

Nature's Infrastructure_Klamath Basin Part 2: Developing an Improvement Plan for Lower
Klamath_S1_E2_Transcript

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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 these two short 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 the fish, wildlife and plants we are entrusted to conserve. We are excited to share some of this important work with you as we discover new and exciting ways that these investments are helping protect, preserve, and promote Nature's Infrastructure. Welcome to the Klamath Basin, part two where on today's show we're chatting about a significant project in the Lower Klamath Basin. We've also posted Klamath Basin, part one which explores another important infrastructure project in the Upper Klamath Basin that is focused on floodplain restoration of the mainstream Sprague River and promoting landowner participation in restoration programs to retain economic viability for family farms and ranches. On today's episode, I'm sitting down with Alta Harris, an environmental coordinator with the Klamath tribes as well as Scott White from the Klamath drainage district, and Michael Belchik, Senior Water Policy Analyst with the Yurok Tribe, to discuss how they're coming together to develop a water and habitat improvement plan for the Lower Klamath Lake. Well, this improvement plan was not actually funded through the Bipartisan Infrastructure Law. It is an important part of the claims story and will be critical to reconnecting and restoring wetlands in the Klamath drainage district and lower Klamath National Wildlife Refuge area, which in turn, will create multiple interconnected benefits for wildlife and farms. Alta Scott, Michael, welcome to the show.

Good morning. Really glad to be here.

Thank you for having us.

So Scott, let's start by talking about the coordinated process that's gone into determining how to even approach developing this water and habitat improvement plan which will benefit multiple species ecosystems and communities in the Lower Klamath Basin. This conceptual plan is being developed through a collaborative effort, which engages a variety of partners, who's involved, and what does this collaborative process look like?

Thank you Sue, let me start by saying that adversity breeds ingenuity. And we've certainly been facing adversity in the last five to 10 years, maybe even longer in the Klamath Basin. We've been hit really hard the last few years with drought. Obviously, we have species that are being impacted as a result of operations and the drought on top of all of that, as of just a couple of years ago, our two refuges just

south of the Oregon border Tule Lake National Wildlife Refuge and the Lower Klamath National Wildlife Refuge. Lower Klamath being the first in the nation designated for migratory waterfowl, both went dry, bone dry, I mean, the cracked mudflats, you name it, everything that you could picture. That's right in my neighborhood, we sit right adjacent to the Lower Klamath National Wildlife Refuge. So when you look at those kinds of things, things that you've never seen before, your brain kind of works a little bit differently. We do have a canal that delivers water to the refuge directly from the Klamath River. And we started thinking about how can we start coming up with some solutions being a part of a solution for these issues that we're all facing, frankly, whether you're upstream or downstream, it's all part of the basin and it's all impacting us in one way or another. So we started talking about this stuff. We started talking to refuge folks, and we were we started thinking about what it would look like to for lack of better term reconnect the system, the way that it used to function it used to function as lower Klamath lake, the water would come down hit Kino reef and it would back up and it created lower Klamath lake. So we've just started talking about that and what that might look like and whether it's even possible. So talking with refuge folks talking with my guys, of course, we didn't want to stick our neck too far out on something like that, but it started gaining a little bit of excitement that there might be something here we invited the Yurok tribe and we invited the Klamath tribes in Modoc nation came in Fish and Wildlife, obviously, NOAA Fisheries, and we just started having the conversation about what this may look like. And is this something that everybody could at least be willing to explore with us. And frankly, it's it's gotten quite a bit of excitement around it. Right now we're in the feasibility stage of just seeing if it's if it's even doable. We just got LIDAR real, fresh LIDAR as of a week or two ago, thanks to the Yurok tribe thanks to some Fish and Wildlife Service money that helped fund that. And that's going to be really, really helpful to starting to sit down and see what a design may look like to see if the elevations can work accordingly to where we're not impacting private lands. I mean, if you can imagine when they dried out Lower Klamath lake over the last, you know, 100 years or so people have moved in, and they've built infrastructure, houses, and I mean, built lives right there where water used to be. So we need to be real careful and sensitive of that. But this is kind of the exciting part in my in my mind, where we get to start seeing what how this is going to take shape. And if it's going to take shape. But how the collaboration worked was we just reached out directly and everybody said, Sure, let's let's go take a tour. And, and I think like I said, I think everybody kind of drummed up a little bit of excitement, maybe a little skepticism as well as coming from me as well. I'm not gonna lie. But the exciting thing is, it's on the table. And it's something we were all sitting around the table talking about and exploring together and that's really how we should be thinking about running the space and in my opinion is all together.

