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## “If Oceans Could Speak”

### Episode 6 Transcript

#### Rachael Lorna Johnstone and Mia Bennet: I am worth more than you think

[00:00:00] **Rachael:** When I think old ways of thinking in the Arctic, I think of the indigenous ways of thinking, which were inherently sustainable. The stories they'd be told about resources and over consumption and the punishment that came from nature if you took too much. So actually I'd like to see us go back to these very old models of use of resources, where we have a much more symbiotic relationship with the land and the resources from which we live and which we depend

[00:00:23] **Jen:** Hello, and welcome to another episode of If Oceans Could Speak The podcast that listens to the oceans through the personal stories of those who share their life with the sea around them as always Stefan and I are going to be chatting to the people behind these unique stories in the hope that our conversations not only intrigue, but inspire you to reflect upon your own individual connection to the ocean.

[00:00:45] **Stefan:** In this episode, we will be focusing on perspectives from the Arctic ocean. And we're delighted to have as our guests professors, Rachael Lorna Johnstone and Mia Bennet. Mia is an associate professor at the university of Hong Kong, and Rachael is a professor of law at the university of Akureyri, in the north of Iceland and at Ilisimatusarfik, the university of Greenland, in Nuuk. Thanks for dropping by at If Oceans Could Speak.

[00:01:09] **Rachael:** Thank you for inviting me on the podcast, it's really interesting work you're doing. I'm looking forward to listening to the other contributions.

[00:01:15] **Mia:** Thanks Stefan, and thanks to you for the invitation to be here today. It's a real pleasure.





[00:01:21] **Stefan:** The first question is actually to both of you, how did you first get involved in working in the Arctic and what is it about the Arctic that you find so fascinating?

[00:01:33] **Rachael:** So I first came to Iceland to Akureyri in 2003. And I didn't know anything about the Arctic. There wasn't that much attention in Iceland on the Arctic at that time.

But during my first years in Akureyri, we started building a master's program in polar law, which began in 2008 with a large international conference on Polar law and our first cohort of students, I wasn't directly involved in the preparation for that, but it looked increasingly fascinating. So in 2011, I took the MA in polar law myself graduating a couple of years later and I never looked back.

It's given me really great research opportunities to do new things. And I really feel I found my niche. So from a purely selfish point of view, it's been a great career move for me, but it's also just given me so much interesting material to work with as there's been increasing interest and the governance of the Arctic and the legal systems that help us move forward and work together peacefully.

[00:02:26] **Stefan:** Thanks. What about you, Mia?

[00:02:28] **Mia:** So I think my route to the Arctic probably as I became interested by Scandinavia. So just growing up, I had a kind of childhood fascination with all things Northern partly due to my father's heritage. So I studied Swedish. I watched a lot of Scandinavian films and that led to eventually an internship at the U S embassy in Oslo.

In 2008 and that year I helped organize a visit by the us geological survey, which presented their findings of all of this oil and gas buried under the Arctic to international audiences. So I think in that moment, I really realized kind of the international importance of Arctic resources, but that also dovetailed with my longer standing interests in geopolitics in kind of Nordic cultures, I suppose.

So I kind of just went from there. I started running a blog on the Arctic and one thing led to another and my interest kind of brought in to look at the rise of Asian Arctic as well. So it's kind of always been something that's kept drawing me back and I feel continually intrigued and always wanting to learn more.





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Every time I travel to the region I'm just so in awe of the people and the landscapes that it's definitely become a lifelong passion.

[00:03:41] **Jen:** That's great. That's so fascinating how you've both had different introductions to the Arctic, but have stayed with it and are now doing some really great work and both of your work deals with the resources that are within the Arctic and how these are governed and the politics related to how we access them, extract them, et cetera.

And I was wondering if maybe one of you could give a brief overview of what exactly the natural resources are that are in the Arctic and why are they becoming important now more than ever? Perhaps Rachael do you want to answer that one first of all?

