

*November 3, 2014*  
*What Does the Future Hold*  
*Jennifer Stock, Jack Likens*

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 KWMMR in Point Reyes Station, California. Thanks for listening!

And welcome to another edition of Ocean Currents; I'm your host Jennifer Stock. On this show I talk with scientists, educators, explorers, policy makers, ocean enthusiasts, adventurers, and more, all uncovering and learning the mysterious and vital part of our planet, the blue ocean. I bring this show to you monthly on KWMMR 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. Cordell Bank is located just offshore of the KWMMR listening radius off the Marine Sonoma Coast and is thriving with ocean life above and below the surface. There's a couple of milestones today, today is my 85th live program on KWMMR, I've been doing the show since 1996, so I really appreciate KWMMR for providing a platform to bring ocean content to Point Reyes Station, today we're talking about a snail, this isn't just a snail that fits on your fingertip though, this is a snail that grows to over 10 inches wide, has a beautiful shell on the inside and it's flesh is a highly prized delicacy, we're talking about abalone. The Sonoma Mendocino Coast is a place like no other in terms of coastlines, dramatic vistas, and kelp; a good part of the local economy is based on tourism of people coming to the coast to enjoy the beauty and riches of the ocean. The pursuit of the highly prized red abalone though is not for the weak, one has to wear a thick wetsuit, brave cold and often rough in not so clear waters and rely on their own breath to dive down to get them. My guest today is Sonoma Coast resident Jack Likens who has been actively involved in abalone diving for over 50 years, Jack dove the Channel Islands from 1960 to around 1980. He started driving the North Coast in 1990 and relocated to Gualala in 1999 after retiring from Little toy company to be closer to abalone diving, today he is still a frequent diver and manages to get in the water weekly weather permitting and he's been very involved and concerned about the future of abalone in California and has written articles, been featured in films, and is a local advocate for preserving the abalone population. So, within Jack's lifetime of diving in the ocean, Jack has seen a lot of change. So Jack, I'm very happy to welcome you to KWMMR; you are live on the air.

Jack Likens: Hi Jennifer, thanks for having me!

Jennifer Stock: Thanks for joining us today, so let's just start with some basic natural history to help folks get their ideas around what abalone are all about. How many species of abalone live in California waters?

Jack Likens: There's 7 or 8 depending on who you talk to. Some people think that one of the species is just a subspecies but here on the north coast we have the red abalone, which is the largest in the world by quite a bit. Abalone do exist in almost every ocean of the world in different places and range in size from microscopic to, like you said in your introduction, well over ten inches in diameter, the world record is 12 and 5/16's.

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Jennifer Stock: Now I was enjoying reading about your history of diving and can you tell us about the first time you dove for abalone, what was your experience like, what was the scene for abalone diving at the time?

Jack Likens: Well, it was interesting because actually, the first time I did that was at Catalina Island in the 60's and a friend of mine in high school took me to Catalina where his dad had worked in the rock quarry there. He had been diving since he was even younger than that and tried to get my friend and I to be interested in diving with him. He went down to about 8 feet of water and looked into the shelf saw all these abalone and said, "Okay, here they are. Come down and get one!" I tried to jump down and look at them and I was afraid to hit that shelf and I was afraid of what I would put my hand into or whatever was down there. At that time I was new and, as is usual with people who first start, I was a little afraid of the ocean.

Jennifer Stock: And were abalone extremely abundant at the time and what species were you hoping to catch?

Jack Likens: Oh yeah, they were! Probably even more so than we have now in the North Coast, but the species there in Catalina were the greens, the pinks, and the blacks, which I dove for. And there are other species there, but those are the bigger ones, and by "bigger" I mean I think the world record green abalone is just over 10 inches, the world record pink is probably just around 9 inches, and the black is probably around 8 inches or so, they don't get nearly as big as the red abalone we have here on the North Coast.

Jennifer Stock: So they were commercially available up to 1997, down in Southern California and Northern California, is that true?

Jack Likens: Yes, from San Francisco south until 1997, commercial abalone fishing was legal.

Jennifer Stock: As well as recreational as well, but can you describe the history leading up to this closure? I mean you were a diver in the 60's and 30-something years later, this closure happens. Can you talk a little bit about what led up to that?

