

Jennifer Stock: You're listening to Ocean Currents, a podcast brought to you by NOAA's Cordell Bank National Marine Sanctuary. This show was originally broadcast on KWMR in Point Reyes Station, California. Thanks for listening!

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Jennifer Stock: This is Ocean Currents. I'm your host Jennifer Stock. On this show we talk with scientists, educators, fishermen, explorers, policymakers, ocean enthusiasts, kids, authors and more all uncovering and learning about the mysterious and vital part of our planet, the blue ocean. I bring this show to you monthly from NOAA's Cordell Bank National Marine Sanctuary, one of four National Marine Sanctuaries in California all working to protect unique and biologically diverse ecosystems. Just offshore of the KWMR listening area, on the West Marin coast, are the Greater Farallones and Cordell Bank National Marine Sanctuaries which together protect 4,581 square miles of rocky shorelines, sandy seafloors, rocky banks, deep sea canyons and maritime landscapes and artifacts.

The ocean covers 70% of our planet. It generates 50% of the Earth's oxygen, and absorbs 25-30% of all carbon dioxide emissions, and captures 90% of the additional heat generated from those emissions. Once considered vast and inexhaustible, the ocean is facing threats and limits to growth that were not really imaged decades ago. Providing oxygen and food, controlling the weather, and absorbing excess carbon emissions, the ocean is our ally in the quest for a sustainable future. It is also an economic powerhouse that supports entire industries, generates millions of jobs, and helps drive the moderate global economy. Current trends threaten both the environmental health and the economic vitality of the ocean. Overfishing, marine pollution, acidification, and rising ocean temperatures are negatively impacting important industries including fishing and tourism as well as the ability of coastal communities to thrive and small island and developing states to sustainably develop.

As high-level reports from scientists globally continue to pile up detailing what actions need to be taken to reduce carbon dioxide levels, they mainly have focused on land-based solutions. Last fall the High Level Panel for a Sustainable

Ocean Economy commissioned a report to look to the ocean for ocean-based opportunities that could reduce global emissions and provide related benefits to achieve near term sustainable development goals.

My guest today is Mansi Konar and she is a lead ocean economist with the World Resources Institute Sustainable Ocean Initiative. She provides economic advice and carries out economic analysis to advance the Sustainable Ocean Initiative particularly in support of the Friends of Ocean Action and the High Level Panel for a Sustainable Ocean Economy. Mansi is one of the twenty expert authors for the report we are discussing today and she's joining us by phone. So welcome, Mansi. You are live on KWMR.

Mansi Konar: Hi, Jennifer. This is Mansi.

Jennifer Stock: This is a High Level report meaning it brings together a global team of experts. Can you give us some background on what the High Level Panel for Sustainable Ocean Economy is and how this report came to be?

Mansi Konar: Sure. The report has been commissioned, as you say, by the High Level Panel for a Sustainable Ocean Economy. The Panel is a unique initiative that brings together 14 heads of government that really care about the ocean and they want to develop pragmatic solutions that are not only important for the health of the ocean but also the future of the people and the planet. So by heads of government, I mean they are 14 Presidents and Prime Ministers that are supported by the UN Special Envoy for Ocean, Peter Thomson. The Panel is chaired by Norway and Palau as co-chairs. I want to also emphasize that this Ocean Panel is one of the highest political panels that is focusing on the ocean itself. It comes with a lot of authority to transform recommendations into action at the highest levels of government and business. That hopefully gives the summary of what the Panel is about.

I'd like to talk about why the leaders thought we needed to do this analysis and why they thought it was important for us to prepare this report. What was rightly felt by the heads of government was that often ocean does not feature when it comes to international discussions and debates on climate change related topics. Given the substance, there was a lot of eagerness from the Panel and the heads of state to make

sure that, going into the UN Global Action Summit in September last year, we give a very quantified response in terms of what ocean-based solutions can do in addressing the climate change issue. So this is very much a demand-driven science. The policy makers asked us a question of saying, often oceans are talked about as victim of climate change, are there solutions that can address the climate change issue? That brought together a community of scientists, economists, social researchers to develop a robust, evidence-based answer. You have some really novel messages and findings coming out of the report.

