Anytime you tell any person that you ever meet that you've worked on a large research vessel, they always wanna know more about it because it is just like a very unique experience. Living on a ship for a week or two at a time and working,

the ship is running 24 hours a day and you're working these weird 12 hour shifts either from four a .m. to four p .m. or from four p .m.

to four a .m. Doing science in the pitch black out in the middle of Lake Superior. Sometimes under like a full moon or you know,

some really amazing stars and it's a totally unique experience. –

This is the ORISE Featurecast. Join host Michael Holtz for conversations with ORISE experts on STEM workforce development, scientific and technical reviews, and the evaluation of radiation exposure and environmental contamination. You'll also hear from ORISE research program participants and their mentors as they talk about their experiences and how they are helping shape the future of science.

Welcome to the ORISE Featurecast. Welcome to the ORISE feature cast as ever it's me. your host Michael Holtz in the Communications and Marketing Education.

And as ever, we are bringing you research participation experiences. This week, we are talking about the Environmental Protection Agency's Great Lakes National Program Office with two of the fine researchers who ORIS has placed in experiences.

And to join me for that conversation is my co -host, Matthew Underwood. Matthew, welcome once again to being co -host for the ORISE Featurecast.

Thanks, Michael. I'm really excited about this conversation. You know, we talk to these participants all the time and now we get to have two -in -one conversation, which is so exciting and to learn more about what they're doing and, you know,

the exciting research that's going on. - And for me, as a kid who grew up in the Great Lakes region, I didn't even know this was a thing. So I get to learn even more about all of that,

but I wanna welcome to the podcast, Isabel Dunn and Susanna Lagory, ladies, welcome to the ORIS Futurecast. - Thank you.

- Good to be here. - Okay. So I want to do just a quick, give you both a quick opportunity to just introduce yourselves and what you're doing currently in your ORIS resource participation experience.

So Isabel, if you'll start, just let us know a little bit about who you are. Sure, so I'm Isabel. I'm an ORIS participant in what we call the front office at at EPA's Great Lakes National Program Office.

We call that Glenn Poe, I'm just gonna use that for me. - Sure, sure. - Lots of acronyms in the ORIs world, but I work mostly on the, I'd say like the data management and reporting side of things that support the work that's done under the Great Lakes Restoration Initiative.

Yeah, I get to help with some of the internal and external communications as well, curating success. stories that we end up sharing with the public or in different reports, whether it's for Congress or other stakeholders.

So that's the stroke of it. Awesome. Awesome. Susanna, how about you? Yeah, I'm Susanna Legori, Sue's, and I work in the Areas of Concern program within the Great Lakes National Program.

Office. So the areas of concern program is a very specific portion of the Great Lakes Water Quality Agreement that designated certain areas around the Great Lakes region as being extra polluted and environmentally degraded.

And we now work to clean them up and do environmental remediation and restoration. restoration. So the site of our office that I work in takes care of overseeing all the money that comes through to support the remediation and restoration efforts,

lots of partnerships and stakeholder relationships. Awesome and really important work to fix some of the issues with.

that are happening in the water and in surrounding areas, right? So important work being done there. So for both of you, has science always been in interest?

Is this something that you saw yourself doing, whether it's this specific role or being a scientist? Sure, I can run with that.

that. I also grew up in the Great Lakes region, spending a lot of time, particularly on the shores of Lake Huron. My family has a history of spending time on Boys Blank Island in Lake Huron,

so I think that's kind of where I fell in love with water and science, and knew that was something that I wanted to pursue as a career. It helps that both my parents are very nature -oriented,

outdoorsy folks too, so I think that's where I fell in love with water and science. very supportive of that. I guess I didn't realize I'd get to actually work on the Great Lakes and even go out on the research vessel,

EPA's Lake Guardian, but I grew up seeing a lot of research vessels from other agencies out on the water, so it's pretty cool now to say that I've also been on one of those and gotten to support the science that takes place there.

- Awesome, Sue. - Yeah, similarly, I also grew up in the Great Lakes region outside of Chicago, and both of my parents are actually environmental scientists.

So to say that I've been indoctrinated from a young age is not an overstatement. I grew up camping and hiking and doing all those things with my family,

and we spent a lot of time. time on rivers doing canoeing trips. So I think I sort of initially fell in love with rivers and streams. And I never really thought that I would be working on this incredibly unique massive freshwater resource that we have in the Midwest,

but it's been a pretty awesome experience. - That's awesome. So as you both have been, thank you so much for joining us. you know, as you were looking for research participation programs,

why choose the EPA and why choose what you're doing now? And has that experience been what you were expecting or have there been, you know, some things that you weren't expecting that you've enjoyed throughout the journey? I guess yeah,

this was my first role right out of undergrad. I went to school in Central Wisconsin and so a lot of our coursework and fieldwork for class was focused on on more inland systems like wetlands and streams.

