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

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Jennifer Stock: You're listening to Ocean Currents on KWMR. Happy New Year to all of the listeners of KWMR. I hope you're all well rested and are ready to dig into a productive new decade. You're listening to Ocean Currents, a show where we delve into the blue part of our planet and talk about all things related to the ocean. My name is Jennifer Stock and I host this program live on KWMR the first Monday of every month.

(Music)

Jennifer Stock: And welcome back to Ocean Currents. This is the modified show. Riki Ott is not with us this afternoon and hopefully we'll be able to reschedule her for a future show, but I was able to find Rebecca Johnson from the Gulf of the Farallones National Marine Sanctuary and she's joining us on the air, live from the Cal Academy. Thanks so much for being a pinch hitter here to give us some live information about some things happening on the coast here.

Rebecca Johnson is with the California Academy of Sciences in San Francisco and the Gulf of the Farallones National Marine Sanctuary and oversees a really neat program that is between the sanctuary and the Cal Academy. One of the most amazing habitats along our coastline here, as many of you know, is this incredible rocky inter-tidal area up and down the coast. So, Rebecca, can you give us a little bit of background about the program you are leading both with the California Academy and the Gulf of the Farallones.

Rebecca Johnson: Sure. I coordinate a partnership between the Academy of Sciences and the Gulf of the Farallones National Marine Sanctuary and what we do is we train Academy volunteers and other community volunteers to work as roving docents out at Duxbury Reef in Bolinas and also work on the museum floor at the Academy of Sciences talking to visitors here and in our discovery tide pool about tide pool life.

Jennifer Stock: So, is it featured just at Duxbury Reef or do you go out to Fitzgerald Marine Reserve as well?

Rebecca Johnson: For now, this is the beginning of the project and for now we just work at the Duxbury, but the idea is that our partnership will eventually expand to other places. They do have an excellent volunteer naturalist program at the Fitzgerald Marine Reserve that's run by the Friends of the Fitzgerald Marine Reserve, but that's separate from our partnership.

Jennifer Stock: Now what are the docents doing out at Duxbury Reef?

Rebecca Johnson: Well, right now we have one small group of...an inaugural group of this since we have five hearty volunteers and we do a few different things. We go out at low tides, usually on the weekends or times that we think most visitors might come to the reef and talk to visitors about inter-tidal invertebrates, animals, and algae, and natural history and we don't do guided tours or anything like that, but we just talk to people about the habitat and about the animals that they might see.

Then, we also talk to them about how to treat the inter-tidal well, like, some tide pool etiquette, things like not to...if you do turn over rocks, to put them back the way you found them and where to step to avoid injuring algae and animals. So, that's one of the things we do and we also do some research monitoring. We assist with a larger research project that's going on out at the reef. So, once a month, we go out and we take pictures of plots on the reef of the algae and the plants and the animals and we kind of make a record so we know what each square, the same square every month, what it looks like through time and in addition to that, we also count visitors and we try to figure out where people go when they visit the reef.

The idea is to kind of see if we can measure an impact from where people walk or trample or spend time on the reef.

Jennifer Stock: Interesting. So, what does the training entail and is there an application process for volunteers to apply for this?

Rebecca Johnson: The training starts, actually, on March 1st of this year. We meet once a week on Monday evenings from 6 to 8. So, it will run from March 1st to April 26th and we'll meet at the Academy of Sciences and also at the Gulf of the Farallones offices down at Crissy Field in San Francisco and during those meeting we'll learn about inter-tidal life and natural history and some interpretation techniques, how to talk to visitors and also some research techniques and right now, there's no formal application process aside from just contacting me and the best way to contact me is...the best way for

this program is to just send me an email just at rocky shore at cal academy dot O-R-G, which is really easy and...

Jennifer Stock: I wish I had an email like that.

Rebecca Johnson: I have a special email just for the project so I can keep it separate from my regular email.

Jennifer Stock: That's great.

Rebecca Johnson: It's very nice. If people have questions, though, even if you don't want to sign up directly, they're welcome to send an email to that email and I can answer any questions.

Jennifer Stock: Is the data used by the Cal Academy and the sanctuary, is that some of the goals between the sanctuary and the Cal Academy to use it?

Rebecca Johnson: Well, right now, the data is actually used as part of...well, the money that funds this project is part of some restoration dollars. After there was a small oil spill in 1996 in San Francisco Bay and oil from that spill was found on Duxbury Reef. So, this project is actually funded by some restoration money. So, the money is used to help...the data is used to help understand how with the increased education to see if we can kind of improve the health of the reef. So, that's what the data is used for.

Jennifer Stock: Wow, that's interesting. Now, as part of this documenting effort out at the reef, do docents also spend time at the Cal Academy?