Jennifer Stock: Thank you for that overview. That's really helpful. It's so wonderful to hear how the effort was to focus on the ocean for bringing around some ideas for solutions and not just look at the ocean as a victim. Why do you think the ocean as a solution hasn't been discussed much until recently? It seems that this is fairly new that we're really looking how we can look to the ocean for solutions regarding bringing down carbon emissions.

Mansi Konar: That's a really valid question, Jennifer. Often it is asked quite widely and on the talks that I've given on the report, it has come up. I personally feel that it's because as land-based beings our interaction, which for the majority of us our interactions, are limited to the land. Unless your livelihood depends on the ocean, unless you are working, you're a scuba diver and you're diving into the oceans. It's very hard to understand the complex ecosystems that exist underneath the water. What happens is what is out of sight becomes out of mind. It's really encouraging that more and more research is being devoted to understanding the ecosystems, ocean-based ecosystems that we have, and more research is being done on marine exploration and marine science. But we still are playing catch-up because it has been largely ignored. I'm hoping that with initiatives like this, this is going to change and it's going to get the attention and the focus that it needs.

Jennifer Stock: The report lays out five opportunities that are ocean based regarding solutions as well as co-benefits towards sustainable development goals. I was hoping you could walk us through each of these a little bit and tell us a little bit about what it is, how it came to be and perhaps some of the ways that this is an action that can help bring down emissions. It can get really confusing when we start talking

about gigatons. One thing I noticed was the difference between 2020 and 2050 and how 2050 the actual savings of carbon emissions is significantly higher. I know, oh 2030 to 2050. 2030 is just 10 years away and 2050 is a bit longer, but maybe you could talk a little bit about that, how these significant savings down the road are even more so. Maybe we can just start with the ocean-based renewable energy one.

Mansi Konar: You think it would be helpful, before I dive into the solutions, to take a bit of a step back and give some really high-level messages that are coming out of the report as well, and then do a deep dive into the five solutions.

Jennifer Stock: Sure. Let's do that. That sounds great. Please do.

Mansi Konar: Great. This report was released roughly at the same time as the IPCC report that issued a stark warning in terms of changes that's already in play in the global ocean. The IPCC report on ocean and cryosphere highlighted that with climate change the ocean would become warmer, it would become more acidic, there'd be higher sea levels and it will become less predictable. What this report does is a pivot from this; it's a report of hope and optimism because it makes us focus, as you say, on the solutions to climate change. It was a great opportunity for us to work on this report thanks to the High Level Panel. What it wanted was a very concise message of 'What are we saying about these ocean-based solutions?' The headline message that comes out of the report is that ocean-based climate action could deliver up to 21%, that's one-fifth, of the emission cuts that's needed in 2050 to limit global temperature rise to 1.5 degrees Celsius.

As we were talking about early, this means that ocean-based solutions can play a really important role in protecting all of us. Not just the marine ecosystem, but the various countries and communities from the most devastating impacts of climate change. Just that one-fifth, the 21%, just to give an idea, because often we talk about percentages, and in real terms it's helpful to think what does the really mean. This means about 2.5 million petrol cars will be off the road. It's double the yearly emissions of United States. These are big savings that when we went into the room, when we started research on the report, we hadn't really realized the massive impact that some of these solutions would have. That was

really kind of a pleasant surprise for many of us. The other thing is the report goes beyond. It doesn't just focus on climate related benefits. It also goes beyond it. It looks at what are the other benefits that you get from delivering these solutions. You are looking at how they contribute to sustainable development goals and targets. By this I mean will they help countries achieve the goals and targets that often they care about. Will they help reduce poverty? Will these solutions help improve the health of the population? Will it lead to employment?

