

#5 From Solar-Powered Sea Slugs To Youth-Powered Change | Youth Action In Biodiversity Conservation

00:00:00 Xiaoyun

Hello and welcome to *That's Wild*. I'm Xiaoyun, a nature guide and environmental educator. I'll be your host for this podcast series, where we'll be talking to a variety of special guests about some wild and wonderful topics surrounding nature conservation in Singapore, our City in Nature. *That's Wild* is brought to you by the National Parks Board. If you like our content, don't forget to show your support by hitting that follow button and giving us a five-star rating.

In this episode on youth action, I'm very excited to speak with Steffi, who is a manager in NParks' Wildlife Trade Branch, as well as Wai Kit, who is the co-founder of the CITES Global Youth Network with Steffi.

As youths who are involved in the biodiversity conservation space, we'll be talking about our experiences collaborating locally and across the region, as well as the kinds of opportunities available for young people who are interested to contribute to conservation. Hi Steffi and Wai Kit!

00:00:54 Steffi

Hi, I'm Steffi.

00:00:55 Wai Kit

Hi, I'm Wai Kit.

00:00:56 Xiaoyun

Okay, so how did it all begin? Can you share more about how you began your journeys in conservation, and how did you get to where you are today?

00:01:03 Steffi

So I got interested in conservation when I first saw a photo of a nudibranch. They are these sea slugs, which are kind of snails without shells. And I was just so intrigued by the colours and I was like, whoa, these things exist?

And after that, I got very interested in learning and seeing marine life. And because of that, I enrolled in an environmental studies course for my university. And over there, I did a research project on the coral aquarium trade, and then that's how I stumbled into the world and complex

web of wildlife trade. And that's when I did an internship at the Wildlife Trade department in NParks and that's how I joined YSN and organised the World Wildlife Day Regional Youth Symposium and all these experiences culminated into me wanting to do something for youths and wildlife trade, so with Wai Kit, I started the CITES Global Youth Network.

00:01:58 Xiaoyun

How about you, Wai Kit?

00:01:59 Wai Kit

Well, my journey in conservation started out quite differently. I was doing project management in Singapore Poly and I had the opportunity to fly to Japan for exchange. There were many topics I could choose from, but I gravitated towards natural disasters. And then I organised a youth model ASEAN conference and again I caught myself gravitating towards the renewable energy committee. Small decisions I make with my head, big decisions I make with my heart. So I took a leap of faith and decided to apply to NUS Geography.

There, I took up the position of co-president at NUS' main environmental CCA before embarking on an internship at NParks as well. I went to the Wildlife Management and Community Projects departments. NParks gave me the opportunity to organise the inaugural World Wildlife Day Regional Youth Symposium during COVID, and to attend CITES Conference of the Parties (CoP) in Panama with the Singapore delegation.

After that I became an academic fellow for the Young Southeast Asian Leaders Initiative (YSEALI), where I joined 16 ASEAN friends in Hawaii to learn more about topics such as indigenous rights and environmental law. And now I am in my final semester of NUS, and I co-founded the CITES Global Youth Network along with Steffi and the support of the Singapore government.

So what about you, Xiaoyun?

00:03:12 Xiaoyun

I think for me, the stumble into wildlife conservation all began with a night walk in a secondary forest in Singapore, and from there I just went on more walks and more hikes. Primarily it started from wildlife photography because I was supporting my partner Dennis with his camera set-up. He at that point had so many lights and diffusers, and he had not figured out a way to hold everything together.

So as we spent extended time with the creature in its environment, the prolonged experience of observing the creature actually like diffused all my fears. So I remember this time we were looking at a Wagler's Pit Viper and it's the female, so it's like full form, adult, very thick, one metre long. So I think once I got over the fear of that pit viper I think everything else just flowed, and curiosity replaced fear.

As I speak Bahasa as my third language, I still have an interest in understanding Southeast Asian cultures and society, so that really motivates my personal interest to continue conservation work in the region.

00:04:09 Xiaoyun

So I'd like to know, where has your work in conservation taken you? For example, you could share about your experiences with on-the-ground work, encounters with local communities, or other inspiring individuals or projects based overseas that were meaningful to you.

