

**BRENDAN BURNS:**

OK, good morning everyone and welcome. Thanks for joining us for our Inclusive Science Series event today. So my name is Brendan Burns. I'm an academic in the School of Biotechnology and Biomolecular Sciences. And I sit across the EDI and sustainability working groups at different levels in the faculty. And I really hold these values strongly as does the uni as a whole, and addressing key UN sustainability development goals is a genuine priority at UNSW. So I'm really happy to be hosting today's event. It's focusing on Operation Posidonia, which is a research project designed to foster collaboration and combined Indigenous knowledge and science to better understand our environment, and to develop meaningful, sustainable and environmental management solutions. I wanna begin by acknowledging the Bidjigal people who are the Traditional Custodians of the land from which I'm joining you from today. And I wanna pay my respects to elder's past, present and to extend that respect to any Aboriginal and Torres Strait Islander peoples here with us today. I wanna acknowledge that the role of Traditional Owners and Indigenous people of Australia as the first knowledge creators, and they're very deep understanding the land, the sea and the sky. It forms a very important source of understanding of Australia, which should fit into all of our scientific understandings. So today's session will be recorded. So if you miss any of it, you can always come back and jump in or if you need to leave, it will be recorded on our website on the link that will go out to everybody who's registered, also encouraging active audience participation, either for those here in the room or out in the ether. So there's a link online or there's a QR code here. So you can ask the question anytime on slide. And then we can hopefully get that so that at the end, we'll address as many as we can. So I'm really happy again, to be hosting today's event, a topic I guess, addressing again, the importance of collaborative science, acknowledging gaps in our practices, but also working with local communities to try and create an inclusive research practices. So to kick off the whole session, I just want to introduce our two panellists who are joining us today. So I'll start with Robert, if you wanna just give us a quick intro?

**ROBERT COOLEY:**

My name's Robert Cooley, I'm the senior ranger for the Gamay Ranger team, so I lead the team. I've got a traditional connection to Gamay or Botany Bay through my mother and also my father, sort of a traditional connection to the east of our south coast and out of our Botany Bay area.

**BRENDAN BURNS:**

Thanks, and Verges?

**ADRIANA VERGES:**

Hi, so my name is Adriana Verges, and I'm a marine ecologist. I'm based at the School of Biological Earth and Environmental Sciences. And a lot of the research that I do is about restoring coastal habitats, which is what Operation Posidonia is about.

**BRENDAN BURNS:**

Thank you, so maybe we could start and you kind of alluded to it already, Robert, maybe giving us a bit more insight, I guess personal insight into your connection to Gamay and how that kind of led you into joining the Gamay Rangers program?

**ROBERT COOLEY:**

Yeah, well yeah, so in 2018 I was approached by the La Perouse Land Council to come across from New South Wales National Parks and Wildlife to head up the Gamay Ranger team that was based on

my working experience and living experience in around Gamay, I've been in my 33rd year working with national parks and wildlife in around environment, but mostly land-based stuff. So I've also coming from a fishing family and living experience around that bay, on the ocean. The ocean was very important to my family and basically was the reason that I was able to you know and I'll put it graphically have food on the table some nights. It wasn't a ocean that they provided food for my family most times, and whether that was trading the fish or eating the fish for other thing, but look, I've always had an interest in the ocean and that bay in particular, you know. I was never educated, you know, modern sense with science in it, but that ocean, that bay was my science lab and living in and around there learning off my father who was a cultural fisherman and learning, you know, the important things about you know, what was OK to do, what was not OK to do. You know things like, you know, sizes of fish and types of fish and a numbers of fish and things like that were very important. And that message was strongly put to me by my father, about looking after the place, caring for the place. So with that, you know, the Land Council obviously knew that I come from a fishing background and working in environment. And they thought that was an ideal combination to set up this team and lead the team, set up those foundations for some long term work, but that would have to do with things that our committee identified were of real concern to me, I should say, that's where I started. But yeah, I've lived on that northern shore, Botany Bay all my life, work there all my life. I was educated out of strong connection to that area.

**BRENDAN BURNS:**

You mentioned before we came on you, tomorrow you're going for big fish up there as well?