But I did have a desire kind of to learn about what large like science and work was like. So that's kind of why when I saw this opportunity, I was really excited to go for it and get the opportunity to come here.

I don't know, I feel like I had a good idea of what I was getting into basically. on conversations before accepting the position. I mean, it is hard to know what it's gonna be like like on a research vessel when you've only been out in a wetland and you're waiters.

It's a little bit of a different experience with the equipment, the training, but I've enjoyed all of it. - Yeah.

and so I am coming into this position from being in grad school. So I have done two graduate programs,

one at Grand Valley State University, where I actually got to do some of the work that our office funds, but on a, you know,

a grant level. So I got to do coastal wetlands monitoring when I was there. Um, and. my office was actually right on the shore of one of the areas of concern on Muskegon Lake.

So I had this sort of like subconscious connection to the areas of concern program, and then wound up going to another university for my second degree,

not really focusing on the Great Lakes at all in my research. But when I was finishing, and I saw this, position advertised, it sort of felt too serendipitous to pass up that I could,

you know, work at a more administrative and higher level in a program that I had already participated in years before. And it has been,

I mean, it's been very cool to go from seeing what happens on the, like, funding risk. end of the Great Lakes Restoration Initiative when I was doing that coastal wetlands monitoring to seeing the inner workings of the office that actually oversees that funding and administers it to different states and universities to go out and do this research and monitoring so it's it's been a very cool full circle experience I never

I think I always expected to to work for a department of natural resources type agency where you're doing much more field work and things like that,

but working in the governmental side, program administration has been a really interesting perspective. I can only imagine.

I wonder, Isabel, you talked about going out on the Guardian. As soon as you've had a little. experience and talk about what that's like that seems like that's an awesome opportunity to be out on the lakes.

- Yeah, it's definitely awesome. I think that most of the O -Rises who come through our office agree that that's the highlight of the experience. And anytime you tell any person that you ever meet that you've worked on.

a large research vessel They always want to know more about it because it is just like a very unique experience living on a ship for you know a week or two at a time and Working,

you know, the ship is running 24 hours a day And you're working these weird 12 -hour shifts either from 4 a .m. To 4 p .m.

Or from 4 p .m. To 4 p .m. a .m. Doing science in the pitch black out in the middle of Lake Superior. Sometimes under like a full moon or you know some really amazing stars and it's a totally unique experience.

Isabel talk about from your perspective. Yeah, I definitely agree. I think it also connects you to a lot of people, to like, you're obviously in pretty tight quarters on a ship with a bunch of other scientists and crew members,

so you get to know each other fairly well and the amount of time you spend together. And even at a conference I was just at this past week, it wasn't even related necessarily to like,

large lake science, but I met someone who had also been on the Lake Guardian and right away then you have a connection connection that not many other people are able to share. But yeah,

I've enjoyed getting to learn about the different equipment that's necessary to do science out on the lake. It's all large and expensive. A lot of what we do as O -Rise from Glenpo on the ship is like taking care of the water samples that we collect.

There's a lot of piece of equipment called a rosette that we drop down into the water and collect samples at different depths in the water column and then we get to process that and send it out to be analyzed for lots of different things like nutrients or chemicals.

But there's also other work happening on the ship like with the benthic organisms, the little guys living on the bottom. or even sediments. So I've enjoyed getting to see like the vast span of different equipment and research that happens all on this one ship and to get to meet the different partners that are involved in that.

Yeah. I think that's another really cool thing is just working with all these different scientists and hearing about, you know, some people are studying the genomes of microbes.

microbes in the water and they have this crazy filtration device and they have, you know, liquid nitrogen to flash -freeze their samples and, you know,

you go from that to the O -Rises who are filtering water and doing, you know, basic chemistry tests like testing the pH of the water and turbidity and things like that and it's really cool to see just,

like, the vir... of science that's able to be done through this sort of one avenue working on the ship and then You know one week you have this whole crew of people working on the same things and then the next week It could totally change so you have different scientists coming on board all the time and you get to see some really interesting interesting technology to Yeah,

it's it's really cool. It really sounds like a great experience and a lot of learning and broadening your horizons right of the different kinds of science that can be going on a on one research vessel but also you know in one body of water that you're looking at so many different aspects of but you call it and the life and the,

you know, the quality and all of those things. So, that sounds really amazing. How many people are, when you go out are typically like on the ship at a given time?