00:04:21 Steffi

For me, most recently, I guess my work in conservation has taken us to start the CITES Global Youth Network, which is CGYN for short. And we started that because we realised that there aren't many youths in this space, in CITES meetings, or who even know what the acronym of CITES stands for. And I realised I also forgot to introduce it just now. It stands for the Convention of International Trade in Endangered Species of wild fauna and flora. It's quite a specific topic in the realm of biodiversity and conservation. But even though it's a bit unfamiliar or niche, wildlife trade is actually quite common in our daily lives. It's like the American ginseng that's sold at TCM.

All these products are regulated by CITES. And it's very difficult and very complex when you talk about wildlife trade because you're also talking about the communities who harvest these resources and have gained livelihoods out of it. It's about national economies. And then you're also trying to balance, like, these considerations with conservation priorities as well.

So, what we hope to do with CGYN is to bridge the knowledge gap and to help youths understand all these different dimensions to the issue of wildlife trade, which is quite an important piece of the biodiversity conservation puzzle and other puzzles as well, like sustainable development. If you overharvest, then you also cannot have long-term sustainable growth.

And I think for all of us, like, our experiences in regional collaborations have also underscored the importance of empathy. And I hope that by increasing understanding of the different

perspectives of where different people come from in different parts of the world, then we can better understand each other and then we can have better knowledge and empathy and have a nuanced and constructive position to contribute to CITES discussions and conservation problems and fight against illegal wildlife trade.

And I hope that through this, youths can also have a seat at the table meaningfully, because they also understand what's going on. And decision-makers and policy-makers will also see youths as grounded and informed stakeholders in the decisions that they make at the international and national level.

00:06:35 Xiaoyun

I think you guys will have day jobs that are going to be related to conservation. I think for myself, it's about contributing to conservation outside of my day job. So I try to do that by going on many regional trips. For instance, we just returned from a fulfilling experience in Bali. In the first leg of our trip, we worked closely with a local *banja*, which is a village in Tulamben, to develop a new coastal reef.

So this will actually promote the spawning of giant clams, restore reef connectivity, and it will actually build a new dive site and attraction for tourists. More importantly, the project's intent is to create additional and alternative sources of revenue for the local community. And of course the diving is amazing as always.

In the second leg, we worked with Bali Reptile Rescue, which is a local wildlife rescue and rehab organisation focused on rescues, education and outreach, as well as research. There was a poignant moment that I encountered, which has been on my mind.

So while we were there at the Wildlife Rescue Centre, a barn owl was sent in, and its prognosis was terrible. Because it had been shot in the wing, and it was fractured, and the muscle was dying. So the vet actually had to make a decision to put it down. I opted to stay on in the room to watch as they ended its life humanely, and they were praying and apologising to it, and hoped that its soul would find peace.

We managed to observe an instance of human-wildlife conflict in Bali, because one side is that the barn owls are trained and sold to farmers to control the rat population in farmlands, but nobody can control that these owls are also naturally drawn to and fly to swiftlet houses where they predate on the birds.

So this causes the swiftlet nest farmers to retaliate. This was quite a sensitive encounter that's the result of human-wildlife conflict, and I think it needs a very sensitive balance.

00:08:14 Xiaoyun

Okay, let's share about some challenges that are unique to young people who want to contribute to biodiversity conservation, especially within Southeast Asia.

00:08:21 Wai Kit

I think for me there are two challenges that young people face when they are eager to contribute to conservation.

The first, I think, even though there are avenues in Singapore to contribute, I found that when I wanted to contribute to an overseas project, there were not many options available. So I wish there would be more interconnectedness between Singapore and other countries, perhaps taking the form of regional internships and attachment programmes.

The other area which my peers feel is a challenge would be the lack of good environmental mentors in Singapore. I was fortunate to have outstanding mentors, such as Dr. Adrian Loo and Dr. Jessica Lee, who have taken the time to nurture me. But my peers have shared that they're not as lucky to have someone spend time, guide, teach and advise their career moves. This support system, I think, is key if we want to retain youths in the biodiversity scene, seeing that it's such a small and niche community already.

00:9:12 Xiaoyun

Yeah I agree. Actually, mentors are really important, and I only encountered good mentors, you know, when I reached university. He was crucial to me publishing, like for example, *Eating Chili Crab in the Anthropocene*, as well as my final year manuscript into a research journal.

