Exploring Barriers to Accessing Evidence and Federal Resources for Equitable Green Infrastructure Implementation with States and Municipalities

Link to recording

Webinar Transcript

Layne Piper (00:00:00):

Hi everyone. Welcome. We are just going to give it a minute to let people keep joining and we'll get started shortly.

Hi everyone. Welcome to our webinar. This is the second session on exploring barriers to accessing evidence and federal resources for equitable green infrastructure implementation. I'm Layne Piper, Senior Project Manager at the Environmental Council of the States (ECOS). ECOS is the national nonprofit nonpartisan association of state territorial and Washington DC environmental agency leaders. Our mission is to improve the capability of state environmental agencies to protect and improve human health and the environment. ECOS is a place for states to gather, to exchange ideas, share best practices, and also develop policy positions. And we provide a venue for states to communicate and coordinate with their federal agency co-regulators, that's most frequently US EPA for us, but we also work with a number of other federal agencies. ECOS is here co-hosting this webinar with the EPI Center and US EPA's Office of Water to provide a space, one of those spaces, to share opportunities and challenges when it comes to using federal resources for green infrastructure or nature-based solutions.

We know that our federal partners are interested in the feedback from states and municipalities about how to support these types of projects. And states are also appreciative of the federal agencies coming together to think about these challenges. Advocating for innovative and flexible funding has been a long-time priority for our members. And as states prepare to implement the historic funding in the Bipartisan Infrastructure Law, ECOS has formed an infrastructure work group of 10 states that are going to serve as the focal point for those discussions and actions related to that funding within our association. And I think you'll see a link to that group in the chat. It is an exciting time to be part of this conversation and I want to thank the EPI Center for inviting us to co-host with them and with US EPA. And I'm going to turn it over Rebecca now, so she can tell you a little bit more about them and also about this webinar series.

Rebecca Aicher (00:02:13):

Great. Thank you, Layne. And thank you all for joining us for our second event in this virtual series. I'm Rebecca Aicher, a Project Director with the American Association for the Advancement of Science's Center for Scientific Evidence in Public Issues, also known as the AAAS EPI Center. The AAAS EPI Center's mission is to bring clear, concise, and actionable scientific evidence to decision makers. And we're honored to be co-hosting this conversation about green infrastructure and nature-based solutions in partnership with our colleagues from ECOS and the US EPA Office of Water, including Robyn DeYoung and Clark Wilson. This discussion is an opportunity to hear about successes, challenges, barriers,

opportunities, and some of the lessons learned from the design and planning phases to implementation to operations and maintenance of green infrastructure and nature-based solutions from the perspective of states and communities. So a quick bit on logistics for today.

We hope to have an active chat and we encourage all attendees to participate in the chat. First, feel free to say “hi” and put your name and affiliation in the chat so we can all see who's attending this webinar. Additionally, we have the Q&A box available. Please put your questions for the discussion in the Q&A box. And if you see questions that you're enthusiastic about, make sure to up vote and let us know. We want this discussion to be interactive. We encourage you to ask questions and share ideas. We have around 90 minutes for the discussion today, so we hope to get as many questions as possible, but we can't promise we'll get to them all. If you do need to reach out to us, you can contact us the AAAS EPI Center at our email or my email address.

I'm honored to be the moderator for today's event to help facilitate our conversation and share the perspective from our panelists. Quick agenda review. We sent out the agenda and the biographies for our panelists earlier today. Currently we're in the middle of our welcome and logistics review. Next, we'll move to the discussion, which is why you're all here. And we have three broad topics to discuss today. The first is leveraging evidence, expertise, and tools for advancing resiliency. Next, we have accessing and utilizing federal funding sources, and then third, centering equity and the needs of frontline communities. We'll save about five minutes at the end to close out the discussion and share the link to the survey to tell us what you thought about this event. So I'll briefly introduce our panelists. And as I mentioned, we've shared their full bio biographies with all of you.

So please feel free to reference those. And first I'll welcome, Lori Beary who was the Community Development Director for the Iowa Finance Authority for over 20 years where she served as the primary administrator of the Iowa State Revolving Funds for clean water and drinking water. So, Lori, if you want to turn on your camera and join us. Next, we have Felicia Marcus, an attorney who has served in leadership and management positions in the government and nonprofit sectors. She's currently the Landreth Visiting Fellow at Stanford University's Water in the West program and is an elected fellow of the National Academy of Public Administration. She was chair of the California State Water Resources Control Board after having served as the US EPA Region 9 Administrator and as head of the Los Angeles Department of Public Works. Next, we have Tancred Miller who's the Policy and Planning Section Chief for the North Carolina Division of Coastal Management and the division's lead on resilience and adaptation.

He leads the division's work building local government capacity for climate hazards resilience. We also have Dr. Bhaskar Subramanian who serves as a Program Manager for the Adaptation Science, or the AdSci, group in the National Oceanic and Atmospheric Administration's Climate Program Office. Up until December of 2021, Bhaskar was the Chief of Shoreline Conservation Service for the Maryland Department of Natural Resources. In this position, he worked closely with various federal, state, and

local governments, private sector, and community members, and provided technical assistance to design and implement innovative habitat creation and restoration projects that promote resilience. And we also have Mackenzie Todd who's the Coastal Resilience Specialist for the North Carolina Division of Coastal Management, working on the new North Carolina Resilient Coastal Communities Program. So we're honored to have you all on this panel. Let's start with hearing from all of you. Getting into our first topic, leveraging evidence, expertise, and tools for advancing resiliency. We have a question that we really wanted to hear from all of you: what type of information other than funding are states and municipalities interested in? Why have they been unable to access that information and put it to use? So I'd like to start with Lori. So Lori, if you want to take the first answer.

Lori Beary (00:08:14):

Sure. As I was thinking about this you know, most of our public works directors are traditional engineers and for many of them, they really weren't trained on green infrastructure and some of these natural processes. And so they're unfamiliar and a bit skeptical. And whenever you ask an engineer to change, you know, sometimes it's not always easy. So I think it's a slow learning curve for them. I think they need to get more comfortable with some of the processes. I think I've seen a tremendous change in the last 10 years. You know, we've had public works directors that were engineers, that weren't at all familiar with stormwater management, that wasn't a gray pipe. But I think over time you've seen a lot of change and just a lot of education and information from them. They also need training on maintenance. Again, they just didn't have a lot of that background when they were going to school. And so for many of them that are older, this is just something they're not comfortable with and they have a tendency sometimes to over-engineer it because they're just not as comfortable with green infrastructure as they are with gray infrastructure.

Rebecca Aicher (00:09:42):

Great. Thank you. I think that's really helpful to hear about that perspective of where experts need some context and additional training. Felicia.

Felicia Marcus (00:09:56):

Well, great. I'm glad you asked this question and I thought of a zillion things that would be helpful. And so I came up with a few examples. Again, I'm focusing a bit on western needs since we have so many experts from other parts of the country. And if you ask what kind of information are states and municipalities interested in it, I'd say all of it, just all of it, all the information. And I'll give you a few examples that would be helpful. I actually will jump to the barrier, I think for us, at least thinking about it in the context of California and some of the western states. I mean the two key barriers are either it's not there because it hasn't been done. Although the federal government could do it or we don't know about it or not enough people know about it.

