



After the Fact | States of Innovation—Natural Solutions for Natural Disasters

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TRANSCRIPT

Sound of rainwater

Laura Lightbody, project director, flood-prepared communities, The Pew Charitable Trusts: I always say: Where it rains, it can flood. Flooding does not care about jurisdictional lines; it doesn't care about politics.

Dan LeDuc, host: That's Laura Lightbody. She directs Pew's work aiming to reduce the impact of flood-related disasters on taxpayers, communities, and the environment. And that impact isn't small. Which brings us to our data point: Flood-related damage added up to \$850 billion over the past two decades.

Some states are working to get a handle on this problem, and we'll hear about South Carolina's efforts in this episode as we continue our look at "States of Innovation."

Music break

Welcome to "After the Fact." For the Pew Charitable Trusts. I'm Dan LeDuc. As we're about to hear, flooding is a big concern in many parts of this country—and those concerns extend beyond coastal areas, fueled by a growing population.

Laura Lightbody: From 2000 to 2010, 10%, we've seen a U.S. population increase. And for this decade that we're rounding out right now, it's looking about that same percentage. If you think about what we've done over the years, we've built roads and bridges and malls, parking lots, neighborhood developments to accommodate a growing population. And what that has done is we have stripped away green space that used to be there to store and absorb floodwaters. And that, compounded by rising seas, more frequent flood disasters are all making these price tags just go up and up and up. And over the decades, they have risen. And then you have a national policy framework that is dated and really based on reacting to natural disasters.

Dan LeDuc: So often when flooding is in the news, we see high water, maybe it's a hurricane, maybe it's a river overflowing, and it's all about the aftermath.



Laura Lightbody: Right. We've all heard the old adage "an ounce of prevention is worth a pound of cure." And that's what we're implementing now. We can no longer afford to, from a cost perspective and from impact in lives perspective, wait for the flood to happen. So states, localities, the federal government are all investing in what's called mitigation, activities that reduce risk before the disaster happens. Research shows that every dollar invested in such activities—buying out properties, enhancing those stormwater systems that you see in your neighborhood—those activities result in a \$6, an average of \$6 in savings. That's a huge return on investment that local governments can really get behind and that prove to work and reduce that impact when a flood does come down into your neighborhood.

And there's emerging research now, the scientists and researchers in academia have all kind of looked at the best way of coping with all this flooding. And increasingly, these ways that nature plays a role are becoming more effective, more beneficial to other things, not just flooding. We're talking about impacts to water quality, habitat, not just sort of absorbing that floodwater—there are multiple benefits of letting nature rule. Nature is really our best partner in reducing risk and adapting to these increasing floods that we're talking about.

Dan LeDuc: Sounds like this new approach is like, we're supposed to talk about flooding when it's dry. A number of states, as diverse as Texas and New Jersey and Virginia and elsewhere, are starting to make some significant investments in this area. What are some of the things that they're doing?

Laura Lightbody: We've been really pleased to see, as you mentioned, states across the country, not just the traditional states that we think of that flood, maybe those Southeastern states. But as you mentioned, New Jersey, Iowa, states are being really proactive. And it's because they're just up against these unbearable costs.

And the federal government is too. And the federal government has said to states over and over again, states have to start preparing for these events and investing in these events. We all remember Hurricane Harvey battered Texas nearly two years ago, left nearly 90 people dead. It cost an estimated \$125 billion in damaged property and infrastructure—200,000 homes and businesses.

And so as a reaction to that, the state took some really bold steps. First, the Legislature passed a series of bills that are very proactive in terms of (a) making sure that the community could recover from Hurricane Harvey, rebuild in a resilient way. And then, (b) really make sure that the next time a Hurricane Harvey comes, they're prepared. They mandated a statewide plan. Right—that means looking across the watershed. There's multiple watersheds within the state. It's



important because it means that states are coordinating their investments, their projects, their planning across the entire state, rather than fixing it community by community.

The second thing they did is they put some real money on the table. The state itself invested \$800 million in mitigation projects. That is a large amount of money. It's almost three times the amount that the federal government put toward mitigation in 2019. And so that money is going to translate into real mitigation projects that reduce risk across the state.