I think without his push, it wouldn't have happened. Because you need someone to tell you that you need to shape the potential by being disciplined and publishing it, which is a long journey, right? Because each piece takes about one and a half years to two years from the first draft to completion and publication.

00:9:44 Steffi

Yeah, actually, I also agree with both of you guys about the point of mentors. I was also very thankful to have a good mentor who believed in me and who gave me a chance.

So, actually, for World Wildlife Day, I planned the one in 2023 after Wai Kit, who planned it in 2022. And because of COVID, Wai Kit's one was on Zoom, and in 2023, I think restrictions were slowly easing and so the possibility of in-person travel was starting to come back. And so we were very keen to have an in-person symposium because the aim of WWD is to grow a

community of regional youth who are passionate for conservation and also to connect them with mentors in the region. What better way to connect youths and mentors with each other than having an in-person setting?

So that's what me and my team strongly believed in, but an in-person symposium is very, very logistically challenging and it's a lot more work than an online event. And so I think initially my mentor was a bit sceptical, but she still gave us a chance and she was like, okay, you write me a proposal, I'll see how. And so we did, we wrote her a very, very long proposal.

And after that, she read through everything and she seriously considered our idea. And then after that, she took a step of faith and she believed in us. And so WWD 2023 was an in-person symposium and we had more than 170 youths from Singapore and from all ASEAN countries come to learn together and to make friends and to just talk about conservation with one another.

Coming back to the question, I really agree with both of you guys that having a good mentor is important. Like for Wai Kit, your mentors have pointed you in the right direction. For Xiaoyun, they have also encouraged you and advised you in a way that helps you reach your fullest potential. And for me, my mentor was really kind to believe in me and my team, and take a step of faith.

But the next question that I have is, how can you find such a good mentor in Southeast Asia?

00:11:54 Wai Kit

You know, I really think as a youth, you really have to just put yourself out there. And so for me, it's joining the school environmental CCAs, its joining some NParks event, going to dialogues and discussions. Even though you might think it's a waste of time, it actually isn't. There are things that you can learn from it. I think there are also a lot of other avenues, right?

You have things like Nature Kakis, you have things like ReefX, FishX, even for the marine scene. And then there's Bird Society now, there's also things like the Herpetological Society. So there are so many places that you can go into. Once you get in there, there are so many more mentors there. And so I think not so much on the technical side, but we need to start relationship building.

00:12:39 Xiaoyun

Yeah, I agree. I think for me when I was in school, it was quite easy to find a mentor because we are surrounded by professors and we are surrounded by seniors, who are also keen on the same topic. So it's all about just attending courses and maybe afterwards you go to after-office

hours. Or when you're working on a project, you just interface more directly with the prof, right? Take that as an opportunity to engage the prof on the topic.

But I think for me now because I've graduated for more than four years, it's actually difficult to find a mentor in my space. So actually I've been doing what Wai Kit is doing, which is to go for all these community events and to make friends with people in the space. Because in some way everybody in the space has something to teach you. Like they are your friend but they are also your mentor. You have something to learn from them. So for example, from my good friend Wen Yu, or Dorcas, I've learned about the interface between mental health, art and environmentalism.

And I think I have that little takeaway from everyone that I meet, including doing this podcast, right? Like everybody I met, that's why I was so keen on a podcast. I think that everybody I met on the podcast would teach me something about wildlife that I never knew before.

00:13:41 Wai Kit

Yeah, I think networking, in the past, had a very negative connotation to it. And I still feel that it is so. I feel like what we have to do is relationship building, not networking for the sake of networking and just making connections for personal gain. I think it has to advance society in a way that is going to be more collaborative in the future.

00:14:02 Steffi

Yeah, I guess it's a give and take. As much as you can learn from someone else, I'm sure we also have different experiences, or we can help others in some other way too. Yeah, I really agree with you guys that it's important to get involved, and platforms that I have experienced to help me find mentors and friends to learn from is WWD and YSN, which is the Youth Stewards for Nature programme. So World Wildlife Day Regional Youth Symposium is actually a YSN project, and that's where I got to meet my mentor.

