

Nature's Infrastructure_Restoring Henderson Marsh: Enhancing Fish Passage and Community Resilience_S1_E9_Transcript

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Announcer, Hello everyone, and welcome to the Nature's Infrastructure audio series where we will be chatting with our partners, stakeholders and tribal communities to see firsthand how the Bipartisan Infrastructure Law is making a difference to communities and conservation nationwide. In November 2021 the Bipartisan Infrastructure Law was signed, providing the U.S. Fish and Wildlife Service \$455 million in funding over five years to restore Nature's Infrastructure. In the last three years, the service has been putting these dollars to work through projects which are focused on climate resiliency, community partnerships and restoring the ecosystems and habitat that are critical to the survival of fish, wildlife and plants. We are excited to share some of this important work with you as we discover ways that these investments are helping protect, preserve and promote nature's infrastructure. This month, we are focusing on the incredible work that is improving fish passage while promoting safer community infrastructure and enhancing climate resiliency. Across the country, there are millions of barriers that block viable corridors for fish and other aquatic wildlife to access spawning grounds, food sources and safe water. In 2021 as part of the Bipartisan Infrastructure Law, the service was awarded \$200 million over five years for fish passage projects. This funding is being used to provide technical assistance and fund locally led projects that are addressing the challenges associated with hundreds of fish and aquatic barriers throughout the nation. On today's episode, I am sitting down with Brenda Whitfield, an active community leader in the community of Eastwick, which is a neighborhood in Philadelphia, Brenda, is passionate about promoting collaborative conservation and addressing environmental injustices within the Eastwick community. Brenda, welcome to the show.

Thank you for inviting me to the podcast. Thank you so very much.

I'm also joined today by Jim Feaga, a regional biologist with Ducks Unlimited, to talk about how the Henderson Marsh reconnection project is reducing flooding impacts to surrounding communities and re establishing aquatic habitat, which is important for several species of migratory fish. Jim, thanks for joining us. Thanks

again for inviting us to the an amazing project that really gets the opportunity to pull everything together between the habitat conservation, water quality improvements and, you know, most important locally, the coastal community resilience.

So let's start by talking a little bit about the Henderson Marsh reconnection project, which will restore 55 acres of marsh at John Heinz National Wildlife Refuge. Now this area has experienced historical title restrictions and reduced connection with Darby Creek, which is a tributary of the Delaware River, and it's resulted in significant flooding events over the years. Two years ago, Ducks Unlimited received Bipartisan Infrastructure funding from the Service with additional funding from other federal agencies and partners to construct a new opening in a berm at the Henderson Marsh to improve title channels. Brenda, why don't you start by telling us a little bit about the community of Eastwick and why restoring Henderson Marsh is so important to the people who live there.

are a international community of all walks of life that have gone through a lot of environmental injustices, such as pollution, clear view landfill, dealing with EPA, which has cleaned it up and have brought monitors now into our community that they have to monitor for gasses and pollution. We have repetitive flooding that started back in 1999 with Floyd. However, we are working with Delaware County to get HESCO barriers put up for flooding, not putting any residence in harms way. That's not our intentions. Relationships are being built with Heinz as well as the nature based solutions and the city for flooding. So with Henderson Marsh, it just means that we would have more land for wetlands and for storage purposes for flood waters. So the first flood the. Bigger one was 1999 was with Floyd. But you already know we had 2020, we had Ida. We had Isaias, we had the little, small ones in between that left over six feet of water in the community basement, of flood waters, we had to have canoes and boats coming to rescue the people out here in the East whit community. So we definitely need more wetlands. We need more storage spaces to handle this overflow of the Cobbs creek bank.

So Jim, Brenda just talked about the impact to the Eastwood community and what it has meant over 25 years of flooding from an ecosystem restoration perspective, why is restoring the Delaware River tributary important for migratory waterfowl, migratory fish such as American shad and other aquatic organisms.

