

ENQUIRING MINDS

EQM EP 4 SEG 2

SACHA: Let's join Lockie and Nia as they find out why sharks need our help.

LOCKIE: When you say the word shark, it sends chills through most people. They get a bit of a bad rap but in reality only 4 or 5 out of 400 species of shark are actually known to attack humans. I've got to say I'm pretty fascinated by sharks and the ocean and I'm about to meet young Nia who I hear shares my passion. Hi, Nia.

NIA: Hi.

LOCKIE: Enjoying this beautiful day, what do you love about the ocean?

NIA: Oh, I just love how big it is and how many animals there are in it.

LOCKIE: Now I understand you want to be a marine biologist?

NIA: Well I really like sea animals. I just think they're really fascinating. I just love them.

LOCKIE: What are some of your favourite subjects at school?

NIA: My two favourite subjects are science and art, I find them really interesting.

LOCKIE: Do you have any favourite sea creatures?

NIA: I like sea turtles and sharks and eels.

LOCKIE: Do you want to meet someone who studies sharks and works with them?

NIA: Yeah, that would be really cool.

LOCKIE: Okay.

NIA: I really want to see dolphins. They're pretty cool.

LOCKIE: Hi, Kate.

KATE: Hi, guys.

LOCKIE: Good to see you.

KATE: Good to see you too.

LOCKIE: Nia, Kate, Kate, Nia.

KATE: Hi, Nia.

NIA: Hello. Why did you decide to be a marine biologist?

KATE: I've always had a love of the sea and in about 2005 I learnt to dive and just being able to see the animals that close and really feel connected with them I just, yeah, just wanted to take it further.

NIA: What were your favourite subjects at school?

KATE: Biology always just made sense to me even from, you know, the age of 10 or 11 and I continued doing the science all the way through high school. I'm just a science geek.

NIA: What type of sharks are you currently working with?

KATE: My main project is on wobbegong sharks but I have been fortunate enough to work on other projects such as grey reef sharks which we also tagged, some black-tip sharks, some white-tip sharks and some lemon sharks. Shall we go and see some other sharks?

I was very lucky when I started my masters degree at university. My supervisors were actually working with Sydney Aquarium.

So over there we've got a lemon shark, a couple of white-tip reef sharks and a black-tip reef shark. So over in Western Australia we caught some of these guys and then insert a little tag into their belly and then we have listening stations deployed around the areas and they allow us to track where those animals are going and we can see what kind of habitat they're using and whether they're moving long distances between different areas.

LOCKIE: So that research that you're doing with the tagging, how does that help you conserve these sharks for future generations?

KATE: By knowing where they move and by what habitats they use we can know which areas to conserve and where fishing pressure and everything needs to be alleviated to stop exploitation.

LOCKIE: I hear you've been working with a few baby sharks, can you tell us a bit about those?

KATE: Yes, here at Sydney Aquarium they've had a couple of very successful breeding pairs of wobbegong sharks and so they've got some babies if you want to go and see them.

LOCKIE: Okay.

KATE: The species I study is the spotted wobbegong and they are born at just 20cm. We're not sure how long they live but we do think it's in the range of 30 plus years. So this is the area where the baby wobbegongs are kept. So as you can see down here, these are some of the juvenile wobbegongs. These guys have been bred in Sydney Aquarium.

LOCKIE: So they live in the waters around Australia?

KATE: Yes, there's 12 species found worldwide and only one of those is not found in Australian waters.

NIA: How did wobbegongs get their name?

KATE: So wobbegong is actually the Aboriginal for shaggy bearded. As you can see on their face they've got these dermal lobes which look like a shaggy beard.

LOCKIE: How hard is it to breed these guys in here?

KATE: They will breed every three years and they've been doing really well. Every year I've come down here they've had about nine pups. A lot of the wild populations of wobbegongs around Australia have been depleted and so we're looking to see if we can restock these depleted populations with captive bred animals. Once these guys get up to about 1.2 metres, which is about 2.5, 3 years, then we'll think about tagging them and releasing them.

No-one's ever tried to release captive bred sharks before. It's done a lot for fresh water species, it's never been done for sharks.

In NSW they were commercially fished and within 10 years there was an over

50% decline in catch rates. So since then there have been strict management protocols however there are other States around Australia that do fish them. I guess the biggest threat facing the wobbegong is commercial fishing and their meat is sold as flake which is just a generic name for shark or ray but it's often the fish in your fish and chips shop. As long as people can start to understand and ask which specific species they are eating and learn to know which ones are fast growing and sustainable, until we can do that the sustainability of them is questionable.

I think a lot of people when you say the word shark immediately think of great whites whereas you've got the sharks like the wobbegong which don't really pose a threat to humans unless you disturb them. I think the biggest thing is actually getting rid of that public misconception that sharks are bad. They're a top predator and they play a very, very important role in our natural systems. Just as a lion would on the Serengeti it helps control disease and the ill animals so do sharks play that role in the oceans. So really getting people to understand and respect what their role is instead of just fearing them. Certainly the international endangered list is increasingly having more and more shark species labelled as threatened or vulnerable or endangered. So certainly it is one of the fastest declining species as a whole.

LOCKIE: So is all of your research done in these waters around here?

KATE: Yes, I work just off Manly beach so if you want to grab your wetsuits we'll go and have a swim.

LOCKIE: Let's do it.

So you insert a tracking device in the shark's belly, how do you get that information?

KATE: So each of the tracking devices will give off a little ping about every 2 minutes and then we then deploy stationary listening stations and when an animal is within about 200 to 300 metres of one of those listening stations that listening station will record their information.

NIA: If wobbegongs disappear what effect will that have on the ocean?

KATE: So because wobbegongs are predators, if they disappear all the animals that they eat will then become bigger in number which then obviously whatever they eat will disappear. So it has an effect all the way down the food chain.

LOCKIE: And you're going to have to help me, how do I put these on?

KATE: Well if we jump in the water and I'll show you how. I'd always loved snorkelling and have been brought up spending quite a bit of time in the water and always loved being able to see animals.

I think if you have an interest in science and an interest in the world around you then certainly this career would be a very exciting one. There's a lot of universities that provide marine science and as long as you've got determination and enthusiasm you will find the right path. I get to call this my office.

NIA: I thought it was really fun just seeing what marine biologists do and yeah, I learnt a lot today. I'd like to go to university and study more to become a marine biologist. My favourite moment was probably swimming and seeing the Port Jackson shark. That was pretty cool.

LOCKIE: Hopefully hanging out with sharks and seeing that they actually need our help to survive will have people thinking differently about these majestic creatures. And I think after today Nia's going to be spending a lot more time down by

the ocean.

SACHA: On the next episode – I'm looking for clues as a crime scene investigator and Lockie takes a trip back in time to ancient Egypt. See you next time. Bye.

VOICE-OVER: If these stories have inspired you then check out our website for activities and loads of information on all of our experts. Plus, don't forget to challenge yourself with our Enquiring Minds game.

END OF TRANSCRIPT