00:14:33 Wai Kit

I think that traditionally, YSN was just very Singapore-centric. It was a very Singapore-based project. So when NParks asked me to organise the first World Wildlife Day Regional Youth Symposium, I was like, whoa, how come Singapore YSN wants to do regional projects already? So I saw it as a way of reaching out and really engaging and working with the regional community, which I was all for.

And so from local to regional, and then now we're going global – with the CITES Global Youth Network, I think that's the right direction that Singapore is moving towards.

00:15:07 Xiaoyun

I think I'd jump off a point that Steffi mentioned, which is about how we are now also sort of in a position to mentor or to contribute, because we're now older than younger youths.

00:15:20 Wai Kit

Yes, we're getting older. Oh no.

00:15:21 Xiaoyun

I feel that way especially when I work on Untamed Paths and we get interns now, it's surprising that these people are so young.

And I think these interns have much to do – they have this sense of proactivity to do research on what are the local wildlife groups that they can potentially join; to reach out via a nicely crafted email, send us their CVs, and we can review these CVs and see whether they fit the company, whether their motivations and interests can translate into something with us. So for example, through that, they can do guiding with us, they can organise projects with us.

And I think in this way, we are also able to more directly contribute to the personal and environmental journey of one youth, and we've been doing that since 2022, which I think is quite fulfilling work for both Dennis and I. To be able to be in this position, I think we stumbled upon it, but we quite enjoy it.

00:16:15 Wai Kit

So after I organised the inaugural World Wildlife Day, the next year was Steffi's batch. And so, when I was interning at NParks, I was tasked to bring the next team onboard. I was asked to put out calls for applications, but I didn't really put out applications. I was just directly reaching out to potential youths that we saw were doing good work and getting actively involved. And so we reached out to them personally and we had a pizza party.

I think only three people couldn't make it, couldn't join the team, but the rest of them – a team of 16, I think – joined us. And so that was the regional side. And then same for this year's CITES Global Youth Network, we're going to have the event in April.

We are, again, reaching out to specific youths who we know are committed, who are active, who are going to push the limit and then help mentor them, put them in direct contact with people like Dr. Adrian and Dr. Jess.

00:17:04 Xiaoyun

So before we continue, it's time for our fun mid-episode break. So, this is the segment where we'll share something interesting, wild, or wonderful about biodiversity that you may not have known before.

00:17:12 Wai Kit

Okay, so my fun fact is about elephants. Did you know elephants can't jump?

Unlike many other mammals, elephants are so heavy and their body structure just physically doesn't allow them to jump. Can you imagine an elephant trying to jump in your head? I think they'll look freaking cute. I think you need a gif or an emoji of an elephant jumping. I want that as a sticker I can send. Haha, I was trying to jump but cannot jump!

00:17:39 Steffi

My fun fact is about ants. Did you know that after ants die, they release a pheromone, which is like a smell that tells other ants that they are dead. The other worker ants will carry the dead ant to a dumping site, like a burial ground. And if you are a living ant, and you so happen to have this pheromone of the dead ant, the other worker ants will still carry you alive to the dumping site of dead ants. Yeah, very cool. How about yours, Xiaoyun?

00:18:09 Xiaoyun

My fun fact is about sea slugs. They are able to decapitate themselves, which means that they chop off their own heads when they are infected by parasites. After some time, they are able to regrow their entire body. For example, when they are healthy again or when there's food again in the ecosystem.

00:18:23 Wai Kit

That's crazy. You know, I love sea slugs. I love nudibranchs because when I was diving in Sipadan in December, we saw so many of them and they are so colourful. There are some with those spikes behind their backs. It's because when they eat all the polyps of sea anemones, they take in those poison darts. And so, if you go and touch some of these sea slugs, you will get stung by them. So I didn't know that. So they took over all the properties like a pokemon or like those weird mythical creatures that can absorb a property of another creature and then use it as a defensive mechanism. Crazy, huh?

00:18:58 Xiaoyun

The same sea slugs are able to take in the chloroplasts from the food they eat and incorporate it into its own body. So it's basically solar powered.

00:19:04 Wai Kit

What?

00:19:05 Xiaoyun

The same sea slug that decapitates its head!

00:19:06 Wai Kit

Why are humans not solar powered?

00:19:07 Xiaoyun

Yeah!

00:19:08 Steffi

Sea slugs are cool!