And so one of my recommendations is to sort of make the inventory of incredible information that the federal government has more readily available, not just to states and localities, but to the public and the media. So let me just give you a few examples. I mean, I've always thought that the key added value at

the federal level, in this ecosystem of agencies, again, a little bias, having worked at the local level, as well as the state level, in addition to the federal level is convening power. The power to bring people together across geographies, to share stories and to share experiences to share best management practices to do case studies and get those out lessons learned. But also data tools and delivery to me seem to be incredibly important, particularly at a time where there's a revolution in the technology for remote sensing in sensors for water quality and water supply, for example, et cetera, and disseminating and promoting that technological development is something that the federal government can do that helps everyone else.

So again, a unique role, the other is extra attention and protection to the underserved and the underrepresented, which we'll get to in one of the questions, which I was happy to see and the capacity to collectively find new ideas and approaches at scale, particularly in the infrastructure arena and in the new technology arena. So I'm going to focus in on the data point. I think it'd be helpful to have somewhat standardized approaches to deal with the greater range of scenarios that we're going to deal with under climate change. I think getting to Lori's point about, and I love engineering. I mean, I spent 12 years being a translator between engineers and other people, which was a real labor of love. I probably did it more like 20, if you count the state. There really is a hard issue we need to get over where folks who have been focusing on hundred-year flood protection, for example, I mean, those scenarios are out the window and we're never going to just build to a thousand-year storms, which are going to hit every hundred years or every 10 years.

I mean, we're in a whole new ballgame. That is a huge emotional as well as a professional change for planners, engineers, biologists, anyone who's involved in this. And so having some guidance at the federal level about how to deal with this more unruly range of scenarios, if it ever was “ruly”, I think would be really helpful and also at an emotional level to do some convenings to talk about how do we deal with data and information in a different way. And of course, that wider range of scenarios and the need to be resilient, and the ability to recover from disruption, which is totally different than the sustainability kind of mouse trap we've been talking about, is something I think that needs some convening and conversations, as well as some data. Example, when you look at flow and runoff, for example, in California last year, and you think we have pretty sophisticated stuff going in California, they were off by 600,000 acre feet because the amount of temperature change we've had just in a few years resulted in a runoff deficit compared to what the same amount of precipitation and snow pack should have yielded.

And that wreaked havoc in water management, those are the kinds of things we're having. I think frankly, a little bit of tough love and sharing of data from the federal government will help all of us get real rather than clinging to some of our old metrics. And I think that, again, a perfect role for the federal government. Also, a little further away from politics and away from business as usual, which is something I think the federal government can do, but that was huge. Was it predictable that that would happen with that level of temperature change? Yeah, I mean, we know we're going to lose our snow pack. That's the nightmare for California, but, you know, it was just harder to actually recognize that was

going to happen right in front of our face, in a given year or two, so they're working on that with federal partners now.

But I mean, that's just the kind of example with shared modeling, more transparent modeling just kind of a barrier that agencies can hold their data in a black box. That's true of federal agencies, and state agencies. We're all in this together. So we need to have ways to have more transparent sharing of our models and really the peer review that pokes some holes in some of it, just, those are the kinds of things we need. We, also just quite apart from what climate change is going throw at us, need better stream gaging everywhere to get a sense of what's really happening versus relying on models. So we need models, but we need real time data. And, you know, USGS may be one of the most popular federal agencies out there because of the data they can bring and how good their data visualization tools are.

And I would say expand that tenfold or a hundredfold to be able to get that really good data and Forest Service has great work. I mean, every agency has some great work. That's not being seen by anybody. It's seen by the people in the know, but getting it out there and getting it out there complete with a communications plan, easy to access on the web and the data visualization tools that can make these things real, I think is really important. And I know they do it well. Another example would be the Gray Satellite NOAA JPL's project that did, you know, share. Didn't just share the data about, for example, in California, our groundwater basins being so massively over-drafted over time, but actually showing the photos. And Jay Famiglietti now in Canada, University of Alberta [correction: Jay Famiglietti teaches at the University of Saskatchewan] was phenomenal at getting that data out.

And it made all the difference in the world from a public policy standpoint of people having a very real conversation about groundwater that led to historic legislation. That's where data can leverage good policy. And the same is true with all the massive satellite data that OpenET is being used for. I mean, that's a perfect example of sharing information that other people are using. CalTech is doing a whole model based on that stuff, et cetera. It's fabulous, so just amp it up. And then finally closest to my current heart of work is in the nature-based solutions-green infrastructure arena for forestry, for agriculture and healthy soils for meadow restoration. With this giant infrastructure budget, we need the kind of data and technology to make sure we're not going to just hurl money at the wrong stuff, like a pork barrel. We really do need the data to say what's more likely than not to yield the multiple benefits we need for climate and water or whatever it is.

Flood protection. We're dealing with flood plains for flood dissipation, groundwater recharge and ecosystem benefits. We need some better data out there in more common use to make sure we spend the money well, but also to review whether we spent it well to be able to shift gears. So example, in the Clinton administration, we did the Tahoe Summit [Lake Tahoe Environmental Summit] and people were making all kinds of deliverables to help with Tahoe's clarity issue. Our biggest deliverable was $800,000 from our [U.S. EPA] Office of Research and Development, to develop a tool, to be able to assess whether the on-the-ground meadow restoration, other efforts were having an impact so that we could monitor

that. Perfect gifts from the federal government on that well spent point. And again, to go back, final point. Something I already said is we really need tools to be able to assess this in a multi-benefit way.

I mean, that's the beauty of green infrastructure is it's more resilient, but it also meets multiple benefits. I mean, we kind of need to go back to what we all knew a hundred years ago before we over professionalized everything in academia, in government, in the private sector to where it's all connected, so that we're looking at climate and water benefits for each dollar invested, et cetera, you know, not to mention other things. So multi-benefit calculators and even policy tools to be able to envision what we could do over time, I think will be very helpful. And I think we'll get as what my friend Ellen Hanak of PPIC [Public Policy Institute of California] calls more pop for drop, for example, in the water arena, but we'll also get more bang for the buck for the precious dollars we're going to be spending. And that's just a few, there are a lot more, but those are some of my favorites.

Tancred Miller (00:19:35):

I can pick up there, Rebecca? Good. I think this is a really great start of this conversation from Lori and Felicia. You know, some of those themes have been in my professional life now for quite some time. And this idea of being overwhelmed by, you know, just professionally overwhelmed, intellectually overwhelmed, emotionally overwhelmed with events, with data, with tools, with just life in general, you know, there really needs to be some attention paid to sort of honing in on what are those best, that best bang for the buck and sort of cutting through some of that clutter and clearing out for the practitioners, folks on the ground, all the extra stuff that they don't necessarily need to focus on because it's just too much and it's over overwhelming and it's paralyzing.

So what we are dealing with this as well, we throw a lot of information and tools and data at local governments and say, okay, go do something. And then we look for results and it's hard for them to get there. So we are trying to a better job ourselves at really helping them to help local governments to really focus in on, what scenarios for sea level rise, for example. What specific scenario? They ask us. You know, what should we plan for? They're looking for that guidance from us. And so we also look for that guidance from NOAA and others they're looking for tools, they're looking for, you know, we give our engineering folks funding to go help local governments do natural infrastructure projects. Like Lori said, you know, they weren't necessarily trained in these techniques.