Dan LeDuc: What's going on in this field right now that starts to feel like new and is actually making a difference?

Laura Lightbody: This is a problem that plagues states, all 50 states. The old traditional way of dealing with flooding is to try to control it, to try to pour concrete, we've moved rivers. And there's a new way of thinking, which a lot of states are really adopting, cities are adopting, which is, let's actually try and plan for flooding. Let's look more holistically across the problem. Most recently, the South Carolina Legislature just passed a new program that would fund mitigation projects like buying out properties that have flooded over and over again.

Music break

Laura Cantral, executive director, Coastal Conservation League: The coast of South Carolina, you probably heard it referred to as the low country. This region that Charleston is part of is the South Carolina low country. It's called that for a reason. It's a very low place. We have vast expanses of estuaries and salt marsh, something like more than 500,000 acres of salt marsh in our region.

Dan LeDuc: Laura Cantral leads the Coastal Conservation League, an organization with a mission to protect the natural resources and the quality of life for people who live on the South Carolina coast.

Laura Cantral: More than 2,800 miles of tidal shoreline, so all up into the nooks and crannies of our bays and sounds and other basins. So the interface between the land and the water is very porous. And that means it's a wet region. And it's getting wetter, because our sea levels are rising. And we're having more storms. So we have always been a region that has had to, as the Dutch will say, we have to learn how to live with water and not work against it. And as we learn to live with more water, we're going to have to be smart about how we do that.



Dan LeDuc: One way that South Carolinians are learning to live smarter with all that water is simply preparing and planning flooding. Funding, of course, is crucial. That's been a job for Representative Murrell Smith Jr. as chairman of the House Ways and Means Committee in South Carolina's legislature.

G. Murrell Smith Jr., South Carolina state representative: 2015 is what I would say would be the simple event that started all this. And we had what was called the Thousand-Year Flood in South Carolina. A storm came up through Florida and dumped 18 to 24 inches of rain on areas here in Sumter County. We had 22 inches of rain. Never in my lifetime—I've lived here since I was 9 years old. I'm 52 now. Never saw anything like what occurred here where basically our whole city was underwater for that time. Everyone experienced that flooding. And that's where we realized, we're not prepared for this. And it's only getting worse.

Dan LeDuc: In 2020, the state took a big step toward flood preparedness. The governor signed legislation that created a new Office of Resilience and a chief resilience officer for the state.

Resiliency is a great word, because it feels to me a little bit like a new approach. A lot of times you hear about flood mitigation. How do we build a big wall and we've done our duty? And it seems like you all in South Carolina are looking at it from a deeper perspective. How did that way of thinking come about in the Legislature?

Rep. Murrell Smith: I think some of us who are not from the coastal areas realized, we have flooding too. After the Thousand-Year Flood that we had in South Carolina, we saw more rain events here in Sumter County. And I would get calls from my constituents that the stormwater system is not working, and our neighborhoods are flooding. You need to call Department of Transportation and get them to clean out our storm pipes. And we realized that we probably have not invested in that infrastructure for years. And there are flood zones that we should not have allowed to be built for these times that we are addressing.

Dan LeDuc: And these problems have real consequences to real people. Representative Smith told us about a family of veterans and first responders in his district that was hit hard from the 2015 flood he mentioned earlier. Their home was devastated by water damage, leaving them without electricity or the financial means to make repairs.

Rep. Murrell Smith: I'll never forget that. When you look at that and you say, but by the grace of God go I. And seeing that happen to somebody, it brings a realism to you that these are real problems. We can talk about them in the abstract, but to go through a flood. And if I got flooded or anybody, how do you rebuild?



I mentioned all these natural disasters we have, and FEMA comes in here and obviously helps pay for a lot of the cleanup and for a lot of the issues. But the one thing FEMA does is they require a statewide match. So every year we've got to come up with a statewide match. But what happens when we are in a recession? And what happens when we don't have the revenue for a FEMA match and a natural disaster occurs in South Carolina?

And so part of what this is, why don't we look at dealing with the flood issues now? Why don't we put things in there that could help prevent flooding in the future? And also let's make sure we have a steady revenue source where we're going to have money whether we're in the boom times or the bust times to have our FEMA match, where we can take care of the citizens of the state. So that kind of all culminated into one piece of legislation.