**ROBERT COOLEY:**

Yeah, that's correct. So look on I'm a permit holder, to lead a cultural fishing for our community, primarily based around mullet fishing, mullet, hauling, mullet netting. So my Gamay Ranger team have led that since 2019. It's a community event and that particular mullet fishing is you know, entrenched deep in our history and our stories. It's carved in stone and timber around that bay, and traditionally was the happiest time of the year for our communities, and also for the fishermen and the families to the most productive time of the year as well, in a commercial sense. Nowadays, it's purely an event or an excise for a food source for our community. There's no commercial activity attached to it. And basically, that was taken away from our commercial fishermen in the early 80s. And in around 2015, we're able to work with the government, and in particular New South Wales Fisheries to get restrictive permits, but enough to allow us to engage in activity again after 35 years, to catch that food for our community, some of which are resigned to buying mullet from fish markets and other places. But now they can walk out of their front doors and be amongst it participate in the activity and taking home fish on the spot there. So again, it's a really important activity for our community. And one that nowadays is very inclusive of all, it's not just a men's fishing cultural activity. Families are strongly encouraged to come and participate in that and learn all about that, and so it's great. Yeah, it's been a great thing for us.

**BRENDAN BURNS:**

Excellent, alright, mic jump to Adriana. So you're a bit of a trailblazer in the algal forests world. Maybe you can give us a quick bit of background on Operation Posidonia and its goals, I guess?

**ADRIANA VERGES:**

Sure, so Operation Posidonia is about restoring a species of seagrass called *Posidonia australis*. It's

the largest seagrass that we have in Australia. It actually, you find it along the entire southern half of the continent, all the way from Wallace Lake down to Tasmania and halfway up Western Australia. So it's a very important species nationwide. And it supports a unique kind of ecological community of fish, of crafts, of invertebrates. It supports, you know, species like the mullet and because of the high productivity of the seagrass. Unfortunately, around the Sydney region, Posidonia has been declining very fast. So fast that it's now listed as endangered by the Commonwealth government by the state government, and that is because of urbanisation. So Posidonia likes to leave where as humans like to settle down basically, which is near, you know, the cities, near the base near protected sheltered embankments. So coastal development, pollution and boating activities, like say swing moorings with chains. They're the kind of human activities that are damaging Posidonia. So a few years ago, we started the restoration program to try and stop the decline and bring back the meadows that used to be here. So we started in Port Stephens, we've done our kind of proof of concept and we have an exciting kind of way of restoring the seagrass because there's not that much of it left. We can just take it from one place and put it in another place, we actually have... What we do now is we rescue seagrass fragments that become naturally detached after big storms. And they're collected by the community, by local people, dog walkers, people that go for a walk along the beach, they collect those fragments, we have collection stations, and then we take them from there on the water to be restored. So we've done all this work in Port Stephens, but from, you know, from the time that the Gamay Rangers were established, we started talking, rather than I and the Ranger Team and other colleagues from here from UNSW. And we started kind of talking about the possibility of taking the project to Gamay to Botany Bay, because that's a very important Bay for Posidonia as well. But we've lost about 50% of what used to be there. So that's kind of how, this kind of relationship started. We were doing it in Port Stevens, the Gamay Rangers program started here. And it was a very natural kind of progression to bring it over. And we're still in the process of bringing it over.

**BRENDAN BURNS:**

Excellent, so I guess, when we were... Unfortunately, we're gonna have a student Bryce that couldn't make it here today. But maybe we could Robert, you could briefly touch on, I guess, as unit every student and again, a ranger, I guess the importance of these kinds of collaboration benefits for students.

**ROBERT COOLEY:**

Yeah, thanks. Well, for us, that was the key connection. You know, to be brutally honest, we didn't have the knowledge and knowledge of why they seagrass beds were disappearing, we could see them. But we didn't have the knowledge of why, you know, we've done a bit of research and we read a little bit about Operation Posidonia, and stuff like that, and thought, this is one of the key reasons why we need a ranger's team. So we could learn a little bit more about it, by working with these guys, but not only that, you know, engaging some of our younger community, planting the seed of hey, you know, there's a really good opportunity to educate, our young people are in a lot more detail, a lot more depth, to give us a better understanding of what was going on, and some firsthand knowledge that we can pass back down to our community and our Elders, who have raised concerns for many, many years. And I describe it as this big dark patch that come around the base now, it's a dark patch here, and then, and now this relationship has given us that knowledge and understanding, well, that's the seagrass. And, yes, it is disappearing. And so, Bryce, you know,

studying and I've got another young ranger studying marine science as well yeah, Doyle so you know, hopefully you know that partnership with units UNSW and our