So they see all these new things and they aren't even sure where to start and what's the most effective tool or technique for a given situation. So they're often doing things that are unimaginative or ineffective. And like Felicia said, it's sort of throwing good money at bad projects and not the best projects. So some ways to help streamline that guidance, maybe not more tools, but more focused. You know, I hate to say the tool select the tool, but, you know, there needs to be more focus on helping folks understand, okay, here's your situation, here's what you need. And here's where you access it, if you don't have the means to bring in external help. So I'll stop there.

Rebecca Aicher (00:22:08):

Yes. Great follow on. And excellent points. Mackenzie, did you want to add to,

Mackenzie Todd (00:22:16):

Yes, I will. Second of course, what Tancred just mentioned. We work together here in North Carolina on the Resilient Coastal Communities Program. So this has been quite a wonderful journey to see these communities, really start to look at the coastal hazards that they're facing and trying to develop project ideas to address those hazards. But in terms of this question, I of course had to put my resiliency lens on. And I would say that the communities that I've recently worked with know of, you know, the many tools that are out there and the information that's out there, but they don't always have the ability to access that information. Or they don't have the ability to download the software that it takes to run a lot of those tools. A lot of the communities we've been working with are pretty low capacity where they have maybe just one town staff member doing everything from public works to, you know, a town clerk and everything else. So in my opinion, there's just a problem of the availability to use those tools, and maybe if there were more trainings or manuals out there that, as Tancred mentioned, kind of streamlined this process that made it easier for our communities to accurately use these tools that would be great.

Bhaskar Subramanian (00:23:44):

So, Rebecca, I think most of them, you know, most of the other panelists have actually mentioned, you know, everything that I was planning to actually say, and all of those are relevant points. Let me actually take a step back. And I know the questions here other than funding, but let me actually just say a really quick point with that. Now, when you talk about funding and access to information, most of these opportunities are competitive in nature, right? A well-connected community, or, you know, somebody who can actually put a really good proposal together are ones who are were able to secure funds and attract resources. Whereas there's a huge section out there whose voices are not heard. So the way I look at it, there's some equity issues and there's access issues. Now, at this point in time, I want to actually make a disclaimer.

You know, though, I worked with the Maryland Department of Natural Resources, for a long time. I don't want to speak for them. They've given me a lot -- they've given me my voice -- but I don't want to be speaking for them. Now, Tancred and Mackenzie actually mentioned you know, local government, right? So very, very important thing. So, you know, when I was actually working at Maryland Department of Natural Resources, I met some amazing partners in the local government, you know, but they were constantly putting out fires and they were not even able to actually get ahead or be proactive. Now, if you ask me, what do these local governments need? The first thing I could think of is connections. Connections to planning effort, visioning tools, somebody to actually weave a compelling story for them. Now in short, what these local governments and municipalities need is basically a champion for them.

Now the question then was, you know, why are they not able to access this information? Well, since I've moved to the federal government recently, the way I look at it, I see things differently now than what I was seeing 17 years ago. I have a lot more clarity. I cannot thank, you know my colleagues in my present job, you know, there's definitely a shout out for them. Now. I see there are many resources. I see that there are resources and then there are needs. There's a huge goal. I see gaps. I also see opportunities now. I'm not trying to be negative. I'm just thankful for the knowledge that I have right now in my mind. I think my task is cut out for myself. So I have to actually do a really good job of communicating this to as many people in programs as possible. So the way I look at it, you, if you've seen the Netflix show, "Indian Matchmaking", I think I see myself as an Indian matchmaker.

Rebecca Aicher (00:26:35):

Thank you. It is great to have your perspective and experience from years in Maryland state and now part of NOAA. So really appreciate that. We had identified a couple of questions that I think some of you have already started to touch on, but I want to give you a chance to elaborate a little on how and why you've seen tools fall short of their intended goal. So Bhaskar, do you want to continue kind of with that thought?

Bhaskar Subramanian (00:27:09):

I'd love to. Now when you say tools, right? So the first question that came to my mind is what tools? How do we get access to them? I'm talking to it from, you know, the local government and municipalities perspective. What tools are we talking about? How can these, you know, there are a lot of tools out there that I know of, you know, there are LIDAR maps, vulnerability, assessment tools, you know, living shoreline suitability models. There are a whole bunch of them out there, but they're not really readily available for regions. And it's very either, it's very, very you know, localities-based. Now, let me actually give you an example again, but I give these examples. I'm not taking a dig at anybody. It's just experience that I'm sharing. I think I relate by example. So I'm going to actually, you know, share them with you. I say, for instance, when you know, Sandy happened, you know, Hurricane Sandy happened you know, the Army Corp of Engineers put together a North Atlantic Coast Comprehensive Study.

I'm sure there was a South Atlantic Coast Comprehensive Study also that was done recently. Amazing effort. I was involved in a lot of these efforts and work groups and meetings. Now what we basically did was, you know, so they created these mapping tools right. Now, in the case of Maryland, what we had to do was we had to take that. I mean the north Atlantic coast – it's a pretty broad area that they were covering, so for us to actually make it more relevant to Maryland, what we had to do is we had to actually take that information from that study and then work with partners, such as TNC and others, The Nature Conservancy, and others to come up with what is called the Maryland Coastal Resiliency Assessment Tool. Now, even that what we had to do is we, once we got that, we had to do what's called ground-truthing.

Here is a problem, right? This is a problem with climate change and, you know, all those long-term time scale issues. You know, we are very good with, with figuring out what is going to happen in 2050 and 2100, but then to actually bring it down to today's environment, we were not, there was a disconnect. Now so what we had to, so we basically, I'm reminded of, you know, my boss, Kevin Smith used to say "stepping on a dollar to pick up a dime", you know, so it's, I think that that sums it up really, really well. Now another place where there's a shortfall is there's the lack of consistent and predictable permitting. Now I know permitting is a really sour spot because you know there are some really, really amazing people who are actually permit reviewers, they're doing their job, but there's a lack of consistent messaging.

And if you look at some of the permitting you know, requirements for a green infrastructure project. Now, if I have to actually build a box store, I don't want to name any stores, but a box store. It's easy to actually do it. If you want to build a dam, great, easy to actually do it. The permitting is easy. It's very, very straightforward getting a permit and getting that project done is going to be quick. When it comes to a green infrastructure project, well, there are so many obstacles that are put forward that it becomes such a disincentive, unattractive for somebody who's trying to do the right thing to actually do the right thing. So I'll stop there.

Rebecca Aicher (00:30:47):

Go ahead, Felicia.

Felicia Marcus (00:30:48):

Yeah, those are great. Those are great. Examples, I think I need a, “What would Bhaskar say?” little patch. I want him to describe everything. I agree with that. Let me just add a couple of quick examples, but we've already talked about, a number of us, about when you know, tools fall short of their goal, because people don't know they're there or they can't access them. Like there are a lot of trees falling in that forest that nobody's hearing. And so figuring out how to invest the time in making them accessible is important and accessible to all really good points, helping people use it. Another challenge folks have raised in my conversations with people prior to this is when there's a tool, but it also, it doesn't have enough caveats or enough use.

I mean, one example being, and this is a great tool with perhaps an unintended consequence, is the drought monitor that comes out all the time. People use those maps all the time. The only problem with that, and maybe there's somewhere on that website that has all of this clarification so I'm not saying someone didn't try, but for years the maps come out, the media can use them because again, they're a visual that can be used and totally misinterpret what that means in terms of impact on people. So in a place like Arizona, a place like California in particular, how dry LA is, is less important to LA than how dry the Northern Sierras are or the Colorado river. And so you end up with long stories that aren't really helping people understand where the risk really is.