Rebecca Johnson: They do. So, the commitment once volunteers complete the training program is to volunteer once a month for a year either at Duxbury reef, working with the public, or doing research monitoring or working at the Academy on the public floor and talking with people. At the Academy here we have this small Discovery Tide Pool that has starfish and sea urchins and some other invertebrates in a tank and visitors can touch and learn about the animals there. So, one of the options that these volunteers would have would be to work in that exhibit.

Jennifer Stock: That's neat. Are you finding that some of the volunteers are really enjoying having both, both the in the field experience and then being able to talk to visitors inside?

Rebecca Johnson: I think they are. One of the ideas of the...the original idea of the program was to take Academy docents that already work in the museum and give them a kind of field experience because they might not have that here and so, one of our volunteers in particular has been a docent here for a while and I think he really enjoys the ability or the opportunity to talk to people in the field and just see the animals he's talking about in the museum to see them in their actual habitat and to kind of make connections for those visitors between the animals that they see in the exhibits at the Academy and our national marine sanctuaries because many people, even local San Franciscans or Californians that visit the Academy of Sciences, don't realize that their national marine sanctuaries are right here off our coast and so, I think they really enjoy being able to make those connections.

Jennifer Stock: That is so exciting. I think this is such a cool program.

Rebecca Johnson: And it's really fun. So, it's great to be in the museum and also in the field. It's a nice complement.

Jennifer Stock: That's neat. Now, here's a question I'm not sure if we can get into this too much now, but you mentioned the oil impacts, but with climate change here on the horizon and I'm sure you're all making plans for how are the habitats going to adapt. What are some of the thoughts of how rocky inter-tidal habitat will change over the future with sea level rise? Do you have any ideas?

Rebecca Johnson: Well, there is...many people are doing rock inter-tidal monitoring, which is just looking at the inter-tidal on a regular basis at the animals and at the algae, just kind of taking snapshots so that we can see if there is a change. So, we have some data with which to measure that change and so, one of the sanctuary programs aside from the work that my group does, it's a program called Limpids and this is a high school group, a monitoring program for high school students and they're actually a group of students from the Branson School, goes out to Duxbury Reef and they do the same project up and down the California Coast and they do count invertebrates and algae in a way that will allow them to see if animals or algae are moving up in the inter-tidal, it's kind of changing their zone.

One of the predictions is that with climate change and with sea level rise, that animals will move either lower down so they're covered with water more often or higher up because the water will be higher. So, they kind of look at those changes through time.

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- Jennifer Stock:* Interesting.
- Rebecca Johnson:* So, there is some thought that just the changes in donation would be one of the results of climate change and that would be mostly because of sea level change or temperature change, but there also are range shifts where animals would move further north just kind of keep to the temperatures that they would prefer.
- Jennifer Stock:* Right, right.
- Rebecca Johnson:* And there is some evidence of that and there is actually a species of nudibranch into the late 80's it's northern range was Pillar Point down in Half Moon Bay and now its northern range limit is Duxbury Reef in Bolinas. So, it's actually moved north. So, just being able to count things and take pictures and kind of take some baseline data allows us to better catch any changes
- Jennifer Stock:* Wow. Well, very good. So, we've got the rocky inter-tidal docent naturalist training course through the California Academy of Sciences and the Gulf of the Farallones National Marine Sanctuary and for those of you interested in learning more about this program, you can email Rebecca at rockyshores@calacademy.org. The training course is free and starts March 1st. It goes through April 26th and is about 8 weeks. They meet on Monday evenings, 6 to 8pm. What a great way to get some time into the Cal Academy of Sciences too. I'm sure they don't boot you out on the spot, do they?
- Rebecca Johnson:* Well, it depends on when we start. They might boot you out because we would be closed at that time, but there would be time when we could meet, potentially, separately and visit the Academy and you'd have to be trained to work in the tide pool exhibit. So, as a volunteer at the Academy you get to be here on the public floor...
- Jennifer Stock:* That's exciting.
- Rebecca Johnson:* ...as often as you're willing to volunteer. So...
- Jennifer Stock:* Cool. Well, Rebecca, thanks so much for being able to do a quick interview at the last minute. I really, really appreciate it.
- Rebecca Johnson:* Well, thank you. It was a great opportunity. I'm glad I was around.

