



**Bug Blitz @ Nungurner Jetty -
Surveying invertebrates in the shallows with your family**

(MUSIC PLAYS)

JOHN CALDOW:

Hi everybody, I'm John Caldow from Bug Blitz Trust.

ERIN NOWAK:

And I'm Erin Nowak from Bug Blitz Trust.

JOHN CALDOW:

And here we are at the beautiful Nungurner Jetty on the Gippsland Lakes, and we're going to do a really great fun discovery session. But before we start, we'd like to acknowledge the Owners of the land upon which we are meeting and pay respects to the Elders, past, present and emerging.

ERIN NOWAK:

This here today is part of the Summer by the Sea 2021 program. Summer by the Sea is organised by Coastcare Victoria and Parks Victoria. And this year, they're offering 20 free, online, interactive, all-inclusive activities. And this is one of them. And the main aim is to discover and explore the beautiful coastline and what the beautiful marine environment that the Victoria coastlines have to offer.

JOHN CALDOW:

We're here today to talk about vertebrates and invertebrates. Two really large groups of animals. Vertebrates have got a spinal cord and an internal skeleton.

ERIN NOWAK:

Wow all the different vertebrae.

JOHN CALDOW:

All the different vertebrae make up the spinal cord. And this was part of a wombat's spinal column whereas when we look down here on the table, Erin, we can see the spinal column of a snake, the skull of an echidna, the skull of a koala, a wombat and an iconic fish species, the black bream, they're all vertebrates because they've got an internal skeleton.

Now, here we have a beautiful Mountain Huntsman. This is an invertebrate because it has a skeleton on the outside of its body. When you come down here on the holidays and you get one of these in your caravan, just get a broom and gently persuade it outside cause they're really beautiful, lovely creatures. And we like to conserve all of the creatures along the Gippsland Lakes.

ERIN NOWAK:

Yeah, absolutely.



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JOHN CALDOW:

And four hundred million years ago, the ancestors of spiders came out of the sea and occupied the land. So, let's go and find out what type of invertebrates might be in the Lakes. Oh, before we get started, we should talk about safety, Erin.

ERIN NOWAK:

Oh, yes, good idea.

JOHN CALDOW:

The first thing I notice here at Nungurner is the traffic and the cars. So, children or anyone would need to be careful and be aware of the traffic.

ERIN NOWAK:

Yeah, good point. Another thing, of course, we're near water. So, you've always got that possibility of safety by water. And one thing in particular, when I'm looking to see what life is there, I always wear good covered shoes.

JOHN CALDOW:

Yeah.

ERIN NOWAK:

I've got rock booties on today. I love that you've got your old sneakers. It doesn't matter, as long as it's something to protect your foot from any sharp objects that might be in the water.

JOHN CALDOW:

And the other thing we're doing, of course, safety-wise is we're being sun smart. We're both wearing hats and you've got your Coastcare hat on and we've both got sunscreen, and you need to remember the mosquito and fly repellent as well.

ERIN NOWAK:

Yes. Yep. Another thing I always have, we always have, especially with Bug Blitz, we take a first aid kit with us, Mum and Dad would probably have that in the car, no doubt. But it's always good to have that and especially someone to have a mobile phone that may have triple zero ready to dial and your location.

JOHN CALDOW:

So, people, when they're doing this sort of stuff, Erin, or working with surveying invertebrates, need to be aware that some of them sting and bite, don't they?

ERIN NOWAK:

Yeah, correct.



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JOHN CALDOW:

It's amazing to see that we need to be careful as well.

ERIN NOWAK:

In particular one thing John I notice is probably jellyfish. Or sea jellies, I like to call them, most of them in the Gippsland Lakes are quite safe. But I had the rule - don't touch a sea jelly.

JOHN CALDOW:

Show you how to survey the shallows for invertebrate life. What equipment do we need, Erin?

ERIN NOWAK:

Oh thanks John. Well, you don't need too much, basically. You just need basic equipment. One thing, in particular, we have some white trays just to show the life. Now, if you don't have a white tray, you might be able to use an old ice cream container or something similar like that. White is good, though, because it really shows up the life. We have little kits here.

We have spoons, which is great 'cause if you find some things and you don't wanna touch them, you can use the spoons. Magnifying glasses, they're always fabulous to look through and get a nice close-up look and one thing we have is our net. Now, these nets are just bought from a cheap shop. You can get butterfly nets. Any sort of net will do. That's for sort of scooping up any life that you find. Another thing, 'cause we're gonna be looking for some polychaetes today or some sand worms. You can just get a store-bought sieve, a kitchen sieve that you normally do your pasta in, something like this.