What was really interesting is that there is a host of co-benefits that comes from these solutions. It's not just reductions in greenhouse gases. These wider benefits are another reason why we should be taking action and why we should be implementing the solution. Just to say, the report also identifies trade-offs, which says that if you were to implement some of these solutions, there could be a negative impact with the marine environment because you're competing with the state and other activities. You could have a short-term impact on employment, for example. If you're reforming fisheries, what would that mean for the fishing effort in the short-term. But all of these can be addressed. They're negative impacts that have been highlighted because it's important for policy makers to note them when they are implementing the solution. I just wanted to give this high-level picture on the report. But now I'm really happy to deep dive into the specific solutions.

Jennifer Stock: That's great. I just want to let listeners know this is Ocean Currents and my guest today is Mansi Konar from the World Resources Institute. We're talking about the High Level Panel for Sustainable Ocean Economy and a report that details out how we can have significant carbon reductions from looking to the ocean for solutions. Thank you for bringing out the big number of 21%, that could be brought down on carbon emissions, from these solutions put into play. That's pretty significant. If you could talk, when you're going through each of these, just give us an idea of how much does each one contribute to that number.

Mansi Konar: The ocean-based renewable energy, I'll start with that. I'll provide a brief summary and then we'll look forward to any questions that you have on each of these areas. So the first is ocean-based renewable energy. Within that we look at

offshore wind using fixed and floating technology of offshore windfarms. But we also look at other innovative technologies in this area. This report looks at waves, tidal, floating solar. What it does is it calculates what if we were to expand these technologies and displace coal-fired power plants, what would the total mitigation potential of the sector be? If you look at the report in a bit of detail, it would show that ocean-based renewable energy is the biggest contributor to that 21%. It's roughly about 50%. It makes that contribution and so it would be equivalent to taking over 1 billion cars off the road per year, for example. So these are, that's a big sizeable win.

Then ocean-based transport is another area that we look at. Within that we look at international shipping as well as domestic shipping. And just to give a bit of background about the sector; the sector itself is responsible for 3% of the global CO₂ emission. So that's a huge chunk, and while the international body known as the United Nations International Maritime Organization addresses this greenhouse gas issue through its initial strategy with an objective to reduce the emissions by at least 50%, the report is going beyond that. It's actually saying, you know, there is potential out here to go beyond the 50% reduction. We could actually look at probably 100% reduction and get to net zero emissions by 2050. The report talks about a lot of these measures many of them interestingly are win-win. What you would see is in some instances by changing the design of the ships. So by adopting various technology measures, you're actually bringing about fuel savings. This would mean, for example, altering the weight of the ship, the design of the ship to reduce friction such as haul coating, air lubrication, propeller upgrade. All of those logistic changes, if you were to bring about, then that would result in fuel savings which will be beneficial to the ship operator as well as reduce greenhouse gas emissions.

Jennifer Stock:

Can I ask is it still using fossil fuels in that proposal in terms of all the technological advances and efficiencies of those vessels? Is it continuing to use fossil fuels?

Mansi Konar:

Yes. In this case there are two types of measures. The first is if you weren't even switching to cleaner fuel or low carbon fuels and you were to just adopt these technology measures as well as operational measures, like reducing the speed of

ships, then you would still reduce emissions and you would have these savings. But in addition to that it does, as you rightly say, point to moving towards low-carbon fuels and zero-carbon fuels such as hydrogen, ammonia, and some biofuels. That's the change that you see in the figures that you mentioned. In 10 years, we see the emissions for the sector, there is a mitigation potential that's high. But in 2050 it increases because, in this instance, it's showing that the more we invest towards moving towards clean energy, because there's only so much that you can achieve through efficiency measures, you will get a bigger win.

Jennifer Stock:

Thank you for explaining that. That's actually quite a win for us too here in California. We have a lot of efforts trying to request ships to slow down as they approach San Francisco because we have a really high concentration of endangered whales feeding in the National Marine Sanctuaries, and we've been trying to work with the industry to request them to slow down. So there could be even additional win-wins there by the ships slowing down.