Now that meant that during our last drought, I was spending a lot of time with reporters explaining what to say, what not to say, what it is, what wasn't, which I was happy to do, but I shouldn't have needed to do quite as much as I did in trying to get reporters not to write stupid stories or to write stories that didn't really illuminate things for the public. So, understanding the impact of the data when it hits the media world is important and that doesn't negate my point, that we need to get much more stuff out to the general public and the media and the academic world and not just to the state or local partners we know. And the third point, and again, I'll take a page from Bhaskar's book. I don't mean this to criticize anyone because there are so many well-intended people that don't have the tools, but sometimes the federal government's own tools are crappy in terms of how they manage their own lands, for example. I mean, in 2014, 2015, you know, just basic temperature gauges for some major, a major reservoir in particular in California, we had a year where it was just wrong and it didn't work.

And then the next year they said they'd [fix it] and they hadn't. And we did defer to them and we killed two years of salmon eggs. I mean, we shouldn't have been cutting it that close. There is a responsibility to the ecosystem and to other people. And so I would say from a state perspective, the federal government should get its act together on its own facilities and managing it and sharing data so that we can be partners in this work and own the consequences of whether it's delayed maintenance or whether it's just not having the top of the line. I think that's important. I know your question is how the federal government can help states and localities, but they can also help by taking care of their own business with more responsibility.

Rebecca Aicher (00:34:22):

Yes. Those are really helpful. Tancred go ahead.

Tancred Miller (00:34:26):

Yeah. I have a slightly different take on this question. You know, I think in a lot of cases, folks that do research, that do science, that do monitoring, that develop tools, they're all, well-intentioned brilliant people. And they want to share that data and that knowledge, that information with folks who need it. But I think one of the missing links there is, you know, in so doing, in a sense we're trying to make everyone an expert in understanding, interpreting, and then applying that knowledge of those tools. You know, you think back to several decades ago, well, before I was born you know, if you want to make a phone call, you had to pick up your little handset, you had talk to the operator and then the operator would connect you to the person you're trying to reach. Now you can say, “Hey, Siri, call mom”. And there you go, technology has solved that problem. Can we apply, you know, technology to solve some of these challenges where people don't have to be an expert on climate or data analysis or interpretation or using all these tools, even knowing which tools to use? Can we use technology to bridge that gap and take away that need for people to understand, interpret, find it for themselves? Because they simply don't have the capacity.

Rebecca Aicher (00:35:59):

Yeah, that's, that's a really helpful perspective and idea around what people need versus what we do. I think you started to answer a question we had prepared, which is: what type of support would states or the communities you work with benefit from? So I think one is thinking more about tool design. I don't know if you or Mackenzie had anything you wanted to add to that sort of thought around the support tools, information, you know, beyond what you've already said.

Mackenzie Todd (00:36:43):

Tancred, did you want to go or you want me to? Well I of course agree with Tancred. It can be very overwhelming for our communities to feel like they need to be experts on sea level rise and they need to understand coastal erosion and things like that. But the way I answered this question in my notes is probably a dreamer's answer. I'm not as far in my career, so I'm not as seasoned. But in a dream world I would to see any kind help we could get in grant writing where a lot of our communities -- like Bhaskar was talking about -- we have these smaller communities that have limited funding, limited staff, and these amazing grant opportunities are coming down the pipeline, but it's so overwhelming for them to even wrap their heads around, downloading the application, filling it out, taking the time to do that.

You know, and as a state, we would love to be able to support them and help them with that. But we also are busy and have a lot of things going on too. So you know, our communities that have lots of funding and staff are more set up to apply for those grants and possibly get those grants. And it's our communities that don't really have the time or capacity to fill out those applications are the ones that really need it. So if there would be any kind of way, we could get some kind of amazing grant writing training to our local communities or any kind of services like that would be great.

Rebecca Aicher (00:38:27):

It's great to hear from a dreamer. You keep going. It's good. Did anyone else want to add anything to what they see the types of support for states or communities?

Bhaskar Subramanian (00:38:41):

You want to hear from a jaded person? I'll go next. So the question was, you know, what type of support would state agencies benefit from, right? I think one of the most important one is consistent messaging and, you know, from the federal government and updating the regulatory policies. Let me give you an example. You know, so Maryland has what is called a state programmatic general permit. So we have, you know, that it's a five-year permit with the Army Corps of Engineers. The sixth version is actually, I think it's starting this October, you know, start of fiscal year. One suggestion that I gave before leaving the state was that we should be incorporating sea level rise predictions in future projects and permits. We have those, I mean, NOAA has developed those tools, but what has not happened is it has not spilled over into the permitting world.

You have many of these organizations have a planning section and a permitting section, and we don't talk amongst these two groups. So incorporating these and making resiliency front and center. You know, we are not, you know, we always -- and I'm guilty of that [when dealing with] restoration communities -- we've always looked at past events. We don't look at today or future. So that is something that we need to actually start having those conversations. So people can actually think. The people who actually review these permits, you know, should be given ample training. They should be knowledgeable about what to expect and how to actually look at a project and you know, review it accordingly. Now, there are so many continuing education opportunities for the private industry, right? So we expect our contractors to actually go through, you know, those continuing education credits.

I think, you know, state agencies and decision-makers also should go through some continuing education and climate science education. Let me give you an example, Maryland Department of Natural Resource has a program called the Association of Climate Change Officers. You know, that's just one example that, you know, as a state employee, these are available, so we can actually take that and get the latest and the greatest and get ourselves certified in climate science. So these are the things that I think as a state person, I think these could actually benefit moving forward.

Rebecca Aicher (00:41:21):

That is not jaded. That is very helpful and concrete examples of, I think an exciting way to think about combining permitting and planning. [We] often hear frustrations around permitting, so I think it's a really helpful way to think about it and move forward. We are doing great on time. So I'm going to offer, if anyone else would like to say anything about tools or technical assistance, please. You have a couple minutes, if not, we can move on to the next section around accessing and utilizing federal funding sources. So I'll pause for one second.

All right. It looks like we're ready to talk about the money. And I did see a question in the chat about saving and sending the chat. We do save the chat on our end and what we usually do is pull resources from it and information. We will figure out if we can actually send the chat out. So we will certainly have it and figure out a way to make it available. Thank you for asking that question. So thinking about accessing and utilizing federal funding sources, Lori, we thought we'd start with you in talking about where have you encountered barriers when trying to access and use federal funds from the state perspective?

Lori Beary (00:42:53):

Well, I'm going to, I think a lot of these topics kind of intertwine so I may be repeating some of the things that the other folks have said too, but, you know, one of the things that we always struggle with are silos and Bhaskar kind of mentioned that. You know, we have USDA, who's worried about ag runoff. We have HUD that's worried about lower income neighborhoods and communities. We've got EPA with the water quality. And so while they all have often programs to deal with some of these, they don't always work together well. I mean, they don't always fit together well. And, you know, silos are tough in a state, even a small state like Iowa, we have silos. So, you know, when you get to the federal level, it's

just that much more difficult for agencies to even talk to each other and to try and coordinate, but, you know, for our small communities.

