Survey, *Ecological Status and Trends of the Upper Mississippi River System 1998: A Report of the Long Term Resource Monitoring Program* (April 1999); Johnson, B. L., and K. H. Hagerty, editors. 2008. U.S. Geological Survey, *Status and Trends of Selected Resources of the Upper Mississippi River System*, December 2008, Technical Report LTRMP 2008-T002. 102 pp + Appendixes A–B (Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin).

<sup>22</sup> *Id.*

<sup>23</sup> Pinter, N., A.A. Jemberie, J.W.F. Remo, R.A. Heine, and B.A. Ickes, 2010. Empirical modeling of hydrologic response to river engineering, Mississippi and Lower Missouri Rivers. *River Research and Applications*, 26: 546-571; Remo, J.W.F., N. Pinter, and R.A. Heine, 2009. The use of retro- and scenario- modeling to assess effects of 100+ years river engineering and land cover change on Middle and Lower Mississippi River flood stages. *Journal of Hydrology*, 376: 403-416.

While the Corps continues to deny the validity of this science, the flood height inducing effects of river training structures are so well recognized that the Dutch have “begun lowering dozens of wing dikes along a branch of the Rhine River and [have] plans to lower hundreds more as part of a nationwide effort to reduce flood risk in that river’s floodplain.”<sup>24</sup>

Outdated operating plans are also threatening the Apalachicola River and Apalachicola Bay in Florida. At risk is the health of one of the most ecologically rich river systems in North America, recreational fishing in the Apalachicola River and Bay that contributes \$191 million to the local economy each year, and a commercial fishing industry that contributes \$200 million annually to the regional economy and directly supports up to 85 percent of the local population. The ecosystem services provided by the Apalachicola River and Bay have been valued at \$5 billion a year.

The Corps’ outdated management plans for upstream reservoirs on the Apalachicola-Chattahoochee-Flint system are preventing the Apalachicola from receiving the freshwater flows needed to maintain a healthy river and floodplain, and a healthy fishery in both the Apalachicola River and Bay. The current master water control manual for the Apalachicola-Chattahoochee-Flint river system was completed in 1958, and the Corps and has not completed an environmental review of that plan for more than 20 years (the Corps is currently preparing a new water control manual and environmental impact statement for this project, but only as the result of years of pressure and litigation).

The Corps continues to rely on decades-old operating plans for many federal water projects under its control, despite requirements to reevaluate operating plans in the agency’s own internal guidance and as required by the National Environmental Policy Act. To protect public safety, wildlife, and a healthy economy, the Corps must manage the nation’s vast array of existing water resources infrastructure to protect and restore the environment and address modern needs.

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<sup>24</sup> Government Accountability Office, GAO-12-41, Mississippi River, Actions Are Needed to Help Resolve Environmental and Flooding Concerns about the Use of River Training Structures (December 2011) (concluding that the Corps is out of compliance with both the National Environmental Policy Act and the Clean Water Act).

## II. Full and Effective Environmental Review of Corps Projects Is Critical for Responsible Government Action and Saves Taxpayer Dollars

Careful compliance with the National Environmental Policy Act, the Endangered Species Act, the Clean Water Act, the Fish and Wildlife Coordination Act, and the nation's other environmental laws, is fundamental to making sound decisions on federal water projects. Indeed, as eight past chairs of the Council on Environmental Quality have concluded:

[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.**<sup>25</sup>

Effective environmental 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.<sup>26</sup> Environmental review of the proposed Bolinas Lagoon dredging project in California made it clear that the Corps' proposal would cause devastating harm to one of the most pristine tidal lagoons in California and was not necessary, saving taxpayers \$133 million. The environmental review process exposed the devastating environmental impacts of the Yazoo Backwater Pumping Plant project in Mississippi, prompting the George W. Bush Administration to veto the project. This saved taxpayers more than \$220 million and protected 200,000 acres of wetlands – an area the size of all 5 boroughs of New York City.