Jack Likens: Well there were a lot of contentious meetings trying to decide what to do about the obvious lack of abalone: the recreational guys blamed the commercial guys, the commercial guys blamed the otters, and the recreational guys, the environmentalists and the marine bio people, they blamed the commercial and recreational divers; at that point and time, data that was available was pretty much strictly for commercial diving because they had to report their catches and during those peak years in the 70's, I think commercial catchers were around 5 million pounds a year dropped off to, by the end of the 80's, something around 215,000 pounds. So there was a significant die off or catch and it was a combination of all of those things, maybe even the otter, being one of the bigger culprits here which was relatively unstudied at the time, the effect that the otters had on the shell fisheries.

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- Jennifer Stock: So one of the things that you wrote about in an article for *California Diver* was that this closure may be a useful tool for helping to recover this southern abalone fishery, but not necessarily good for managing the existing recreational fishery in Northern California. Can you describe why?
- Jack Likens: You are talking about the abalone recovery and management plan, we call it the ARMP, and that's the legal description of how the California abalone are to be managed going forward. There are, I think, and even the California Department of Fish and Wildlife have realized at this point, problems with that document and it always was supposed to be adjusted as time goes along. At this point and time, the red abalone fishery, the recreational fishery in Northern California, is the only existing fishery. Only red abalones are allowed to be taken and the department of Fish and Wildlife in California is in the process of evaluating whether the red abalone should be removed from the ARMP and placed into a fisheries management plan. What that really means to me is it's another opportunity to be involved in the management of the abalone species, or I shouldn't say species, I should say fishery, and fix some of the problems that existed in the ARMP. Southern California still has not recovered to a stage where the department feels like it can be open to either the recreational or commercial fishery, but Northern California has always been open to recreational fishing and the difference, the big difference, has been that there has never been any commercial fishing - except for a couple years during the war- in Northern California, and that no scuba is allowed for taking abalone in Northern California, no underwater breathing apparatus, in other words. In Southern California, most all divers, including commercial divers, use self contained air to pick the abalone which has allowed them to go deeper, stay longer, a lot of things, so that was and has always been one of the big differences between the north and the south.
- Jennifer Stock: Do you feel as a diver that a fisheries management plan for the recreational fishery on the north coast is a better way to go?
- Jack Likens: Well it depends on what comes out of it and like I said, we are in the process right now of re-determining how it will be managed. And, of course, I have some pretty personal thoughts on how that should be done, but then there's all kinds of factions involved in this process that also have their ideas about what should be done, including the Department of Fish and Wildlife, marine mammal groups, and now it seems that even the National Oceanographic and Atmospheric Administration (NOAA) is going to be somewhat involved as they are going to expand the Cordell Bank and the Gulf of the Farallones Marine Sanctuary all the way up to Point Arena, which is quite a ways north and takes all of Sonoma County and a good chunk of Mendocino county.
- Jennifer Stock: Right, so it sounds like you have a lot of concern about sea otters and, historically, the coast up there, there were sea otters and then there was a Russian settlement set up at Fort Ross and they pretty much decimated the population. They haven't recovered in that area, but reading the article that you have wrote and our communication, it sounds like this is a real concern of yours

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and I am curious: I haven't seen any sea otters and haven't heard about any otters in this area... Is there a thought that they will return to this area?

Jack Likens: Yes, that's the fear of course. It is their historic range and about in the mid 1800's, yes, the Russian otter hunters along with the local Native Americans pretty much hunted otters on the North Coast to extinction. It was found out that later, maybe in the early 1900's, that there was a small colony in the central coast of Big Sur, a couple hundred otters, and at that point and time they were protected by the federal government, the Department of Fish and Wildlife. The US Department of Fish and Wildlife federally manages the sea otters at this point in time; now they have grown in population, from a couple hundred to almost three thousand animals on the central coast now, also including San Nicolas island which is just off shore Channel island in Southern California where they tried a project to relocate the otters to the island. And the thinking behind it was to have more than one area for the southern sea otter in case something drastic happened on the central coast. San Nicolas Island was also a popular location for otters. The relocation plan didn't work very well at first it seems, as many of the otters died and some of them swam back to the central coast, but they're still working on it. I don't know the range of 60 otters left on Nicholas Island, but in the last three to five years, they've almost doubled in size. So they have taken a hold there and they have propagated very well there even so better than the central coast. Probably what's happening is the otters are growing to such large numbers that they're eating their way out of the livelihood as otters eat about 25% of their body weight every day and kill much more of that; much of that is shell fish.

Jennifer Stock: I see, so we may very well have a big debate coming up in this area in terms of how to sustain their population of their favorite food resource if they ever did come back up here! I can see the issue as it comes potentially in the future.

