

Interviewee Name: Tap Pryor

Project/Collection Title: Voices of the Maine Fishermen's Forum 2018

Interviewer(s) Name(s) and affiliations: Galen Koch (the First Coast)

Interview Location: Maine Fishermen's Forum, Rockland, Maine

Date of Interview: March 1, 2018

Interview Description:

Tap Pryor

Brunswick, ME

Aquaculturist, Maine Shellfish Developers

Interviewed by Galen Koch

Tap Pryor, an aquaculturist through Maine Shellfish Developers from Brunswick, ME, is currently attempting to grow oysters more efficiently and sustainably by growing them onshore. He speaks about his experience being on the original commission that founded the National Oceanic and Atmospheric Administration (NOAA), how NOAA was named, and his work growing oysters on land first in Hawaii and now in Brunswick.

Collection Description:

Voices of the Maine Fishermen's Forum 2018 is a project of Maine Sea Grant, The First Coast, College of the Atlantic, and the Island Institute, with support from the Maine Fishermen's Forum Board of Directors.

Citation:

Pryor, Tap, Voices of the Maine Fishermen's Forum 2018 Oral History Interview, March 1, 2018, by Galen Koch, 15 pages, NOAA Voices from the Fisheries. Online: Insert URL (Last Accessed: Insert Date).

Transcription by: Natalie Springuel, Maine Sea Grant

TAP_PRYOR_VMFF2018_AUDIO

GK = Galen Koch (Interviewer)

TP = Tap Pryor (Interviewee)

Tony (Tap's friend)

[0:00:00.0]

GK: The first thing I will have you do is just say your name and where you are coming from today.

TP: I am Tap Pryor, I live in Brunswick, and I, my company is Maine Shellfish Developers.

GK: And how long have you been doing that?

TP: I started the company last year, but I have been in oyster production and experimentally for 40 years.

GK. Wow. In the Brunswick area?

TP: No, I did most of my work in Hawaii and the South Pacific. I came to Brunswick six years but I only started this company to do what we are doing now last year.

GK: And what is it that you are doing with that company. Can you describe it?

TP: Yes we are in the process of moving, growing, learning how to grow shellfish on land, entirely, just getting out of the water, and going both coastal and inland.

GK: And what is the purpose, what is your objective?

TP: The Objective is to grow oysters more efficiently and under fully controlled conditions and to grow them without a season or interruptions, and to get into circumstances where production is, can be in effect limitless. Offshore you are limited by the ecology, by permits, by competition for space, by weather, by costs of operating offshore, but seems to me that onshore, and I have done some of this over the years, that on shore, it is far more efficient and easier to culture shellfish, starting with oysters, but going on to ultimately scallops and clams.

GK: And where have you, what is your background?

[0:01:56.6]

TP: I was trained at the University of Hawaii and moved on to do various things in Hawaii including founding the Oceanic Institute, which is a research institute, private, non-profit institute. At one point I was, I was named by President Johnson

to the 11-man Commission that founded NOAA, so I think I was the youngest member of that Commission, so I am probably the last living founder of NOAA.

GK: Wow.

TP: And then went on from there to develop an on-land oyster farm in Hawaii which we lost in a cyclone but I went on to work at Duke University Marine Laboratory and then to the South Pacific where I did another oyster farm, and, on land, and ultimately moved to Maine for various reasons and having done all my work in the tropics, I was curious that, to find an industry that shuts down by and large in November and doesn't start until April, and I thought, no we can do it all year round.

[0:03:13.5]

GK: What was in like founding NOAA? What led, what was that, what was your, I don't know, what was the driving force behind that?

TP: The driving force was really NASA, because, which Kennedy initiated, and President Johnson and Vice President Humphrey wanted to do the same in the oceans, and so they formed a Commission headed by Julius Stratton, the then president of MIT, and they named 6 commissioners, to 11 eleven commissioners to do it. And we met over several years in Washington every week, every month, and finally published in January 1969 the uh, a publication called "Our Nation and The Sea," which presented the whole possibilities for marine biology and marine engineering, and marine conservation. That went to, and it recommended NOAA. That went off to Congress, and ultimately it was approved.