Yeah, and the goal of this plan is to reconnect and to restore wetlands. You know, Scott, you just talked about drought and the importance of this ecosystem to migratory birds. From a conservation perspective, the wetland systems represents our greatest opportunity to restore ecological resilience. Alta, why is wetland restoration so important?

I mean, the Klamath tribes ancestral territory with just an incredibly diverse and abundant ecosystem that produced fisheries, birds and and cultural plants that were used for foods for the people that lived here, those wetlands were just an integral part of that system. And we have lost the majority of that habitat of that ecosystem. And it provided a very important role in water filtration in ties in with groundwater, and just the overall hydrology and functionality of the system and removing those I think set us up to be more affected by drought and other adverse conditions. So anything we can do to bring

that back and restore the functionality of the system is going to improve conditions for all of the animals and people that live here in this system.

Speaking of animals and of species, there are efforts to save imperiled fish like suckers and salmon. Michael, why is this so important?

Well, I think the Yurok tribe has a unique position in the Klamath Basin, down at the mouth of the river looking upstream. Everything that happens up river eventually affects Yurok. Yurok, see themselves as stewards of the land and need to take care of the entire basin. It's all one basin. So the wetlands like Alta said, are crucial for salmon for the Kuptu and C'waam which are the suckers and upper Klamath and for the waterfowl. And it's a cultural value of the Yurok to integrate the management of everything together. And that includes cultural fire, uplands management, restoring wetlands, restoring fisheries, habitat, protecting flows, and just protecting the entire ecosystem. I think what's exciting about this project here is that it has multiple benefits for many different species is beneficial for migratory waterfowl. That is something that counsel has directed us to pay attention to. It's beneficial for salmon and for suckers. That's important to the Yurok tribe and it's also beneficial for water quality, which affects all the species up and down the Klamath Basin. So we view the restoration of these wetlands and the restoration of the hydrologic function of Lower Klamath Lake as a way to integrate the ecological management of the entire basin.

Those collaborations in these partnerships are certainly very important to make that come to fruition. So Scott, let's talk about project specifics. Part of this project includes modifying the existing AB Canal, which would reestablish hydraulic connectivity between the Klamath River and the lower Klamath National Wildlife Refuge through the AB and North canals, what kind of earthwork would be needed and how will modernizing this connection positively contribute to climate resiliency?

You know, Sue, I'm gonna go back to what I mentioned earlier, we just got The LIDAR, which is really exciting. And so the design gets started taking shape. One thing we're really focused on is making sure that water isn't going to top over our canal banks, we want to make sure that we're not flooding out our own private infrastructure areas that we don't want water to be at. And I think that goes down on the refuge as well. I can't speak for the refuge. But I do know that they're looking and taking all of that into consideration on how that's going to take shape down on the refuge, you know, so I imagine there's probably going to be some dikes that need to be built to keep water away from areas that they don't want it we're really making note, there are a couple of roads that are between points A and B on the AB Canal and the refuge. And we want to make sure that we're not inundating those roads, do we need to be thinking about that? Do we need to be thinking about building bridges? I'm not sure. Like I said, that's the exciting part, though. We've got the elevation data now. And we get to start seeing that all take shape, the value of all of this, I believe in terms of climate resiliency, there's a lot of things as we're talking through this relative to this ecosystem health that is really starting to make a lot of sense about this. There's data out there and there's some that question it, but there's data that suggests that there's connectivity between lower Klamath National Wildlife Refuge and the Klamath River for an example. So if that's true, Are there benefits to water quality in the Klamath River itself relative to cleaning it up, cooling it down and providing additional refugia for migrating salmon and other fishes for that matter. We're also looking at the microclimate, back in the day, we used to see thunderstorms every single