Mansi Konar:

I'm so happy you mentioned that, Jennifer, because that is again another co-benefit. It has been talked about in terms of if you lower the speed of vessels the strike rate with the whales reduce. I think there was a number where 10% reduction in speed is a 40% reduction in strike rate for whales. So exactly as you said that it is beneficial to marine species. There's also positive impact in terms of noise and any other disturbances. These measures, as you said, will have a positive impact on the biodiversity. Similarly, if you reduce emissions from shipping vessels, then it reduces those hotspots of ocean acidification that has been observed along the shipping routes. So again, that will be a positive win-win for marine biodiversity.

Jennifer Stock:

Great. All right, let's keep going.

Mansi Konar:

Yes. Sure. I would like to talk next about fisheries, marine aquaculture and dietary shift; a broad overview. This section is mainly focusing on food from the ocean. It's saying that if we were to produce food from the ocean more sustainably, and we reduced emissions while doing that, what is the mitigation potential of the sector? Within that we look at three categories. We talk about reforming fisheries. This mean currently the wild capture - that is basically fishing fish

from the sea. If that is reformed to the extent that we reduce overfishing, we eliminate and combat illegal fishing, then that would lead to a higher biomass in the ocean and also, at the same time, it would actually be a more sustainable way of producing more food for a growing population. One of the numbers that was looked at in the report is currently the levels of harvest and landings and catch that is currently produced. It's roughly about 80-million metric tons. That is estimated to go down to about 67-million metric tons in 2050. But with the fisheries reform, you can actually produce more by managing these fish stocks more effectively. You can produce over 20% more than what is currently being produced and 40% more than what would be in the future in 2050. So reforming fisheries is very tedious. We are not saying it's important to produce more food by continuing as business as usual, but fishery reform by managing fish stock by making sure that we're not over-exploiting them is very key here, that the report talks about.

The next feature that it talks about is reducing emissions from aquaculture. It talks about marine aquaculture and how there's a lot of potential to sustainably grow food through marine aquaculture. What is interesting is often you have two different types of species which would have a different greenhouse gas impact. So species that do not require feed, for example shellfish that do not need various forage fish and species to be fed to them as feed; that's not necessary for their growth. Then they will have a lower carbon emission in their production compared to finfish production, for example, salmon which requires feed. With that said, producing and consuming sustainable food from the ocean will still be more impactful in reducing greenhouse gases than meat, than sourcing your protein exclusively from meat. What was very, very exciting about this research was that it was looking at the shifting diet, of saying, ok, let's produce food more sustainably, but if we were to shift diet from an intensive meat consumption diet toward a more sustainably produced ocean protein diet, then the greenhouse gases that can be reduced is substantial here. A very interesting anecdote, before I move to the next sector that I'd like to talk about, that was given by Steve Gains who authored this section of the paper along with Peter Haugan. He said a very interesting thing. He said, "If we were to grow mussels around the continental shelf of New Zealand, that will replace the amount of meat-based proteins we need to feed

a 9 billion population in 2050." That's a very effective use of land area and doing it. There are many other novel solutions where you can-- I know we'll be talking a bit about the priorities and what does this mean in terms of policy, but just a sneak peak of that is often if you can combine some of these solutions and use the ocean area in a very effective way that that will be a win-win. Many times if you could do mariculture along with ocean offshore wind, you are making effective use of the space. Similarly, can you have Marine Protected Areas where there are wind farms because often fishing is not allowed in these areas where there are wind farms. Those are interesting solutions that are being looked at and there is a lot more potential. There's a separate paper that was done by the High Level Panel expert group led by Chris Costello that talks about there is so much potential to produce sustainable food from the ocean than what we are doing if we manage our resources effectively and also taught about integrating some of these systems.

Jennifer Stock: And we're talking global management of fisheries, right?