It's all really interconnected. These are not mutually exclusive ideas, the idea of habitat and coastal community resilience and all these kinds of things. There are things that maybe historically, we've sort of separated, but in today's world, we live right in these important areas where not only we recreate, but also, you know, wildlife thrive and fish thrive, you know, benefit, and we all kind of are interconnected that way. And the refuge itself, being right at the heart of this tributary, is teaming, example that it's thriving sanctuary, teaming with rich diversities and wildlife already, from fish to wildlife, the native plants that are that are all native to the Delaware estuary, but we've seen these issues in the past even on the habitat side, because when that flooding impacts the communities, it's also impacting the habitat that these species rely on. And we captured some of that data while we were out there collecting details for these projects. And it's just as much important it is to the communities, it is to us about making sure that the habitats are resilient to climate change and sea level rise. Historically, this site, this whole portion of the watershed, had all kinds of impacts from the ecosystems, from various bridge networks and berms and all kinds of infrastructure that was created that really didn't take into account the long term impacts that they would have, not only for the habitat side, but for the communities and how they would have to adapt over time with increasing sea level rise and flooding risks and erosional forests. There's at least 105 species of the greatest conservation concern that utilize the refuge at some point throughout their life cycle. And these are the various resources and species that we are very passionate about it. Ducks Unlimited. And when we sought out for this project, it was really pulling together an overall healthier ecosystem that could benefit improvement of marsh functions, resiliency of the flooding resist for the local communities, you know, enhancing and expanding recreational opportunities and providing access for our environmental education, not only for folks that regularly visit the refuge, but to encourage more folks to want to interact with these systems.

You know, we're talking a lot about the encroachment of urban and industrial development, which is impacting landscapes and resources, especially those that surround the refuge. So John Heinz strives

We to provide both quality habitat to wildlife and opportunities to connect to nature for systematically excluded communities. Brenda walk us through this. What does the John Heinz Refuge mean to the Eastwood community, and how are you working with the refuge to balance the needs of a growing population with conservation efforts.

Heinz has been instrumental in getting funding to restore wetlands like the Henderson Marsh project going on. But also we have the empowerment transition project that will involve converting the empowerment to 50 to 100 acres of tidal marsh. We realize this will not be cheap, however, it gives flood waters a place to escape to, instead of our homes. And with Heinz and the community joining forces, we can make marvelous things happen in the community with more activities for the residents at Heinz, Eastwick, and alone, we got to bring in our state partners, the airport, jobs for our younger generation. We can create legacies in Eastwick, along with involving local communities in the design and planning of these spaces that will ensure that their needs and preferences are met for the community when people see their input reflected in these landscape. Place, they're more likely to feel ownership and take part in recreational activities.

Brenda that's a really important point that she made talking about involving the communities in the design and the planning, so that they have buy in, and with that buy in, then they're more apt to use these recreational spaces and public lands. So Jim, as we talk about these landscapes, and we're talking about now the planning and the development of this project, let's discuss a little bit about the dredging and the excavation work. This project aims to enhance over 13,000 linear feet of tidal channels and improve function to 55 acres of tidal freshwater marsh. So let's put that into practical terms. Can you give our listeners an idea of what 13,000 linear feet looks like? And once complete, how do you anticipate that this improved landscape will differ from what it looks like now.

13,000 linear feet. That's roughly about the same size length as 36 football fields. It's quite a big change to the system and and really it's what was necessary for this system, considering that Henderson Marsh, at one point in time was planned out to be the confined disposal facility for a lot of dredging materials in the area. So it was really built to hold in sediments and water and not really let water enter in or leave these sites. And there have been some smaller attempts to do some mitigation work to try to leave some of the issues at Henderson Marsh. But this is really taking it full scale and really what the intervention that was needed. That's why it seemed such like a big project, and that's because it is. I mean, there was a lot of changing infrastructure that occurred even within Henderson Marsh. With this project, recreating those openings in the berms and reopening some of these title channels, that material will essentially be reused, both on the marsh surface as well as in the nearby upland areas to basically make the site more resilient, more interactive with the flood plain of Derby Creek, addressing one of these climate change sea level rise storm events, and even the upland portions of it that restoration that's occurring, we're actually restoring what currently now is more like a derelict water retention basin that have now become an early successional force. We're also helping, not only with the flood issues, but also some of that carbon storage and some of the temperature issues that communities are dealing with. So it's really a holistic approach to habitat and community resilience.