afternoon. And we haven't seen those since we've dried out the refuges. So you know, that's rain that comes back down in the basin, somewhere, there was a massive, massive fire that you all may be aware of, the Bootleg fire. And if you take the drought out of there, and you any think about it raining periodically, you got to question whether it gets that massive or not. And that's me not talking about forest management as well. But nonetheless, I do think relative to climate resiliency, just having water on the landscape is beneficial for all of us, especially when you're thinking about the water quality benefits to of having those wetlands service as a filter, if you will, for that resource.

This obviously takes a lot of planning and the development of the water and habitat improvement plan for Lower Klamath Lake will incorporate nature based solutions. Alta, what are nature based solutions? And why would using this approach be an important consideration for the overall success of the plan.

As we mentioned earlier, I mean, this is just an incredibly complex and diverse area, we have as Scott mentioned, dry forests surrounding that house tributaries that lead to the system, we have wetland complexes, historic lakes that we're here that we're all part of that solution and and management of the entire area, the entire hydrologic structure is important to get the success that we need. I think oftentimes we look at these problems that we have, and we're trying to accomplish a goal that has to do with more modern values. And and we forget about the historic function of the system. So we are really advocating for better forest management, we are working to restore and protect tributaries throughout the system. And we're hopeful that all of those puzzle pieces will fit together to have better ecosystem health down at the lake and provide habitat and healthy water quality conditions for C'waam and Koptu and for returning salmon. So I think it's just very important as we design these projects. And we work in these collaborations that we look at how this entire system functioned historically when it was healthy and producing good conditions in the area. So you know, to us nature based solutions is looking at that entire system and fixing things as we can to restore that historic functionality.

We've been chatting about not only protecting these important locations, but also these important resources. As mentioned, the Klamath Basin is one of the rare waterbird landscapes where many species can meet multiple life cycle needs. And the plan aims to increase habitat quantity and quality not only for the aquatic species that we've talked about, but also to migratory waterfowl, water birds, and birds of prey. Michael, what is the Conservation Legacy that the Yurok tribe desires for the Klamath Basin? And how can the collective group work towards ensuring this legacy?

What the tribe has always stood for is putting back together the Klamath Basin, restoring the ecological function of the base and top to bottom, traditional environmental knowledge. And the elders have always spoken about the interconnection of everything that lives in the Klamath Basin. That means that the waterfowl are as important as the ney-puy, which is salmon which are as important as the Kuptu and C'waam, which are the suckers. And there's important as the wetlands, and everything in there contributes its role. What the tribe tries to bring to the table here is a comprehensive strategy that restores the ecological function of the entire basin. And everything that happens in the basin is important to the tribe. Because of their position at the bottom of the basin. It's incredibly diverse, and rich basin and starting in the high desert, with wetlands and spring complexes plunging through down through the salt Canyon, and then into the Klamath mountains and ending up in a temperate rainforest in Redwood National Park at the mouth of the river. It's an incredible diverse array of habitats, species,

there's a lot of endemic species that only live in the Klamath Basin. And the restoration legacy that the tribe tries to bring is a holistic approach that incorporates all of those things together. So we view the wetland restoration as an important and crucial element. But it fits in with other restoration actions like cultural fire management, in channel fisheries, habitat restoration, dam removal, and other activities like that. That's the restoration legacy that the tribe wants to leave, it's future generations.

And part of this is also about the agricultural community. So Scott, you've said that this project will revive a long suffering agricultural community and their ecosystem, including supporting the nearly 70,000 people in the Klamath Basin comprised of displaced tribes, people, Legacy agricultural families, migrant farm workers, and other community members who are vital to a thriving rural community. Can you talk a little bit more about this? What will success look like on that front?