When resource agency concerns are ignored and 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 recommend additional environmental and hydrologic modeling, but the Corps ignored this advice. Since its construction, the MRGO has destroyed more than 27,000 acres of coastal wetlands and

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<sup>25</sup> September 19, 2005 Letter to the Honorable Cathy McMorris, Chair of the Task Force on Improving the National Environmental Policy Act from Russell E. Train (CEQ Chair 1970-1973), Russell W. Peterson (CEQ Chair 1973-1976), John Busterud (CEQ Chair 1976-1977), Charles W. Warren (CEQ Chair 1977-1979), J. Gustave Speth (CEQ Chair 1979-1981), Michael R. Deland (CEQ Chair 1989-1993), Kathleen A. McGinty (CEQ Chair 1995-1998), George T. Frampton Jr. (CEQ Chair 1998-2001), Gary Widman (CEQ General Counsel 1974-1976), Nick Yost (CEQ General Counsel 1977-1981) (emphasis added).

<sup>26</sup> Brief of Plaintiffs-Appellants, United States Court of Appeals for the Fifth Circuit, *Mississippi River Basin Alliance et al. v. Lancaster et al.*, Case Number 99-31235, at 7 (January 26, 2000) (the supplemental EIS concluded that the traditional method of construction would destroy at least 11,654 acres of wetlands while the new alternative selected by the Corps would destroy 7,328 acres). The Corps continued to work on critical elements of this project while it prepared the supplemental environmental impact statement.

damaged more than 600,000 acres of coastal ecosystems surrounding the Greater New Orleans area. During Hurricane Katrina, the MRGO funneled Katrina's storm surge into New Orleans, resulting in devastating flooding in St. Bernard Parish and the lower Ninth Ward.

As law professors from across the country have concluded:

Maintaining the integrity of the environmental review process for Corps projects is critical for responsible water resources planning. Corps proposals typically involve large scale structural measures with multiple and complex impacts that can radically transform entire ecosystems. Full and meaningful assessments of such projects – including independent, detailed reviews by the resource agencies – are essential for preventing the construction of poorly-designed projects that cause significant and avoidable damage to the nation's natural resources and put communities at risk. Such reviews are particularly important given the Corps' well recognized institutional bias towards construction of large scale structural projects and its long history of flawed analyses.<sup>27</sup>

Effective environmental review does not delay projects that are in the national interest. Project delays are caused by poor planning, funding constraints, and the Corps' \$60 to \$80 billion backlog of authorized but unconstructed projects which all require periodic funding to remain authorized. To speed project delivery, Congress should improve Corps planning through the reforms discussed in Section IV below. Congress should also establish a meaningful process for prioritizing the more than 1,000 projects in the backlog and a robust process for deauthorizing those projects that no longer serve the national interest. Failing to take an open and objective look at the project backlog while also authorizing additional projects without a full review by Congress, is contrary to the interests of the federal taxpayers and to the fundamental principles that guide good government.

The National Wildlife Federation urges the Committee to protect the integrity of the nation's environmental laws and affirm the continued use of the existing framework and process for conducting environmental reviews of Corps water resources projects.

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<sup>27</sup> Letter from 50 professors of Administrative Law, Environmental Law, and Natural Resources Law and Policy to Members of the Senate, dated April 8, 2013 (urging the Senate to strike the section 2032 and 2033 streamlining provisions for Corps projects from S.601). Between 1994 and 2011, at least 35 reports from the National Academy of Sciences, Government Accountability Office, Army Inspector General, National Academy of Public Administration, U.S. Commission on Ocean Policy, and independent experts revealed major flaws in Corps project planning and implementation, and urged substantial changes to the Corps' planning process. These studies include one by the Department of the Army Inspector General which found that the Corps had deceptively and intentionally manipulated data in an attempt to justify a \$1.2 billion lock expansion project and that the Corps has an institutional bias for constructing costly, large scale structural projects. Department of the Army Inspector General (Case No. 00-019), Investigation of Allegations against the U.S. Army Corps of Engineers Involving Manipulation of Studies Related to the Upper Mississippi River and Illinois Waterway Navigation Systems, November 2000.

### III. Corps Projects Should Work With Nature to Protect People, Jobs, and Wildlife

It is clear that healthy rivers, coasts, and wetlands are vital for fish and wildlife populations across the country. It is equally clear that protecting and restoring these systems provides important protections for people including by providing natural protection from floods and storms. 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.<sup>28</sup> Just a one percent loss of a watershed's wetlands can increase total flood volume by almost seven percent.<sup>29</sup>

Frank Nutter, the President of the Reinsurance Association of America has said:

“One cannot overstate the value of preserving our natural systems for the protection of people and property from catastrophic events.”<sup>30</sup>

It is also clear that healthy rivers, coasts and wetlands form the basis of a vibrant economy by supporting healthy fish and wildlife populations, improving water quality, and providing recreational opportunities such as boating, fishing, and bird watching.