Mansi Konar: Yes. We are talking in terms of global reform fisheries, but obviously this would be done at a country level in terms of looking at reforming their fisheries within their economic exclusive zone.

Jennifer Stock: For folks turning in, this is KWMR ,Point Reyes Station, and you're listening to Ocean Currents. And Mansi, I just want to let you know we have about 15 minutes left. So I really want to keep moving through your highlights here so we can also talk. I also have some other questions for after we share these opportunities. Thank you for pausing there for a moment. Feel free to keep going.

Mansi Konar: I will, yes. I will quickly give a summary of the other areas. Then we talk about nature-based solutions, which covered mangroves, salt marshes, sea grasses that store carbon. In addition, we look at seaweed aquaculture that can be used for fuel, food and feed. They offer significant mitigation potential. In addition to that, what the report talks about, that often these greenhouse gases' benefit that we measure are secondary to what the other benefit these protected areas provide in terms of protection from storms and coastal flooding. There's clear, documented evidence that where there are healthy mangroves, the impacts of cyclones are

much lower than what would have been if the mangrove was in a degraded state. Similarly, they are very important as nursery grounds for fish whether it's domestic consumption, whether it's commercial consumption. There is evidence to show that they provide traditional medicine to local communities. A whole host of benefits there that the nature-based solutions piece talks about. What was interesting and exciting with seaweed aquaculture, which actually at the moment accounts for 50% of all the ocean food production, the mariculture production, so it's very significant, but it's still very much concentrated in emerging economies. There's potential there to carry that forward in a sustainable manner.

In addition to that we looked at carbon storage in the seabed. What we talked about here is there's an enormous theoretical potential to divert carbon from the atmosphere and store it in the seabed. But it currently faces significant technical, economic and social-political challenges which includes concerns about environmental safety. All of this needs to be explored before it can be deployed at the necessary scale to realize that mitigation potential that we mentioned in the report. This area has been highlighted as something where more research will be very beneficial.

Jennifer Stock:

It's a great overview of these different opportunities that the report highlights and provides a lot of details on. I'll definitely share the website at the end of this interview with folks who really want to dive in and get into more details about some of the benefits that are provided as well as the emissions that are saved with a couple different scenarios of these. In terms of priorities for outcomes of this report and urgency in terms of short-term efforts, and a little bit more midterm priorities, which ones have taken off in terms of new attention and funding towards for learning more about or advancing development of? And I suppose that might be regionally based as well based on different economies.

Mansi Konar:

Exactly. I think it's regionally based, based on different economies. As you would know, for example, with offshore wind, there's a lot of investment happening in Europe. In fact, Europe is leading the way when it comes to offshore wind - lots of investment that has happened. With that said, California is also focusing on-- while offshore winds have been predominantly in the North Sea, there's also been a focus in California for the Senate Bill-100 which targets a

hundred percent Renewable Power by 2050. There's been a lot of interest in the US, California about looking at these offshore wind as a renewable energy. The other country who has been talking a lot about it and thinking about it is China. As we've said, I think a lot of these technologies are being thought through and different countries are at different stages in terms of investment. I think some newer innovative technologies are where I think there needs to be more research to understand, for example, the potential for installing large-scale floating solar at sea under different wave conditions. That's more research that the report talks about for the medium term.

The other area that I'd like to talk about, and you know I could get into the detail for all of these different areas, but I'll just pick a few examples. One that is also very exciting and where I've seen a lot of innovative solutions within California is this drive to find solutions for fish feed that is sustainable. For many farmed fish, the feed comes from wild fisheries and fishing from the ocean, and there's a lot of interesting innovative research that is going on in terms of how do we continue this. How do we support an expanding aquaculture sector by coming up with alternatives that are sustainable whether those are algae-based feed or insect-based feed? All of this research and innovations are happening in the Bay Area which is really exciting. The questions that often come up is 'how do we scale-up some of these solutions?' and 'how do we make them competitive to the fish meal prices?' and 'how do we come up with alternative for fish oil?' In some ways there's a lot of exciting research that has already kicked off in many of these areas. Similarly, with shipping, there's been a lot of discussion in terms of moving to alternative fuel. The report talks about the various investments that needs to happen to help that transition in 2050.

