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Statement for the Record of
The American Society of Civil Engineers
on
"Water Resources Development Acts: Status of Past Provisions and Future
Needs"
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives

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Introduction

The American Society of Civil Engineers (ASCE) appreciates the opportunity to submit a statement to the House Committee on Transportation and Infrastructure's Subcommittee on Water Resources and the Environment regarding the hearing on "Water Resources Development Acts: Status of Past Provisions and Future Needs." We also wish to express our appreciation to the committee for its commitment to keeping passage of the Water Resources Development Act (WRDA) 2024 on a biennial authorization cycle. Doing so ensures greater certainty for new and ongoing water resources projects and offers the opportunity to make needed updates to federal water resources policy. We are eager to work with the committee in the months ahead to find ways to further improve our nation's water resources infrastructure systems.

Passage of the Infrastructure Investment and Jobs Act (IIJA) made needed investments in critical infrastructure systems and Congress continued its commitment to investing in water resources infrastructure policy reforms with the passage of WRDA 2022. These reforms included reauthorization of the National Levee Safety Program, a permanent extension of the cost share formula for the Inland Waterways Trust Fund, and the establishment of a new National Low-Head Dam Inventory. However, much work remains to be done in the coming year to improve the overall safety of the nation's dams and levees, strengthen our ports and inland waterways, and enhance overall infrastructure resilience.

ASCE's 2021 Report Card for America's Infrastructure

Infrastructure is the foundation that connects the nation's businesses, communities, and people. It serves as the backbone of the U.S. economy and is vital to the nation's public health, safety, and welfare. Every four years, ASCE publishes the *Report Card for America's Infrastructure*¹, which grades 17 major infrastructure categories using a simple "A" to "F" school report card format. In March of 2021, ASCE released the latest version of its Report Card, giving the nation's overall infrastructure a grade of "C-," and identifying an investment gap of \$2.2 trillion. While the overall GPA increased into the "C" range for the first time since ASCE began grading the nation's infrastructure in 1998, much of the nation's critical water resources infrastructure remains in the "D" range. In the 2021 Report Card, dams and levees each received a "D," while inland waterways received a "D+." The nation's ports were a bright spot in the Report Card, with a grade of "B-".

To raise these grades, ASCE urges Congress to prioritize the repair, replacement, and modernization of our existing infrastructure, with a focus on resilience. ASCE also urges Congress to ensure long-term, consistent investment in our infrastructure systems by passing authorization legislation like WRDA every two years.

¹ [America's Infrastructure Report Card 2021 | GPA: C-](#)

Dam Safety

The United States is home to nearly 92,000 dams, which provide a wide range of services, including water storage, flood control, irrigation, hydropower generation, and recreation. The average age of the nation's dams is roughly 57 years old, with most dams built with a life expectancy of about 50 years. Because of their advanced age, many dams in the United States were not designed to account for the severe changes in weather and increased levels of precipitation brought on by climate change.

As noted previously, the nation's dams earned a "D" on the 2021 Report Card. Advanced age and increased levels of rainfall continue to place increased strain on the nation's dams and could ultimately result in greater instances of dam failure. This would cost billions of dollars, not only in dam repairs, but also in addressing public health and safety risks in affected communities, as well as from the diversion of limited resources away from other infrastructure needs.² In addition, a recent report prepared by the Association of State Dam Safety Officials (ASDSO) estimates that the total cost of bringing the nation's dams into a state of good repair stands at \$157.5 billion.³ According to ASDSO, these costs will continue to rise as dam maintenance, rehabilitation, and repair is deferred. Without adequate revenue streams, repairs will continue to be deferred as dam owners find it more and more difficult to finance expensive rehabilitation projects.⁴ While IIJA provided a significant down payment to address the needs of the nation's dams, more must be done at the federal level to improve dam safety nationwide.

In 2022, Congress made important improvements to the nation's dam safety through WRDA, including the establishment of a National Low-Head Dam Inventory to identify small, hard-to-detect structures that span across rivers and streams. Flows from low-head dams can produce hazardous currents that can pull people underwater. Because these dams are not easily identifiable, the public is often unaware of the dangers that they pose⁵. A national inventory of low-head dams will allow for increased public awareness and greater ability to enhance safety measures around these structures. In the interest of public safety, the U.S. Army Corps of Engineers (USACE) should move swiftly in its efforts to implement the National Low Head Dam Inventory.