Jack Likens: Yeah, at this point there have only been a few what we call "rogue otters" that have made it as far north as around Point Arena. But they're there and they are tagged, so we know they came from the central coast. They haven't established any colony yet, probably the major break being San Francisco Bay. We don't know exactly why they haven't crossed that boundary onto the North Coast, but so far they haven't and yes, the fishery we have here for abalone is artificial compared to it's size and the amount of abalone. Due to the mass of the abalones and because of the lack of the otters, we do have a fishery; the fishery would not exist (with otters). And they (otters would) also affect the crabs and other shell fish on the North Coast and they have pretty much been proven by what happened in Alaska when the otters were protected and they had a thriving shell fishery there and urchin fishery and over time it has been totally decimated. But now, the Alaskan government and the US Department of Fish and Wildlife is considering a bounty for hunting otters in that area.

Jennifer Stock: Wow, it's so interesting thinking about the history at that time and the balance of predator and prey and food webs and changes in ecosystems and it's very fine idly managed now in terms of that sustaining fisheries in terms of a very complex

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process. We are going to take a short break right here for a little bit, but I would like to come back and talk a little bit more about the challenges that abalone face both with some of the natural things and also with some of the other human challenges with managing abalone.

(Break; music plays)

Thanks for staying with us here on KWMR. My name is Jennifer Stock and you're listening to *Ocean Currents* and today I'm talking to Jack Likens who is a resident on the Sonoma Coast and an avid abalone diver. Jack, thank you so much for waiting on the line while we talk to the community

Jack Likens: Okay, no problem.

Jennifer Stock: So I wanna go back to some of the other challenges we were discussing about predators. We were talking about over harvesting and different management plans, but there have been some other challenges, too, that abalone have faced more related to the environment. Can you talk a little bit about some of those like the withering foot syndrome or some little events that have happened like that?

Jack Likens: So, that's exactly right. It seems like there are a lot of causes for the reduction in the number of abalone and just for a little background, abalone are really a keystone species in the ocean; they've been around for tens of thousands of years long before man or all or most mammals, certainly longer than the otter has been around. And the problem is that, historically, the abalone have not been well managed in California and, by that, I mean that almost all the regulations on abalone are put in place, I use the word, to punish fishermen. There are many other causes: ocean warming definitely is a cause, withering foot syndrome, that still exists in the ocean, is a bacterial disease that seems to thrive in warmer waters better than colder waters, and one of the reasons is that populations have decreased in numbers compared to the Northern California waters, which are colder, as well as pollution, these all definitely have an impact on our ocean and the abalone population.

Jennifer Stock: In addition to those fluctuations in the ocean with the syndrome and the ocean warming, there is a real serious issue on poaching and people poaching abalone illegally outside of season or outside of the regulations. How much of an issue is that for the north coast?

Jack Liken: I think it's a very big issue. An estimate from some of the Department of Fish and Game wardens here on the west coast is that fishing accounts for about 100% of the legal take, but when you go to make regulations, poachers don't follow regulations, so again, you end up what I call *punishing* the legal recreational fishermen by reducing their annual limits, their daily limits, where they can fish, and stuff like that. (But it's really) Because of all of the other elements that cause abalone to decrease populations, but poaching is a very big one considering that the total number of abalone taken is in the neighborhood of 240,000 a year, and if poaching is another 240,000, then we're approaching half a million abalone

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taken off the north coast, most of that coming from Sonoma and Mendocino county, so that's a lot of abalone.

Jennifer Stock: What have been some efforts to help crack down on that? I know that Mendocino County has a volunteer service, Mendo or AB Watch. They have volunteers that do their best to watch out on beaches and access points on all hours to keep an eye on who is going in on the water. Do you know how effective that has been and is there such an effort on the Sonoma coast?

Jack Liken: It's been somewhat effective and I think it's a good thing because the Department of Fish and Wildlife wardens don't have the resources, the money, or the number of people that they need to patrol the whole north coast. But we do know, I think, where most of it occurs and I think most of it is done by, I wouldn't even call them recreational fishermen, I would call them poachers different from commercial fishermen and different from recreational fishermen. Poachers are in a class all by themselves, and I think that giving more money to enforce it is, to me, some of the low hanging fruit that we can pick off the tree with not much effort but with a little more money.

Jennifer Stock: Where do you think the enforcement is most effective? Is it on the water or is it at the beach?