Ranger team is enabling that transfer of information that, you know, it might be as simple as it used to look like these are useless, although that used to be they're not. And then these guys are coming back, well, you know, this is why it's happening, you know, whether it's pollution or, you know, ferry, wash your boat or ship wash or anchoring and things like that. You know, we could see these things happening. You know, we could see the anchor marks through the seagrass, but we didn't think much of it. It was just, you know, just a mark in the sand, but, you know, now this working relationship has enabled us to get, you know, that knowledge of, hey, this is a real concern. And, you know, that we need to get it out there and hopefully, you know, have a voice which was never had in the management of the bay to hopefully influence, how you know that is work in the future, whether it's lobbying maritime and these guys or putting, you know, leaning on them heavily to start thinking a little bit different because what's happening is, it's affecting our community, you know, our community and our Elders. When we take them out with some, they'll tell us that you couldn't walk two or three metres off that shore, even close, sometimes without getting net bubbles from crabs. Now, I could go for a dive out there for two or three hours, and I might get three or four. And so, you know, that kind of information we can pass up. And then, but yeah, with Bryson, that getting that formal education, you know, it's really giving us not only a career path or an opportunity for our kids, but to maybe even lead that science, those that work around the bay themselves. You know, what I can say today, not far in the future where we've got Indigenous science with the connection again, by teaching our young kids like Adriana, that are doing to our young kids now, hopefully that Bryce with his studies and you know, will be kind of Adriana, in 10 years down the track teaching our kids...

**BRENDAN BURNS:**

You know, at a university level, that it'll be Indigenous people that are teaching, it's because there's a limit to what, even myself or Adriana, we might have the passion, but we don't have the Indigenous background or knowledge and not necessarily the best voices, we are a voice, but that is the hope. I think that's what UNSW is really driving at. And I think not just acquiring knowledge, but then what you're talking about transferring knowledge, either within a community or between Indigenous and non-Indigenous, I think it's really, really important.

**ROBERT COOLEY:**

Yeah, and I think that's the great thing about this partnership again, you know, we can see what was happening, but we didn't know why? Now we know why, you know, we can focus our training and our education, you know, targeting specific training that will enable us to do something about it. And we don't wanna be standing on the sidelines shouting, "do this, do that." What we're saying is we wanna educate ourselves, we wanna upskill, and we wanna get our feet wet now hands dirty, doing the actual work. And we're on the verge of some really exciting stuff. And, you know, we've been talking about now for three years, and we're finally getting to where we wanna be and so yeah, I think it's a really ideal relationship. And, you know, I've said it before, and for me, it's a perfect partnership, really.

**BRENDAN BURNS:**

That's great, so I guess, on the topic of sustainability, I guess it's about this, like, what, I guess, what

does sustainability mean to you personally, individually? And I guess, or even what drove your interest in sustainability in the first place?

ROBERT COOLEY:

Yeah, again, coming from an efficient family, it was important that we thought about what we're doing today, and the impacts will have, you know, in many years time for our community. You know, for us it's important that, you know, these things that we done 20 years ago, that the kids probably can't do now, but we have an opportunity to change that a little bit. So, you know, for us, sustainability is, for us our culture is all about sustainability. You know, my father from a very young age, taught me, only take as much you need, don't take this or sizes, you know, things of that. And they're a little bit different from traditional ones, not traditional, but modern ways of what major agencies like fisheries in that, how they think about it, we think about a little bit different, you know, we don't pull out a calliper to measure something down to the millimetre or things like that we can, we might look at it measured by hand, and that's how we've done it. Yeah, OK, that's big enough that fits in your hand, or, you know, that's big enough for or small enough, it wasn't always about size, was just about, hey, looking at something and say, that's OK. And, you know, things are changing now, even from, 20, 30 years ago, you know, and they're changing all the time. And, you know, we find that hard to understand sometimes, because we can, we know, hey, we just look at something, it's fine. And some of our ideas are a little bit different on size limits. And that, you know, in fact, some of them are totally opposite. When we think about lobsters and stuff like that, you know, and sizes and what's OK.

BRENDAN BURNS:

Yeah.

ROBERT COOLEY:

You know, and, and how many we can take on and things like that. So. look, sustainability is everything to us, you know, it will have, it does, you know, it will have... Does the health interaction, it does have real impacts on the health of our community, and I'll say it a lot. So it's important that we look after it, because it looks after us, and that's how we see it. And if we don't look after us, then yeah, it's a pretty scary future.

BRENDAN BURNS:

Thanks, Adriana. Maybe your thoughts on sustainability, I guess, from a personal point of view?