So we're talking about flooding, and now you're mentioning carbon sequestration. So we're talking about climate resiliency and Brenda, you've already mentioned about the importance of improving tidal

marsh so that flood waters have a place to escape to that are not within the community. How do you anticipate that this restoration work will help the East wake community thrive. What does success look like?

Here's how I said, celebrating culture heritages, incorporating elements of the local culture and history into the design and programming of improved landscapes can help validate and celebrate the identities are systematically excluded communities. This might include making us feel secure with Heinz working to make sure there's a place for this extra water to go to with having these extra acres of land, it means that that 55 acres will hold more water, less flood waters going into homes. When we hear rain drops by the line, it gives us a peace of mind. It gives us transcript which we have not had in years. When it's a heavy rainfall, we have a future in working with Heinz, because they can expand where flood waters go. And listen, I got high hopes for Heinz and us working together.

I want to ask a follow up question, Brenda, because you mentioned something that I think is an important point to explore a little bit further. You talked about including local culture and history into the design, which goes back to what you mentioned earlier, about making sure that the community has buy in and is part of the planning process. Can you give us some specific examples of what this looks like.

It would be like public art. It would be like community murals. It would be like interpretive displays that reflect local stories and contributions into the neighborhood. It would be where our children can see that. Things coming into play. Say, even with the HESCO barriers, we can have our younger generation doing artwork in the land. They can see how it is to fish, like our ancestors did, and when they fish, they'll be able to bring the fish home and learn how to use that fish to cook a meal. We're hoping that, working with the different things in Heinz, the marsh and all of that, they can help clean up the air. They can help clean up the water system. They can make it clean. They can make it refreshing for the community to be able to catch the fish and eat the fish.

Jim, I'd like to circle back on something that you had mentioned previously, which is this idea of climate resiliency and how this project is going to help mitigate future impacts, both from flooding and from climate resiliency. Can you expand on that, and how will this ensure that the ecosystem and waterways will remain protected moving forward,

This site has been highly altered, and not only was it highly altered, it was it was itself cut off from the lifeblood of what these marshes thrive on. I mean, sediments and things that are causing issues elsewhere are kind of what actually these marshes thrive on. All those nutrients and sediment that comes down through the system normally in a flood plain system would actually nourish these marshes and help them keep up with sea level rise, help them become more healthy. In a way, we look at it as kidneys. They absorb that and take it out of the system so that we can have our recreation and be able to eat our fish. But in the other way, these are what the systems need so that they can survive too. And we've kind of been negating that opportunity for these marshes to accept that. So by reconnecting Anderson Marsh to Darby Creek, we're allowing for like during those flood events, to really get the sediments captured in these marshes, the nutrients and all those things that these marshes need to survive, and then the excavated material. So the 36 football field lengths of material that we're going to be taking out that material is something that probably was missing from accretion over time. So by

adding that material to it, we're actually raising up these elevations of the marshes. You can look in different portions of the Delaware River watershed that have been cut off historically in these tidal flows, or just rivering flows or flood plains. And these marshes tend to be at lower elevations than those marshes that have been remaining that connectivity and been able to accept the life, but the sediment coming down through the system and grow these coastal marshes grow with differing condition. Penderson Marsh is one of those that really didn't have that opportunity. Probably the only thing that saved it was the invasive species that grew out there, Phragmites, and the peat material that was accumulating over time. That was probably the only thing that kept the marsh alive while it was cut off from the floodplain. And that's something else that we're looking to address, or already have been addressing. The refuge has been dealing with the invasive issues out there, which is going to help in other areas with the connectivity of and opportunities for these other species that otherwise might not even be able to use the site. It's a holistic restoration the elevation, the reconnection of the floodplain. It's adding that elevation and the newest nutrients back into the system that have been locked out, and giving both people and wildlife access to this.