Two critical federal programs which support dam safety are the National Dam Safety Program and the High Hazard Potential Dam Rehabilitation Grant Program, which fall under the purview of the Federal Emergency Management Agency (FEMA). The National Dam Safety Program is the primary source of federal funding going directly to states to support state-level dam safety programs. Based on current state budgets, one dam inspector is responsible for approximately 200 dams on average, and that number

² [Dams-2021.pdf \(infrastructurereportcard.org\)](https://www.infrastructurereportcard.org/dams-2021.pdf)

³ [SCOPE OF WORK \(damsafety-prod.s3.amazonaws.com\)](https://damsafety-prod.s3.amazonaws.com/SCOPE_OF_WORK)

⁴ Ibid.

⁵ [Dams-2021.pdf \(infrastructurereportcard.org\)](https://www.infrastructurereportcard.org/dams-2021.pdf)

can be even more in some states.⁶ Ensuring states have access to adequate federal resources is critical to easing increased burdens on state dam safety programs. Funding from the program comes largely in the form of National Dam Safety Program State Assistance Grants, which are provided to states without additional cost sharing requirements. These resources support activities such as dam inspection and monitoring, emergency preparedness, training, equipment purchases, and staffing needs.⁷ The National Dam Safety Program was last reauthorized under WRDA 2018, with that authorization having expired on September 30th, 2023.

Unlike the National Dam Safety Program, the High Hazard Potential Dam Rehabilitation Grant Program supports repair and rehabilitation projects for the nation's high-hazard dams, which are dams that would result in loss of life in the event of a dam failure. ASDSO estimates that more than 2,300 high-hazard potential dams have a condition rating of deficient due to a lack of investment in dam safety.⁸ Support for programs like the National Dam Safety Program and the High Hazard Potential Dam Rehabilitation Grant Program is essential to prevent potentially catastrophic dam failures.

However, these programs face significant challenges in the coming years. The program must be reauthorized, and the manner in which State Assistance Grants are allocated must be reformed to hasten the flow of federal funding to states. The High Hazard Potential Dam Rehabilitation Program, while not set to expire until 2026, is in need of reforms to ensure greater access to grant funds, improve the application process, and ensure proper operation and maintenance of high hazard potential dams. Often, dam rehabilitation projects that would benefit from these grants are deferred because dam operators often cannot afford to take on the necessary operation and maintenance commitments, and because smaller disadvantaged communities do not have the resources to afford cost sharing requirements.

Currently, there is bipartisan support for these efforts in both the House and the Senate. On August 1, 2023, a bipartisan group of House Members introduced H.R. 5104, the National Dam Safety Program Reauthorization Act. The intent of this legislation is to fully reauthorize the program for five years and spur a discussion within the Transportation & Infrastructure Committee about including needed reforms to the National Dam Safety Program and the High Hazard Potential Dam Rehabilitation Program, which are spelled out above, in the upcoming WRDA legislation. Bipartisan companion legislation is also expected to be introduced in the coming days in the Senate. ASCE urges Congress to move swiftly to reauthorize this critical safety program and enact the necessary reforms so that state dam safety inspectors have the resources they need.

⁶ [The Dam Truth: The 91,000 Dams in the US Earned a “D” for Safety – Mother Jones](#)

⁷ [State Assistance Grant Program \(fema.gov\)](#)

⁸ [Roadmap to Reducing Dam Safety Risks | Association of State Dam Safety](#)

Levee Safety

Nearly 17 million people in the U.S. live or work behind a levee. The National Levee Database contains nearly 30,000 miles of levees around the country, and current estimates identify up to another 10,000 additional miles of levees outside of the jurisdiction of USACE.

Every state relies on levees to protect communities from flooding. The average age of the nation's levees is over 50 years old, with many built using less rigorous standards than those used today. Much like the nation's dams, the risk to the nation's levees is further exacerbated by increasingly severe weather patterns and heavier rainfall brought on by climate change. For moderate- to high-risk levees in USACE's portfolio, ASCE estimates that approximately \$21 billion is required to make necessary improvements.⁹ This is of great concern given the fact that even well-maintained levees can be breached by water seeping underneath them. To address these concerns, the National Levee Safety Program, first authorized in 2014, is tasked with establishing national levee safety guidelines, supporting the creation of state-level levee safety programs, and establishing a levee rehabilitation program to support needed repairs for the nation's levees. ASCE was very pleased to see Congress reauthorize the National Levee Safety Program through 2028 in WRDA 2022. This was a top ASCE priority last year, and it will ensure that the program can continue to develop and support levee monitoring and inspection activities, levee repairs, and the overall safety of the nation's levees.