Outdoor recreation is a huge contributor to the nation's 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.<sup>31</sup> “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.”<sup>32</sup>

Fishing is one of the most popular forms of outdoor recreation in the United States, attracting 33.1 million individuals 16 years old and older in 2011.<sup>33</sup> “Freshwater, excluding Great Lakes, fishing was the most popular type of fishing with 27.1 million anglers devoting 443 million days to the sport. Great Lakes and saltwater fishing were also popular with 1.7 million and 8.9 million anglers, respectively.”<sup>34</sup> In 2011, anglers spent “\$41.8 billion on trips, equipment, licenses, and other items to support their fishing activities.”<sup>35</sup>

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<sup>28</sup> Environmental Protection Agency, “*Functions and Values of Wetlands*.” EPA 843-F-01-002c. (2001) (factsheet).

<sup>29</sup> Demissie, M. and Abdul Khan. 1993. “Influence of Wetlands on Streamflow in Illinois.” Illinois State Water Survey, Contract Report 561, Champaign, IL, Table 7, pp. 44-45.

<sup>30</sup> Restore America's Estuaries, *Jobs & Dollars BIG RETURNS from coastal habitat restoration* (September 14, 2011) ([http://www.estuaries.org/images/81103-RAE\\_17\\_FINAL\\_web.pdf](http://www.estuaries.org/images/81103-RAE_17_FINAL_web.pdf)).

<sup>31</sup> U.S. Fish and Wildlife Service, 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation: National Overview, Issued August 2012.

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

Healthy coasts “supply key habitat for over 75% of our nation’s commercial fish catch and 80-90% of the recreational fish catch.”<sup>36</sup> Healthy rivers are equally important to supporting a vibrant commercial and recreational fishing economy. As discussed above, recreational fishing in the Apalachicola River and Bay in Florida contributes \$191 million to the local economy each year, commercial fishing in the River and Bay contributes \$200 million annually to the regional economy and directly supports up to 85 percent of the local population, and the ecosystem services provided by the River and Bay have been valued at \$5 billion a year.

Restoration projects are also an important creator of jobs that are “inherently local and cannot be exported.”<sup>37</sup> 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.”<sup>38</sup>

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.<sup>39</sup> 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.<sup>40</sup> Everglades restoration is also predicted to produce a return of four dollars for each dollar invested, including:

- Improved water supply worth \$13.1 billion;
- Increased property values worth \$16.1 billion;
- Increased park visitation and tourism worth \$1.3 billion; and
- Increased fishing and hunting as wildlife populations increase, worth \$15.1 billion.<sup>41</sup>

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.<sup>42</sup> The full economic output is even greater,

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<sup>36</sup> Restore America’s Estuaries, *Jobs & Dollars BIG RETURNS from coastal habitat restoration* (September 14, 2011) ([http://www.estuaries.org/images/81103-RAE\\_17\\_FINAL\\_web.pdf](http://www.estuaries.org/images/81103-RAE_17_FINAL_web.pdf)).

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> Environmental Defense Fund, Profiles in Restoration: The Central Wetlands Unit, Part VI (May 3, 2010) (<http://blogs.edf.org/restorationandresilience/category/central-wetlands-unit/>).

<sup>40</sup> Everglades Foundation, Everglades Restoration a 4-to1-Investment ([http://everglades.3cdn.net/79a5b78182741ae87f\\_wvm6b3vhn.pdf](http://everglades.3cdn.net/79a5b78182741ae87f_wvm6b3vhn.pdf)).

<sup>41</sup> *Id.*

<sup>42</sup> The Department of the Interior’s Economic Contributions (Department of the Interior, 2011) at 106 (<http://www.doi.gov/news/pressreleases/upload/DOI-Econ-Report-6-21-2011.pdf>).

however, 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.<sup>43</sup>

In Oregon, a \$411 million investment in restoration from 2001 to 2010 generated an estimated \$752 to \$977 million in economic output.<sup>44</sup> The 6,740 restoration 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 companies.<sup>45</sup> 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.<sup>46</sup> 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.”<sup>47</sup>

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.”<sup>48</sup>

#### **IV. Common Sense Reforms Will Protect People, Jobs, and Wildlife**

While some improvements have been made to the Corps’ planning process, the agency continues to plan and operate projects that increase flood risks for communities, hurt businesses that rely on a healthy environment, and cause significant harm to fish and wildlife. These projects often cost far more they should and fail to solve critical water resources problems.