Jack Liken: I think both places, probably. Most of the poaching comes on the water and I think also on this there's no real statistic on poaching because if they knew about it, they would catch the people and find them. But I think most of the poaching comes from what we call rock picking. Rock picking is a method of taking abalone where you don't have to swim, you simply wait in the water at low tide and pick the abalone off of the rocks and what happens typically in that area is that there will be one to five other people in the group and one diver will go out in ten or fifteen feet of water at low tide and pick up abalone to shuffle them off for the divers in the shallow water where some may not even know how to swim and they will put them in their bags and they walk up on the beach and they're all legal because they have their legal sizes, they have their legal numbers, and it's very hard for the police to patrol all the places that this kind of event might happen.

Jennifer Stock: You've obviously had a long relationship with the ocean and abalone diving. What does abalone mean to you? What is the thing you treasure most about this unique sport and seafood?

Jack Liken: Well I think what you said, "what I treasure about the sport." For me, it's not even a little bit as much about the abalone as it is about the ocean. I probably dived 20 times this abalone season, which started in April and it closed in July, and I've taken 5 abalone. So I dive a lot, but every time I'm in the water, Jennifer, I see things that I've never seen before; it's so majestic, it's so beautiful, there's so much of it that is unexplored. That's the statistic that only 5% of the ocean, (which makes up) two-thirds of the earth's surface, has been explored. So every time I go in the water I see things that are unique, things you've never seen

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before. I look at it like my church almost, and to me whether or not the federal government calls it a sanctuary or not it is a sanctuary, I can go there, I can forget about life in general, the problems that I'm having and just enjoy nature and the beauty of the ocean by myself in quiet.

Jennifer Stock: Wow, that's wonderful! I feel the same way underwater, it's a whole other world to explore and I haven't spent enough time up on the west coast being in the water. I used to live on Catalina Island and dove a lot down there, but I've been definitely missing the underwater world up on this part of the world.

Jack Liken: Yeah that's true, I have, like I said, dived in Catalina in the southern part of our state and it's beautiful, too. And the thing about it is that the water is warmer, the water is much clearer, and not nearly as rough. When you get north of the North Bay and you get out into the ocean, you really got to pick your days because most days are rough big surf and dirty water, maybe only 3 or 4 feet of visibility diving. If you don't use good judgment, you can really get in trouble. Many people don't (know how to) relax in the water and that accounts for the people that don't dive very much. My first thought is calm down, relax, and enjoy the environment and enjoy what you are seeing. If you are able to do that, and that's very difficult, especially with that experience, you'll start to see wonderful things and things that you have never seen before and experiences you have never experienced before. I remember one time I was out diving and the water was fairly clear, probably 50 feet or 20 feet of visibility, which is good for the North Coast, and I see this head it looks like, coming towards me about the size of basketball, well not that big; the size of a volleyball coming at me, and it's got two big eyes and I go, "What is that?" And just before it reaches me, it turns sideways and, believe it or not, it was a baby seal, just born, with the umbilical cord still hanging out of it! He thought I was his mother because he came to me and nestled under me, my armpits, my crotch, and wanted to hug right to me and stay right with me and I was enjoying this so much that I almost didn't notice that his mother came around. She was just frantic! She was about 10 feet from me and swimming back-and-forth so I gently pushed the baby towards the mother and it turns around and comes right back to me, so I guess it didn't see the mother and then I did it one more time and it saw the mother and the mother came in between me and the baby and took the baby by the nape of the neck and took them off beyond where I could see. I've seen them many, many times but never seen a baby that wanted to nestle with me.

Jennifer Stock: So there's other big predators up on the coast for humans and it seems, every year, there's a little bit of an interaction of some sort with white sharks. Have you had experiences with white sharks on the North Coast and are there certain areas that are to be avoided or certain behaviors that are to be avoided as an abalone diver?

Jack Liken: It's fairly well known by most divers where the white sharks hang and, actually, they hang out everyday and, yes, every year, there are encounters with white sharks. But, very rarely, a person gets killed by a white shark, probably 1-in-10

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encounters result in a death or less, but I'm happy to say, knock on wood, that I have never seen one... But that doesn't mean that one has never seen me!

Jennifer Stock: Yeah, I was just going to say that!

Jack Liken: I do know people, I've interviewed them, who have been bitten by sharks and live to tell about it, so it's a very real hazard, and that's just another point of anxiety when a diver, especially a new diver, goes into the ocean here.

Jennifer Stock: Well, we just have a few more minutes left before we go back to our pitching, but you did mention the expansion of the sanctuaries, which is something that is still in the proposal process, the gulf of the Farallones and Cordell Bank National Marine Sanctuary are proposing to expand up to Point Arena. I'm not so sure how familiar you are with the sanctuaries regulations, they don't manage fisheries, they work mostly with habitats, and from your knowledge of what you do know about the sanctuaries, what role would you encourage the sanctuaries to play in this important issue on the North Coast in preserving this special livelihood, culture, and recreational fishery?