Having listened to Jim, I want to add also that it improves the environmental justice point of it, meaning it would improve the landscape, and we talked about this, but it will make it accessible regardless of social economic status. It will promote environmental justice by ensuring that the benefits of green space and natural areas are shared by all.

We've only really been talking about the habitat components of this project that were directly filled with funding from the Bipartisan Infrastructure Law. But you know, there's other sources of funding that we secured, through NOAA, through U.S. Fish and Wildlife Service, through our own private philanthropy and donors that have been giving to this cause. And because of that, you know, we're not only doing the habitat components, but there's also going to be some, what the refuge called User Services, types of things that are being added. So we are adding a kayak launch that will provide access to Darby Creek. There's going to be a new observation tower that's going to overlook the project site. So there's going to be opportunities for viewers, you know, whether it's just taking a look at the marsh, or if you're into birds, or you know, anything else. There's also going to be new interpretive signage that's going to be placed in both. In this project, in around the surrounding area the trail, well, actually the berm, now that's a semi trail. It's kind of broken up in pieces. There's going to be a new pedestrian bridge, and as well as portions of the trail are going to be touched up with some of this funding that's become in place. So it is really access is a big thing of this whole project, and had been integral in the design stream to get COVID Brenda hit the nail on the head. This is kind of like bringing it all together for all people.

You know what I just thought about, because I'm involved with that, is nature walks the community can be involved. That means seniors and everybody can be involved. And the guided nature walks that you guys probably have, I just came from a nature walk and a walk trail that was started out here in Eastwick, and I know in Heinz you guys have those walks, but the programming aligns with cultural traditions, and it helps to bridge the gap between people and nature.

So bridging the gap between people and nature, it sounds like this project is really part of a larger strategy to address environmental injustices and to create opportunities for people in the area? Brenda, if we consider environmental injustices, as we've been speaking about, that black and brown

communities often face as they bear the brunt of pollution, you've mentioned that under investment in infrastructure, and as we've talked about the lack of green space, these communities are suffering disproportionate impacts from climate change. So are there any additional opportunities that may be created that we haven't already discussed or explored.

Actually Sue, we are a black community now, but out here in Eastwick, we have not always been that way, and justice is all over the United States. Impacts all Americans, black and brown communities as well, but having to deal with Heinz, nature, space, air, it just means that it improves the mental and physical health benefits for the black and brown community, access to green spaces have been shown to boost physical activity, reduce stress, improve mental Health, and systematically excluded communities like us is often face higher levels of stress and health disparities, and can greatly benefit from increased recreational participation in these restored environments. We really need to appreciate and get into nature based solutions, more it will make our health so much better. And having these green spaces and coming together with a group like Heinz and then a walk leader myself for the city, it can teach the black and brown people the importance of what nature can do. And it doesn't have to be a lot. It's not expensive going for a walk. Can just increase your better health 100% and that's what I'm into.

I think that's a really interesting point. Brenda, you talk about improving mental and physical benefits, which is not something that we necessarily correlate. When we're talking about natural infrastructure projects, we think about wildlife, which is important. We think about species, habitat and ecosystem restoration, but these other things, which include, in this case, putting in a kayak, launch an observation tower, interpretive signage and making sure that the community is part of the planning process really has long term and additional benefits. So in that vein, Jim, as we talk about engaging communities to address significant place based issues, we're also talking about this creation of positive outcomes for habitats and for the 105 species in this case, that are inhabiting this ecosystem. Why is it important for Ducks Unlimited to champion this particular project?