The good government reforms outlined below would avoid many of these adverse impacts while promoting modern and environmentally sound solutions to the Nation’s many pressing water resources needs. The National Wildlife Federation urges the Committee to include these reforms in the next Water Resources Development Act that moves through the Committee and to exert your leadership to ensure that these policy reforms are enacted into law.

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<sup>43</sup> *Id.* at 5.

<sup>44</sup> Whole Watershed Restoration Initiative, Oregon’s Restoration Economy, Investing in natural assets for the benefit of communities and salmon (2012)( [http://www.ecotrust.org/wwri/downloads/WWRI\\_OR\\_brochure.pdf](http://www.ecotrust.org/wwri/downloads/WWRI_OR_brochure.pdf)).

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> Restore America’s Estuaries, *Jobs & Dollars BIG RETURNS from coastal habitat restoration* (September 14, 2011) ([http://www.estuaries.org/images/81103-RAE\\_17\\_FINAL\\_web.pdf](http://www.estuaries.org/images/81103-RAE_17_FINAL_web.pdf)) (quoting Simon Rich, General Manager of Stevens Towing Company).

- **Use Low Impact, Cost-Effective Solutions Where Possible.** Congress should require use of nonstructural and restoration measures where they can provide an appropriate level of protection and benefits. The national water policy established by WRDA 2007 requires projects to “protect the environment” by “protecting and restoring the functions of natural systems and mitigating any unavoidable damage to natural systems” and by “seeking to avoid the unwise use of floodplains.” Despite these requirements, the Corps continues to promote environmentally destructive and costly structural projects even where less costly and environmentally protective nonstructural and restoration measures would provide better and more cost-effective solutions. Requiring the use of low impact approaches where practicable is a cost-effective way to protect people, wildlife, and the many businesses that rely on healthy rivers, coasts, and wetlands.
- **Modernize Operation Of Existing Projects.** Congress should require the Corps to evaluate and update operations plans and water control manuals for large-scale Corps projects at least every 10 years and implement needed operational changes. The Corps continues to operate its projects under decades-old operating plans that harm the environment, increase flood risks, and aggravate contentious water quantity conflicts. Regular reoperation would ensure that taxpayer dollars are not wasted on antiquated, inefficient, and harmful operating plans; and that modern science, management approaches, and needs guide the operation of Corps projects.
- **Follow Recommendations Of The Nation’s Fish And Wildlife Experts.** Congress should require mitigation for the impacts of Corps projects consistent with the mitigation measures recommended pursuant to the Fish and Wildlife Coordination Act. Despite important criteria established in WRDA 2007 to ensure effective mitigation for fish and wildlife losses, the Corps continues to adopt mitigation plans that will not work, in part because they ignore expert recommendation made by federal and state fish and wildlife agencies. Requiring the Corps to follow these recommendations will improve project planning and is fundamental to cost-effective government.
- **Ensure Effective Independent Review.** Congress should establish clear timelines and standards for the preparation and release of independent reviews to Congress to close loopholes in the WRDA 2007 independent review provision. WRDA 2007 establishes important standards to ensure transparency, accountability, and public involvement in independent reviews of Corps studies. The Corps is ignoring these requirements by withholding critical review information, imposing inappropriate limits on the scope of review, and excluding the public from the review process. Closing these loopholes is an important, cost-effective tool for improving project planning.
- **Modernize Emergency Flood Recovery Efforts.** Congress should allow the use of P.L. 84-99 emergency funds for levee setbacks and nonstructural and restoration measures. P.L. 84-99 requires the Corps to fund 80% to 100% of the cost of restoring a publicly-owned flood project damaged by a flood to pre-disaster conditions (33 U.S.C. 701n). These large, guaranteed federal subsidies promote the dangerous use of floodplain areas and often fund

the repeated rebuilding of levees at significant cost to the public. Removing the existing prohibition against use of these funds for nonstructural measures (unless specifically requested by the local sponsor) and requiring evaluation of more sustainable, less damaging alternatives before rebuilding would increase community safety, save taxpayer dollars, and improve the environment.