[00:04:13] **Rachael:** So Arctic peoples have always used the natural resources around them. I'm not sure that they're more important now than they were before, because natural resources have always been crucial to indigenous and non-indigenous economies in the Arctic, but certainly there are different groups interested in different things and those influences change over time. So from the time of European colonization, that was very much focused on living resources, fishing and whale and seal and furs, and certainly not always sustainably.

And then from the 19th century onwards, increasingly in mining and oil and gas, both on and offshore, we can see the first oil refined in Komi Republic in Russia in the 18th century followed by mining of metals and gems and appetites, but it was really under Stalin that the Russian Arctic became fundamental to the Soviet economy.

And it's still crucial to the Russian economy. It's the Russian Arctic that provides 95% of Russian gas and 70% of Russian oil. The Russians of course were the first to scope Alaska on behalf of Europeans for mining potential in the 19th century and in the 20th century, once it had been bought over by United States, mining and hydrocarbons really took off certainly the second half of the 20th century.

And it was the discovery of oil and gas that prompted Alaskan statehood. Norway, we know of course is primarily focused on gas and a little bit of oil, but in Sweden and Finland, it's more a focus on mining as a major part of the





economy, Iceland, where I am, aside from the fisheries that are still very important, both economically and politically, there is increasing interest in renewable energy, which we're hoping to use to power manufacturing of things like Silicon and aluminium and increasing discussions about hosting our computers, cloud computing, which of course uses a lot of energy.

And then in my other, my other home, if you like is Greenland where we have extracted from the 19th century copper and cryolite followed by coal, lead, zink, silver. We've had ongoing explorations for hydrocarbons that come and go since really the 1970s, but never a commercial find. Today in Greenland, we have a lot of mining potential in particular, we hear a lot about rare earth elements, but right now there's a couple of small ventures in precious stones.

For example, none of the major political parties in Greenland are against mining in principle, but there's different views amidst the Greenland political parties and the population about how fast that should go forward. So it's not so much for, or against mining, but rather the pace of mining, the size of mines and location and in particular sensitivity about certain radioactive elements.

[00:06:37] **Jen:** Wow. That's such a longer list of minerals and things than I was expecting, so I've definitely learned something from that. So thank you very much.

[00:06:45] **Stefan:** When we look at all of this what's happening there in terms of extractive industries and beyond how has the infrastructure, and so the economic development of the region, especially in the high Arctic, in places like Greenland, how has that evolved in the last, say 10, 20 years?

Mia, maybe you want to say a bit about that?

[00:07:03] **Mia:** This was a, this is an interesting question. So the timing of it, you know, if we look back 10 to 20 years we're going, let's say to 2010, and I don't think we've actually seen enormously consequential investments and infrastructure at a region wide scale in the high Arctic.

And I think it's important to kind of situate the development or lack thereof in the past 20 years within the longer context of the Arctic's development. And I think that often gets forgotten in a lot of narratives of the region where there's





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kind of this presumption, that climate change is opening the region for the first time.

But in fact, when we look across, let's say the 20th century, the Soviet push to conquer the Arctic, which Rachael alluded to about Stalin that resulted in a massive amount of railroads cities popping up across the Russian Arctic from the 1930s onward. And similarly in the American and Canadian north, you had a big push to militarize the Arctic both during and after world war II.

So those periods, I think, radically shifted how people live in the Arctic, how kind of transportation function, logistics. I think in the past 10 to 20 years, we haven't had anything kind of similarly consequential. What I would point out though, is that I think there's a desire to try and return to some of those previous levels of investment, particularly in Russia.

But a lot of these kinds of efforts are not necessarily sustainable or viable financially, unless they're related to a kind of militarization effort, which we - I would underscore - we don't really, you know, we're not seeing too much of, despite what the newspapers might say. I don't think we're in any kind of similar period as the cold war right now.

Even though Russia is trying to build up a bit more. In terms of kind of specific investments that have been maybe a little bit more transformational at a local scale in the in the Arctic you have the first public highway in north America to the Arctic ocean that opened between Tuktoyaktuk and Inuvik.