Unfortunately, since the establishment of the National Levee Safety Program, Congress has appropriated far less than the \$79 million authorized. While annual appropriations have continued to support the development of the National Levee Database, Congress only provided \$15 million for the National Levee Safety Program in FY 2020 and has not provided additional appropriations since. For the program to reach its full potential, Congress must provide adequate resources.

Ports

The nation's more than 300 coastal and inland ports serve as significant economic drivers and places of employment, enabling goods to reach consumers and the nation to participate in the global economy. Recent years have demonstrated the critical role these facilities play in a functioning supply chain. Ports and port tenants plan to spend \$163 billion between 2021 and 2025, concentrating on investments related to capacity and efficiency as vessel size increases and tonnage grows.¹⁰ However, there remains a funding gap of over \$12 billion for waterside infrastructure such as dredging over the next 10 years, with additional billions needed for landside infrastructure.

⁹ [Levees-2021.pdf \(infrastructurereportcard.org\)](#)

¹⁰ [Ports-2021.pdf \(infrastructurereportcard.org\)](#)

Ports earned a “B-” on ASCE’s 2021 Report Card, which recognized the positive measures included for ports in the 2020 WRDA legislation. Specifically, WRDA 2020 included full utilization of the \$10 billion balance of the Harbor Maintenance Trust Fund (HMTF) by allowing \$500 million to be appropriated in FY 2021, with an increase of \$100 million annually until it is fully expended by 2030. The full expenditure of the HMTF was a long-time ASCE priority and ASCE was pleased to see Congress finally address this issue.

WRDA 2022 maintained a strong commitment to the nation’s ports and harbors. The law authorized dredging projects in underserved community harbors and required USACE to develop criteria for the evaluation and ranking of maintenance dredging requirements for small, remote, and subsistence harbors. ASCE supported these efforts to enhance investment in dredging activity. Efforts to address challenges in underserved harbor communities have the potential to help enhance economic activity, advance environmental justice, and create new job opportunities.

Inland Waterways

As the nation’s “water highway”, the country’s inland waterway network spans 12,000 miles and serves an important purpose in the movement of a variety of goods, such as agricultural products. This infrastructure, which includes locks, dams, and navigation channels, has benefited from recent boosts in federal investment and an increase in user fees. However, the system still reports a \$6.8 billion backlog in construction projects and ongoing lock closures¹¹, which harm the industries that rely on waterways to transport goods.

Inland waterways, on which about 830 million tons of cargo are moved annually, earned a “D+” in the 2021 Report Card. As with ports, WRDA 2022 included measures that ASCE considered positive for inland waterways. ASCE appreciated the permanent extension of the Inland Waterways Trust Fund’s (IWTF) cost share, adjusted in 2020 from 50% general revenue - 50% IWTF to 65% - 35% for construction and rehabilitation projects. The IWTF, which finances construction and rehabilitation efforts, is supported by a 29-cents per gallon tax on barge fuel. The general fund-IWTF cost share formula of 65% - 35% was set to expire within the decade, and the removal of that sunset provision offers a measure of certainty for future construction and rehabilitation projects. While ASCE continues to support further adjusting of the cost share requirement to a 75% - 25% split, the provision that makes the cost share formula permanent is still a positive step in supporting construction efforts and reducing the inland waterways project backlog.

The IIJA invests \$17 billion in inland waterways and ports, which can help reduce the funding gap of \$25 billion over 10 years referenced in the 2021 Report Card. However, additional funding for inland waterways projects is still needed, partly because of complicating factors such as inflation, worker shortages, and geopolitical conflicts,

¹¹ [Inland-Waterways-2021.pdf \(infrastructurereportcard.org\)](#)

which impact the steel market. Dependable funding can also contribute to reliably planned construction timelines. Unscheduled maintenance closures are costly interruptions to the inland waterway system because they drive traffic away from rivers and force shippers to rely on trucks, which are more costly and environmentally harmful to operate.

Stormwater Infrastructure Financing

Stormwater infrastructure can take many forms, including piped systems, detention basins, ditches, canals, channels, and roadway conveyance systems. In recent years, green stormwater infrastructure has been introduced in new developments and coupled with traditional “gray infrastructure” to maximize the benefits from natural hydrologic cycles using vegetation, soils, site grading, and natural filtration processes. Green infrastructure provides benefits by reducing runoff, minimizing erosion, and contributing to water quality improvements; examples include rain gardens, constructed wetlands, vegetative roadway bioswales, and permeable pavements.

