

## Alongside - Rock Lobster ep

[00:00:06] **Danielle:** In areas off the coast of Victoria in Southern Australia, ocean conditions are changing. Warmer currents are pushing south storms and heat waves are becoming more unpredictable, and the chemistry of the water itself could be slowly shifting. For the communities who depend on the sea, climate change isn't just a headline. It has the potential to reshape life below the surface and their livelihoods here, they're fishing for one of the ocean's most iconic creatures, the Southern Rock Lobster. With their spiny armour and deep crimson shells, they've lived in these waters for millions of years. They emerge from caves and crevices under the cover of night to hunt. For generations, they've sustained families, driven regional economies and commanded high prices overseas. But in some areas, the Rock Lobster is facing a new challenge. What they're seeing here off the coast of Victoria is being repeated around the world in different ways and in different fishing sectors. So how is this species and the fishing sector adapting in Victoria and what can we learn from this experience? This is alongside from NorthStandard, a podcast for the marine industry. I'm Danielle Jalowiecka. In this episode, we are in Australia and Southern Australia specifically to learn more about those rock lobsters and how the fishing industry is considering the impact of climate change. But we also explore what lessons there are for the wider fishing industry.

[00:02:11] And about the opportunities that exist here too. Matt Wassnig is Chief Executive Officer of Seafood Industry Victoria, and knows this area well. Matt, can you tell us what makes Southern Rock Lobster so special?

[00:02:28] **Matt:** Yeah, sure. Danielle. I do know the area very well, given that I hail from Victoria, but to be honest, this is a fascinating industry that I'm still learning a lot about, but the southern rock lobster industry and the Southern Rock Lobster is certainly an iconic species, not only in southern parts of Australia where it is harvested, um, but also in the broader Asia Pacific region that we are a part of.

[00:02:52] And I guess in terms of what makes it so special, obviously there is the taste. But it's also what a delicacy like lobster can provide to a celebratory occasion. It really is recognized as something special and a privilege to eat.

[00:03:07] **Danielle:** And so how significant is the rock lobster fishery to coastal economies? We talked there about it being a delicacy to eat. How does that translate in Australia and elsewhere?

[00:03:19] **Matt:** There is certainly an economic contribution, um, which includes bringing tourists to the area to try local seafood, but there's also a very strong social element about providing employment and really just contributing to the fabric of these communities that were first established as. Small fishing towns.

[00:03:39] **Danielle:** Mia Bredenburg is from Sunderland Marine, part of NorthStandard and head of its Australia division. Mia - Sunderland Marine is a big supporter of Australia's commercial fishing sector. I'd love to get your perspective of the industry as an external stakeholder.

[00:03:56] **Mia:** We are a very proud supporter. Australia is, uh, as we all know, a very large country, uh, completely surrounded by water, which gives us a, a long coastline and very abundant marine resources and, and fisheries in agriculture. Production is a important

contributor to the Australian economy. The annual production value is around \$3.7 billion and, uh, rock Lobster that contributes about 400 million of that.

[00:04:26] At Sunderland Marine, we have a very proud and long shared history with the industry from where we sit. What's very impressive about the industry is how well it balances its economic goals and very strong environmental values. And these sustainable practices based on solid science and careful management requires a lot of investment by these businesses.

[00:04:52] There are also a lot of challenges and we hear this as well, and the operating environment these species operate in is becoming increasingly. Complex. Uh, to give you some examples of that, um, if you look at a map of Australia, uh, there is a very, very extensive network of protected marine parks all around the coastline.

[00:05:16] And we've got offshore wind, which is, uh, going to become a very important, um, component in the energy mix in Australia in the future. And the impacts of that is not fully known on the industry. Another observation would be that there's some nervousness, I think, from the industry that as all of these new projects are being planned, that uh, you know, the resources will be fairly and sustainably allocated in in the future.

[00:05:46] It's a very resilient industry, very proud industry, very long history.

[00:05:51] **Danielle:** So you talk there about challenges and I'm wondering then about. Changes that come with those challenges. And maybe Matt, I can bring you back in. So how is the commercial catch changing across, particularly the local rock lobster industry?

[00:06:08] **Matt:** Yeah, look, I can only really speak to the local lobster industry in our area, and the catch rates in terms of how quickly the quota or the allowable catch is caught is on the up, which is generally an indication that. There are lots of lobster out there. The stocks are healthy, largely because they are very closely monitored using data provided by the commercial industry, and then the fisheries are managed.

[00:06:34] So there have been huge steps and advances in recent years around having a really well-managed industry, and we're seeing the stocks, um, performing well as a result.

[00:06:46] **Danielle:** Perhaps we could broaden out then to talk about ocean space as a concept and the idea of. What changes to that space might be meaning worldwide? So talking about the differences that we might be seeing there with regards to things like climate change coming in. So warmer waters leading to migration of different species and how that might impact on the ocean space.