ADRIANA VERGES:

Well, I guess, I don't know, we share that, right, like, you know, everything I do in the context of frustration is also about sustainability, right? So and, you know, things have the client, you know, dramatically in the last few decades, but we're at a very exciting point in time where we actually have, have the knowledge and the scientific kind of expertise to turn things around and actually go back, you know, so go from a trajectory of the climb to a trajectory of recovery. That's what we're in the business of doing. And it is complex to do that in a sustainable way, because obviously, on top of all the pollution and other human impacts that we have, there's also climate change. So to do restoration in a truly sustainable way, you have to kind future improve those restoration projects so that you're already kind of thinking about the, the warmer conditions that are ahead. So if we all do the right thing, and we meet the Paris Agreement, and we reduce our carbon emissions, we're still

facing a certain amount of warming is inevitable. So we need to prepare for that. So doing restoration in a sustainable way means means not just restoring for today, but restoring for the future. So but yeah, so sustainability really is at the very kind of, you know, centre point of all our efforts, pretty much.

BRENDAN BURNS:

It's not just in the research, but in everyday living.

ADRIANA VERGES:

Absolutely.

BRENDAN BURNS:

This is going on the theme of the concept of Cultural Restoration. So what this actually has played into the research project.

ADRIANA VERGES:

If you want, I can just quickly start, so from our perspective, so as ecologist, we look at an ecological community, and we identify species that are particularly important, maybe because they're habitat forming the foundation species that support other species, or, you know, keystone species that play a particularly important role ecologically. And we have a reasonable handle on those. But what I think is really exciting and important about our collaboration with Robert and the Gamay Rangers is getting an understanding of the culturally important species because, you know, they're just as important as the ecologically kind of important species. So getting an understanding of, you know, what are the cultural connections? What are the species that mean certain things? And I guess that's the state that I'm really excited about embarking next, which is, you know, trying to combine both and not just like, what Robert was explaining about the mullet fishing, he's essentially restoring a cultural practice. So it is another type of restoration, it's Cultural Restoration. And I think merging, ecological and Cultural Restoration, you know, creates this kind of synergy where the sum is greater than, than the pirates. So that's, that's what really excites me about it.

BRENDAN BURNS:

Yeah.

ROBERT COOLEY:

Yeah, look, I'd agree. I mean, you know, like the areas we focus on, are all areas that habitat for fish species that are culturally significant to us locally. So, you know, that's the great thing, and, you know, again, we felt that our concerns for a long time, weren't taken into consideration, for example, managing an aquatic reserve, you know, we were never consulted, it was just this, how are we going to do it? And we could see that, you know, the aquatic reserve on our doorstep, the decline, that's declining, and, you know, the first sort of reason, or and the only reason why is given, well, overfishing is the only reason, which is not true. It's how their manager is having impacts on why those areas are declining as well. But, you know, we felt that overfishing was always an easy excuse, or maybe not excuse but you know, an easy reply, but they fail to mention, you know, the management styles are put in place in around sea urchins, then other things you can take and you can't take and stuff like that, and it was never a consideration or was never open to that. OK, well, how about how are you managing? You know, and this is one of the reasons that our Ranger Team

was formed because we wanna have influence in our bays managing the future, and learning a little bit more of the scientists, is now giving us that, empowering us to have that strength and have that voice to speak confidently about our concerns now and you know, and even myself, it was never gonna be a scientist. I can now reference some scientific terms and reasons why, which I'd never thought of could work on these guys. It enabled me to be able to do that and speak confident and well this is why it's happening. I'll you know, this is one of the reason it's not always overfishing, it's mismanagement, if I could be blunt.

BRENDAN BURNS:

Yeah.

ROBERT COOLEY:

It's mismanagement for so many years that part of the reasons why these places are declining. And again, it's having direct impacts on our community. So now we've got a resource and you know, we're arming selves, every day, we're educating ourselves, and we wanna be like I said, we wanna be there at the coalface doing some of the work, but we had to learn about it first, because, again, we just didn't have the knowledge, but we're gaining that and more and more as our relationship builds and strengthens, the more we're learning that you know, I think the benefit everybody and I think all the work we do doesn't just benefit the Indigenous community. It benefits everybody, you know, we're going to better everybody, not just the Indigenous community where they've, you know, we're lobbying for everybody and fighting for everybody to get people think a little bit different.

BRENDAN BURNS:

Now, it's really important directly think you've been able to are starting to get that kind of influence, that voice in terms of lobbying local government or water bodies in terms of these kinds of change, I guess.