A shovel is a great thing to have. And lastly, we have this, a bait pump. If you live close by the water, there's a good chance you may have one of these, a bait pump and a big sieve to put that in. So, this is the sort of basic equipment that we're gonna use today to survey what's in the water.

JOHN CALDOW:

And we've got a camera here to photograph everything that we find so we can do further research and study on it. And we could even upload it into a citizen science database afterwards to record the diversity of life.

ERIN NOWAK:

John, you might be able to even use your phone as well to take some photographs. OK, John, the first thing you need to do is always make sure you've got some water in your tray. You don't wanna find life and come back and there's no water there for them to sort of breath and be in. So the first thing...

JOHN CALDOW:

You gotta look after the creatures.



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ERIN NOWAK:

Number one, always look after the creatures in there. I'm gonna show you how we do some surveying with our sieves that we do.

JOHN CALDOW:

Alright, I've got my sieve.

ERIN NOWAK:

So we got our boots. We're in the water.

(LAUGHS) Alright, the idea with this sampling is we're gonna dig up some of the sand and pop it into your sieve, so do a couple of big digs.

Nice and fresh, the water today. Now, the idea is John and then you sieve it on top of the surface like this, sieve it through using the surface of the water to wash it off. And then we have a look and we see if we can see any movement in here. Oh, look at this. Fantastic. Look what I found, John. We've got a polychaete.

JOHN CALDOW:

A polychaete.

ERIN NOWAK:

A polychaete.

JOHN CALDOW:

What's a polychaete?

ERIN NOWAK:

There it is. A polychaete is a marine worm. There's over thirteen thousand species of these in the world. Now, their name polychaete comes from the term, poly, meaning many and chaete meaning bristles and it has lots of bristles. So, that's fantastic. That's sort of what you wanna look for. It's a great way to sample for polychaetes. Oh, nice.

JOHN CALDOW:

Look, it's there, so I'll go and put that in the container, the tray. That polychaete's swimming in there, Erin.

ERIN NOWAK:

Look at that. Almost looks like a snake, doesn't it?

JOHN CALDOW:

It looks like it's going backwards. OK, so we use the sieve... But when we're walking along through



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the Gippsland Lakes and around the edges of the Lakes, one thing we wanna keep our eye out for is snakes. So, I always scan along the track and I look for movement, any movement, I stop.

ERIN NOWAK:

Another great thing you can do is just have your net and actually just go for a walk. You've got your safe shoes on. Just go for a walk, there's lots of little fish and it's such a beautiful nursery for little fish. Great, so John's gonna have another go at using the bait pump now. But before we do, just a reminder that taking any invertebrates from the water, whether it's for bait et cetera, you must have a fishing licence. However, if you're under 18 or you're over 70, you're exempt from having one. So, John, show us how we use the bait pump.

JOHN CALDOW:

Great, let's go. I'm looking for a hole in the sand to put the bait pump over the top of. It's right here.

ERIN NOWAK:

So is there a technique to that, John?

JOHN CALDOW:

Well, you wanna plunge it in as far as you can go and drill back at the same time. But this sand is hard as.

ERIN NOWAK:

Ooh, here's one. There's one, beautiful. Another polychaete.

Another thing you can do is overturned some rocks. But there's a few things here. First of all, safety. Though there's been no sightings of blue-ringed octopuses in the Lakes, you need to always be careful where you're putting your hand. So, always use the top where you can see your hands. And another thing is always put the back rock back where you found it. It's a red shore crab, I think. Oh. I wonder if this is a girl or a boy, John. Let's have a look. If you turn it over.

JOHN CALDOW:

Right. There so it can't bite me. I'll get it on the top here.

ERIN NOWAK:

Yep.

JOHN CALDOW:

Hang on.

ERIN NOWAK:

Beautiful. If we have a look here, can you see how this part of its carapace is rounded? Well, we



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know that that's a female in comparison to a male, which I'll show you soon. So, this one is a female. We notice the bottom of her is round like that. So seeing the female before, this one, you can see there's a point in the bottom here and that's an indication that this one's a boy. This is a male crab.