Jennifer Stock:

One of the things that I was struck by when you're talking about these opportunities specifically was around the fisheries one in terms of evolving how we manage fisheries. I'm just thinking from the US perspective, we have the Magnuson–Stevens Act which was implemented to regionally manage fisheries in the United States. There have been some successes with that, but it takes so much time and policy. What I'm concerned about here is that we're talking about a very short timeline for where we have to bring

these emissions down, and governance and policy can take a really long time. I'm curious how the Panel thought about that in terms of how do we move away from business as usual in ocean management in the time period necessary to see the results come to fruition?

Mansi Konar: A very valid question, Jennifer. What came out of this report are very clear calls for action that was announced by the Panel. These are calls for action to demand greater attention of where we are scaling investment and effort across these five areas. This has been taken forward by the Panel in terms of working with the various private sectors and government organizations to come up with clear solutions of saying what would happen, what actions would be taken to achieve the priorities that have been underlined in the report. The Panel is, as I said right at the beginning, the High Level Panel is very much a solution-oriented panel. It wants to be informed by science, but it is an action-taking panel. In Lisbon, Ocean Conference in June 2020, the Panel will be coming up with very clear recommendations of how it wants to take forward these initiatives and set an example for the other countries in terms of how we could play a role in protecting our oceans and also sustainably using the ocean.

Jennifer Stock: We just have a couple minutes left. This is all very high-level and global and a lot of jurisdiction and management that is very far away from most of us that are living in these communities around the world. I'm curious how people, like listeners and anyone that is engaged in ocean conservation, can get involved in supporting some of actions. Some of these I'm thinking already of like 'Oh, yeah, we have a lot of coastal restoration happening in San Francisco Bay,' and I'm wondering if people know about that and how it relates because it ties in directly with some of the things you are talking about here. Maybe can you just take a moment to talk about the actions those of us that are in communities could take to help support these actions moving forward.

Mansi Konar: Yes, sure. The important thing, as you have rightly said, that I've talked about it in a very high-level, and I mentioned government focused solutions and policies, but all of this cannot happen just from top down. It needs to have a bottom-up approach as well. We need to engage various stakeholders, coastal communities and make sure that some of these solutions are not just driven by a central,

governmental, international initiative. In fact, one example is with blue carbon initiatives; the literature says, can often fail if there is no community engagement because if you ultimately restrict fisherman, if you don't get them access to the ocean spaces and you don't think about what impact it has on their livelihood, then this would have a negative impact on those households. Having a more collaborative approach where you're bringing in the stakeholders and the voices and making them, not just hearing, not only understanding and taking account of the knowledge they have, but also building that into the decision-making is important. That's one point I want to say. There are many solutions that I have taken back as an individual from the report. And one of that is, for example, thinking about my diet, thinking about what I eat and where is it coming from, how sustainable it is. We need those dietary choices. It's extremely hard for governments to change behaviors. Changing behaviors can happen through education and people understanding how some of the dietary choices can impact a lifestyle. That said, it's talking about that diversifying of diet rather than saying that you should be completely changing your diet completely. What it's saying is that we can diversify our diet, we can introduce plant-based food, we can introduce more fish food and bring about a more balanced diet than currently where in for many population it's a very meat-based diet. There's some key messages coming out. On Marine Protected Areas, I just wanted to touch on that because, as you say, it's really important. There is so much. These Marine Protected Areas play a very important role and the report talks about the fact that it's one of the solutions in terms of helping improve the biomass and also protect the areas.

Jennifer Stock:

Wonderful and that's exactly how we take a part of this in the National Marine Sanctuaries is we are Federal Marine Protected Areas. We also here in California have these State Marine Protected Areas, which have so many benefits for the ecosystem as well but also with restoration efforts in with blue carbon storage, too, and getting engaged with communities that are near National Marine sanctuaries and helping educate them, too, about these opportunities through the ocean. There are a lot of ways MPAs can help support this.