00:19:09 Wai Kit

I eat so much veggies, why am I not solar powered? That's wild!

00:19:17 Xiaoyun

As youths who have committed a lot of time and effort to this space, I wanted to ask – why do you think it's important for youths to be involved in biodiversity conservation, both locally and across the region?

00:19:26 Wai Kit

I think for me, I connect it back to my experience when I was in Panama for CITES COP. When I was there, I was one of two to three youths that I saw there at the government level making decisions for wildlife across the world. I found that it was interesting. It felt a little hard to grasp. But even more so, I was like, we need more youths in this scene.

So I believe that youths are really our future and I want to enable the generational change required for our youths to solve the problems that we are unable to. So co-founding the youth network is one of them.

So I really believe that, like what Steffi mentioned before, if we are going to make friends with our biodiversity youths in the region, there is a likelihood that we will rise to leadership and decision-making positions in the future to challenge the status quo, right?

So that when we have an issue, I can just text my friend. I wouldn't need to go through, back and forth, hundreds of emails. So diplomacy or, nicely put, friendship must start at a young age if we are going to create a better world for biodiversity conservation.

00:20:35 Steffi

I think that for me, I care because biodiversity is very interesting. The diversity is just so mind-blowing and so intriguing to me. But maybe everyone can have a different reason for being involved in conservation because this issue is so intersectional.

It links to climate change, food security, cultural heritage, and communities of people who experience these on a day to day basis. And because youth care intrinsically for a better future, getting involved in conservation might be one way that they can help to channel their concern and their desire to act for good and for a better future.

00:21:17 Xiaoyun

Yeah, I was recently interviewed by a final year student in Yale-NUS. So basically she was asking me to narrate my whole story from when I was young and I realised that it was from growing up going to zoos and to farmlands in Choa Chu Kang that started this whole journey.

And afterwards, when I was in secondary school, I started contributing to more social issues. Social issues involving the elderly, young people, muscular dystrophy. It was only when I went to Yale-NUS that I found a good avenue for contributing to environmentalism, and met people in Yale-NUS idECO, which is a similar environmental movement to NUS SAVE, did I transition into environmentalism.

Coupled with that was in intro to ES (Environmental Studies), our prof talked about how environmentalism is intersectional, and it links across many different topics, which is what Steffi said also. So when I learned that line or that concept, I think it was really just in my head, theoretical, and I just memorised it because it was on the exam, like we will solve environmentalism by working intersectionally, something like that.

But I think it's only through going through this process and finding that I could very easily transition from social issues to environmental issues did I realise that, oh, it really is this umbrella to me in my mind that really allows me to connect everything together.

00:22:31 Wai Kit

I think that school is such an amazing place for us to test our boundaries. It's a place where we can make mistakes and we are still forgiven. There was this one very good example in NUS

SAVE. In the past, it was the Students Against Violation of the Earth. Now it's Students Association for Visions of the Earth. So it changed.

In the past, there was this very interesting case where some students came across a Paradise Tree Snake that was slithering across a road. And so they called security. Security came and their first response was to call pest control instead of ACRES or NParks. And so pest control got there first, unfortunately, about 10 minutes earlier. They then sprayed insecticide on the Paradise Tree Snake.

And so ACRES came 10 minutes later. They picked it up and saw what was happening. They took it to their rescue centre. They tried to attend to it but it lost its life, unfortunately. And so when this was brought to my attention, I was like no way this is happening in NUS. So straight away, in NUS SAVE, we drafted this open letter.

And so the UCI, the University Campus Infrastructure, they got back to me because they were in charge of all the contract staff, the security, pest control, etc.

And so what we did was we formed the campus wildlife task force. We created new SOPs to put in place. So now if you go down to NUS and you ask any security guard, what should you do when you see wildlife, the procedure should be in place already. Which is – number one, make sure that students are not too close to the wildlife and everybody keeps a safe distance.

And then after that, contact ACRES or NParks. And then we also changed the contract for all the pest control companies. We made sure that those who are going to be hired have gone through NParks certification. Because NParks Wildlife Management offers certification for handling reptiles, handling cats, dogs, stuff like that.

So we revamped the entire thing and then went ahead. So to do that, we brought in ACRES, NParks, Prof Siva. We brought in everybody to just brainstorm and get it done.