[0:04:25.1]

GK: Go ahead with that last sentence again.

TP: Ultimately our recommendation in "Our Nation and the Sea" was to form NOAA. Then the idea was an independent agency like NASA, but uh, the Nixon administration saw it differently and Congress finally passed it as a division of the Department of Commerce, which is where it is today. And it has been. as we all know, it has been a very effective agency in many many ways. We are certainly proud of what resulted.

GK: Did it change over the years, I mean where there reasons that it shifted from the original?

TP: I don't think so. Except maybe, I think that there was more emphasis on technology back then, and and encouraging finding funds for companies to innovate. A lot of that is still ongoing but I think more of it is from National Science Foundation and DARPA [Defense Advanced Research Projects Agency]. But anyway, it has been pretty well funded and has done amazing amount of work, especially in

environment and with, I think with universities and the Sea Grant program is all great stuff.

[0:05:54.5]

GK: Yeah, I was just going to say, Tony might ask some questions too, he seems to have some questions for you, Tap.

Tony: no had a question suggestion that you ask, but, Tap can you explain how NOAA got its name, tell the story about that?

TP: We hadn't come up with a name in the couple years of planning, and it seemed strange to me, and finally I, and part of the reason was that for a long time, the Commission thought that the Navy research, marine research, was probably sufficient, and they were very reluctant because there was the secretary of Navy for Research was on the Commission, and so people were very reluctant to say well this is going to be a civilian agency, therefore it is going to have a name. Finally I got tired of that and went to see, and had lunch in the Pentagon, and I asked the Assistant Secretary of Navy, I asked "do you want to be the National Ocean Organization?" he said of course not, we are interested in the military aspects of it.

[0:07:02.4]

And I said "why didn't anybody say this?" So I went downstairs, and I called one of the members of the commission who then was the head of the Weather department, administration, and I said "They don't want it. Navy didn't want it. Let's have lunch." We did, and we said "ok, it is now going to be a civilian entity." And that was great. He had a couple of his staff with him, and I said, we said, well what are we going to call it? And one of the young staff said "It's gotta be 'Noah'." There was some recent publication out that oceans called itself "Noah" for obvious reasons. And we said "Ok" and one of the younger staff said well it's gotta be N for national. At that time I was, had developed the Oceanic Institute.

[0:08:01.0]

Oceanic was not a generally used word at the time, because you had the Woods Hole Oceanographic Institute, you had the Scripps Oceanographic Institute. And I did not want to be an Oceanographic Institute. I wanted to be, because they have big boats at sea, very expensive stuff. I thought, I look in the dictionary, and I come up with "oceanic." Oceanic means of or by the sea. I said, yeah, that's us. I formed the Oceanic Institute. So at lunch, I said, "Look, I'll buy a round of martini's, we used to drink martinis for lunch in those days, we never do now, I said "for the O, I will buy a round of lunch, if it is Oceanic." They said sure, great wonderful, I explained about the definition, and then we had to have an A.

[0:08:53.2]

And what's his name that was head of the weather bureau said, well I will buy a round, a second round if it's Atmospheric. I said great! We'll have another round. And finally the other one said "well obviously the last word had to be Agency. So we had NOAA. And that's how, Tony, how it was formed.

[0:09:14.7]

How it was named.

Tony: I was wondering all these years what NOAA stood for. [laughter]

GK: Oh that's great. Back in those days, they used to drink martinis huh?

TP: For lunch? Can you imagine that? I never would today, not even in the evening. [Laughter]

GK: And so how long where you involved with NOAA, or was it?

TP: Nixon actually closed down the committee, and formed a new one. I think I was the only holdover into the Republican administration. I don't know why. And we went on for awhile to try to do it Nixon's way, or that Haldeman and Ehrlichman's way, but it only lasted a few months and they closed in down.