Well, there's no question that the ag community has been suffering. And as we're trying to figure out the operations of this entire system, especially when our resources are limited, for example, water, we're all suffering in some regard, mainly, species that have been mentioned throughout this entire conversation, in my opinion. And I think where my board is sitting today with the district is we want to be a part of a solution that recovers these named species. And until that starts occurring, I think we're all going to be sitting around a table trying to do this or that and just be spinning our wheels. And we don't want to spin our wheels anymore, we want to actually start seeing results. And I think I can say that about most, if not all of the stakeholders as well. This is something that we've been dealing with for a very, very long time. And I would say, you know, we're finally getting around a table and talking about solutions that in my opinion, look like they're pretty real, and have the potential to make a pretty big impact on the species. In my opinion, if we start seeing even slight recovery of species, we're making traction, and more than anything we're learning when we do stuff like this. And we get to take that knowledge and build upon it and hopefully build a better future for all of our future generations, not just ag but tribes, people and other interests in the basin as well.

Scott you make a really great point in that this has been a long standing issue that you now collaboratively are working together to address and it takes funding. So Alta for those listeners who may be interested in funding similar projects, do you have any lessons learned that you might share?

I think there's been some common themes, as we've talked through this, a lot of those are that there have been major alterations in this system that were for kind of immediate economic gain and logging practices and the construction of the project. And there wasn't a lot of thought put into the functionality of the system and working with the system in a way that was sustainable for future generations. So I would say for the Klamath tribe, when we design projects and implement them. We look at the health of the system, we look at the health of the species, and then we seek funding to meet those goals. We don't design projects to seek funding, we design projects to improve the health of the system. And I would recommend that any restoration practitioners in the basin look at it from that respect. How can we heal this? And how can we access dollars that will benefit our entire community and the future generations and the future of the system?

Scott as we wrap up, is there anything that we didn't cover that you would like to make sure that we mentioned?

Yeah, one thing I think that needs to be addressed and this is just the reality of the situation is there's an economy amongst all of our communities that are impacted as well. When we're suffering and making our own money, having our own careers and paying our taxes, you know, those are roads, those are sidewalks. Those are things that we as communities, you know, really are privileged with and don't get to be upgraded as well as we would all hope they would win when we're dealing with these types of issues. So our local economies, from top to bottom on this system all will benefit by us working together as an entire community and solving these problems.

That collaboration piece for sure is very important. We've talked a lot about that. Alta, do you have any final thoughts,

I had a great day yesterday, I was able to go out and visit the Sycan Marsh, which is another important piece of the functionality in this system. And I think that as we look at this, it's so important that we remember all of the pieces of this puzzle, the Sycan Marsh, the Klamath Marsh, both areas that were very important to the climates, people historically, but are still a very important part of the functionality of this system. So as we walk through this and look at the forest, the marshes, the lake, the refuges, those former lakes that used to be there, that were part of it, and the river all the way down to the ocean, we have to look at everything together and healing that system and restoring functionality will also heal all the people that lives belong it.

Michael, how about you any additional thoughts that you'd like to leave us with?

I was standing at one of the restoration projects we were doing. And I was with Vice Chairman Frankie Meyers, who's been a close personal friend of mine for a long time. And he pointed at the people doing the project. And he said, This is the keystone species. People are the keystone species that we're trying to help with these projects. We do it to restore fish, and ducks, and Kuptu and C'waam and other ecological functions. But in the end, these projects are for people so that people can benefit from them.

Well, thank you Alta, Scott, and Michael for taking the time to sit and chat about all the important work that's happening on the landscape and the impactful ways that projects like this one are making a difference in the Lower Klamath Basin.

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And listeners, thank you for taking the time with us to learn more about this significant project. We've also posted Klamath Basin, part one that explores floodplain restoration of the mainstem Sprague River in the Upper Klamath Basin and collaborative conservation efforts, stressing the importance of supporting indigenous knowledge and sovereignty and landowners interests and rights. Tune in again at the first of every month as we continue to chat about ways that Bipartisan Infrastructure Law is investing in our communities to help protect, preserve and promote Nature's Infrastructure. We'll see you next time.