JOHN CALDOW:

OK, so now we've pulled some different invertebrates, marine invertebrates and I'm gonna use my camera to try and photograph everything we've found. The first thing I'm interested in is this little ghost shrimp. Wow, that's fast. The shrimp there. They're called bass yabbies or nippers or one arm bandits and they're great fishing bait for catching whiting and other types of fish that live in the Gippsland Lakes. If you don't have digital microscopes, you can just purchase a little magnifying glass or a magnifier at one of the local stores.

ERIN NOWAK:

Wow look, it's a potbelly seahorse. It's not alive anymore.

JOHN CALDOW:

Beautiful.

ERIN NOWAK:

It's beautiful. I'd say this is the boy because it has a very prominent tummy on them because the boys do have the babies. And this one, I'm not sure how it would have died. You know, we talked about before about not picking up any sort of jelly fish. Now, these ones, a lot of people mistake them for jelly fish, but in fact, it's the egg, the egg casing, the eggs of the moon shell. Hey, John, I found one.

JOHN CALDOW:

Oh, wow.

ERIN NOWAK:

This is actually the moon shell. If you don't wanna go looking with the pump or with the sieve, we've got this awesome seascope here. It's just like wearing a pair of goggles without actually getting too wet.

JOHN CALDOW:

Wow. I can't wait to have a go at this.

ERIN NOWAK:

Yeah, let's have a go. So, if you use it and take a net with you, you might find crabs, you might find some hermit crabs. Hey, John, are you finding anything yet?

JOHN CALDOW:

Oh, I found something here. I found something here. Now, when you're down at the Gippsland



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Lakes, if you wanna do some, be a custodian for our environment, pick up any rubbish you find. We just found this plastic bag and we'll put that in the bin.

So, John, not all of us are gonna have access to one of these seascope, so this is one that we've made. We've just got some poly pipe that you can get from Bunnings or the plumbing shop, a good bit of thick plastic, some duct tape and some rubber bands. And you can create your own seascope.

JOHN CALDOW:

Wow, that's a great idea.

ERIN NOWAK:

And all you need to do, just like you were doing. And I can see beautifully through the water, so you can make these yourself at home.

JOHN CALDOW:

And you can even put decorations celebrating the life and biodiversity on the Gippsland Lakes on the outside as a design. Hey, another great activity we can do here is make an old style bait trap using burgan scrub. But if I were to do this, you have to be really careful. You can't just go cutting all the shrubs away, so you need to ask permission. So, we've got one set from the previous night, but we would simply put that in the water and then tie it off really, really well so it cannot come adrift.

ERIN NOWAK:

So, what you need to do now is give it a shake. Shake, shake, shake. Oh, I can see a shrimp there. Alright, let's have a look at what we found. Oh, we can see a beautiful shrimp here. Looks like it's got eggs. I can see a little crab here. Oh, John, look at this. Wow. This is a beautiful pipefish. It looks just like a piece of seaweed, doesn't it?

JOHN CALDOW:

It does. So, it's come out of the bait trap. So, we should get that back in the water pretty quickly, shouldn't we?

ERIN NOWAK:

Absolutely, because they, just like the seahorses, are protected.

JOHN CALDOW:

OK, when we put these bait traps out Erin, what we have to make sure is that we come back and we take all of the string and the rubbish away that we've left and we dispose of it properly. Also when you're collecting bait using these bait traps, you have to be careful that you don't fall in the water.

ERIN NOWAK:

We're going to make a little keyring polychaete. Now, John, I'm not sure if you remember but polychaete means, many bristles. So, we're going to make a polychaete with lots of bristles.



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JOHN CALDOW:

Wow, fantastic.

ERIN NOWAK:

So, the materials we need here, we've got some pipe cleaners. We had some little sticks. Now, these are bought just an art and craft shop. And we have some beads and we have the keyring hooks, once again bought from the art and craft shop. So, the first thing we need to do is get a little stick, lay it on your pipe cleaner like this and just twirl the top one around to secure it. Just like that. Twirl it around to secure that top one. Awesome. The next step you wanna do is take a bead. Thread that on, and you keep repeating the process.

And you keep going until you've made all the bristles how big you want your polychaete to be, you just get the little keyring hook like this and you thread it through. You may need an adult to help you with this bit. Just thread it through, just like you would putting on a set of keys, and with a pipe cleaner you just twirl that around and secure that. And there you go. You've got a great little polychaete keyring that you can put on your school bags or your keys or whatever you choose.

JOHN CALDOW:

Beautiful, what a great way to finish the session. And we hope you've enjoyed what we've done, Bugs Blitz Trust for the Coastcare, Summer by the Sea program.

(MUSIC PLAYS)