- **Establish A Meaningful Non-Federal Cost Share For Inland Waterways O&M.** Congress should establish a meaningful non-federal cost share for operations and maintenance activities (O&M) for the inland waterways system. O&M for all segments of the inland waterways system are currently funded 100% by federal taxpayers, not waterway uses, even for segments that see little use or serve only parochial interests. O&M now represents the majority of the cost of this system, which percentage-wise is the highest US transportation subsidy. Creating a meaningful non-federal cost share for maintaining little used waterways would ensure that scarce tax dollars are spent on navigation systems that provide real value to the nation, and is a vital step in prioritizing national needs over inefficient and environmentally destructive maintenance of waterways that are rarely used.
- **Create Economic Incentives For Low Impact Flood Damage Reduction.** Congress should create economic incentives for low impact flood damage reduction projects and establish a programmatic authority for smaller scale flood projects that utilize such approaches. Communities continue to request large scale structural projects to address local flooding problems despite the fact that such projects increase flooding downstream, induce development in high risk areas, and cause significant environmental harm. Creating an incentive for utilizing nonstructural and restoration solutions would increase community safety while improving the environment.
- **Focus Corps Projects On The Nation's Most Pressing Needs.** Congress should establish merit-based systems to prioritize Corps projects and reduce the Corps' more than \$60 billion backlog. The Corps currently has a more than \$60 billion backlog of unconstructed projects, including many that are ecologically unsound and fail to address current needs. Each of these projects requires periodic funding to remain on the project list, which under current funding levels will take more than 35 years to construct. Prioritizing the planning and construction of Corps projects, and deauthorizing outdated projects, will ensure that scarce tax dollars are spent only on scientifically and economically sound projects that serve the nation's current needs.

## V. Conclusion

The National Wildlife Federation respectfully urges the Committee to protect the integrity of the nation's environmental laws and affirm the continued use of the existing framework and process for conducting environmental reviews of Corps water projects. We also urge you include the critically important reforms outlined above in the next Water Resources Development Act that moves through the Committee. We look forward to working with you to ensure that these reforms are enacted into law.

## Attachment A

# LOW IMPACT SOLUTION SUCCESS STORIES

As demonstrated by the examples below, low impact solutions successfully protect communities from flooding while providing a host of other benefits.

**California – Coyote Creek.** The Santa Clara Valley Water District sought approval for levee setbacks and bypass channels after major flooding in 1983. The project was completed in 1995, and is credited for reducing flooding in 1997. According to the Santa Clara Valley Water District, flood waters would have been 40% faster and water volume would have been 57% higher without these improvements.

**California – Napa River.** The Napa River has flooded at least 30 times in the last 150 years, with residents sustaining more than \$540 million in flood damages in the past 40 years alone. After twice rejecting old-style Corps' plans for levees-only flood protection in 1998 a broad coalition worked to develop a "living river" plan that is reconnecting portions of the Napa River to its floodplain. This new plan replaces the Corps' proposed floodwalls and levees with terraced marshes, wider wetland barriers, and restored riparian zones. About 500 acres of previously drained farmland were returned to marshland. Though they were only partially completed, those natural flood control solutions are credited for lowering flood levels by about 2 to 3 feet during the 2006 New Year's Day flood.

**Florida – Upper St. John's River.** Florida has a long history of flooding caused by hurricanes, tropical storms, and heavy rainfall. By the 1970s, the St. John's River had lost more than 62 percent of its historic 400,000 acres of floodplain wetlands, aggravating extensive flooding in the region. In 1986, Congress authorized a combined structural and restoration project to reduce flood damages along the river. The backbone of this project is restoration of 200,000 acres of floodplain which will hold more than 500,000 acre-feet of water – enough to cover 86 square miles with 10 feet of water – and will accommodate surface water runoff from a more than 2,000 square mile area. The Corps predicts that this \$200 million project will reduce flood damages by \$215 million during a 100-year flood event, and provide average annual benefits of \$14 million.

**Illinois – Cache River.** Channelized, dredged, diverted, and leveed since the early 1900s, the Cache River today has lost 91% of its historic wetlands, leaving just 472,800 acres of its once 5 million-acre floodplain. Friends of the Cache, local landowners, The Nature Conservancy, and a variety of government agencies formed a partnership in 1995 that has resulted in the restoration of 9,000 acres of wetlands, reducing erosion and sedimentation, improving water quality, decreasing flooding, and allowing wildlife to flourish. The success of this project has inspired efforts to restore small creeks in the watershed to their original channels.