There's a lot of misconceptions of what Ducks Unlimited organizations about. At our core, we're a habitat conservation organization. You know, our mission is to restore, conserve, protect, manage wetlands and their associated habitats for North American waterfowl. There was a statement for a while that was missing from our mission statement that was added several decades ago that really brought it together, and that was these habitats also benefit other wildlife and people that. Statement was really what brought the whole thing together, to realize that our mission includes not only the benefits for the birds that we were trying to protect back in the dust bowl area of how we got our start, it's also all of the other ecosystems, goods and services that these wetlands provide to people and to wildlife, the recreation, the food, the clean water, the flood and erosion mitigation, the carbon sequestration. It's all tied together. So it's unfortunate that we have to be reactive to these threats, you know, flooding issues and all these kind of things. But for all the negatives of what the impacts give us, it's actually giving us that opportunity. It's giving us the fuel to bring these things back together as they should have been. It's all interconnected with the benefits these wetland resources provide. It's all of those things community resilience is a big issue, and something that as organization that is kind of the primary leader of wetland conservation throughout North America, better than to be working on some of these issues that help

connect the wetland resources that we provide with the other ancillary benefits the ecosystem, goods and services they provide to others.

So, Jim, you just mentioned community resilience. I'd like to talk a little bit more about this. Brenda, let's talk about resilience and Community Conservation. This idea of community conservation. Why is Community Conservation and this type of recreational access, this type of expansion of green spaces, saving species, saving wildlife, enhancing ecosystems so important to serving the needs of systematically excluded communities.

Improving landscapes and restoring ecosystems can be powerful tools for increasing recreational participation, especially among systematically excluded communities. Several ways in which these initiatives can help is improving accessibility and reducing barriers physical access. Many marginalized communities live in areas with limited access to green spaces and natural landscape. By creating new parts, trails and recreational areas closer to where these population lives, it becomes easier for them to participate in outdoor activities without the need for long travel or expensive transportation. Improved landscapes that reflect the culture and historical significance of the area can make these spaces feel more welcoming, including cultural elements, such as you mentioned before, signage in multiple languages or designs that celebrate local heritages can create a sense of belonging for my community.

So Brenda, speaking with your community and knowing your community as intimately as you do. Do you think that people will use these spaces and will welcome the access once the barriers are reduced.

Once they're introduced to it, once they're familiar with it, once they know how it can benefit their lifestyle. Absolutely, when you don't have things offered to you. You don't have things accessible to you. You have a tendency not to get involved. But once you are engaged as a community, and you feel a part of it, and when I say welcoming, this is what I'm hoping with Heinz, that it is a welcoming situation where we as black and brown citizens feel welcome and that we are open to the environment of Huns, there's so many different organizations, different groups, that come into the community and use Eastwick. They use Eastwick to get grants, and once they get those grants, it does not come back into Eastwick community. And that's not fair for us. Want that to change, because if you want to use a community name to get grants and money, they should be sitting at the table.

And it sounds like with this project, that is changing, because we have this collaborative conservation effort that's happening. So Jim, let's expand on that topic. We talk about the importance of partnerships like this one with Ducks Unlimited. Why is collaborative conservation Why is working with communities like Eastwick so critical to the success, not only of this project, but of landscape wide conservation work.

No one organization, no one entity, can do it themselves. Things these days are so complex, whether you're talking. About the regulatory side, the funding side, you know, pulling together all the different landowners and partners, the only way to have meaningful scale, landscape scale conservation work is to have this collaborative network of local communities, local government, local nonprofits and residents, everybody involved in these things. Because when everybody's educated, everybody, it lifts all ships, the more that we can bring to the table into one plot only helps us all, leveraging experiences,

expertise, resources and opportunities that helps us all is the case of success, and something that we do a lot with and a lot of our different partners, and couldn't do it without them. Dustin Lim is not a landowner. We see a need of conservation of our resources that we hold dear wetlands, but we can't do it by ourselves. We need the landowners. We need the residents. We need the local champions that bring it to our attention of issues that need to be addressed. You know, I'm one person that covers, you know, quite a big geography, so I can't know everything that's going on and where opportunities are for conservation that have these mutualistic benefits. So having folks like the refuge and folks like Brenda, bringing these to our attention really helps bring it all together.

So on that note, Brenda, if you had one big takeaway or one big lesson learned, what would you share about your experience partnering with the Service, with organizations like Ducks Unlimited, and with others on these very impactful projects.

It brings by the social connection parts and natural areas, all for spaces for social gathering and community building, creating landscapes that support group activities, like family picnics, which Heinz has, where we can do community sports, along with your kayaking and all of that, and it can foster a social connection which are crucial for building a sense of a community.

