Oversight Hearing on Innovation and Investment in Water Resources Infrastructure
Subcommittee on Energy and Water Development
Committee on Appropriations
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Thank you, Chairwoman Kaptur, Ranking Member Simpson, and members of the subcommittee for inviting me to testify. It's an honor and a privilege to contribute to this subcommittee's work.

Water infrastructure facilities are essential to our economic productivity and national competitiveness. The Army Corps provides essential services to the nation, including flood control, navigation, and environmental restoration. As part of its flood control mission, the Corps operates and maintains 715 dams and approximately 4,100 miles of levees. The Corps estimates the annual economic value of its flood protection at more than $138 billion in avoided property damage and lost productivity. Every dollar Congress invests in flood control projects produces substantial economic returns.

The Army Corps also facilitates commercial navigation and trade. For instance, Corps dredging projects help to maintain 300 deep-draft and 600 shallow-draft coastal ports. In addition, the Corps constructs, operates and maintains more than 200 locks along the 12,000- mile inland waterways system as well as locks and other structures on the Great Lakes, St. Lawrence Seaway, and the Intracoastal Waterway.

In 2018, U.S. maritime ports handled 1.6 billion tons of cargo valued at more than $1.7 trillion dollars. Each year, ports along the Great Lakes handle more than 100 million tons of domestic and international cargo. In 2019, the inland waterways system moved 515 million tons of waterborne cargo worth $134 billion. The Inland waterways system supports 70,000 direct jobs and another 800,000 jobs in industries that ship or receive barge-oriented commodities. These are strong, middle class jobs. According to data from the Bureau of Labor Statistics, the average wage of workers associated with inland water transportation is $67,000 a year.

While only a small sample, these statistics highlight the enormous economic value of the flood protection and commercial navigation enabled by Army Corps projects. Unfortunately, federal investment has not kept pace with the county's overall water infrastructure needs. As a result, the United States faces a well-documented water infrastructure backlog. For instance, more than half of all Corps locks are past their 50-year design life, leading to frequent unplanned outages. Additionally, many ports are not dredged to their authorized width and depth.

The Biden administration has called for robust and comprehensive infrastructure investment to catalyze long-term economic recovery with a focus on creating millions of new well-paid, union jobs. Water infrastructure must be a part of any recovery package. However, money is not the only issue. The Corps must take a leadership role in combating climate change as well as redress environmental damage from past projects.

Unfortunately, environmental projects are only a small share of the Corps' work. For Fiscal Years 2019 and 2020, Aquatic Ecosystem Restoration represented just 7 percent of the Corps' overall appropriated budget, excluding supplementals. Improving environmental outcomes should infuse every aspect of the Corps' work. Stated differently, protecting and improving ecosystem performance should serve as a foundational goal of all project planning with a co-equal claim on federal funds.

This is especially true when it comes to flood control where natural or nature-based design elements should take priority wherever possible over hardened grey facilities. The catastrophic flooding that occurred in many communities along the Missouri and Mississippi Rivers in 2019 provides a powerful example of the broken nature of the Corps' mandate and the structure of federal funding. For instance, flooding in Atchison County, Missouri inundated more than 56,000 acres, destroyed 121 miles of roadway, closed I-29 for 187 miles, and closed portions of US 136 between Rock Port, Missouri and Brownville, Nebraska for 217 days.

The levees along this portion of the Missouri River were completed in the early 1950s and they tightly follow the River's course, leaving little room for wetlands habitat and limiting the ability of the flood control system to accommodate increasingly high waters. Yet, under current federal rules for the Levee Rehabilitation and Inspection Program, the Corps is only obligated to reconstruct a damaged levee to its prior state. Fortunately, local leaders recognized that this approach would leave the community vulnerable in the future and pushed the Corps for a redesign of the system to include a substantial levee setback. Unfortunately, the cost of land buyouts to facilitate the setback was $4.5 million and well beyond the financial capacity of the local community to cover.