[0:10:00.7]

But Claiborne Pell was the senator from Rhode Island, Rhode Island being very much of an oceanic state, picked up the ball in the Senate and ran with it. And by that time I was out, I was back in Hawaii doing other things. And Claiborne Pell made NOAA possible after that. And I went on to do other things. Including an on land oyster farm in Hawaii. I wanted to grow oysters. I wanted to farm oysters. But out in the Pacific and in the Tropics, that beautiful blue water that attracts tourists is a desert, there is no food in it, so how are you going to grow oysters in Hawaii. And I said, well, because, I will just do what, create my own feed, microalgae, so I leased a part of an airfield, an old abandoned army field and

[0:10:59.8]

set up a checkerboard of shallow ponds on it and put pumps so that I could bring the sea water up from the limestone below, nice clear seawater been in there for eons. And put that in with fertilizer and an inoculate of microalgae in the ponds. Cultured a lot of microalgae, pump that to concrete raceways in which trays were stacked and we put the seed oysters into the trays and fed them with self made algae and then took the wastewater and lifted it up into a shallow pond that had seaweed in it. Cleaned up the water with the seaweed. Let it overflow into a pipe and down into the limestone below and some of it made its way back to the pumps. So we had a

large recirculating aquaculture system. It was shut down by, that operated for a few years, enough time to grow marvelous oysters, in fact I took them to the European Food Fair in 1981 or 82

[0:12:06.0]

and, when it is was in Cologne Germany, the Food Fair alternates between Germany and France every year, between Cologne and Paris, I took them to the Cologne Food Fair, and the Hawaiian Oysters won the award for the outstanding food product introduced to Europe that year. Big fat beautiful oyster, grown on land! We lost the farm in cyclone Eva, about the same year. And I went off to do other things, finally going down after, a few years to the South Pacific, and there I grew for some time, I grew Black Pearl Oysters, in an atoll up near the equator, and then I set up a small farm on land in, on the Capitol Island of Roratonga. It went really very nicely because we cultured algae in ponds and with fish providing the fertilizer

[0:13:03.2]

and used the plankton to feed the oysters. The oyster waste went back to encourage the plankton, nutrition for the plankton, phytoplankton, and it was going very well. In fact it was in June 2009 that the United Nations gave us, gave me, the award, their SEED award for innovative development in a developing nation. That was 2009.

GK: For that land based oyster farm?

TP Yeah, for that land based, I still would like to it again in the tropics.

GKL: It sounds like they are pretty self-sustaining, or that there is symbiotic relationships happening between all the different components. How are you powering, what is the energy level, what is this thing running on?

TP: Well there I used, I pumped the water, from the ponds through the

[0:14:03.0]

oysters which were in trays on land and then cycle it back. However towards the end, I was actually putting the oysters in the ponds themselves, but the point is the ponds were inland, not in the ocean. Because a lagoon of course is pure clean water with no feed in it. So then I came back to my, by that time, I had some trouble with my legs, and shut the farm down, came back to Boston for repairs, and came up to Brunswick to recuperate. And then, I knew all about oyster farming in temperate climates but be close to it, to meet people like Chris Davis and others who are actually involved in it, got me especially interested in saying, here is an industry that shuts down in November and doesn't start again until April. That is like having a factory that

[0:15:06.1]

that closes in the winter, a very busy factory, a productive one that closes in the winter. I said, no, we ought to be able to bring the tropical techniques to Maine and begin to think about how you might do that here, and begin to. Finally last year, decided, I was with another company, we were growing fish and oysters, but I left that company and started my own with the help from, a lot of help, from Maine Technology Institute, and we went through a whole year, last 17 months of trial and error, and now we have, we are in fact at the Darling Marine Center in Walpole, we are in fact taking seed from Mook Hatchery and growing them up to, towards market size indoors. And that's where it stands today.

[0:16:06.2]

GK: And why did you come to Maine?

TP: I had a friend who said she has an apartment above her garage and I can come up there, recuperate from operations on my legs

Tony: This is Nan?

TP: Nan Houser (?) the famous whale

[Unintelligible]

TP: Nan is the famous whale lady, she observes and researches humpback whales in Roratonga, Cook islands, and I helped to get her permission to do her research down there about 12-14 years ago, and so we still are very good friends today, she lives, her home is in Brunswick too.