But when we say highway in Arctic, this is a gravel road, that's 140 odd kilometers. So you have to kind of keep that in mind, how difficult it really is to build massive pieces of infrastructure in these remote regions. One other kind of sector I might highlight is tourism. So there has been a lot of investments in ports, you can see that in place like Svalbard, investments in accommodation,

and for instance, Rovaniemi and of course, Iceland, which has had a quite significant evolution into a tourist hub, changes to airports etc. So those have been kind of maybe more consequential, I think. And then the backdrop to all of this in terms of how development in the Arctic is proceeding is of course climate change.





So we have thawing permafrost, coastal erosion, all of this is really affecting the built environment. So I think these changes to the environmental foundations, if you will, the kind of natural underpinnings of so much of so many Arctic livelihoods of the built infrastructure itself into which, you know, in a tragic irony, the Arctic's indigenous peoples, many of them were essentially forced into to settle in a century ago, these are now being threatened. So you have a kind of new issues arising in terms of development that are kind of at the interface of both environmental and more architectural questions. So I think how that is going to be resolved of course, is the million dollar question. But I think that's kind of maybe a, an overview of how things have changed in the past 10 to 20 years is very much a climatic story at the moment I think.

[00:10:25] **Stefan:** Thanks. Two of those issues you mentioned are the interests of the indigenous peoples of the Arctic, and of course sustainability, sustainable development is a huge challenge in many parts of the Arctic in many locations. And how do you see the consequences of these changes in terms of the more infrastructure and economic development? What are the consequences of these changes for livelihoods on the local level?

[00:10:51] **Rachael:** Yeah, thank you, Stefan. So if we have better infrastructure that can provide opportunities for local communities who live nearby, for example, reducing shipping costs, reducing travel costs and improving communications in particular, all of these are really needed in the Arctic.

But as we all know what it can also come at a cost for local populations, if it's not carefully negotiated and planned together with the local communities. So for example, if you're building an airport or a Harbor, you want to make sure that the location is practical, both for the industry and the local population.

But also that it doesn't interfere with wildlife on or off shore. So one example is the mine in Baffin Land in Canada. And it's not just the mine itself that can disturb the wildlife because the mine is obviously in a relatively limited and contained area, but the problem is really chipping in and out which can disturb the Marine mammals in particular, the sensitive Narwhal. So we have to make sure that we listen to local communities to work together, to make sure that everyone can benefit. We also see issues with the large influxes of workers that we need to build the physical infrastructure in the first place and that can overwhelm small towns and settlements and be especially problematic if it's transient, you know, you're dealing with a large workforce that comes in for the



building period on the mine and then when the mine becomes operational, a couple of years later, the workforce is actually much smaller.

So what do you do then with all the housing that you've just built for all those? Mia mentioned tourism in Iceland, and certainly tourism has brought a number of benefits to Icelanders in particular increased and much more affordable international travel. On the other hand, it's also come with an environmental impact.

Some of our most sensitive sites are vulnerable to just the human footprint, of the sheer numbers of people going through them. It's also affected prices in Iceland where Icelanders who some complain they can't look forward to go on holiday on their own country anymore because hotel or apartment prices, private accommodation rental prices have gone through the roof because of the increasing use of housing intended for residential use now being use toward the tourist market.

So there are issues where we haven't necessarily made it work for everyone, but in my view, with better communication and really listening to each other, there are opportunities to use infrastructure and development in general to bring back to communities. Infrastructure I was thinking more in the kind of physical sense, but in development more generally then of course you have a tax base that can create income into a community to build their local services that everybody needs.

[00:13:08] **Jen:** Yeah that's really fascinating how many consequences there can be and the breadth of consequences that there can be from all of these changes that are going on. And Mia, you mentioned that there was the possibility of this new transformational investment that could come with climate change. And I wonder if you could give us a sense of the political atmosphere surrounding this changing Arctic ocean for these interested nations and actors. How, how would you say they are reacting? I'm wondering if they are, are they excited or, or sort of happy about the potential gains that could be coming, or are they more worried or cautious about perhaps some sort of loss of identity or loss of important resources?

