



## Intertidal Treasures

(MUSIC PLAYS)

MARG O'TOOLE:

My name's Marg and I live in this area and I've actually been involved with Coastcare and Summer by the Sea program right from when it first started twenty five years ago. So, for every summer for twenty five years, I've been looking around the rock platforms here and Coastcare invited me to do this. I guess because I've done so many rockpool walks in the past.

We're on Kirrae Whurrung country here, and today we're going to try and explore this lovely rock platform when the tide goes out just a little bit more. Rock platforms here are made out of limestone. And as you can see, we've got a really high energy coastline here. So it's out in the open ocean, but if you're going to explore your rock platform somewhere near where you live and it might be a bay area where we're going to find different things there.

So just keep that in mind. Depending on what the substrate is, we'll have different animals and plants living. Perhaps you're down at Wilsons Promontory for a holiday with a big granite boulders. And again, it will be different down there.

(MUSIC PLAYS)

Before we head off down to the rock platforms there's a few things, a few hints to make this a really enjoyable experience and make it safe for you and for the plants and animals that we're going to see.

Firstly, we need to slip, slop and slap, sunscreen, a hat, take some water with you and wear something really good on your feet. Dive booties are perfect, old sneakers are really good, anything like that that can get in the water but will protect your feet, especially your toes. So, we don't want to wear thongs, very slippery and very dangerous. And gumboots is another thing to avoid because if you accidentally step in a rockpool they might fill with water and then that might cause you to fall right in or even over the edge. So we don't want gumboots or thongs.

Something else to remember when you're going on the rock platform, sometimes they're very sharp rocks and maybe a bit slippery. So we need to take care. I always take a bandage with me, and if you've got a first aid kit, make sure it's in the car and you bring that along as well. Another thing is to always have an emergency number in your mind or in your head. And I take my mobile phone, if it's one thing I always do take my mobile phone.

I do encourage people to leave them behind usually. Put it in a snap lock bag if you're a bit worried about dropping it in the water but back pocket and you know you've got the triple zero there just in case you need it. On one thing, the very first thing we should have mentioned is tide times. We can't really go out and look at the rock platform if it's high tide because the water's covering them. So we have a look.



### Intertidal Treasures

A really good website to look at is the Bureau of Meteorology- Tide Predictions, and they have them for right along the coast, or all around Australia and Pacific, actually. But you can get them for specific areas right along our Victorian coastline. So when you're looking at the tides, there's two things on it. There's a time. And on the other side, the other column there's the height of the tide. So you need to look at both. You need to look at the time because if it says it's a fantastic, really, really low tide. And then you look at the time and it's 2am, it's probably not a good way to go, but you might see 11am and it's a very, very low tide, like a nought point nought, something or other. And that's the tide to pick to go on your rockpool ramble.

So another thing we need to keep in mind when we go and want to go and explore the rock platforms is the access to it. We need to be able to get up and down safely, make sure that it's for all the family, all your friends that want to do it, that they can actually use this access and make sure it's an access that you can get up the cliff or wherever it is if you need to, in a hurry. So, when we're exploring the rock platform, there's a few things to take along that really do help you enjoy them even more. Just one bucket's enough for a whole group because we're not going to collect things. We're just got to look at them and put them back where we find them.

Magnifying glasses are fantastic, see things up close. And if you happen to have one, a hand lens is even one step higher than a magnifying glass to see things up really close. And you would be absolutely amazed at the beauty in our little marine creatures. A clear plastic container. When we find something that walks around or swims around and you can get in there, a good way to have a good look at it before you put it back and maybe a little tray too if we want to have a look at something, just a few simple things. And in another snap lock bag, I always carry an ID book, just a little ID book of things that you might come across so you can look them up when you're walking around.

Now, one of the first things I do when I get to the beach, I think a lot of people do that sigh, a big sigh of relief and get a really big breath of air. I like to close my eyes and think, "What am I getting when I have to take in a big breath of air"? And it's oxygen and everything needs oxygen to survive. And did you know that more than eighty percent of the Earth's oxygen is actually produced by little plants in the sea? Well, I think that's the best reason we really, really need to look after our oceans so that we can all breathe and survive.

Alright, everybody loves to look and touch things, that's what we love doing when they're out there. That's fine. Make sure you give your hands a bit of a wash first and just so they're nice and salty and wet because these animals are like, they're used to a nice, salty wet environment. They don't want sunscreen, dry, sandy hands to crawl on. So, we give them a bit of a wipe first, but the other thing is with our hands, we must see where they are. Never put your hands where you can't see them because there is a few things lurking in the dark and we don't really want to come into contact with a blue-ringed octopus.



