



U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON  
**SCIENCE, SPACE, & TECHNOLOGY**

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## Opening Statement

**Chairwoman Mikie Sherrill (D-NJ)  
of the Subcommittee on Environment**

Subcommittee on Environment Hearing:  
*From Gray to Green: Advancing the Science of Nature-Based Infrastructure*  
March 2, 2022

Good morning, and welcome to today's hearing on nature-based infrastructure.

As we face increased risk of hazards from natural disasters, many due to climate change, there is a growing appreciation for the short and long-term benefits that nature-based, or green, infrastructure can provide.

My district in North Jersey has faced devastating consequences of a changing climate and more severe weather patterns. We are far too familiar with floods, from the historic flooding caused by Hurricane Irene and Hurricane Ida to the more regular flood events that impose frequent costs to our communities. Like many Americans across the nation, New Jerseyans are increasingly looking towards nature-based infrastructure solutions because of their wide range of benefits and co-benefits, and their resilience in a changing climate.

In my district, the banks of the Whippany River and Peckman River have deteriorated badly, leading to frequent floods during storms. We learned from events like Irene and Ida that, in many situations, vegetation planted in the right locations can be much more effective than rocks and concrete alone at absorbing floodwaters and moving waters away from people and their properties. In my recent visits with constituents impacted by flooding in Montclair, Verona, and Morristown, I saw how soil erosion on the riverbanks has allowed trees to fall into the river and snag silt traveling downstream. This decreases the depth of the river and exacerbates flooding in nearby neighborhoods.

Based on this and other flood dynamics, our community is considering options to leverage the benefits of natural infrastructure to protect against flooding, such as using vegetation to reinforce riverbanks and stop chronic riverbank erosion. I hope to hear more from today's witnesses about how these green infrastructure solutions can help my constituents as well as those in other communities facing a diverse set of natural hazards, many of which we are seeing with greater frequency as we feel the impacts of climate change. But the decision whether to use nature-based infrastructure is not always easy. Decision makers in New Jersey and across the country need to consider the costs and the benefits of traditional engineered, or gray, infrastructure, natural infrastructure, or a combination thereof.

Unfortunately, engineers and decision makers often don't have all the information that would allow for the most comprehensive analysis. Additional research, standardization of data sets and long-term monitoring efforts are needed to better understand the costs and benefits of gray or green infrastructure so that a clear comparison can be made between a range of options. We must improve our ability to quantify the benefits of natural infrastructure, like the reduction in flood risk or erosion. And we must work towards improving our ability to quantify the co-benefits of nature-based infrastructure, which are not always easily monetized.

These can include the public health benefits of increased greenery, support for natural habitats and wildlife, or the sequestration of vast quantities of carbon. Preservation of wetlands like the Great Swamp National Wildlife Refuge in my district, for example, can avoid future flooding by preserving natural flood storage from development *and* can provide natural habitat and improved water quality. I have worked to expand similar forward-thinking efforts like the Army Corps' Natural Storage Preservation program that would improve flood mitigation by acquiring 5,200 acres of wetlands for preservation as natural storage of Passaic River flood waters. And so I also hope to hear from today's witnesses both about how communities can assess the benefits and costs of targeted green infrastructure improvements as well as holistic planning that utilizes and preserves existing natural resources.

Many federal agencies are working together, and with external stakeholders, to conduct this research. They're also helping communities determine how nature-based solutions can be utilized most effectively given their local needs and local conditions, and how they can be most appropriately paired with more traditional gray infrastructure. We are fortunate to have representatives from NOAA, the Department of Agriculture, and the US Army Corps of Engineers on today's panel. I am eager to hear from our witnesses about their work on natural and nature-based infrastructure in coastal, rural, and urban and suburban communities across the country, and explore what else the federal government can do to support the implementation of nature-based infrastructure.

As our climate changes, so too does the way we look at infrastructure and resilience. Nature-based infrastructure will need to play a bigger role as we move into the future. I hope through our conversations today, we can better pinpoint the specific areas of research that the federal government should prioritize and share with our communities.