And I appreciate what Mackenzie said, because, you know, we are a state, the size of Pennsylvania, and we have a total population of 3 million people. I mean, we have more small rural communities that just don't have capacity [or] part-time city clerks. So, you know, they struggle with just maintaining the current infrastructure or any kind of increases needed for increased water, quality permitting. So the capacity is just not there. So you know, different requirements from different funding sources are a real struggle. You know, I think sometimes you don't realize that, that you can use EPA funding and HUD funding and USDA funding on some of these projects, but if the requirements are different or if the timing of applications are different, and if you have to have your funding in place before you apply, you can't apply for multiple funds.

I mean, it's a catch 22. And so those kinds of things trip people up. And especially when you have a small community that doesn't have a lot of capacity. I mean, they just throw their hands up in the air and say, you know, you're all federal, what the hell? I mean, why can't you work together? And so, you know, we find that at gray infrastructure, as well as green infrastructure, the same kinds of things. CDBG [Community Development Block Grant] has different requirements, then USDA has different requirements than EPA. And, you know, they just are very frustrated. And so sometimes they just want to throw their hands up in the air. So finding that and trying to coordinate and trying to break down some of those silos, I think would be very helpful, especially for smaller communities that don't have the capacity. And aren't able to wade through all the different federal requirements and all the different funding programs.

Rebecca Aicher (00:45:50):

Yeah. That's really helpful. Felicia did you want to add to that?

Felicia Marcus (00:45:55):

Yeah, I thought that was great. I agree with a lot of that. I think on the upside to talk about too, but I do think this issue I completely agree that access and the complexity of it is a problem. One of the things we did in California that I think we could certainly do at the federal level, you need to focus and need to have your regional administrators for all these agencies, sometimes state directors, depending on the structure, sit down and work together, which we did do a lot of in the Clinton administration. I'm sure that has happened in other administrations as well, to try and figure out how to coordinate and connect with people on the ground to serve their multiple needs. I think sometimes that happens in the context of a congressperson pulling.

I pulled this all together on brownfields to help East Palo Alto or Carson or different places, but there's a lot you can do there. In California, we did we were able to do this, taking our state bond money, our state bonding capacity, going out to the bond markets and our SRF. And we created the fast program,

FAAST [Financial Assistance Application Submittal Tool]. And I can't remember what it stands for anymore, and it's gone three years and I've like lost my acronyms. But we would just go to particularly to small communities and say, “what are your problems?” And we'll figure out how to get you the funding you need to solve the problem. So we focused on what's the problem. And then we had one application form, and then we figured out how to put together a package.

And we also repurposed a fair amount of our prop one bond money, as much as we could legally. I think it was $70 million for technical assistance to small communities to help them hire people and get people to help them develop their projects and get them through permitting. So I think there's dealing with the issues that Tancred and others have raised, I think are really important and that we've seen in the chat. I also think there's an opportunity to figure out how to do that for the federal government how to sort of do special programs that give incentives and extra points for things like multi-benefit projects that don't fit into a neat box or projects that require collaboration across traditional governance divides, I mean, I just finished a project with a team for US EPA on how to do these kinds of interagency projects and water recycling around the country.

And, you know, each case study is this miracle of somebody realizing they could do more for the community working together than keeping within their comfort zone, but there needs to be encouragement and incentive money to get people to do that, which we need for green infrastructure and a lot of other things. I would say though, that in this particular case, I was you know, I used to send the checks when I was at EPA to the state, and I sometimes encouraged the state to do projects they weren't comfortable with, but as a state agency actually administering the State Revolving Fund, we had very good experience with EPA in getting the flexibility within that to do what we wanted, whether it was loan forgiveness for disadvantaged communities, or extending the loan terms from 20 to 30 years. I mean, it took a while, but that opened up funding so much that we started running out of money rather than being underutilized.

But that's a good thing, because right now, in addition to needing to transfer to green infrastructure, a lot of water agencies have to rebuild the stuff that the federal government funded 30 and 40 years ago. And despite the big numbers in the infrastructure bill, it's just a drop in the bucket, no pun intended, for what's needed to rebuild our water and sanitation infrastructure alone, let alone storm water capture. So I thought EPA did a really good job of being flexible with us. And in keeping with this, one of the nice things that I found flexibility for even when I was at EPA in the nineties, I'm old, is that, I don't remember the phones that Tancred was talking about, but I did hear about them and I did live for a princess phone when I was, you know, a kid and, you know, people are just missing the joy of the dial in.

And sorry you sent me off in a reverie I still remember that phone number too, but they're missing something. I think the benefits are probably bigger, but they're missing something. But one of the things that we encouraged the state to do was to use the flexibility in the State Revolving funds for water quality to allow them to spend those dollars to protect land that was going to yield water quality

benefits downstream. It's sort of like, you know, the regulatory side of that is a filtration avoidance in, you know, New York, San Francisco and other places, but actually being able to use your SRF dollars to protect a wetland or a meadow or a stream, as opposed to only being able to fund it on putting another filter on a pipe at the bottom is something EPAs actually been quite good and flexible on.

And it's taken advantage of in some place. Ohio does some really interesting stuff in land protection too, but we were able to do that and more recently when, not my doing, but I was cheering it on, you know, we gave large loans to the Yurok to be able to repurpose some of their ancestral land, to protect a watershed using sustainable forestry, which is just one of the coolest projects in the world. So there is the capacity to be flexible in some of these funding sources, just a question of understanding the local dynamic and being willing either to do it, or even to encourage a state to do it, if a state is loath to do it. So I mean there are others, but those are just a few examples I think. It's figuring out how do you use the tools you have for the most good on the ground versus how do you follow your rules?

And that silo issue, the Tancred issue that actually Lori raised early on is a really big one that takes some leadership and incentives to get folks to be able to get over. So again, another great role for the federal government because federal government can pick their shots in a way that the local and even the state sometimes can't cause as Tancred said, you've got this mountain of stuff coming at you and you don't have the time. I think Bhaskar said it too. And Mackenzie too. So using that federal power for good isn't just about dollars, it's about people.

Rebecca Aicher (00:52:26):

Yeah, absolutely. A question that came in is really related to hazard mitigation funding. So have any of you had any experiences in accessing funding related to hazard mitigation and are there any specific challenges that you see around that particular type of funding? No takers on that one, huh.

Bhaskar Subramanian (00:52:59):

You know, I can think of a couple of different examples. You know, when you talk about hazard mitigation, you know, Hurricane Isabel, which was one of the biggest events that happened in Maryland, you know, weather-wise, right, damage-wise. And then Hurricane Sandy, Super Storm Sandy, all of those, you know, there were associated dollars that came along with it. Now there were, those are all, you know, designated dollars so to speak, you know, so they came up with some requirements and they had some restrictions. So that is, you know, that's the first thing that comes to my mind actually.

Lori Beary (00:53:39):

The only time we used it is, and it's not really the same, but we were able to co-fund some projects with FEMA after flooding both in 2008 and later. It's a little tricky and EPA and FEMA now have an MOU because FEMA used to, FEMA came in as supposedly, you know, funding of last resort. So if you had other funding to fix your infrastructure that was damaged FEMA wouldn't come in. So you had to do this tap dance and not fund things before FEMA approved them and came in and there's an MOU that

allows, once FEMA has approved it, for SRF to go in and help with some of that, it's still very difficult. SRF is not emergency funding, so you still have to go through all of the regular federal requirements. So it's better than nothing. Is that a terrible thing to say? But it's not super helpful. Actually, the last flood we had, we have a lot of floods. The last flood we had USDA came in faster with emergency funding for some of our smaller communities. That's the only experience I have.