### Intertidal Treasures

We do have blue-ringed octopus all along our coast, but I always say we were lucky to see one not unlucky. And the rule of thumb is to me, if you see a little tiny octopus, they never grow bigger than about six inches, then you leave it alone, especially with a sandy colour, because it does not flash its blue rings until it's agitated and upset. If you see a big octopus, have a dance with it, give it a cuddle, have a dance before you put it back in the water. When we're out on the rock platforms, one of the first things to remember is we never turn our back on the sea, because it doesn't matter how flat it looks, if we're over towards the edge of the rock platform you want to know if there's a wave coming in. So even if you're squatting down to look at something, you make sure that you can see the sea.

We've got our containers that we can have a look at things with our magnifying glass and the hand lens, have a look at things, have a good look at them, but always put them back where you found them. Never turn the rocks up toward you. Turn them up away from you because again, you don't know what's under them. And if you do put a rock up, put it down very gently, very gently. And when you're handling the animals, be gentle then as well. They are really tough little critters out there. You've got to remember that half with tide comes in, they're covered with water. When the tide goes out, they're not covered with water. If it's a hot, sunny day and the tide goes out, there's going to be a lot of evaporation. And so the water becomes really, really salty. If it happens to be raining really heavy, the water isn't as salty, it's really quite, almost gets to almost fresh water. So these animals need to adapt to all these changes. They need to adapt to windy weather when there's lots of waves splashing around and really still weather when it's nice and still and there's no wave movement.

Of course, when there is waves and wind, there's going to be more oxygen and that makes it, it's a healthy environment. After a few days of a flat, sunny weather, it may not be, might be a little bit more difficult for these animals to survive because the oxygen level will be lower. When the tide goes out, one of the ways a lot of the shells adapt to this is they clamp down really tightly on the rocks because that keeps them moist, it keeps their body inside them nice and moist, and that's where they get their oxygen. And so we don't want to pick them off or they'll just dry out and die. A lot of people don't realise, but we actually have angiosperms or flowering plants in our oceans. And here's a bit of actual seagrass.

So seagrass is a flowering plant. And over here we have an algae. So the seaweed are algae, algae are floppy and they don't have a structure really, but the seagrass here has got a root, a stem and a leaf system. Seagrasses are really, really important because they hold the silt together and they're very, very important for nursery breeding grounds for lots of fish, especially in places like Westernport Bay where we have King George Whiting breeding grounds. This is called Neptune's Necklace or *Hormosira banksii*, and that's a really important algae that grows in South Eastern Australia.



### Intertidal Treasures

It's got some of the most prolific beds of this in the world. And some scientists, or some marine botanists like to come all the way here just to see our beds of our *Hormosira banksii*. Again, it's a really, really important covering of the rocks and a place for hidey holes and a breeding area for some of our little marine critters. Oh, wow! Look what we've found here. This rock, this is really special, all these little thready things on it. They're actually little worms, so they're little animals there. So we look really closely with a hand lens.

We can actually see those little worms out feeding when they're under water. It looks like they got little feathers coming out at the end of the little tubes and that's their heads waving in the water to get their nutrients and food from it. If you go touch those little feathery heads gently, they pull them in so they pull their heads in when they're disturbed or you shine a light on them at night time.

Oh, over here, look at this, we found some orange sponge, sponges. Oh, I love sponge. That's such a tricky thing because I never knew until a few years ago. The sponge is actually an animal. It's not a plant. And look at this lovely bright orange sponge here. See the little holes in it? It sucks water in through some of the holes. It's got little tiny hairs inside its cells and pumps the water through and that way it can filter out all its food. They're really good filters of the of the oceans. And they're really important. Scientists have now found that some sponges have got a lot of chemicals in them and they're doing a lot of work, especially in Fiji, in one of the lagoons there. And they think that some of them are secreting a substance which might help us fight cancer.

And another lot of scientists have discovered that some of the secretions from sponge like can be used as some sort of type of sunscreen. Oh, and there's a little sea lice louse in this one, like a little crustacean. We've put it in the nice jar, remember, we brought our clear jar on and this is exactly why we've got the jars so that we can look at these things swimming around. So he's having a good swim around there, he's a little crustacean and he's probably really nice fish food. Oh, here's, here's a turbo, a Wavy Turbo Shell. These are very, very common along our shorelines and they're beautiful little shells, they're called Wavy Turbo's and if we turn it over, we can see that little white shell there, and that's its little trap door or called an operculum.

When the fish isn't out to feed, or the shell isn't out moving around or the tide goes out or it gets knocked off its rock, it pulls its body in and shuts off with that little shell. And that's how it protects itself and keeps itself damp. You might have seen some birds around called Oyster Catchers, they got the long orange beak and they often see pairs of them at the beach together, well they love these shells and they'll pick one up and they'll put it in a little rock crevice and they'll peck, peck, peck on the side of the shell until they can break through it.

And they'll get in behind the operculum and eat the little animal inside, the snail inside it. So next time, you often find these shells washed up on the beach. And so if you have a look. And if it's got that little bit chipped out of it, you'll find that's probably a Sooty Oyster Catcher that's eaten it. Now shells this shape, they're the herbivores of the ocean and they've got a very special tongue called a



### Intertidal Treasures

radula, it's a bit like Velcro and they'll go along and they scrape the algae off the rocks and that's how they feed.