Mansi, I want to say thank you so much. I have so many more questions. I'm thinking we might have to have a couple more interviews this year on these topics about each of these solutions, but I really appreciate you coming on the show and sharing the opportunities presented in this report. Do you want to share the website for this report for people to dive in more to learn more about each of these opportunities?

Mansi Konar: Yes! The website is, let me quickly, it's OceanPanel.org/climate to find the report but OceanPanel.org will provide a lot of information on the High Level Panel itself, and then there's a tab you can get into to know more about the climate report.

Jennifer Stock: That's great. Well, thank you again. I'm sorry we have to cut this short right now, but I appreciate your calling in, and keep on this wonderful work you're doing with helping the ocean and our global planet to be more sustainable.

Mansi Konar: Thank you so much, Jennifer. Thanks. Bye.

Jennifer Stock: Take care. That was Mansi Konar from the World Resources Institute and we were talking about the High Level Panel for Sustainable Ocean Economy, a report talking about the ocean as opportunities for climate change solutions, which is fascinating and really reassuring to hear that many of these things, there is a lot of work happening already in play towards these solutions. We'll continue to focus on those opportunities. We're going to take a quick musical break. I have another interview in just a moment here about some events coming up, up in Fort Bragg. So take a quick break here and we'll be back in a moment.

(Music)

Jennifer Stock: We're going to switch gears a little bit here after talking about all this important, high-level information regarding climate and solutions. Coming back to the coast of California, it's March now and it's about the time of year where whales, gray whales, start moving North. It's also a time of year where there's a lot of activity on the coast with spring winds potentially starting up soon to get our upwelling process going. I have someone calling in from the NOYO Center in Fort Bragg to tell us a little bit about some activities

happening up there. Welcome, Maggie Barrett, you are live on KWMR.

Maggie Barrett: Wonderful. Thanks so much for having me.

Jennifer Stock: Thank you for calling in. March is an active time, or active month on the coast and just north of us up in Mendocino County the NOYO Center for Marine Science, Fort Bragg is leading some great activities up there and great programs. I'm not sure how many people know about the NOYO Center. I've been reading about the NOYO Center online and am wondering if you could just provide a little bit of background about it, when it started and what it does, and then we'll get into some of the activities coming up.

Maggie Barrett: Yeah, definitely. So the brief overview is that our town of Fort Bragg used to be mainly an industry town and when the mill closed in the early 2000s, there was a lot of talk amongst the community of what could revitalize our economy and bring some more vibrancy back into our beautiful coastline. One of the things that everyone really wanted, the whole town was a marine science research facility out on the old GP Mill site. The NOYO Center started and it all kind of escalated quickly when a blue whale actually was struck by a boat off of our shore and washed up. There was this incredible citizen science project to kind of do science on this rare specimen and animal and then also to go through the whole process of collecting the skeleton. So we are definitely a hub of community and innovative science and research possibilities, and we're excited about March. It's our favorite month for showcasing our different skeletons and engaging with the community about the science that we do.

Jennifer Stock: So, can you give us a brief overview of what's happening in March? You have a series of events of great speakers lined up, and please tell us about these events.

Maggie Barrett: Wonderful. Yeah, so I'll highlight the science talks first. We have some different specialists coming in to talk about the different whales. This Friday, we have a local scientist, Tanya Smart, talking about gray whales at the Discovery Center, which is located on Main Street in Fort Bragg. Then we also have a specialist who's worked with whales for the past 50 years. He has some incredible stories spending time with individuals and pods and learning about their languages,