ROBERT COOLEY:

I think we have, you know, like little wins for us councils for example in around the bay getting to think a little bit different, you know, how about you do away your... Mesh net, gross pollutant traps and replace them with a lot more sturdier one that will not burst during a downpour and things like that. So we've noticed councils, you know, we weren't part of our patrol plan is we got some weigh points and a lot of them gross pollutant traps, some may not be maintained as they should be. Some we've lobbied to get them replaced the old netstar ones with the solid metal and concrete, gross polluting traps and maintain them appropriately. So they don't spew litter out into the bay, you know, relationship with Sydney ports, which, or put the Port Authority, which always has it always been great. But we've got a really solid relationship with those guys now, a little bit of respect both ways learn a little bit more about where they're coming from, they're learning a little bit more about where we're coming from. The ample fuel storage facility across the bay, we had some awkward moments of those guys initial stage of arranger program, but good some open dialogue now and we just need to know what's going on, because if, for example, if they're allowed to flush 1000s of litres of raw fuel into the bay under extreme weather conditions, we may not be able to stop it, but hey, you let us know. So our community don't go fishing or swimming in that bay on and stuff like that, rather than just seeing a heap of boats and nets out there trying to break fuels spills up and contain them, let us know, just let us know, we might not be able to stop it, but just a little thing, show us a

bit of respect and let us know that something's happening. This event on if you need assistance, we're here to help.

BRENDAN BURNS:

Yeah, communicating. I think you've kind of both alluded to it, but there's again, more of a personal experience. What's the best part of this collaboration? I guess, Gamay Rangers with Adrian itself or with UNSW, and the Gamay Rangers, or maybe both of you? What's the highlight, I guess, of the collaboration?

ROBERT COOLEY:

Oh, look, it's a critically important job, but it's a fun job leading the way and doing it, but you know, I think for us, as Indigenous communities learning it, you know, arming ourselves with you know, that education on why things are happening. So we can confidently go on, again, lobby the various organisations, agencies, and whatever that are stakeholders around the bay to maybe have a little bit of thinking about, rethink how they're doing things. So for us, it's arming associate education. And obviously, with Bryce studying, and, you know, this relationship in some instances allowed him to work as a Gamay Ranger. And while we're working with the scientists, you can take credits off his degree in that, I mean, how good's that?

BRENDAN BURNS:

Yeah.

ROBERT COOLEY:

Who would have ever thought that? You know, and that's the first for the national Ranger program all around the country. And other ranger programs around the country are looking at us. And how do you do that? I've got inquiries on the South Coast, North Coast, "hey, we wanna do what you guys are doing." You know, we've got concerns about our habitat down Jervis Bay, far South coast, North coast up to Tweed Heads. Hey, can you come and talk about what you're doing with the scientists because we get the same concerns." So you know, I think we're leading people or other Ranger groups seeing what we're doing.

BRENDAN BURNS:

Yeah.

ROBERT COOLEY:

Other communities have seen what we're doing and you know, the words getting out there that hey, look, we let's arm ourselves with the education, and let's lobby to get our own range of groups and do our little bit for our patch...

BRENDAN BURNS:

Can become like a little model system, if you like that you've established it. I work with some people out in Shark Bay in Western Australia, and with, with the rangers, the Malgana Rangers out there. And it's the same thing when we're trying to get a genuine two way exchange, we were learning off country and then try and also contribute back with the knowledge that we're getting there.

ROBERT COOLEY:

Oh, absolutely, and even rangers from Arnhem Land and stuff you know, we had a plan to meet up



with those guys a little bit of, you know, get together and talk about what is rangers but COVID ruled on that, but you know, people are seeing what we're doing, and wanna do a bit of the same. And particularly guys on the south coast.

BRENDAN BURNS:

Yeah

ADRIANA VERGES:

I actually was gonna say the same, for me like in terms of a highlight that is learning. It is learning about you know, the Gamay Rangers, the Gamay kind of history, you know, pre-colonization, you know, what's important to you guys. So, but also, as you say, it is actually fun, like the kind of work we are very fortunate, like we're literally, you know, snorkelling and looking at fascinating creatures. And you know, we're fortunate that the hands on component is actually being in nature and spending time together in pretty special places. So yeah, that's a bit of a highlight as well.

BRENDAN BURNS:

Excellent! And we might actually start to jump in because we've got some questions coming through on slider. So for the audience out in the ether or maybe some people.

STUDENT:

I mean, no question.

BRENDAN BURNS:

Yes, if you have to do it. If you have any questions and audience have even to throw. Please feel free.

STUDENT:

I was a bit curious. So you mentioned how climate change could be a problem with warming temperature, even if you get to the agreement models, and you said you accounting for that, like how do you account for that? Do you have to like, focus your efforts in regions where, you know, changing the future?