(MUSIC PLAYS)

Oh, now this this isn't a live one, but we've just come across this shell and this is a Dog Whelk, and a Dog Whelk is actually a carnivore. And at the end of the carnivore shell, it's got like a little notch and that's where its radula comes out. But that's different. It's not like Velcro. It's like actually like a drill. And what it'll go along and it'll find what it wants to eat another shell usually, and it drills in the side of the shell and at the same time it secretes an enzyme which dissolves the shell.

(MUSIC PLAYS)

You might find a shell, often people do when they walk along the beaches with a perfect little hole in the side of them, and that's probably been eaten by one of those carnivore shells. If you're looking trying to find one of these Dog Whelks and you find a bed of mussels, which are the bivalves with the two shells, you'll often find them hanging around the mussel beds.

With the shells, with our molluscs, the shells are the hard shells, we have actually seen, we've found a carnivore and we've found a herbivore. Now this shell here, this is called a bivalve and it's called a bivalve because bi means two, think of bicycle means two wheels. So, bivalve means two shells. And this Pipi here that's been opened up. So you can really see this beautiful butterfly shape of the shell. And with the bivalves, the way they feed is when their shells are together and when they're alive of course, they'll open up the shells a tiny little bit and the water filters through and they're filter feeders.

Look at this, we've just found a little crab. Oh, unfortunately, it's dead crab. We often find dead crabs as well as live ones in the rock platform, but this little one and we turn him over, you can see that's a female. The whole abdomen is like one flap and that's the female crab. And they've got a flap like that. And if you find it, it looks like it's got caviar around it, that means it's in berry. And then it's really special because it means it's got its eggs there and we must look after it. And look at these a little live one. This is a little female too, isn't she beautiful? We'll pop her back in there to make sure she lives.

And if we go along a bit further we might find a male crab and here's the male crab and you can see how it's abdomen's a little bit different. It's just got like a V-shaped flap on it. And that's how you can tell that's the male. If you pull that V-shape down, only do it on dead crabs because live ones don't like you doing it, you'll see it's got two claspers under there. And you can definitely tell it's a male then. Another little thing that people often get mixed up is crabs have got actually ten legs, not eight, not six, but ten legs, and that means they're a decapod. Now, deca means ten and poda means feet. So we can tell that they're a decapod and they're also a crustacean. So they've got the hard outer covering.



### Intertidal Treasures

Oh, over here, over here, look at this, we've found a Red Anemone, we often find these Red Anemones or Waratah Anemones because people used to think they were flowers of the sea, but they're not. They're actually animals as well. So these red blobs with the tentacles are animals and they have just got one big body part and they have tentacles around the outside. And while the little animals, as water, as the food goes past, they'll catch them with their tentacles. Now inside their tentacles, they've got little tiny cells in there.

They're called nematocysts and they're little stinging cells they're like, they're on a spring with a harpoon on the end. And so if you touch one very gently, you can see how it sticks to your finger. And that's those little darts and arrows being fired into your finger. But of course, our fingers have got tough skin, so it's not going to harm you and it's trying to feed it. So when they've got their food, they'll catch it in their tentacles and they'll take it down into the middle there, they've just got one body cavity and that all their organs are in there and that's how they'll digest their food. And that's also sometimes, they actually develop young in there.

When the tide goes out, you can see this blob here. And that's because obviously it can't wave its tentacles in the water when it goes out. So it closes up like this to stop itself from drying out for protection when the tides out. Over here, we've got a different Anemone and this Anemone's got like white tentacles, so just be a little bit wary of touching the Anemone with the white tentacles, because sometimes they can give some people a little bit of a sting on the soft skin, like on the inside of their, their wrist. Wow! Look at this. This is amazing, oh this little sea slug here. So we've seen the mollusc with the hard shells that have got the soft bodies inside them.

But this is a little mollusc that has been evolved. So it hasn't got a shell, but it still goes along and it's still got its radula, which is a little bit like Velcro and scrapes the algae off the rocks. I'm not quite sure what this one is. I haven't seen one like this before, but I know it's not a Nudibranch which people may think of, because it hasn't got the naked gills on its back surface. I must go home and look that one up.

To finish up I hope you all enjoyed our rockpool walk today. And if you're passionate about the coast and looking after it, our oceans really need a lot of help at the moment. I'm sure you've seen it in the media and everywhere, about the problems we have in our oceans, especially with pollution and plastics and sometimes fishing, sustainability of fishing and just looking after our coastline as it is. If you want to get involved, you can join your local Coastcare group.

Right along our Victorian coast we have a facilitator which covers that area and they're really happy to help anybody who wants to set up a Coastcare group and become involved. Terrific way to go. It might be in winter or it might be in summer when you can do lots of activities with the Coastcare group, meet lots of like-minded people and really help look after our oceans.

(MUSIC PLAYS)