**Illinois – Grafton.** After the historic 1993 floods, and extreme flooding almost biannually for more than 150 years, the town of Grafton moved 70 homes and 18 commercial properties out of the floodplain to higher ground. The restored floodplain provides more room for the Mississippi and Illinois Rivers to spread out, reducing flood levels and damages, and providing recreational opportunities during dry periods. The 1995 Mississippi River flood left Grafton relatively unscathed.

**Iowa – Iowa River.** After the historic 1993 floods, communities in east-central Iowa looked to change how the land along the Iowa River was being used and purchased 12,000 acres in easements along the 45-mile river corridor for flood control purposes. Over the past decade, local communities are estimated to have saved \$7.6 million in flood damages.

**Iowa – Louisa Levee District 8.** In 1993, when an oxbow levee breached for the 17th time, farmers in the Louisa Levee District volunteered for a federal buyout program. More than 2,500 acres of cropland in the old levee district was converted into the Horseshoe Bend Wildlife Refuge, a combination of grassland, meadows, and wetlands, which provides natural flood protection and serves as a stopover for migrating waterfowl. Residents report that this project helped to reduce flooding in 1995. Relocating the farmers out of the floodplain kept their agricultural land safe from future flooding at a cost that was about 50 percent less than the estimated cost of repairing flood damages from the 1993 flood. The project also put a permanent end to repeated levee repairs and expensive damage payments.

**North Dakota and Minnesota – Red River.** The communities of Grand Forks, North Dakota and East Grand Forks, Minnesota have suffered through at least 12 major floods since 1871. Following severe flooding in the spring of 1997, the communities worked with the Corps to develop a flood protection strategy featuring a space to give the river room to expand. This project involved setting back levees and acquiring flood-prone property to create a 2,200-acre greenway along the Red River between the two cities. This greenway has produced considerable flood insurance savings and provides open space for year-round recreation.

**Massachusetts – Charles River.** Extensive suburban growth paved over much of the Charles River watershed in eastern Massachusetts, triggering flooding from stormwater runoff in Boston and other downstream communities. In 1972, the Corps abandoned a planned \$100 million levee and dam flood project along the Charles River after the agency determined that upstream wetlands were preventing some \$17 million worth of flood damages annually. The Corps instead developed a nonstructural plan at a fraction of the cost, the \$10 million Charles River Natural Valley Storage Project. This project, which included the purchase of 8,500 acres of wetlands with a storage capacity of 50,000 acre feet of water, helped reduce major floods in 1979, 1982, 1987, and 2006. In 1987, the storage area prevented an estimated \$3.2 million in damages. In 2006, the storage area reduced flooding to a 2 year event while nearby rivers were suffering 40 and 100-year flood levels. The storage area has the added benefit of providing important recreational opportunities for the Boston Metropolitan area.

**Missouri – Missouri River.** Severe flooding throughout the 1990s led local citizens to seek natural alternatives to structural flood control measures. Through a combination of fee title acquisition and easement acquisition, 19,000 acres on a 49 mile stretch between Boonville and Jefferson City, Missouri were purchased and set aside as flood overflow areas, including nearly 6,000 acres that were previously enclosed by levees. According to the Natural Resource Conservation Service, the Corps estimated that such reconnections of the river with its floodplain reduced flood levels in 1998 by about four feet.

**Oklahoma – Mingo Creek.** Once known as the flood capitol of the world, the city of Tulsa suffered the worst flood in its history in 1984. Five of the 14 deaths and \$125 million of the \$180 million in flood damage occurred along Mingo Creek. Rejecting the Corps' plan to build 5 structural detention sites, a team of civil engineers, urban planners, and landscape architects devised an alternative that included restoring open space where floodwater can safely overflow, creating permanent lakes, and relocating buildings from the Mingo Creek floodplain. Tulsa's flood insurance rates subsequently decreased by 25%, and repetitive loss properties declined from 93 in 1984 to just 5 in 1995.

**Wisconsin – Duffy's Marsh.** Located in Marquette County, Wisconsin, the Duffy's Marsh restoration project encompasses about 1,500 acres of open water, grassy wetland, and upland. The restoration work primarily involved filling agricultural ditches that drained the land. The marsh now holds approximately 55 million cubic feet of water.

## Attachment B

# Studies Linking the Construction of Instream River Training Structures to Increases in Flood Levels

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