Bhaskar Subramanian (00:55:02):

Now Rebecca, if nobody else has a point I was going to go back to the question that we have here, you know, the question about barriers to accessing and using funds. So the way I'm looking at it is I divide them into two separate questions actually. When it comes to accessing the funds, like I said in the very first you know question, lack of champions to represent communities that is one major obstacle or barrier that I see. And the other thing is lack of ownership. Let me tell you, give you an example. Did I tell you I like examples? I like examples. So let's look at wetlands, right? I mean, we all love wetlands. They're a great sponge. They have great sinks for nutrients.

They stop nutrients going into the water bodies they absorb, you know, they're very good shock absorbers you know, when you have extreme events. So we like it, right? Now when it comes to creating more wetlands, I mean, you know, wetland creation, that's a natural, you know, it's a natural and nature-based feature. We like to invest in nature because nature is always, you know, taking care of communities. When it comes to creating more wetlands, one experience that I had in, you know, while working for DNR was we were getting a lot of pushback. The pushback came from the farmers, the landowners who were actually pushing back because they thought it was the government trying to push that mandate on them.

Now instead, what we did was we tied up with the private industry, local contractors, you know, local folks who have, who start looking for opportunities to create these wetland acres. Now when we found these, what we did was we talked to the farmers and tried to actually come up with a win-win situation. Let me give you an example. One more, you know, for instance, Kent Island on the eastern shore there was a farmer whose field was actually getting flood, you know, was getting, was wet almost all year long. That is a section that the farmer was not able to use, but they did not see that as whole. So why fight nature let's embrace it. They did not look at it from that, you know, productivity and loss of acreage and all of those things.

So what we had to do was go and talk to them and say, you know what? You are already seeing this, you can literally see that farm, the path, the water was taking reached the adjoining creek. So we tried to work with a private industry, and we basically had a discussion with a farmer that said, do you like the waterfall? Yes. Okay. Right. Let's not fight nature here. Let's leave this area. You know, let's work with nature instead of fighting it. Once we kind of changed the topography a little bit, you know, what nature likes to be wet, let's actually make that wetland. And what they got out of it is they would not have gotten extra area for agriculture.

But what they've got is they have another pet project, which is a waterfall. So they've got that. So it is extremely essential to actually, you know, package any discussion that we have. Whatever goals we have in terms of nature-based, it has to be packaged in a way so that the farmers of local land, you know, the landowners feel like there is a win-win. Now, when it comes, when you look at what are the barriers to use federal dollars? Like I mentioned this before too many restrictions and requirements. Now in many cases, say, for instance, let me give you another example, Jonestown community in Caroline county. It's a frontline community. I like to call it, I used the word frontline instead of, you know, disenfranchised or underprivileged. And it's all those negative terms, but frontline is the word that actually reflects what they're feeling. So this community, you know, wants to attract federal dollars. But when you look at green infrastructure projects, that is not the only issue that this community has. So when you look at a solution to that community, you cannot restrict by saying it has to be green. It has to be dark green in color. There has to be a greenish gray or a grayish green kind of, you know, so that flexibility would actually make sure these barriers that are actually broken up.

Rebecca Aicher (00:59:55):

Yes. Great examples and a really helpful way to think about it and hearing that combination of green and gray, I think probably resonates with most people in this space. I wanted to see if we could talk a little bit about funds and other resources made available for operations and maintenance or other long-term activities. So thinking about how have installations survived long-term and where does the funding for operations and maintenance come from? So Lori, did you want to start with that?

Lori Beary (01:00:35):

Yeah, are we're going to talk about how states have been able to use funding for multiple sources?

Rebecca Aicher (01:00:41):

We're running a little short on time. If you can combine the two that would be fantastic.

Lori Beary (01:00:46):

Because I do want to echo what Felicia said, the State Revolving Funds are one of the most flexible tools out there. And you know, that's where I spent the last 20 plus years of my life. And so I'm a huge proponent of the State Revolving Funds and EPA set them up with kind of guidelines and then the states were able to take over from there. So I'll kind of combine these two together because we have been able to use a lot of federal funding from multiple sources on our projects. As you can imagine in Iowa, we're an agricultural state. So we have more struggles with ag runoff from stormwater than we do a lot of times from municipal storm water. So it's a slightly different bent and we'd be able, we do a lot of funding with our landowners with management structures, for them to close, open feed lots, to put up hoop buildings or mono slope buildings.

We do a lot of grass, waterways, terraces, buffer, strips, those kinds of things. And we're able to use our loan funding in concert with federal equip and cost share and state cost share. So we have been able to kind of put all those together. We also just funded a project with an entity that signs up landowners to

practice no-till and plant cover crops. And then from those practices, they generate both carbon, nutrient and phosphorus credits and they sell those credits. So they pay the farmers up front. Once the farmers have been, once the land has been verified that they've actually done no-till and planted cover crops, they generate the credits, you know, they pay farmers a certain proportion of it. And our SRF was able to give them upfront funding, very patient 20-year funding, 2% interest, no payments interest only for the first five years, that kind of stuff for admin

And to get it up and rolling because, you know, they just need a capacity and they're up to 80,000 acres now in Iowa. I know they're expanding into other states, mostly some in the Chesapeake Bay area, but mostly in the Mississippi River, you know trying to help that Gulf of hypoxia, which is the vast majority of it is all ag-related. So we have done a lot of that kind of stuff. We did do one wetland with CREP [Conservation Reserve Enhancement Program], with SRF and CREP. So, you know, wetlands I would agree with Bhaskar wetlands are tough. It takes forever, but anyway, I mean, they're wonderful, but they're very difficult to actually get done. So, and then one of our communities, Dubuque actually daylighted a stream and created a greenway through town. They did a lot of work upstream with water quality projects as far as siltation and runoff and that, but within the town, they actually daylighted this made a beautiful greenway parks trails and really it was flood mitigation, but the end result was both water quality recreation.

They also dealt with flash flooding and so they got money from the SRF. They got a TIGER grant from DOT. They got DOT Scenic Byway grant for a bike trail. They got EDA disaster relief opportunity. They got a HUD natural disaster relief grant, EPA brownfield. And this is a $220 million project in a community of, you know, I don't know, 50,000, 60,000 people in Iowa. So they were able to, but it was a years-long process and these people were relentless. So, you know, if you have that kind of capacity in your community, it can be done, but it is by no means easy. As far as operation and maintenance, I have to say we're very fortunate in Iowa in that our municipalities can set up stormwater utilities without a referendum. So most of our municipalities set up stormwater utilities merely with a city council vote.

So I live in a community of 7,500 people, and we have a stormwater utility, you know, it's an extra $5 on my water bill. So that has really helped us be able to continue to fund operations and maintenance. It's very difficult because again, these grants are not for O&M. We do have some of our smaller communities, for instance, with permeable paving that have to be vacuumed and cleaned periodically, they've shared vac trucks. So, you know, there's that kind of coordination and partnership in trying to reduce cost of maintenance for some of these kinds of things. We do require a maintenance agreement for our nonpoint source projects. For those that are ag-based, it's the same maintenance agreement that NRCS [Natural Resources Conservation Service] would have, or our state ag department. For our nonpoint source, more in our municipalities, we have created a maintenance agreement because if they're not maintained, they don't function properly.