Can you maybe say something about?





[00:13:52] **Mia:** Yeah, thanks for the question, Jennifer. I think it's a really it's an important question to ask because so often I feel when we're thinking about Arctic development, we're kind of projecting the views of people living in kind of the cultural, economic, political centers of more Southern latitudes.

But thinking about what the perspectives are of people in Arctic are equally, if not more important in terms of development decisions, as they will be affected first and foremost, by what happens in their home. And so in my experience, you know, I also don't want to draw generalizations because people in the Arctic like anywhere have diverse opinions.

But I would say generally there does seem to be a certain amount of enthusiasm, at least for the renewal interest in the Arctic that's coming, you know, not so much for a militarization push, but rather one that's more economically oriented. And I think many people across the Arctic see a chance for perhaps development that will stick and will be a little bit less boom and bust.

I don't know if that will actually play out, but I think there's a sense that at least for the past several decades there, Arctic communities have been somewhat neglected by their Southern capitols, whether that's Washington, DC, for Alaska, Ottawa, for Canada, so on and so forth. So. You know, when I was recently in Kirkenes in Northern Norway in 2019 I kind of, I was there to attend a festival that was an arts and culture festival presenting Kirkenes as the world's northernmost Chinatown! Which is an interesting premise, they were kind of, the theme was to demonstrate and speak to China's rising interest in the polar region. And so when I spoke to people just on the street, I had a chat with folks, I thought going in that they might be quite skeptical of China's rising profile, but in fact, people were either positive or neutral. They said, if China wants to come and spend money and invest in our community, invest in our resources, they didn't really see an issue with that. And so I think that kind of was also a sentiment that people had in Alaska, not so much threat to China, but basically, you know, if anyone is going to come and develop our resources, we, we would like that to happen.

Because I feel that, especially in Alaska, there's a sense amongst some of the communities that they have been kind of, that the narrative's really been taken hold of by environmentalist. And they've kind of want to get the word out that development can and does have a role if it's done appropriately, properly, according to all the regulations that can play a positive role in some sense.







So they don't want to be turned into what some might say are conservation refugees, if you will. So I think the debate is nuanced, but overall from kind of my conversations, I think there is that excitement about being kind of on the world stage again.

[00:16:40] **Jen:** Really interesting. And it's interesting that you mentioned China and do you think that there are other states that aren't necessarily Arctic nations that are now becoming also more excited and, and involved in what's going on in the Arctic?

[00:16:53] **Mia:** Definitely. I mean, I'm in my own work, I've looked a bit at the five Asian countries that are now observers in the Arctic council. So in 2013, Not only was China admitted as an observer to the largest multi-lateral organization in Arctic, but also Japan, South Korea, Singapore, and India among the Asian countries.

And so I think that spoke to a sense that on the one hand Asian countries have an interest in resources, but I think they also have an interest in climate change, science, tourism, just kind of being involved in governance of a region that is increasingly of global importance. So we're seeing more and more interest.

I think all sorts of other countries have applied to the observers lately from, I think Switzerland joined in recent years. I think there was talk about Mongolia, Estonia, perhaps. So we're seeing really quite, you know, interest from so many corners of the world in the Arctic, which I don't think is particularly surprising now.

[00:17:47] **Jen:** Yeah, definitely. And, and talking about sustainability and with all of this added interest, do you think that the development in the high Arctic can be seen as being sustainable? I know it often has this narrative of being negative and unsustainable. And do you think something else could be possible this time around in the Arctic?