In the end, a significant portion of the money for the buyouts came through the Emergency Watershed Protection - Floodplain Easement program within the Department of Agriculture's Natural Resource Conservation Service. And while the Atchison County project was a success, it's deeply problematic that money for the buyouts was only available because Congress happened to pass a disaster supplemental in September of 2019 that included money for conservation.

We cannot hope to achieve meaningful environmental progress if the design and construction of flood control, navigation, and other water infrastructure projects do not start with improved environmental performance as a design objective on par with economic development. The U.S. Army Corps must take a leadership role when it comes to environmental protection and enhancement - not simply make ad hoc improvements when all the pieces happen to fall into place.

Ongoing environmental restoration work in Central and South Florida demonstrates the enormous ecological toll of short-sighted flood control and water development projects that failed to balance sustainability with resource utilization. As a result, we will spend most of the 21st Century undoing the damage caused by the Army Corps in Central and South Florida during the 20th century.

Beginning in the 1960s, the Corps turned the thriving Kissimmee River, which drains Lake Kissimmee and empties into Lake Okeechobee, into a "series of five relatively stagnant pools" with devastating effects on wildlife and wetlands habitat. When adjusted for inflation, the channelization cost roughly $200 million. Partial restoration will cost in excess of $1 billion—a five-fold increase.

The current estimate is that the Comprehensive Everglades Restoration Program will cost the federal government at least $16 billion and take more than 50 years to complete. And this figure doesn't include federal expenditures on other complementary water infrastructure projects or state contributions - both of which stretch into the billions.

This cycle of destruction and partial renewal in Central and South Florida could have been avoided if only the deeply talented planners and engineers at the Corps had been handed a mandate to balance flood control and resource utilization with environmental sustainability. We do not have to choose between economic development and sound environmental stewardship. The flexibility inherent in the infrastructure design process combined with meaningful compensatory mitigation are capable of producing sustainable growth.

In conclusion, the Corps must stop treating the environment as a separate business line and start viewing environmental restoration, and climate mitigation and adaptation as a co-equal mission with flood control

and navigation. The Corps' work is critical to our national economic development, but this fact should not serve as a justification for advancing projects that produce irreparable ecological harm. And when a project will result in unavoidable damage to natural systems, the Corps should compensate for this loss with restoration projects that provide greater habitat and environmental services than what has been lost.

For nearly two centuries, the Army Corps has implemented civil works projects to further our national development. As important as this legacy is, the existential threat posed by global climate change means that the Corps' most profound work lies ahead. In response to rising seas and changing precipitation patterns—both longer periods of drought and heavier and more violent rainstorms— the Corps must assume a position of true environmental leadership. Any additional Army Corps funding must come with the highest possible expectations for sustainable environmental performance.

Thank you again Chairwoman Kaptur and members of the subcommittee for the opportunity to testify. I look forward to answering your questions.

Policy recommendations:

1. The USACE should prioritize natural or nature-based features (NNBFs) for flood risk reduction projects. NNBFs features should be the default design choice unless the Army Corps determines that such features are either inadequate or infeasible. Only then should the Corp incorporate traditional grey structural elements. This requirement should apply to both federally-owned and operated as well as nonfederal flood control works (FCWs).
2. Congress should eliminate the requirement that nonfederal project sponsors that participate in the P.L. 84-99 Rehabilitation and Inspection program (RIP) request the Corps consider nonstructural project elements when repairing damaged flood control works. The Corps should always consider nonstructural as well as natural and nature-based solutions.
3. Congress should eliminate the requirement within the RIP program that 100% of the cost of all land, easements, rights-of-way, relocations, and disposal areas (LERRs) be the financial responsibility of the nonfederal project sponsor. By placing the responsibility for buyouts on the nonfederal project sponsor, Congress has created a strong financial incentive to rebuild levee systems in their current form, missing a critical opportunity to improve environmental performance over time in response to flood damage.
4. When water infrastructure projects result in unavoidable damage to habitats and the operation of natural systems, the Corps should be required to implement compensatory mitigation projects that yield greater habitat and environmental services that what has been lost due to construction.