In 2021, ASCE’s *Report Card for America’s Infrastructure* assessed the nation’s stormwater infrastructure for the first time and assigned a grade of “D,” meaning the infrastructure is in poor condition and at risk. The effects of climate change are producing more severe and unpredictable weather patterns, including increased levels of precipitation. This, coupled with the increased frequency of rainfall events, places increased strain on stormwater infrastructure systems nationwide. The results have been increased urban flooding, which has resulted in billions of dollars in direct damages, as well as hazards to public safety.¹² When stormwater systems become overwhelmed, they begin to affect the functionality of other infrastructure systems. These effects may include flash floods, sinkholes, collapsed roadways, and inundation of wastewater infrastructure leading to polluted waterways.¹³

Programs like the Clean Water State Revolving Fund program and the Water Infrastructure Finance and Innovation Act can support stormwater infrastructure projects. However, lower funding levels and competing water infrastructure priorities reduce the effectiveness of these funding sources. The growing challenge posed by urban flooding on overstrained stormwater infrastructure systems requires a more dedicated approach.

Proposed Solutions

WRDA provides a unique opportunity to take necessary action to strengthen the nation’s infrastructure. A biennial WRDA cycle provides federal agencies and communities throughout the country predictability to plan and make progress on infrastructure projects. To ensure the safety and extend the life of critical infrastructure,

¹² <https://infrastructurereportcard.org/wp-content/uploads/2020/12/Stormwater-2021.pdf>

¹³ Ibid.

and support more water infrastructure projects, we urge Congress to support the following priorities:

- Reauthorization of the National Dam Safety Program and needed reforms to the High Hazard Potential Dam Rehabilitation Program. These two programs serve as the backbone of federal efforts to ensure the safety and resilience of the nation’s dams. Congress has demonstrated its willingness to support these programs through needed investments in the IJA and must continue to build on these investments to improve dam safety and protect downstream communities. We ask that WRDA 2024 include:
 - A five-year reauthorization of the National Dam Safety Program, ensuring that program can continue to support state-level programs through 2028.
 - The removal of unnecessary limitations in the existing law prohibiting states from receiving State Assistance Grant funding totaling more than 50% of the cost of implementing state dam safety programs. States are already required to make reasonable efforts to fund their own programs, and removing this limitation will allow for annual appropriations and IJA funds to flow more freely to states.
 - A new definition of “small underserved community” for the High Hazard Potential Dam Rehabilitation Program, and waiving of the 35% non-federal cost share requirements for grant-eligible communities that fall under this definition. This will provide greater protection for communities that own or could be significantly impacted by a dam failure, but do not have sufficient resources to afford the required match.
 - Ensure that operation and maintenance responsibility for high-hazard potential dam projects falls on dam owners and not smaller grant subrecipients.
- Language requiring an update from USACE on efforts to implement the National Low Head Dam Inventory, which was authorized in WRDA 2022.
- Creation of a program dedicated to financing stormwater infrastructure projects.
- Continuing to allow for the use of the unspent balance of the Harbor Maintenance Trust Fund and spend down this balance on port projects.
- Ensuring full use of the Inland Waterways Trust Fund continues to be appropriated.

ASCE urges Congress to maintain a bipartisan two-year cycle and pass WRDA 2024. This is critical to provide predictability to federal agencies for planning and review of projects and priorities and to be able to better respond to increasingly unpredictable threats, such as climate change. A regular WRDA schedule is also essential for

members of the civil engineering community who rely on support from Congress, for USACE, and for other agencies to ensure design, development, and construction of critical infrastructure moves forward in a timely and efficient manner. This helps to ensure infrastructure remains resilient in the face of evolving challenges, and that communities have access to needed services and protection from potential hazards.

Conclusion

ASCE appreciates the opportunity to provide the committee with this statement on its priorities for the upcoming WRDA legislation. We strongly believe that our nation must prioritize needed investments in our nation's water resources infrastructure to ensure public safety, a strong economy, and the protection of environmental resources. Support for our nation's dams, levees, ports, and inland waterways is needed to close the growing funding gap and to ensure the U.S. has world-class 21st Century infrastructure. We look forward to working with the committee over the coming months as the WRDA process unfolds.