Jack Liken: I really have mixed feelings about the federal government managing a marine sanctuary where the state government, especially where the state government is already trying to manage it. I have absolutely no problem with anyone who wants to try to preserve the health of the ocean. My personal belief is we all walked out of the ocean at one point and time, it is the foundation for life on Earth: it controls weather, it controls rain, of course, probably 50% of the oxygen is produced by the ocean, there are a lot of benefits of course to man and the big picture of conserving the ocean. Having said that, though, I have to say that I'm concerned about any time the government gets involved unnecessarily or overbearingly in the management of the ocean. I don't have many good experiences with how they manage things like that. Now, having said that, as long as the sanctuary was strictly protecting from pollution or oil spills, I would say, "Fine, let's do it," but we know that history has told us that you can look at the gulf of Mexico and what's happening down there right now and the National Marine Fisheries Service is getting involved in the fisheries. That's another branch of the federal government who works in conjunction with NOAA. In fact, the guy at NOAA is the guy that got them involved in trying to manage the snapper fishery among recreational fisheries. So like I said, I don't have big problems as long as the agents that are doing it don't overstep their boundaries or cause other areas of the government to get involved. You've got the federal government, you've got the state government, you've got environmental organizations, you've got recreational fishermen, you've got commercial fisherman, and then on top of all that you have positions and money that influence the decisions being made in the so-called sanctuaries and I'm always afraid when politicians get involved and money gets involved, that the wrong decisions are going to be made. That's just my personal feeling about it.

Jennifer Stock: Thank you for sharing, I do know that the National Marine Fisheries Service is the fisheries management agency in the United States in cooperation with the

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regional fishery management councils and, hence, their role right now in the Gulf of Mexico and also in our role of fisheries here on the West Coast with the Pacific Fisheries Management Council and in some fisheries the state, for us it would be California. But thank you for sharing your perspective on that and the diversity of concerns it can bring for you. We are just towards the end here, but I did wanted to ask you; one of the things I liked was your description of abalone and the process of getting abalone is much more beyond abalone than itself in terms of the prized catch but the experience that you have. For those folks who are not abalone divers or seafood enthusiasts, what actions do you suggest for people like us to take as a role in ocean conservation overall?

Jack Liken: Well, I think the first thing to do is to educate themselves on the issues. I know 99% of the US population doesn't have time to get involved in most of this kind of stuff, especially (with) something as what you'd consider as small as abalone, but I'd say the first thing to do is to educate ourselves. What happens, I think too often, is groups with money and politicians get involved and they make decisions based on where their money comes from their sponsorship, who's voting for them, whatever... And most people don't understand that so it's very hard for me to tell somebody who doesn't have the time to understand it; you should go out and study this thing. There are a lot of things that people are involved with, especially their own daily lives, they rely on groups like NOAA particularly there are some NGOs, non-government organizations, that do a good job crossing the boundaries between fishermen and the environment and humans and the environment. We can't go overboard one-way or another: we can't say no fishing! I mean, where would our fish come from? Where we eat, we can't say, "Open it up and let everyone fish as much as they want." What would happen to our oceans if we let that happen? So you've got these individual groups that kind of argue, discuss among themselves and my bad feeling about that is that most of them do it for the promotion of their own groups, not so much for the better of the overall issues.

Jennifer Stock: So making sure we are paying attention, getting involved as much as we can with the bandwidth of time that we have. Well, Jack, I appreciate all your perspectives today and our short interview about abalone and sustaining this population up the North Coast. I appreciate your involvement and willingness to share with us today.

Jack Liken: You're welcome Jennifer.

Jennifer Stock: Thanks so much again!

Jack Liken: Okay goodbye!

Jennifer Stock: Have a great afternoon

Jack Liken: Thank you, you too!

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Jennifer Stock: Thank you for tuning in today to *Ocean Currents* here on KWMR, this show is always the first Monday of every month and you can catch past episodes by going to [cordellbank.NOAA.gov](http://cordellbank.NOAA.gov) or by going to iTunes and looking for the ocean currents podcast. Don't know if I'm going to have them up by next month, it's always a bit late every month, but thank you again for tuning in today to KWMR *Ocean Currents*. Thanks 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 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](http://cordellbank.NOAA.gov).