[00:18:06] **Mia:** I would like to remain hopeful and think that something positive can happen, but I'm also a bit skeptical. I mean, I think corporations have learned to, you know, there is, there is a lot more consent now of indigenous communities, that much a certain - indigenous peoples have fought for their empowerment, their rights, they have been successful in many cases,



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especially in the Arctic, more so than in other parts of the world. And so I don't think global corporations are coming in and weaving huge toxic messes as they might have even just a few decades ago in the eighties, for instance you have a lot of kind of abandoned infrastructure from the oil push then, but at the same time, just the fact that this resource development that's coming in is heavily extractive

it's polluting. If you look at the iron ore, mine on Baffin island, and even if it's done, you know, if even the company crosses its T's and dots its eyes, you still have this huge scar on the landscape that is going to land based sustenance. And so, you know, I think these types of investments are attractive to communities because they will bring in some jobs, some wages, which are crucial now because people live in mixed economies where they need cash to buy you know, oil or petrol for their snow machine, bullets to go hunting, things like that.

These investments can also provide scholarships and things of that nature. But I think the risk is that a lot of these investments are still being driven by global corporations with international portfolios. And once they see that a mine or a resource development site is not economically viable, I think they can be still quite quick to up sticks and leave and that saddles the community, not only with the loss of their employer, but also again, often this kind of abandoned infrastructure and toxic waste for only a few years of jobs and wages. So I think that's really a difficult issue to figure out. And I think maybe I would say this is not really easy to do, but moving away from extraction, trying to diversify, move into more kind of service sector jobs that require higher skills investing in education. I think that would probably be the way to make economies more sustainable overall in the Arctic. How that will be done is a million dollar questions!

[00:20:24] **Jen:** Yeah, thank you. That's really interesting.

[00:20:26] **Stefan:** If you look at the question, what infrastructure is there and what is actually happening and in particular, the increasing importance that's given to the consent of the local communities, especially the indigenous peoples of the Arctic, Mia, if we can follow up on what you just said, what kind of infrastructure do you think would be useful in the Arctic? What would you like to see in the Arctic?





[00:20:49] **Mia:** Right, yeah. I think again here, I'm going to try and speak to what I've heard from local people, because I'm just a researcher who goes there. So I think they would best be placed to answer this, of course, but I would say what people really feel that they need is a lot more investment in kind of just basic infrastructure, whether that's kindergartens, whether it's housing, internet.

That is coming there's I think a number of different satellite constellations that are being launched this year by companies like one web and space X. So I think broadband is gradually making its way across more of the Arctic, and that should do a lot to be able to deliver telemedicine, education, things of that nature.

Especially as the whole world goes more online. So that'll be important, but I think, you know, we think of the Arctic as kind of very sparsely populated, but in fact, there's a massive housing shortage across a lot of the region. People live in, in cramped apartments or houses and so just having that basic infrastructure that so often gets left out of this discussion of Arctic infrastructure, where it's focused on big ports, big roads, all that when, you know, the community just wants a couple more houses and another kind of daycare facility. And I think, you know, that's not very exciting or sexy, but that's really what people want. And so if we could get kind of more of the investments going in that area, I think that would be something that could truly benefit local communities.

[00:22:11] **Stefan:** Thanks. It's important I think that we always have this perspective in mind that we keep in mind the needs of the local communities. And of course, many of the local communities in the Arctic are dependent on the Arctic ocean and resources. The Arctic states, especially the coastal states of the Arctic ocean, have a responsibility to develop sustainably in order to maintain the share resources and also services that we do get from the ocean.

Rachel, from your own research, are there signs that the development, economic uses of the Arctic Ocean and infrastructure, are there signs that is slowly going into a sustainable direction, or is the region still stuck in old ways of thinking, especially when it comes to extractive industries?

[00:22:57] **Rachael:** It's interesting that you say old ways of thinking. When I think about old ways of thinking in the Arctic, I think of the indigenous ways of thinking, which were inherently sustainable. The stories they'd be told about



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resources and over-consumption and the punishment that came from nature if you took too much. So actually I'd like to see us go back to these very old models of use of resources, where we have a much more symbiotic relationship with the land and the resources in which we live and which we did.

Is investment becoming more sustainable? Certainly it's much, much more consciously aware of sustainability issues. There's a lot of talk about sustainable development. Everyone claims to be doing it. And whether that's all born out in practice remains to be seen, but certainly at least talking about it is a lot further on than we were as Mia mentioned in the 1980s. It does vary of course, between the Arctic states. We might maybe generalize - the Nordic states are perhaps a little bit further ahead on sustainability issues, but they also have major issues in balancing development with the rights of indigenous people and environmental protection.