ADRIANA VERGES:

Yep, so then I find it to repeat the question. Yep, OK, so this was about, you know, how do we future proof restoration? So how do we account for this warming that we know is going to happen? How can we do restoration today that prepares ecological communities for those warmer conditions, and it's something we're working on. So that's the more kind of research component of what we're doing. And the way we're looking into these is looking at the the warm adaptation of ecological communities that exist today. So and then the kind of, for example, the kind of questions we're asking is, are there some genotypes? Are there some Posidonia populations that are already adapted to warmer conditions, and then we can bring into the Sydney region. So maybe, for example, in Wallis Lake the temperatures a few degrees warmer, if we can scientifically show that those populations are genetically adapted to those warmer conditions? Can we mix them in with the local genotypes that were increasing the chances that the populations of the future will be will be able to keep reproducing and subsist? Yeah, that's more like the cutting edge kind of scientific research that

we're working on. And it's not just us, you know, people that do coral restoration, or you know, even on land, trees, that they're already kind of working in that direction.

STUDENT:

So I'm just wondering, because this seems to be very old, grassroots scientific and Indigenous culture operation, and then before that, I'd really like to see...

(AUDIO DISTORTS) What do you think... What sort of support do you think it will actually become standard practice around Australia? So that errands and look for lots of collaboration around the country?

ROBERT COOLEY:

Well, look, guys, I think we need the opportunity to get it out there to do the work to show that it works, what we're doing with. Yeah, I think, you know, what we're doing, is doing exactly that, showing that. There's a lot you need to put together for these things to happen. And we've been working on it for three years, so it's not simple, but hopefully, the stuff that we're doing, and once we get off the ground and running, you know, and 100 miles now that we're gonna break down the doors and but look, there's a lot of things that need to happen, I think the right people need to listen. I think, you know, the major agencies have manage waterways, and they just start listening. And I think this collaboration is gonna push a strong voice to make them think and change because we didn't you know, whether we like it or not, we need the support, we need them to listen. If they don't, you know, we're just beating our heads against a brick wall. So look, I think, you know, the more we're getting out there to Indigenous communities, I think that's a powerful voice you need unity has always been our strength. So I think the more we can get out, you know, and I know Adriana has linked up with the South Coast communities and stuff like that. On the far south coast in the room, and you know, I've linked up with a guys Jervis Bay, they're going to come up and hopefully sit down with Adriana and talk a little bit, I think I've hooked up Adriana with another Ranger who leads a team at Jervis Bay, who funded by the same body as we are, but look, I think. Yeah, I don't know if I answered your question, but I just think we need those. And those are empowered to start listening to us.

ADRIANA VERGES:

Yeah, I think the only thing I would add is money. Money really helps, right? Like money to create the kind of, you know, the Gamay Ranger program is a big investment. And I guess by showing that it works, hopefully, that will create an incentive to create, you know, similar things in other Aboriginal Land Councils for example, but I mean, it's pretty exciting because it's the first urban, Indigenous Ranger program in the country. And it comes with its own kind of challenges, right? In some ways, all urban people are less connected to nature, right? Because we live in this urbanised environment, but there's more of us. So the potential to do things is perhaps greater than in other regions. So everything has its challenges, but also, its rewards.

BRENDAN BURNS:

That's great. We'll hit a couple of questions that are coming through on slider. Now, we've kind of alluded to it with with Bryce's work. But a question here is, are there also opportunities for non-Indigenous students to work within the Indigenous community members on projects like this?

ADRIANA VERGES:

I mean, from my perspective, if Robert and his team welcome it, you know, I would love to facilitate it. Just explain surprise is doing science degree at UNSW, and he did a research internship. So that's like, it's a unit where you get six units of credit, but it's not like normal assessments, you know, you get assessed on the actual research you do. So it was a pretty cool thing, where he was able to do some scientific research to support this project, while also kind of aligning with his normal work as a Ranger. So he's like a part-time Ranger, part-time student. Those kinds of opportunities as research projects are really exciting way to kind of get into research and know whether that's kind of where you wanna go, or even just to have that experience in your degree. So I could definitely foresee opportunities for creating research units that involve a collaboration, and yeah.

ROBERT COOLEY:

Yeah, it's a good question. You know, the Commonwealth government, it's announced the massive funding booster ranger program. So what we're putting forward now is an idea to rather than trainee rangers, which I've had before, we were gonna open it up to student rangers. So rangers working with the Gamay Rangers, and studying marine sciences at the University of New South Wales. And we've actually also stated that, we're gonna open that up to non-Indigenous candidates as well. So it won't be an exclusive Indigenous Ranger Team, we want to expand it and open it up so we can continue that learning off each other. And we think it can only help, can only benefit everybody if that's the way we go. So we don't want to restrict it now to just Indigenous Rangers, working on our team, we're definitely opening up to non-Indigenous rangers to those with interested to come on board. And we've, yeah, that's something we have identified that we now want to, because we do get a fair few inquiries.