We created a disaster relief and resilient reserve fund. Just like we have a rainy day fund for budgetary issues, we're going to have a reserve fund in South Carolina for resiliency issues. We created a South Carolina Office of Resilience and also had a chief resiliency officer. Nothing passes quickly in South Carolina unless it has overwhelming support. And this literally passed in a two-week session.

Dan LeDuc: It feels like this is something that is going to cut across a lot of state operations, Department of Transportation and the folks who laid all of the stormwater pipes and all the rest. Is that part of the scope of this, the idea to better coordinate these varied roles of state government?

Rep. Murrell Smith: Absolutely. And part of what we did was create an advisory group when we did this and realized that there is a lot of state agencies that have roles in flood mitigation and/or resiliency planning. And so we need to bring them together. Instead of them being siloed and working separately, let's bring them together in a coordinated effort to come up with a plan. So I'm looking through this as we brought together the Department of Natural Resources, South Carolina Emergency Management Division, the Department of Insurance, the Disaster Recovery Office, the Department of Agriculture, the Sea Grant Consortium, the Department of Commerce, the Department of Transportation. And then we also gave the resiliency officer to add any other agency that he or she may see fit in their discretion to make sure we cover everybody, to bring them together, require them to work in unison rather than working separately.

Dan LeDuc: As lawmakers like Murrell Smith continue to work on legislative solutions, organizations like the Coastal Conservation League play an important role, calling for sustainable development across the state with consideration of the environment and how that development will affect residents. Here again is Laura Cantral.



Laura Cantral: In our role as conservationists is thinking about smart policy and a more holistic way to view our ecosystems and our economies and how healthy environments and healthy economies go hand-in-hand—and playing a supporting role to our state leaders. Many other coastal cities, particularly on the East Coast, are experiencing similar problems and grappling with them. In our region and in our city, the double whammy of sea level rise and other implications of a changing climate, coupled with intense development pressure in a very fragile landscape. That combination makes us, in many ways, the canary in the coal mine. There's lots of water. So the good news is that we know a lot about what needs to be done to address these problems.

Dan LeDuc: While the focus on resilience signifies a change in the state's approach to disaster preparedness, Laura Cantral says resiliency can mean different things to different people.

Laura Cantral: That word, in terminology, is always tricky. Resilience is often equated with flooding. And in the conversation that you and I are having, we are focused on how we deal with water and flooding and how to be resilient to flooding. But we like to think about resilience as the ability to be strong and healthy and the best equipped as possible to cope with increasing threats. And in this context, we're talking about the increasing threat of climate change, warming temperatures, rising sea levels, and more storms and more water. So how do we be resilient to that?

And not just thinking about recovering from a flooding event and putting things back the way they were, but across the spectrum, from planning and preparing, having development patterns that are more sustainable, that are keeping people and property out of harm's way. We're trying to make sure we are, as a region, being smart about how we develop, how we have a high quality of life for people who live here.

We're protecting the environment so that it can be the beautiful place that we know and love but also provide the kind of natural services that we need to be a healthy region. So just a few things that come to mind: local comprehensive planning, zoning efforts. You know, these local plans are what determine what goes where. And so it's really important. And it's important that our public understands the opportunity to engage and participate and provide input and shape the future. Healthy food, healthy people, healthy communities. We think that's resilience. If we're opposed to some particular transportation project because we think that it's going to harm wetlands and exacerbate sprawl on a sea island, well that's not just because of a transportation project.



It's the health of the wetlands; it's the health of the rural area. It's the ability of the region to withstand threats. It's guiding development in a way that is going to provide a better quality of life for the people who live here. It is all connected, and it does all lead to our definition of resilience.

Music break

Dan LeDuc: If you want to learn more about how communities in South Carolina and elsewhere are preparing for flooding, visit pewtrusts.org/afterthefact. We hope you join us next week for our next episode in our "States of Innovation" season.

Before we sign off, we would love to hear from you. Please consider taking our short listener survey at pew.org/atfsurvey. For the Pew Charitable Trusts, I'm Dan LeDuc. Thanks for listening.