We think about mining as creating these big scars on the landscape, which of course it does. We think about oil and gas and the risk of spills, but even issues that we might see as sustainable can have impacts. You're probably all aware of the issue with the wind farms in Norway and the expansion of wind farms, which are in part to meet European targets for renewable energy because it's energy Norway doesn't need, it has enough energy, but building wind farms to meet these European targets which are going to disrupt ranger populations and migration routes with major impacts on the Sami. On the other hand, we have increasing legal recognition in international instruments, as well as case law internationally and in domestic courts, of the rights of indigenous peoples and their rights and land and resources to make decisions about development and to have their knowledge integrated in decision making.

You know, we think about development and it's too simplistic to saying there's, you know, there are always winners and losers on the, you know, the external investors come in and they take what they need and they leave all the losses locally. And that was certainly the model that we've seen through the past couple of centuries of colonization, but if we work together and really listen to each other and learn about ways that we can mitigate impacts on local communities, mitigate environmental impacts. If we understand better what communities actually want, particularly indigenous communities from projects and manage their expectations about what's realistic, what can be done, whether a project will even go ahead and if we're willing to actually walk away, if a community





says no on balance, we don't want this, then we might end up with fewer losers and more winners.

When we think about that kind of international responsibility, I think fisheries is a really interesting example here because in most all resource governance, it's under the sovereignty of the state whether it's on land, where we talk about sovereignty or on the exclusive economic zone. So that's the water column to 200 nautical miles where states have exclusive rights over fisheries in particular, but also energy and in the water column, and the continental shelf, which can extend to hundreds of kilometers.

And when we think about those, it's up to the state, the coastal state, that has exclusive rights to develop the resources. But when we go to the high seas and we see that with the Central Arctic ocean fisheries agreement, actually all states have an interest and they all have an equal interest in the use of that resource.

So how do we make sure that it's used equitably and in a manner that's actually respectful of other countries and everyone's rights. The Arctic five coastal states that is the five states with an exclusive economic zone that borders the Arctic high seas took the lead in developing this moratorium on fisheries.

The y were then followed by Iceland, European union, representing Finland and Sweden, China, Japan, and South Korea. To develop this moratorium that we now have in this new agreement, which means that there won't be fisheries in the high seas for the immediate future and certainly not until the science has been conducted to allow us to do that in a sustainable way.

But one question has not been answered is what about the benefits? What about the fish that's ever fished there? If we do create a commercial fisheries in the high seas who gets the fish? Remember a few years ago, Árni Mathiesen, who was then at the food and agricultural organization and a former finance minister of Iceland.

He was speaking of the Arctic circle and he talked about the potential of the high seas fisheries to feed the world. But the world is not short of food. We have enough food in the world. People are not hungry because of a lack of food. People are hungry because food is not equitably shared. So how can we make sure if we do exploit this resource in the high seas, that it's fairly shared and





not just sold to the highest bidder for the profits to be whipped off to a tax haven.

So we think of the central Arctic ocean. It's a high seas, it's a global commons, a no state, or people has more right to its resources than any other. So that's our responsibility that not just the Arctic states have, but the other states have that are involved in high seas fisheries to make sure that that resource is used in a way that is equitable internationally.

[00:27:41] **Stefan:** Thanks so much. There are a couple of really important points here, especially the equitable sharing of the high seas resources, but also the reminder that sustainability is not a new idea in the Arctic, that traditional ways of life have, of course been sustainable for many, many generations as so many indigenous peoples who live in the Arctic and who live from the nature of the Arctic. But also you mentioned in the example of wind energy, Norway reminded me of the fact that the Arctic is not really as remote a place for many of our listeners, as we might often think, especially when we think from a European or north American perspective. The Arctic is actually fairly well connected. When it comes to electricity for example, for a few days now Norway's electricity grid has been connected to the continental European grid so electricity generated up north actually benefits end users in continental Europe in countries like Germany, for example. So these are resources that are not just used locally, but that you actually use elsewhere as well, often without even knowing about this. So thanks for this important perspective.