Jim, how about you? Do you have any lessons or key takeaways that you want to share?

You know, main thing to point out, and I think Brenda mentioned this before, is, this is just one of a series of projects that are going on throughout Hines and within the community, and one that you know, do you and Fish and Wildlife Service and other local nonprofits, other groups that are all being a part of, is bringing this whole big story together. Because, again, like I said, with the collaborative approach, not only is it each one of these partners coming together, it's each one of these projects coming together that makes the bigger picture work, and it's that big picture and foresight that EPA and us, fish, wine service and other locals have had that really laid the groundwork where a lot of these projects now occur. And it's because of this funding. Again, the money that was given through the Bil money was leveraged towards other additional monies. Without that, you know, we would have never had any of this possible. You know, a lot of these ideas, and that's what we'll call them, that are now projects. A lot of these were just ideas that nobody ever really thought were possible because of some of the issues with funding and being able to cobble together that much for such a relatively small area on the map. It's all of that coming together, the leveraging, the partnerships, the funding, the matching resources, that's kind of what made it all possible, and how this one project fits in the bigger series. And to see all that now come to fruition is just exciting, and I look forward to more.

I'm in awe. I sit here and have this conversation with the two of you, and on paper, we're just talking about expanding this tidal area, but in this conversation, what we've uncovered is that this project, which is part of a larger group of projects that'll have landscape wide conservation benefits, we're really talking about creating safety and security for a community that has been impacted by natural disaster and flooding for a quarter of a century. We're talking about improving ecosystems and restoring habitats for 105 species that are of conservation concern. We're talking about improving green space, which then improves physical and mental wellness. So the impacts of this are astounding. I'd like to

close our conversation today, and Jim and Brenda, I put this out to both of you. Is there anything else that you would like to leave us with?

Just so you know soon, Heinz has earned the community's trust. I wanted us to have bridges where we could talk and be transparent with each other, and now that's where we are. The community is in a good space with Heinz. We see that they were doing things and they had us in mind. We thought that you guys was working and building things over there for different cultures and was not including us, and we were right here in the community, and they weren't coming to us. Now that we're at the table, I'm about ready to shake Jim's hand, because the trust is built now. So I feel good with working with Heinz. The community feels good. I have a good report to bring back as the black captain. Sitting at the table makes a difference than being on the menu all the time. So with thoughtful planning and inclusive programming, these green spaces can become powerful tools for community, healing, health and connection.

Well said, Brenda, and my only encouragement is for others listening to this, these conservation groups, we're out here. We're always in support of these types of efforts. The best opportunities are those where missions align, and the more that we can hear about those opportunities and needs from others for these types of interplays of conservation, for habitat as well as community resilience, only means a better outcome and more efficiencies for all of us. It's not exclusive to one area, and the more we learn about them, the more we communicate, the better these products are going to become.

I realize that there's work that still has to be done, but I would like to have time to celebrate the small things with you guys with most of big things. So thank you.

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Thank you Brenda and Jim for taking time to sit and chat about all the important work that is happening to restore 55 acres of Henderson Marsh at the John Heinz National Wildlife Refuge, and the impactful ways that the Bipartisan Infrastructure Law is making a difference to Eastwick and neighboring communities and listeners, thank you for taking time with us to learn more about these projects and the people they impact as the Service continues to work with partners like Ducks Unlimited and engaging with community leaders, we can bring a broader understanding to the spaces we share and the people, ecosystems, and wildlife which depend on our collective efforts. Since 2022 the service has awarded over \$143 million in Bipartisan Infrastructure Law, funding for 122 fish passage projects in 40 states and Puerto Rico. To date, nearly 1/3 of these projects are finished which have reconnected almost 1700 miles of aquatic habitat and removed over 50 barriers that fragmented rivers and blocked fish migration. Be sure to listen and then tune in again as we continue to chat about ways the Bipartisan Infrastructure Law is investing in our communities to help protect, preserve and promote nature's infrastructure. We'll see you next time you