And then, you know, obviously it's not money well spent. And that we also are working with our public works director. I kind of alluded to this in the very beginning. They need to know how to maintain these projects. They're designed by engineers and then they're installed. But again, if the local folks don't understand how to maintain them, then it's not going to be successful. And so, you know, we do have to make sure that they're trained and understand what to do once everybody leaves and the project is installed. So I'll leave it there. I just rambled.

Rebecca Aicher (01:06:40):

That's very helpful and really to list those agencies, it's a great set of examples and important to think about the collaboration and the funding sources. You know, we've talked with some folks from the Federal Highway [Administration] and they've been fantastic and they have their own set of initiatives around green infrastructure that hasn't yet come up in this discussion, but we know is part of it. There was a kind of follow-up question in the chat Lori, so who owned that multi-phase project, or kind of how was it, you know, who was overseeing it and was there already trust and buy in?

Lori Beary (01:07:21):

Which one, which project?

Rebecca Aicher (01:07:25):

That's a good question. In the chat, they just said the multi-phase so maybe the Dubuque one.

Lori Beary (01:07:32):

Okay. So that's the city. The city took the lead on that. Yeah. So the City of Dubuque. Yeah. It's, it's in there, the Bee Branch [Creek] Greenway. Yeah, it's a fascinating project. They won a ton of awards as they should have. The other one, you know, the ag-based one, obviously, you know, the landowner still owns the land. So we just work with the entities. We actually work with our local banks, and I think one of the things that other people have mentioned is partnerships. So one of the things that I think that we've done that's made our program successful is, you know, our wastewater engineers don't understand stormwater management, so we don't use them to approve the projects. We use NRCS staff and state ag staff for ag best management practices.

We use our urban conservationists for stormwater practices in our municipalities. We've used folks at the universities. I think, you know, trying to find those that have that expertise and not laying it on somebody, the really doesn't. We do a lot with our local bankers. We do loan participations. Felicia mentioned purchasing land, Iowa Natural Heritage Foundation, which is a land bank in Iowa, has used state revolving funds to purchase environmentally sensitive lands. Again, we work with our local bankers. We use their loan docs, we use their credit. They go ahead and file the mortgages so we don't have to. We're very small staff as it is. So trying to find those people with the expertise and the knowledge and just use them. It saves time and effort, and, you know, you don't have to recreate the wheel. We also have a sponsor project. Felicia mentioned Ohio. We stole the sponsor project process from Ohio. We stole their link deposit program. We have now both very successful, but you know, when

somebody else is doing something really well, we're more than willing to use what they do. Tweak it, right? We're not Ohio, but use it in such a way that it works for us. And yeah, it's been very successful.

Rebecca Aicher (01:09:55):

Really great. And I have to apologize to my panelists who prepared remarks for some of these questions, but I don't want to short-change our third topic, lose the chance to have some focus. So I am going to move to our next topic around centering equity and the needs of frontline communities. So we know that many of you have been working and thinking about this. We're looking forward to hearing a bit more of your perspective. We're curious to hear, you know, what are states and communities' motivations or interest in green and nature-based infrastructure? What do they hope to achieve? So we thought we could start with Bhaskar on that one. And actually from all of you, as you talk about the states and communities that you work with.

Bhaskar Subramanian (01:10:45):

So Rebecca, since everybody's going talk, I'll just be very, very brief. What, you know, what do they hope to achieve? Two things, a resilient and vibrant communities and two having a robust economic base. And that's it.

Rebecca Aicher (01:11:06):

There goes my unmute. Felicia, do you want to take next on that?

Felicia Marcus (01:11:10):

Yeah. I mean, just a few, I think there's enormous interest, and again, I can speak about the west based on a lot of the work I've been doing more recently on the synergy between nature-based solutions that yield water benefits and state climate policy. I mean, there's huge interest in figuring out how to deal with natural working lands, whether we're talking forests, we're talking meadows, we're talking agricultural lands, whether for grazing or healthy soil practices in general, in Colorado and New Mexico they are trying to develop a natural working lens. Programs in California, which is ahead in at least their draft planning and some of the money that they've certainly spent billions out of cap-and-trade dollars to figure out how to do this, whether it's the draft natural working lens strategy, that's about to be updated and made really real in the next climate scoping plan.

That's ongoing now where California put out a draft climate smart strategy for natural lands in a 30x30. I mean, this, this is the space that folks are going into big time out here. And therefore the tools become really important. And it's also integrated with how do you make life better for communities in the rural arena or the urban arena? In the urban arena, there's huge interest in it because they're on speed, in Southern California and the LA area in particular, to implement a massive funding measure that they got approved by this incredible collaboration. It's going to yield 300 million a year to do multi-benefit, urban-greening and stormwater capture for water supply, flood control and water quality, so that you're not sending all that urban slobber unfiltered through green stuff to the ocean and the harbor. And so there's massive interest in it, and there's massive interest because it's smarter.

It has the multiple benefits for communities green is good and not green carpets in front of your house that nobody walks on, but green true green infrastructure throughout the community. So again, that's a place where all the data, all the financial support, all the measurement tools are important. I'll just note in this, this notion of the need of a frontline community. One of the interesting places to watch is this "Measure W" implementation in LA county, where the actual funding measure was constructed working with, you know, the business community, the governments, the environmental community but also equity frontline community members. So that it's integrated into how the projects need to be distributed, but also in the oversight and management as a whole. Again, you know, it remains to be seen if it will be successful, but it's a great example of trying to make sure that in raising all this money and spending it that the frontline communities get the real benefits. I mean, akin to what we'll be talking about a little later with the 40% goal at the federal level. I mean, it's easy to say it's harder to do it. And again, that involves more human engagement in all this work, which I think is a theme you've heard from all of us through the course of the conversation. But you know, for us in integrating green infrastructure is an issue of survival out here.

Rebecca Aicher (01:14:37):

Yeah. Very helpful. Tancred, would you like to go next?

Tancred Miller (01:14:43):

Sure. I mean, I'll echo what Felicia and Bhaskar just said, you know, we take it very seriously. We're a huge agricultural state, huge, very green state still. We recently, I think 2020, had a very big group put together a natural working lands strategy for the state. That's part of our statewide resilience strategy. We have a coastal habitat protection plan that's focused on habitat for the benefit of fisheries. And we work across cabinet agencies to make sure that we implement that plan to the best of our ability. So it's a big priority for us as well. And, you know, like I said, just echo what you heard already.

Rebecca Aicher (01:15:31):

Great. Thank you, Mackenzie. Anything additional from you?

Mackenzie Todd (01:15:37):

No, that was great. What Tancred just mentioned. I was just going to say that, you know, with the communities that we're assisting in this Resilient Coastal Communities Program, there is a lot of interest in nature-based solutions, but not all of the communities really know what that means and what that looks like. So I think over time, you know, we're hoping that more of these projects will become implemented. So there'll be more examples for our communities to say, "Hey, well that worked a couple miles down, down south. It might work for us". And so there won't be so much hesitation maybe for these types of projects. So I'm excited to see what the future holds there.

Rebecca Aicher (01:16:18):

Great. Thank you. And Lori.