[00:28:48] **Jen:** Yeah. And Rachel, you touched upon my next question which was on this moratorium of commercial fishing that has been agreed upon by several different countries. And the main impetus of this was so that we can fully understand any impacts that commercial fishing might have before we go ahead and do it.

And I was wondering, do you think that a similar ban could come into place with other extractive activities like mining in the high seas? And do you think it's not only about understanding the ecological impacts and having time to understand the ecological impacts, but would you like to also see people put the same amount of thought into how do we actually share these resources rather than not only thinking of the ecological impacts, but making sure that they are distributed as best as possible?



[00:29:29] **Rachael:** So that's an interesting question. If we go back to the question, do I think a similar ban could take place with regard to other extractives? The short answer is no. And I'm going to give you a positive, legal answer rather than an ethical or moral answer because it's based on a totally different region and interests.

So in the high seas, there is no state that has an exclusive right to fish. So in a high season, any state can go and fish. In this case, there was no commercial fishery. So it was easy if you like low-hanging fruit to agree a moratorium - "we promise not to do something that we're not already doing". And what's an incredible achievement here is that it's actually the first time we've ever had a moratorium on fishing before we over-fished, every other time there's been overfishing and then the fishing industry itself has said, okay guys, we have to stop. We have to take stock literally we have to measure what I there and see what can be done here so that we can continue with our fishing industry. What's happened this time is no one's fishing there yet. There's a potential.

Theoretical at this point and hypothetical, if it were commercial, people would already have been there, but they said, okay, we're going to not fish, we're going to do the science first so that if we do start fishing, it will be done on a sustainable basis. What is different when it comes to mining for oil and gas alludes to my earlier discussion about the issue of sovereignty and sovereign rights.

States have exclusive rights over any mining on shore, any use of the exclusive economic zones, the fisheries and the water column to 200 nautical miles, anything on or under the seabed, out to the extent of the continental shelf. So why would they agree a moratorium? Why would they say we're not going to exploit something that's ours?

And they would argue that their resources shouldn't be treated differently than mining or oil and gas development anywhere else in the world. In fact, if you listen to the Arctic states, when we talk about mining and oil and gas, they actually argue that it's better to do it in the Arctic in these developed countries where we have quite strong environmental and employment protections compared with other places where we might get those extractive resources.



So I don't see us getting that kind of moratorium when it comes to other kinds of resources because of the different legal regime that applies. On the other hand. I don't know if you recall, December, 2016, as Obama was on his way out of office and Trudeau was looking for a quick win. There was a moratorium on offshore Arctic drilling between Canada and the United States.

There was a little bit of an aberration for the last four years, but that has come to an end. And now we have a new president of the United States, Biden, who also seems to be holding back on oil and gas in the Arctic. For example, we suspended oil and gas leases and the Arctic national wildlife refuge. There looks to be a potential to at least slow down extractives off shore. I would say less so mining in Alaska or Canada, but off shore, we might see that moratorium being taken seriously. Why is that possible? Why would they say no, we're not going to drill the resources? Well, short answer is right now, it's not economically profitable. It's easy to promise not to do something that you weren't even going to do anyway.

[00:32:28] **Jen:** Great. Thanks so much so fascinating to hear how everything works in the, in the governance side of things. It's very cool. So if you were to imagine the Arctic ocean in say 50 years' time, is there a picture that comes to mind and how does that make you feel? And can you sort of describe this to us? And is it something positive, negative, very different, not that different from how it is that the moment?

[00:32:52] **Rachael:** I'll start here. I'm not sure how I feel about it. I'm not sure I've really got an emotional attachment. I mean, I love the ocean. I can't imagine living far from the open ocean, but it's not something I really see an emotional response to its change until it will actually happen.