00:24:40 Xiaoyun

I think it does feel a bit run and gun in uni.

00:24:43 Wai Kit

Yeah, but I would prefer that youths act on what they talk about or what they learn in class. I would rather they act on it instead of just talking and talking and talking and complaining and complaining. Then who's going to do it? So you can keep talking and talking but if no one's going to do it, then you can just keep complaining all you want but things will never get better. So you've got to take some sort of responsibility for what you're talking about as well.

00:25:05 Xiaoyun

I think Therese, the president of SYCA (Singapore Youth for Climate Action), recently asked Dr. Janil in a civil society forum about the role of civil society – like whether it is a place for criticism or a place to be a technical expert to provide technical solutions. And she was asking – where on this spectrum, where should Singapore civil society stand? And Dr. Janil just said “both”. Like a bit of both – which is not too much criticism but also not really all about technical solutions. Because ultimately a civil society won’t know everything, we won’t have the complete picture. So it’s always about supplementing the government’s knowledge. They already have the knowledge, so we supplement that, but we also provide criticism if we think that the final proposal is not as constructive as it should be.

00:25:50 Wai Kit

Yeah, and I think at least for Singapore’s case, when the youths are frustrated or when we have ideas, it is honestly taken up by the government. Sooner or later, they listen. It is a lot easier. Even though our listeners may not believe it, but when you go and meet the youths in the region or across the world, the story is so much different. You can make all the noise you want, but you will never hear or get an email back at all.

So I think that we need to acknowledge how fortunate we are, being in Singapore. Being a youth in Singapore, and being able to create change. So my advice to youths is to get out there and start doing things.

00:26:32 Xiaoyun

Apart from university, for our listeners who are interested in contributing to conservation but are unsure where to start, do you have any advice for them?

00:26:39 Wai Kit

I think CCAs in school is a fantastic place to start. I think there’s this new movement at the grassroots level called Nature Kakis. So when I was an intern at NParks, that was something that we worked on starting. So, every different grassroots across Singapore, you get to join a green and environmental programme and just run whatever sustainability or wildlife projects.

There’s Singapore Youth Voices for Biodiversity, there’s the Bird Society, the Herpetological Society. If you’re very interested in marine, I think there is ReefX, there’s also FishX nowadays.

00:27:14 Xiaoyun

I think for me, I really echo the point about joining CCAs in school. So if you're in school, look for your school's chapter of the environmental movement. So, I think in NUS there's NUS SAVE, then in NTU there's Earthlink, and in SMU there's VERTS.

00:27:29 Wai Kit

There's this new collaboration between the schools – the IUEC, the Inter-Uni Environmental Coalition, right? So, they bring everyone together, like NUS SAVE, and NTU, etc. And so, it's actually quite good because it's supported by the Prime Minister's Office. They fund a bit of it, they run activities, they support us manpower wise as well.

00:27:52 Steffi

I think if you're interested, if you just start somewhere, like I think now there's a lot more social media content for videos and books that talk about environmental conservation.

So, you can start by reading those. I think in Singapore, there are organisations like Singapore Youth Voices for Biodiversity, LepakInSG, who have been putting a lot of effort into sharing this knowledge online through social media. And the people in our local environmental organisations are usually quite nice, so I think just don't be scared. Can also approach them through social media or in person to ask how you can contribute, and I'm sure anyone will be happy to point you the right way.

00:28:36 Wai Kit

Yeah, especially because now all your podcasts guests are getting older, I think just any youths can just reach out to us, reach out to groups like The Untamed Paths, and then ask for advice, ask for help. Recently someone from FishX reached out and he was like, Wai Kit how do I reach out to NUS and, you know, spread the word of this programme that I'm doing? I was like, don't worry, I'll help you. So, you know, just reach out to people, and you won't know how gracious and kind they are.

00:29:08 Xiaoyun

And with that, we have come to the end of our episode and the end of this season. Thank you, Steffi and Wai Kit for joining us today. More information on YSN, WWD, and other programmes mentioned in our conversation can be found on our episode shownotes.

Do leave your thoughts on this episode on NParks' socials and give us a follow if you've enjoyed the content. My name is Xiaoyun and thank you so much for listening to *That's Wild!*