[00:07:09] **Matt:** It is a very, um, interesting time at the moment. The marine space is becoming very busy, busier than what it ever has been with lots of competing interests and industries in the marine space. Also we in acknowledgement of the fact that things change over time, um, and where the best fishing spots are may change over time.

[00:07:33] So there needs to be some space there to be able to explore and alter where it is that you're fishing and adapt to those changes.

## **Alongside: The North Standard Podcast - The Rock Lobster Trade: Changing Climates and the Future of Fisheries**

[00:07:41] **Danielle:** Sam Twiname is from the University of Tasmania's Institute for Marine and Antarctic Studies. Sam, this is an industry you know very well. Can you tell us more about your research?

[00:07:53] **Sam:** So, I moved to Tasmania to do my PhD on uh, rock lobster. So, it looked at, um, the effects of climate change on resident and rain shifting lobsters. So, I was specifically. Looking at our resident Southern Rock Lobster and our, the rain shifting Eastern rock lobster, that was being found more and more commonly in Tasmania.

[00:08:14] Um, so I did a lot of, um, thermal tolerance work. So, I had a look at, um, how their behaviour and their biology changed with temperature and how, so looking at how to predict with more, uh, ocean warming, how that might affect the, the species as a whole.

[00:08:30] **Danielle:** We've heard about the concept of ocean space as an issue. How much is climate change impacting this sector?

[00:08:37] **Sam:** So, climate change is definitely affecting lobster populations in Australia. Um, one of the most visible changes we are seeing are species range shifts. So, this is where a species will move, where it's normally found to, uh, areas that it hasn't been previously found. Um, because the temperatures now match what works for their, um.

[00:08:57] Biology. Um, so this could be, um, moving into, um, areas that are tracking their ideal temperatures. Um, they can now, uh, survive in areas that were previously too cold for them. Um, they could also be escaping areas that are now too warm. So, uh, an example of this for rock lobster is, um, the Eastern Rock lobster.

[00:09:18] So this is a species that's usually found in New South Wales. Um, but it has been undergoing a rain shift further into Tasmania, which is where most of my research is based, uh, but also further west, so across Victoria, where Matt's based, and then also into South Australia. So this is all due to, um, warming and it's probably going to continue as warming continues as well.

[00:09:41] Um, so. In particular, some of my research looked at food competition between the two species. So if there was going to be more and more eastern rock lobster coming into Tasmania, what was gonna happen with the, with the local species? So, um, when the two species were competing for that food, what we found was, um, our resident species, so the southern rock lobster was really competitive, so that was at temperatures that are considered, uh, normal for now, and also warming.

[00:10:05] So they were, um, able to hold their own against this species that was becoming more and more common.

[00:10:11] **Danielle:** So, is that kind of pattern unique to Australia, do you think? Or are we seeing that kind of idea mirrored, would it be likely that it's mirrored around the world?

[00:10:20] **Sam:** Species range shifts are global. They're found in, uh, many, many species all around the world. So that's definitely not just something that you'll see in Australia. Uh, we are in a bit of a hotspot down here. So the ocean warming's happening at about four times the global average around the southeast coast of Australia.

[00:10:36] So we are seeing a lot of range shifts happening. So not just, uh, rock lobster. It's a species of fish and octopus as well, uh, changing their ranges.

[00:10:45] **Danielle:** And Matt Australia's known for its investment in, um, fisheries science. So how is. Research being used in practice. And how closely does the industry work with scientists?

[00:10:56] **Matt:** Yeah, well we are very reliant on science and, um, the helpful contribution of scientists such as Samantha and her colleagues. Then at the University of Tasmania, what's interesting is that a lot of the data that's used by scientists to model how a fishery is performing is actually coming from the commercial fishing in.

[00:11:16] So, um, commercial fishers, uh, have mandatory reporting around everything that they catch in this area of the world. And so that, uh, brings about a wealth of data that can be used to look at how the fishery is performing. Um, and it's a really effective way of monitoring how the population is going over time.

[00:11:37] Um, and then there's also independent sampling that usually takes place around how many juveniles are coming through the system, for instance. So there's a combination of data inputs, but industry not only contribute the raw data, but they also have a say in how it's used to manage the fisheries. So, um, there are various groups and committees that bring in different stakeholders, including government, recreational fishers, environmental groups, commercial fishers, um, that then look at all of that data and then advise government on how, um, the fishery could be managed or how the resource could be managed.

[00:12:14] **Danielle:** You talked about responsibility there. I wonder how does that translate to you?

[00:12:20] **Matt:** The more time that I spend from industry, the greater appreciation I get for industry members considering themselves as stewards of the environment in which they operate in. They've got a. Vested interest obviously in it being a healthy environment and healthy stocks of the species that they rely on for their livelihoods.