I want to say like between 20 and 30 usually? Yeah, it depends. Sometimes we're running like really full, like if there's a lot of university partners out there. But. I think the crew alone is like close to 20 people.

I don't know if that's true, but um. So a lot. Yeah a lot. It's a huge, it's the largest research vessel in the Great Lakes. It's pretty massive. That's awesome.

So you talk about you know getting to meet other people that might not necessarily be working on the same project you, but just being able to collaborate with other scientists that and learn from. them and learn different things. How has that experience been to learn from these other scientists who,

like you said, may be working on other projects, but you're still able to learn more about the overall theme of science and what they're working on as well? Yeah, for sure. As always,

we're not locked in at our water filtering station the whole time. We can sneak to the back to see what things other people are working on. I come from more of like a... bento's background so the critters at the bottom of the lake so I like to go back there and see what our university partners are finding at the bottom of the lake.

Yeah but it's like Suze was saying it's different every week almost different people maybe working on their thesis research maybe supporting EPA Great Lakes Monitoring Initiative but it's been really helpful too as an early career person just to see see what these other students are doing and how they got to where they are and how that path has worked up for them.

It's definitely helped me picture my future direction as a scientist as well. Yeah, lots of either early morning or late night conversations with other scientists working on the leadership.

You're not moving super fast, so sometimes it takes takes a while to get from one site to the next site, so you have some downtime. And it's always cool to,

I mean, you have people of all ages and different stages in their careers and folks who are studying. I mean, it really, it shows you how complex these ecosystems are because of the just variety of,

of... know, types of data that are being collected on these trips. And everyone is super open and willing to,

you know, talk about their research and invite you to help collect sediment samples. I had never done that before in taking sediment course for the first time and processing benthic samples,

rinsing them out. collecting all the critters into a jar. And I had never gotten to do, I come from a stream ecology background like I mentioned earlier. And so to really get to experience limnology on this,

the most massive scale that you can really was a really unique thing. - Very cool. You're both at different stages of life.

your, you know, careers or education. Are there obstacles you've had to overcome to get where you are today? I don't know.

I don't know if I can identify anything super particular. I still feel like in the infancy of my career, like this is right out of undergrad for me, as a lot of students in recent years,

kind of, COVID did definitely kind of dent my educational experience I would say because a lot of the cool part of the coursework at UW -Seven's point where I went to undergrad was like the field -based component but a lot of that had to change due to the pandemic.

But I may do if the school may do and I at least was able to graduate with my senior semester. being mostly back to normal but it did definitely change how my experience would have been um but sure yeah um I'm a little bit in a different position than Isabel but um I think COVID equally affected me while I was in in graduate school um I was actually pursuing a PhD at the time and um the pandemic disruption had

affected everything, but gave me some time for self -reflection and I realized that academia wasn't the path that I wanted to continue pursuing.

So I would say the biggest struggle I've probably had thus far was was kind of like grappling with that decision and making the choice to leave my PhD program and finish with a master's.

And I'm really glad I did. It was definitely the right choice for me, but being able to come out of that and just a few months later be in this program and getting to see how I could use my...

my degree and education and my research experience in a way that I had never really expected before. We do the work on the Lake Guardian, which is very much research oriented,

but my knowledge of the Great Lakes ecosystems and all the skills and education that I got through my degrees has really helped even just inform my ability to...

to work in this much more programmatic and administrative type of setting. And I think a lot of folks in science and the natural resources kind of get singularly focused on going to graduate school,

doing research, trying to become a professor. And there's other paths out there. which I think is exciting, and something like this,

I had never even, I never knew the ORIs program existed, and I'm really glad that I found it. - So an obstacle, but clarity. - Exactly,

yeah, a happy ending. - Right, right. - You know, you talk about, you know, your experience on the ship, learning from other scientists, but I'm sure throughout your career,

both through ORISE and other education, there have been some other mentors that you've learned from throughout the years. Can you kind of talk about some of your mentors and how they shape to where you are? Yeah,

I guess I've been really fortunate to have the supportive and like very unbiased mentors I've had throughout my short career at UW -Stevens Point and here at EPA.

I've had two different mentors at EPA because my first mentor retired a few months into my appointment, but both of them were such huge sources of institutional knowledge at EPA,

so I feel fortunate to get to work under them and to get this longer term picture of what's been happening in the Great Lakes because I'm just entering the scene.