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- Jennifer Stock:* Yeah, and I'm hoping to get out to the reef myself and get to participate. So, thanks again for your time.
- Rebecca Johnson:* Alright. Thanks, Jennifer.
- Jennifer Stock:* Alright.
- Rebecca Johnson:* Bye.
- Jennifer Stock:* We were just talking with Rebecca Johnson, who is doing a really neat program between the California Academy of Sciences and the Gulf of the Farallones National Marine Sanctuary, great volunteer opportunity for the new year if those of you had new year's resolutions to get more involved and share your passion for the outdoors, this is a wonderful way to do it with a great broad audience of visitors to Duxbury Reef and the California Academy of Sciences.
- So, for more information, you can email Rebecca, again, at rockyshores@calacademy.org to get more involved in this rocky inter-tidal monitoring program. For those tuning in, this is Ocean Currents and my name is Jennifer Stock. Originally, we had scheduled Riki Ott, an author and marine biologist from Alaska to be on the show today, but unfortunately, she was not able to tune in by telephone, something may have called her away at the last minute and I'm so sorry for that...see if I can bring anybody else on the phone and we'll find some other things to talk about for the rest of the hour.
- (Music)
- Jennifer Stock:* We've had a modified show today with our guest not able to join us at the last minute, but on the phone, here, I have Paula Boule from SPAWN, the Salmon Protection Network and we are going to hear a little bit about what's happening with salmon right now. Welcome, Paula. You're live on the air.
- Paula Boule:* Hi, Jenny, thank you.
- Jennifer Stock:* Thanks for letting more put you on the air on the last minute spot here. We have just a few minutes, but I wanted to hear how are the salmon runs going on this year? We haven't had a strong rain, but I'm wondering if there's some areas where they've been spotted.

Paula Boule: Absolutely. We had a couple of good rains, one just in mid-December and we had our first pulse of Coho spawning in the watershed. So, we've had about...we have documented 44 reds or (?) and about 60 fishes being observed. So, the viewing has been pretty good over the past couple of weeks and our naturalists have been out on the creek and our monitors are out and just keeping an eye on what's going on and the viewing has been great, but unfortunately, the returns haven't been that good compared to previous years.

So, we've had, like I mentioned, 44 reds or nests documented, and that's just a little over ten percent of what we had three years ago, an appearance of these fish came back to spawn. So, we still have quite a long way to go to make up for the numbers and we're really optimistically...we're waiting for more rain and hoping that the next few good storms will bring more fish out to sea. Yeah.

Jennifer Stock: Are there places that people can just stop by when they're driving through, Samuel P. Taylor Park?

Paula Boule: Absolutely. Yeah. There's a couple of good spots. One is the Leo Kernin viewing area, which is the MMWD parking area up near where San Geronimo and Lagunitas Creek come together. The other good spot is in Samuel P. Taylor State Park, which anyone can visit. There's a parking area you drive into at Camp Headquarters and there's been some great spawning activity there and even people have seen otters and there have been American dippers.

So, really good viewing and so, those are the two main areas to go right now and they're good, safe areas too. You can look down from the creek and observe spawning without disturbing fish too much and there's always beautiful things to see.

Jennifer Stock: Yeah, while the weather is holding on, it's probably a nice time to visit out there, plus seeing all the other wildlife that happen to be around.

Paula Boule: Exactly and our naturalists are still going out every weekend, twice a day, every Saturday, Sunday through the end of January taking people out to see all these different things that are going on. so, we welcome people to join.

Jennifer Stock: How do people join on those naturalist walks?

Paula Boule: The easiest thing to do is go to our webpage, which is spawnusa.org and we have an online registration system. So, it's very easy, but you can also call us at 663-8590 and we can get you started.

Jennifer Stock: Awesome. Well, great. Well, I'm just about out of time her, but I just wanted to hear a quick update on if the salmon were around and, you know, these days with everything changing so rapidly, nothing's normal anymore. So, it's nice to hear at least there's a little something that we can hold some hope on to.

Paula Boule: Absolutely and just to mention steelheads should be coming in soon too. So, there should be more to see in the weeks ahead.

Jennifer Stock: Excellent. Well, maybe we'll try to get you on a future show so we can hear some more of updates of what's happening, but thanks so much for joining us at the last minute.

Paula Boule: It's a pleasure.

Jennifer Stock: Alright. Take care. Alright. You've listened today to Ocean Currents and my name is Jennifer Stock. I'm so sorry we weren't able to bring you the full interview with Riki Ott, the author of Not One Drop and also a marine biologist based out of Cordova, Alaska. I hope to bring her back in a future show to really talk about this Exxon Valdez oil spill.

It was quite a traumatic event and has really left many decades of suffering and we've learned a lot to prepare for future spills. So, I'd really love to bring her back in the future. So, apologies there, but I hope you have a happy New Year, thanks again for tuning in an supporting KWMR, community radio. This is Jennifer Stock and I'll be back next month. Take care.

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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 of this program may or may not be that of the National Oceanic and Atmospheric Administration, and are meant to be educational in nature. To learn more about Cordell Bank National Marine Sanctuary, go to cordellbank.noaa.gov.