[00:12:43] But most of the people that spend their life out on the water love that environment. They love the ocean, and more often than not, um, when they're not out fishing, they're doing something else ocean related. There is that sense of. Responsibility. They are a stakeholder group that's interacting with a natural environment, and they want to do that in a responsible way.

[00:13:07] **Danielle:** Mia, I'm wondering what role insurers play in protecting this sector too.

[00:13:13] **Mia:** Well to start, collaboration requires communication and understanding, which in a way is what we're doing here today as well. So we've established and that Australia is a leader

in sustainable marine management, and plus we've been talking that comes from decades of rigorous science regulation, but also innovation with industry, working closely with science.

[00:13:36] Most fisheries have plans ready for environmental changes and showing that it is possible to balance economic and environmental priorities. And this does protect our oceans and seafood supply general for commercial vessel owners being. Our customer base that having a reliable insurer is not only a requirement, but it's also essential for them to trade with a required level of confidence.

[00:14:05] And for us, being that reliable partner is, is key to who we are, but that's only possible by us engaging with the industry so that we can, um, continue to maintain a good understanding of the risks and the opportunities facing commercial fisheries. And ultimately the combined effort of science and industry with the protection of insurers like us is what will underpin the viability of this sector long term.

[00:14:38] **Danielle:** So Sam, what can local fisheries authorities and the commercial fishing industry as a whole do to monitor and respond to those changes in populations of lobsters that we were talking about earlier?

[00:14:50] **Sam:** There's not very many of us scientists, so we do rely heavily on the industry for their knowledge and their um, detection. So they're out on. The water all the time. We not, they are likely to see changes before we see them in the routine monitoring data that comes through. Participating in any kind of, um, research that they're able to obviously, uh, we get a lot of their data anyway.

[00:15:13] We've got some programs in Tassie that we, um, run quite a few catch sampling programs with the commercial sector. So, there's a really good connection between us as researchers and, um, the industry, um, being able to get the best data possible to, um, assess the fishery and respond to any, any changes that might happen under future warming.

[00:15:35] **Danielle:** Here, how is the insurance landscape shifting with these climate related risks we've been talking about?

[00:15:41] **Mia:** That's a really good question. There has been significant shift in both underwriter appetite and pricing of some products as a result of climate change and extreme better events. But the impact on, on different classes of insurance business is not the same. The preparedness to mitigate risk is important to insurers, which is only going to increase with the effects.

[00:16:07] Commercial vessel owners are more likely to be well prepared in the lead up to an extreme weather event than a recreational owner, for example, and with this preparedness and effort are both high. This has a very positive impact on the risk profile, which in turn enables premiums to remain more stable compared to other sectors.

[00:16:31] **Danielle:** Matt, what do you see as the biggest opportunities for the lobster industry, both in Australia and wider international waters?

[00:16:40] **Matt:** There's lots of opportunity with the lobster industry going forward. I think, yeah, there's an opportunity there for us to be working even closer with scientists and researchers and other stakeholders. In having our finger on the pulse more than we ever have around what's happening out there with the resource.

[00:16:59] Um, and in doing that, um, we can adapt and change and remain viable and keep contributing all that the fishing industry contributes to those small coastal towns that celebrate it and love it so much.

[00:17:12] **Mia:** It's very, very niche, but we are a specialist insurer of, of small craft, so this is our bread and butter, the same as it is for the fishers. We do attend events. It's one of the ways that we stay abreast of all of the evolution that's taking place in the industry, and it's always impressive what a prominent place it has on these industry agendas and, and event programs.

[00:17:38] **Matt:** I recently had the privilege of hosting the trans Tasman Lobster Conference, which brought lobster stakeholders from around the country, but also from New Zealand over to Melbourne. And we had some international guests as well, and we had a lot of fishing families in the room, as well as scientists, government supporters such as Sunderland, Marine, and for the people that are out on the water every day living it.

[00:18:07] To hear from those that had. Dedicated to understanding what's happening, um, with the environment and with the resource. And also, for those of us that aren't out on the water every day, to actually spend some time with the fishes and be able to learn from them about what they're seeing and where they're, the things that we understand are actually translating out to the real world.

[00:18:33] **Danielle:** So, in those waters off Australia's southeastern coast, there's plenty of positivity for the future. The Southern Rock Lobster faces, its share of challenges, but it's an industry full of innovation and resilience with fisher's scientists, the wider industry and communities working together to secure its future. As climate change continues to impact all our lives, this one small sector of the fishing industry is learning to adapt, and in doing so, how to thrive. Its experience can offer lessons to other parts of the world and the marine industry, and as we found talking and collaboration is the key. Thanks to Matt, Mia, and Sam for their contributions to this episode you've been listening to Alongside to Stay Up to Date with Alongside click follow or subscribe on your favourite podcast player.