A lot has happened up until now, so I've enjoyed that. Yeah and I've had you know graduate research advisors,

undergraduate professors that you know have served as as mentors more informally and I think one of the things that I like the most about Glen Poe is that everyone is,

first of all, everyone who works there is just an incredibly capable and smart and passionate about what they do. And so,

you know, we have our ORISE mentors that give us direct mentorship and sort of help us through the day to day. But you also have this full office of people you know,

people who are always willing to share their experiences with you and help you along. It's a really collaborative environment. And I've learned a lot from my ORISE mentor,

but I've also learned maybe just as much, just from, you know, the informal and good conversations and learning moments that we get to have with other staff that go and post.

That's awesome. Have you had the opportunity to flip the script and be a mentor or other scientist yourself? Excuse me,

I have more to say about that. I feel like I said before, still so early. You're still new. I get that. In undergrad, I did get the chance to help some underclassmen start a collaborative research project and then I kind of had to leave that in their hands when I graduated.

But that might be my only such experience as a mentor in a research setting. That's okay. It's -- in both of my grad programs,

I've had a chance to mentor undergrads. One in a more, like, longer -term setting. Our lab had an REU student, which was a National Science Foundation program.

And I got to mentor this student kind of all summer, and we worked on -- they had an independent research project, and I helped them kind of plan. plan and orchestrate the field work for that and help with data analysis and things like that.

And I would also say that the ORISES all sort of mentor each other. We have kind of a tight -knit group and even though a couple of them have actually been hired on as staff in the office,

we all still have our teams chat. chat where we talk almost every day that we're working and you know there's a lot of we are each sort of in a different area of the office and so each have different perspectives and we're kind of always like I've I've learned a ton from Isabelle so I would argue that Isabelle has informally mentored me even though she may be in her career infancy infancy but yeah I think there's

there's opportunities to learn and teach at any stage in your career which which I think is great. So I dig it it's kind of like the ORIs collaborative at Glen Powell.

For sure. We're a strong we're a strong crew. I love that. So you know you mentioned you're both kind of at different stages in your career.

but what's kind of the next step for both of you? Where do you see yourself in say the next five years from where you're at now to where you're headed? Yeah, I guess next steps for me as I'm looking at going back to get my master's degree,

probably in something related to the Great Lakes. But longer term than that, five years, I do hope to still be a part of the Great Lakes scientific community in some capacity,

whether that's another role with the federal agency or maybe on a like state or local government level but my time here at Glenpo has really kind of cemented that I want to continue to be a part of this community and all the great work that's going on and the work that remains to be done in the Great Lakes since it's such an important resource to me and a lot of people I care about and everyone that calls this

region home so Yeah, I definitely echo what the last part of what Isabel said. I am not going back to graduate school.

Done with that chapter, but I think I would love to, like Isabel said, stay working in this Great Lakes region.

I think working in the government has... been a really cool experience, something I never really expected to like as much as I do. So you know open to the idea of staying in Glenpo and continuing to work on the you know the programs that Glenpo oversees but also I think the EPA in general is doing really great work and important work you know to help protect and preserve all of our resources,

but especially tied to the Great Lakes region. And I think, you know, as we move forward into the future, this resource in particular feels very special.

And I think we have something so unique here, and so to be able to continue working on protecting that. that for future generations is what I care about the most. - Awesome.

I love both of those answers. So last question for both of you. What brings you joy, Isabel? - I guess I have two pet pigeons and they definitely bring me joy.

I've loved birds since I was a little kid. um and so getting out and looking at wild birds as well but my two pet pigeons at home their names are beep and thunder and they're pretty awesome yeah that is awesome I've asked this question of hundreds of people and you were the first to say your pet pigeon yeah you gotta give them their shout out they're fun creatures [Laughter] (laughing) - Two,

how many? - I think a lot, thankfully a lot of things bring me joy, but spending time with my dog and my husband,

especially if we get to get outside together. Yeah, being in nature is pretty amazing. I also, you know, I think just,

uh, yeah, that's the end of answer. Awesome. Well, Isabel Dunn and Suze Ligori, thank you so much for joining Matthew and me for this conversation.

I think both of us would love the opportunity to come up and be on the Guardian anytime and kind of hang out and watch,

watch what, um. the scientists do, so maybe someday we can make that happen. But thank you so much for sharing your experiences, letting us learn a little bit more about who you are,

and helping our audience understand what an experience at GlamPed was like. I really appreciate your time. Thanks for having us. Yep.

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