BRENDAN BURNS:

Yeah.

ROBERT COOLEY:

How do we, you know, can yell at White fellows on your team, you know, we wanna do what you're doing, because it's important to us. So, you know, I think it's a great initiative...

BRENDAN BURNS:

It's a balance, I guess.

ROBERT COOLEY:

Absolutely, and, you know, I think it's a great thing that we now have got the opportunity with this expansion and we are specifically focusing on Indigenous, not Indigenous but female rangers, given this five permanent male rangers, and to three casual rangers and two admin staff, but we've identified that there's a little bit of hole, there a little bit of lack of balance. So we wanna try and target female rangers and won't be just restricted to Indigenous ranges.

BRENDAN BURNS:

Yeah, that's correct.

It's a little bit work at UNSW is also trying to address a lot of EDI challenges, gender balance and different aspects of life. Yes, I think it's really Important. This one, I guess, could either review or it's

also about how to go about collaboration in the first place. So, advice for researchers who want to implement collaboration with with local communities. I know last year, I think the CSIRO were a collaboration they have these guidelines, our knowledge our way, I think. But I think it's ways of going forward. If you're a researcher, how do I approach a local community to work together? And I don't know the best way to do that, but maybe you can just give insight into the best do your thoughts on it perhaps?

ROBERT COOLEY:

Look, you know, that's a good question. It does come up often, you know, it can be a little bit intimidating or awkward for a non-Indigenous person to come to the community. So we've come to these and I understand that, I do understand that, but what we're trying to get out there, is just reach out to us, you know, we're, you know, we're changing as well, and people asking questions, we see that a sign of respect.

BRENDAN BURNS:

Yeah.

ROBERT COOLEY:

So you know, and particularly through a ranger program, our Rang Council, you know, we're one thing I'm really proud of our communities, we're really good at sharing our culture, and our stories and even our sites. And I understand it can be a little bit daunting for a researcher, but Adriana and her team reached out to us and look where we are now. Just to touch base, you know, from our very first meeting up here, you know, we come up here, you know, we can feel the warmth straightaway. So, we knew it was genuine, yeah, we want the same things, and just reach out to us. Apart from me, we're not that scary, but yeah, well, you know, we're always warm and open to people who show an interest in our culture and our welfare. So, but I know it can be difficult. I know. It's a little bit daunting...

BRENDAN BURNS:

I'm just putting there and I don't mean you Adriana, but I put a scientist scientific, not putting their scientific interests first, making sure that it's a genuine collaboration and not just saying, this is what I wanna do in your area. It's not not putting those values more of a genuine collaboration. I guess it's really important.

ROBERT COOLEY:

Oh, absolutely. And I think I told from a very first meeting, I was very open with Adriana and I was starring at Adrian and team, and as I said to them probably incriminate myself... But I used to see their little grids up on the intertidal zones up at red cape banks, aquatic reserve, and I thought that didn't belong there. So it's meshing with a rock. You know, and that come up? And look, there was a little bit of an awkward relation back in those days, the early 80s, you know, the site just saw that their little experiments will get damaged. And, you know, there was a little bit, look, working with Adriana and Anna and Alastair have given us a really solid understanding of what those things is about. And they're helping get some valuable information around those areas to help us but...

BRENDAN BURNS:

Was pretty bridge.

ROBERT COOLEY:

Yeah, and I was pretty open. I probably shouldn't say it on camera, but I used to, you know, from our state, you know, these little silver doors, squares on the rocks didn't look, right.

So, I found the biggest rock, I couldn't crack them all. But now if anybody touches them, it's like, hey, exactly, yeah, get away.

ADRIANA VERGES:

Yeah, I think something that really helps with every relationship is just spending time together, right? So being in a rush doesn't help, building a relationship takes time. And, you know, the Ranger group started and they've been kind of getting more and more money to do more things. We're still in the process of fundraising. So you know, yeah, it has taken three years, and here we are now. So, but I'm spending time listening to what each other, you know, things and ones and you know, that really, really helps. So not very conducive to... I find sometimes now a lot of grants request, you know, and Indigenous participation component or things like that. And unless that genuinely already exists, it's not something you can create you know, in a few weeks, or it's just impossible basically, you know. It's either like fake or it takes time. So yeah, I think, but I'm really grateful to how open Roberts and his team have always been with us. They've been a very genuine kind of mutual curiosity, and respect that I think has really helped.