and it's really incredible. He's a super engaging speaker and he has two talks: one is going to be on the behavioral biology of killer whales. That's on March 14th. Then on March 21st, he's also going to give a talk on ocean acoustics and the role of sound in their societies. Those are a couple of the highlights. Those events are free. He's also going to give a talk at the Heritage House Resort and Spa. It's going to be more of a high-end fundraiser. You can find details for that on our website and also on the Heritage House website; that's on March 12th. But yeah, I was going to say the other two things I want to highlight; we're going to do for the week of the Fort Bragg Whale Festival, which is the weekend of March 21st, we're going to have a kids' marine science and art fair on display at the Discovery Center. A couple of classes and kids have been doing some projects on what they think about climate change. Looking forward to seeing the kid perspective on that whole situation. And then that also kicks off our Blue Whale Bone Week, so that blue whale that I talked about. We bring her bones out once a year. It's a really special opportunity to get to walk alongside of a blue whale and really get a sense of how big of an animal these are, and that's the last week of March.

Jennifer Stock: It must take quite a team to move a blue whale skeleton in and out. That's not typically something we move around a lot in our outreach work.

Maggie Barrett: No. Yeah. Definitely not. Luckily, we have an incredible, dedicated team of volunteers to help us out. The long-term vision is to have a big home for her. A big marine science facility to fit her, but we just don't have a building big enough. She's over 73-feet long. For now she just comes in and out once a year.

Jennifer Stock: Well, it's wonderful to hear how the community has taken, unfortunately a very sad example of some conflicts in the ocean with really turning it into something positive for so many people to be inspired by and to come together on. It's so exciting to hear how many new things are happening up there. Can you share with us the NOYO Center website and how people can get information or get up-to-date information?

Maggie Barrett: Yes, so you can visit us at noyocenter.org and there's all kinds of information there about both our story and the

upcoming events, and I'm also putting information up on our Facebook page, NOYO Center for Marine Science. We're also on Instagram. You can find us @NoyoCenter.

Jennifer Stock: Excellent. Thank you so much, Maggie, for calling in today and giving us a brief overview, and good luck with your events coming up.

Maggie Barrett: Thanks so much. It was great to be here.

Jennifer Stock: Alright. Take care.

Maggie Barrett: Bye.

Jennifer Stock: That was Maggie Barrett from the NOYO Center in Fort Bragg talking about some really fun events coming up in March - Some great science talks and public events and community events for people to come in celebrate the amazing ocean biodiversity we have along the Sonoma, Mendocino and Marin County Coast. So much going on. Very interconnected. So that's noyocenter.org.

I have one last announcement before we wrap up the show; is March 12th through the 15th is the 17th Annual International Ocean Film Festival in San Francisco. There are some amazing films lined up as usual. I wanted folks to know that there are films that are being shown as part of the festival at the San Rafael Theater, at the Rafael. Going to the website you'll be able to see which days have films and there's some little previews of what the films are as well. So check out intloceanfilmfest.org, March 12th through 15th, coming up. There will be a film there about the Cordell Bank National Marine Sanctuary. That was put out by Changing Seas from South, Florida PBS, and that will be airing on Saturday. I think that is the 14th in San Francisco. I will be down there at that and hopefully we'll see some of you.

Thank you so much for tuning in today to Ocean Currents. It's always the first Monday of every month. You can hear past episodes from Ocean Currents on our podcast, which is in iTunes or going to the cordellbank.noaa.gov website. I love hearing from folks if you ever have any questions or ideas for shows, please email me at jennifer.stock@noaa.gov.

Thank you so much for listening. Enjoy the bay, ocean or whatever body of water you can get into safely. Stay tuned for another episode next month.

(Music)

Jennifer Stock: Thank you for listening to Ocean Currents. This show is brought to you by NOAA's Cordell Bank National Marine Sanctuary, on West Marin Community Radio, KWMR. Views expressed by guests on this program may or may not be that of the National Oceanic and Atmospheric Administration, and are meant to be educational in nature. To contact the show's host Jennifer Stock, email me at jennifer.stock@noaa.gov. To learn more about Cordell Bank National Marine Sanctuary, go to cordellbank.noaa.gov.