Lori Beary (01:16:23):

I'll just briefly mention, I mean, that the motivation for our communities is flood mitigation. And so they have been very active in the last couple of years in how to manage water upstream, keeping it on the land, working with land owners upstream. Some of the stuff in the chat I noticed is the Cedar River Group, and it's been wildly successful, but, you know, Cedar Rapids was inundated in 2008. And so while they still are looking at a flood wall for downtown they are also very conscientious of green infrastructure and stormwater management, both upstream and within their community.

Rebecca Aicher (01:17:10):

Great, very helpful to hear some of these different motivations and similarities across communities and states throughout the US. Our next question is for Tancred and Mackenzie to kind of share a little bit about how a state identifies and engages with frontline communities. So what considerations do different groups take to engage with and think about and target frontline communities?

Tancred Miller (01:17:47):

I'll start here. We are, I think we are working to try to get better at this. It's become a growing priority for our department. We have built into our programs, you know, the desire to reach frontline communities, to engage with frontline communities in ways that have not been done before. And to the extent that we try to identify those, we have the federal resources you can use, sort of start to identify and then there's state resources you can use to get a little more granular, but ultimately you have to get into the community and speak to the community leaders. You have to speak to the community-based organizations. You have to speak to the religious communities. You have to speak to folks who won't come speak to you basically to identify where the truly frontline folks are.

And it's not necessarily that you can identify folks by you know, a traditional, external appearance. You have to really dig in to find out and understand the community and sort of pick it apart to, to get to where those communities are, what makes them especially underserved or underrepresented in decision-making. And then beyond that, you have to get over the inertia or the resistance sometimes from other sectors of that community to have those folks be involved and engaged, and, you know, something that we've unfortunately found ourselves that just because you can identify and express a desire to engage with those with these types of communities, doesn't mean that there's a willingness throughout that community to involve everyone. It is a challenge and we are trying to figure out, you know, what are the incentives, what are the, you know, the carrots and the sticks that we have to work with and we're learning. So, you know, we are certainly open to looking at ideas, stealing from other folks around the country who are having more success. We are reaching out to groups that we have not traditionally worked with, trying to find ways to make more inroads. So we are certainly not experts in this, in this area. Mackenzie, anything to add?

Mackenzie Todd (01:20:28):

That's a great point Tancred. I was just going to say, you know, the same that we really challenged with that this year. Of course, with COVID restrictions and everything, it was harder to get into the

communities when things were shut down and obviously their health concerns with being in big groups. But I think what went well was one of the steps within our program was to develop a community action team. And that team was charged with getting the community involved, you know pulling people from different organizations into the conversation. So I think that went pretty well. And I think that's something we would stick with because those community members, you know, can kind of champion the effort and know more about the community obviously than the state or a contractor would.

Felicia Marcus (01:21:33):

Great. I think those are fabulous points and I agree wholeheartedly. The one thing I'll toss in since the questions about states, but is a particular federal responsibility, is working with tribes on this work. And I think the Biden administration is off to the most amazing start. I never thought I'd see after working heavily with tribes when I was at the federal government, because it is your trust responsibility, and it is really important, but they're taking it to a whole new level at the state level that can help too. I mean, it's different than EJ. It's totally different. You're dealing with a parallel sovereign nation, but I've been very impressed with one of the best things the Newsom administration has done in California, which is to really amp up the consultation with tribes that Governor Brown started. It was fun to be able to finally do that in a good way, but he's taking another step further, which is to talk about an executive order on co-management with tribes. And again, that gets to this issue of respectfully engaging in the human ecosystem that needs to manage and run projects. So I do think working with tribes is a responsibility of the federal government, but it's an opportunity for the state government and states are hit or miss on that.

Rebecca Aicher (01:22:49):

Yeah, thank you. That's a really important piece to think about and consider. So we are coming to the end and I do want to make sure that we get to this last question, which is what suggestions would you offer federal and state agencies and communities working together regarding the Justice40 commitment to support frontline communities? And I thought we could start with Felicia but we do need to keep it a little briefer than I wish we could.

Felicia Marcus (01:23:23):

Well, I've used all my letters. So I'll try, definitely try to be brief on this one. I think just practically [my recommendation] is to show up and listen first and opine second, that is a federal affliction at times. But on the other side, I've seen the federal government be much better working with communities than state governments can be. So it just depends on the place and depends on the people. So invest in people showing up and listening first and then figuring out how they can add value to what the community needs. And in response to what's in the chat, also be willing to be the 800-pound gorilla when a locality isn't serving their frontline community's needs. So it's those two different federal roles one is to be humble and the other is to be more assertive.

Rebecca Aicher (01:24:13):

Great. Thank you. Bhaskar did you want to add to that?

Bhaskar Subramanian (01:24:17):

Yes. So that's a great point, Felicia. To add to that, I would also say you know, having a more diverse workforce is going to be an extremely important aspect because when you have conversations with communities, you know, building trust and all that's extremely important. And you know, it's been my experience that when you have a diverse workforce, it's a lot easier to connect with the audience.

Rebecca Aicher (01:24:49):

Great, Lori.

Lori Beary (01:24:54):

Well, I love Felicia's suggestion to listen first. The other thing I'd add to that is flexibility. Our smallest and poorest communities are small, rural populations and they often aren't noted when we talk about environmental justice communities, they're always looking at low-income neighborhoods in large communities. And we have again, our smallest and poorest and most needy communities are in rural areas, losing population. So if there's flexibility in the way these funds are utilized you know, that would be extremely helpful.

Rebecca Aicher (01:25:35):

Great. McKenzie.

Mackenzie Todd (01:25:37):

Of course, we'll just echo what Lori just said. That was in my notes too, was flexibility of course and adaptability, because each community is obviously going to be different and have different needs. So I believe the most important thing that I just wanted to mention, again, like Felicia said, is building that trust and listening first and then taking action. I think that's the most important.

Rebecca Aicher (01:26:04):

Great, and Tancred.

Tancred Miller (01:26:07):

I think you've heard really good things on this. Flexibility, you know, not sort of trying to make everyone fit into the same mold. Every community is going to have different needs. You know, every population and sub-population's going have different needs, different priorities, different values. And I think it's important to really, like Felicia said, listen, understand those needs and not come down with a set of programs that everyone has adapt to, programs should adapt to the communities.

Rebecca Aicher (01:26:42):

Great really, really helpful perspective. Unfortunately, the time has come that our panel has actually finished our discussion. I know we have not talked about everything and we had to go a little quicker than we would have liked, but I just want thank all of you in attendance and all of the panelists on behalf

of ECOS, EPA, and the EPI Center. This was a really great discussion. And to those of you in the chat, you have done a great conversation on the side that I could see flying by and couldn't even keep up with, so thank you for all of those resources. We do have a survey and we would love to get more than 10% of you to respond to it. So please, if you can take a minute, Erin Saybolt, just put it in the chat. We'll follow up with it in an email that will include a link to the recording of this webinar.

And we're going figure out what to do about chat, because there has been so much useful information in there, and we want to make sure that you all can also have those resources. We know there are more questions and we'll continue to bring together the many experiences and voices working on green infrastructure and nature based solutions at the community, state, local, federal, all the levels. So we really thank you for joining us and to the panelists, thank you for taking the time to really share your honest perspectives and experiences. So with that, we'll end for the day and look forward to being in touch and talking with all of you again soon. Thank you.