BRENDAN BURNS:

This one's a bit more general. Sorry no, go Victoria.

STUDENT:

(INAUDIBLE) And I just want like, is it possible for students at like honours sea level, so that's a timeframe that they have to reach out to you?

ADRIANA VERGES:

So, an honours project is just like a one year project. So I would say would be too short, to create a relationship from the start. However, if an honours project was to come and work with the rangers, they would be building, you know, they would be working, you know, based on the relationship that is already existing, right? So it's definitely possible. Within a PhD, I think there will be scope to potentially start a completely new relationship, you know, PhD is three and a half years. So that could be, but, you know, yeah, maybe a bit risky, but...

BRENDAN BURNS:

So this one, I guess, we'll be wrapping up soon. And this is more of a broad one, which almost anybody could answer, but it's one of the most important things that young people can do to live more sustainably could have nothing to do with this operation. But just life in general, what young people can do to make... And it's always the challenge, because we're about to make real changes, it's probably government and big business, but it's individuals, you can make changes as well. I guess one of the things is individual to live in a more sustainable to make your little world more sustainable, I guess.

ADRIANA VERGES:

I mean, I think, I don't know, I would say that living in a more connected way to nature, nearly by

definition will get you living more sustainably get, you know, learning about how things work and what impact your activities have, I think there's definitely huge scope for all of us to live more sustainable lives, you know, by, you know, more sustainable and healthier lives, you know, cycling, walking, instead of, taking the car or whatever, you know, from small things like that, to then the kind of structural changes that do need to happen for real change to occur, right? So there's a continuum and it all matters. And then when you become educated, and you learn, sharing those stories, talking to people spreading the word, I think that really, really, really helps as well.

BRENDAN BURNS:

Yeah.

ROBERT COOLEY:

It's probably a science question. That probably, but look, I think you nailed it. You know, I think just getting out there live in, you know, connecting with nature a little bit more. Rather than your mobile phones and things like that, but, you know, just getting out in nature. We're learning about things and you know, and be open to doing things a little bit different.

BRENDAN BURNS:

Yeah, great. I'm not sure if we should wrap up soon, I guess. So I think this is any more questions from the floor? Question here, please.

STUDENT:

(AUDIO DISTORTS)

STUDENT:

Yeah, definitely that's the questions about volunteering opportunities. And yes, like we definitely, because our project with regards to restoration depends on volunteers collecting the shoots, and then that's the shoots that we use for restoration. We do a lot of, yeah, we have a lot of volunteers and kind of citizen scientists that are a part of the project. So yeah, it's a big part of, of everything we do actually, yeah.

BRENDAN BURNS:

Excellent. So thank you, everyone, again, and we've reached the end of today's event, I want to thank everyone for joining us, either here in person or in the ether, wherever you are. Big thank you to the panellists, to Robert and Adriana for all of your insights, both personally but also broadly how it all taken place. Big thanks to TA and McKayla, who were in the background and Ethan who's behind the camera. None of this would happen if any of this if these guys weren't pushing all the all the strings, but really good to see all the intersecting ideas and values obviously between First Nation Gamay Rangers and scientists here at UNSW like Adriana. This is not only showcases specific venture, but it's also part of a goal in the faculty and UNSW as a whole, to try and improve cultural awareness. And this kind of activity hopefully does that as well and part of it, but ensuring Indigenous knowledge is part of our science curriculum is a long term goal that we've got here. We're hoping that UNSW can actually be a real leader in bridging these gaps between the knowledge that we're getting from Indigenous side that we can improve our scientific teachings. And we know that sharing recognising Indigenous knowledge can actually ensure that our students are better equipped to be part of a catalyst of change in increasing opportunities for First Nations people,

which I think is really important. So as a bit of a call to action, if anyone wants to be part of a positive change, and you mentioned that as volunteering, so there is possibly to do that with his operation Posidonia, either as a volunteer or even making a donation. So you can jump on the website, which I think could be coming up somewhere as a link, but we'll come we'll follow up with with some comps post this event, as I said, at the start of the session has also been recorded. So you can always jump on to check this out. I think there's gonna be a survey also coming up just to some feedback on this event, which would be great if you can fill that out. And also, if you want to watch any previous inclusive science series, they'll also be up on the science website as well. So that's it, thanks again, everyone, for joining, for this opportunity and have a great day.