What do I think will happen in 2070? Well, all the projections suggest that at least the summer will be ice free in the Arctic ocean, but there will be a lot of other climate impacts that are hard to predict. The weather patterns be more unstable. We'll have more storms. The waves will be higher because there won't be ice to slow them down.

We're going to have change in migration of Marine mammals, maybe in fisheries. There might be some contestation over that. Of course, I would like to see more sustainable use of living resources in cooperation with indigenous







peoples and other local populations. There will, I hope by 2070, be less demand for hydrocarbons.

If we actually managed to transition to a low carbon global economy that we need, then those assets that are out there and will become stranded assets. There will be no market for them. One side of me thinks that large steel shipping is somehow inevitable that we will have ship sailing through this icy ocean. But then I wonder if it really is. I mean, we have kind of endless demand for cheap goods and that demand is only going to increase with projected population growth and expectations of ever increasing standard of living. But we also have to think about supply. I mean, where is this stuff going to come from?

We're already consuming more than the world can produce and at some point, and I hope this will happen long before 2070, we're going to have to, as a global population, make a big shift in our consumption patterns, because if we keep consuming and if we really, increase and increase and increase our consumption and this consumerism, where we buy things to use for a few months and then throw them away, then we'll just devastate the earth and leave it inhospitable for our children and grandchildren.

So while on the one hand, all the projections suggest shipping will increase because there's infinite demand. There's not infinite supply of stuff. So maybe we won't see the increase in shipping that everyone predicts

[00:34:56] **Stefan:** Is there one important message, one thought, one core idea about the Arctic ocean that you'd like others to know?

[00:35:04] **Mia:** Yeah. I think Rachael brought up a really important point about how by 2070, the Arctic ocean could be ice free in summer. And I might just add to that and say that event would be the first time in over 2 million years that the Arctic lacked any sea ice cover. So this would be a radical environmental paradigm shift.

Honestly, the consequences of which are not well understood. It is important also to note the Arctic ocean would still refreeze, come winter, but to imagine effectively, a blue Arctic ocean instead of the frozen white mass that we're so familiar with on which indigenous peoples have dependent for millennia I think is, is really going to set in motion various kind of cascade effects, as scientists





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call it, that are not easy to predict. And I think that's something that maybe I would just leave the audience to, to ponder the kind of environmental, but also social implications. And also how this affects our imaginaries of, of the Arctic and its symbolism, both for the world and for the people who live there, its cultural importance as an ice place.

[00:36:08] **Rachael:** Go back to the title on the podcast "if oceans could speak". And I wonder if oceans could speak, would anybody listen? Because there are peoples, who've been listening to the Arctic ocean for generations, indigenous peoples around the Arctic. And we're not very good as non-indigenous scientists at listening to what they're telling us.

So I think we need more engagement and inclusion of indigenous science when we're trying to decide how to manage these environmental and economic challenges that we're facing. So that will be my final suggestion that if we actually listened to the people that have been listening to the oceans and trying to interpret them for these generations and generations, then I think we might make better decisions.

[00:36:46] **Jen:** I think that's a perfect place to end today. So thank you so much again, Rachael and Mia, for speaking to us, it's been really fascinating to hear this perspective. And it's one that I think brings two different things together. It's the Arctic being this global influence that we all share, but you've also brought, I think, more of a practical, local perspective, and I can really see how this does translate into all of our lives and lifestyles and politics going forward.

So thank you so much.

[00:37:13] **Rachael:** Thanks for inviting us

[00:37:14] **Mia:** Thanks so much for having us, it was a real pleasure.

[00:37:17] **Jen:** If you liked this episode, please leave us a rating on whichever listening platform you're using. And if you would like to share your own Ocean stories, connect with us using the hashtag. "If oceans could speak". This podcast was brought to you by members of the EU4Ocean initiative and was made by the If Oceans Could Speak production team led by Penny Clarke, co-organized





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by Arne, Reidel and Anna Saito, and presented by Stefan Kirchner and me, Jen Freer. From all of us, thank you for listening.



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