[0:16:54.6]

TP: So um, there is a trick to growing oysters, beyond hatchery size. The hatcheries as Bill Mook made very clear this morning are dependent on micro-algae, and you have to be very good at growing a lot of microalgae economically. Which he is doing, and he is doing it better and better all the time, he is great. But the oysters in the upper Damariscotta River are not dependent on microalgae, there is a whole range of planktonic materials, detritus, bacteria, sea[?], protozoa, including rotifers, it is a smorgasbord of nutritional items in the river and they actually do, it is pretty well known, certainly in the Chesapeake they know that when you take a seed from a hatchery and put it out, where it is being fed 24/7 with a dense broth,

[0:18:03.4]

you put it out into the Chesapeake Bay where it is a thin broth, but it is a mixed broth, and actually they do better out there. And so why can't we do that on land?

And so that is what we are working on now, and in fact it is paying off, to take different items that are bite sized for the oysters, very small, and mix em up, including some microalgae, we have nothing against microalgae, but you can't use a lot of it because it is expensive. But you can ferment other organisms. In fact you go to a company like Ocean Organics, which is in Waldoboro, and they take powdered seaweed and powdered kelp and powdered uh, shrimp meal, crab meal, other marine based organisms,

[0:19:05.4]

wastes, and ferment them. And they come up with a high value liquid fertilizer. We don't want anything high value, but we take the waste that they give away, and now you have a fermentation waste which has a lot of food value in it and then you mix that with other ingredients. We are trying different ones. Trying to emulate what's in the river. I mean there is your detritus, right there, for example, you try different organisms and add a little microalgae, yes, and finally you are getting growth of oysters all the way up to market size, by doing it. And that's what we are doing now.

[0:19:53.8]

TP: Once you are doing that, then you don't, you are not, here we are in a coastal site, the Darling Marine Center, with kinda limited space, any coastal site you go, it is limited space, coastal sites are expensive, so why not move inland and our next step is to, we have made arrangements to, with two marine scientists who happen to own a barn, a former and now abandoned poultry barn in Troy, Maine. And so our next step is to farm oysters in that, I call them feedlots, because there is really no difference from a cattle feed lot, except it is just the species that you are using and the kind of feed that you bring in. And you can bring it in. As Mook said today, it is, you are obliged to have your microalgae on the site and so he said it is kind of unusual for a farm to have its own feed, to grow its own feed,

[0:21:05.5]

and yes, but I don't believe that is the way to go. I would rather make an arrangement with someone like Ocean Organics, to make my feed. Sure we would do the R&D and we'd hand the R&D over to them, they the make the feed. Now you have somebody who knows how to make it in volume, how to buy the ingredients cheaply, and then truck it out to a barn, or 10 barns, or whatever. So now you are on land, you are not limited by space, you are not limited by season, and you have an oyster product. And I hope that answers your question. That is what we are headed for.

[0:21:45.2]

GK: Yeah, is there a sort of, a certain taste that you are going for. You know when I go and eat oysters, I've got the Damariscotta oysters taste different than the Bagaduce and all that. Do you have a specific palette?

TP: there are two ways to go once you harvest a 2 ½ or 3 inch oyster in the barn. One way is to take it back to the coastal site and let it, keep it there for however many weeks necessary for it to absorb the local salinity, which probably is almost overnight, and the local flavors which make take a couple weeks. And then goes, package it and go off to market. That is one way to do it. The other way to do it, and you are purging it in this time. Whatever it was eating back in the barn, is now fully purged, it's got the local plankton and so forth. The other way to do it is to harvest it in the barn and purge it in the barn using artificial seawater. You bring in the salt, you add this freshwater, and it is very clean, and it is perfectly sterile, and you then, you have a product that never has seen the estuary, and that gets packaged and goes off. To answer your question, I don't know what it is going to taste like.

[0:23:06.9]

GK: It will have its own thing. Yeah.

TP: Yeah.

GK: But you always purge it. Is that?

TP: You purge it. You purge it. And it may have a distinctive taste, that's great. And you, full disclosure, we call it shore-side produce, that is the brand name, so it is full disclosure. This has never been in an estuary, this comes out of a tank, and take it or leave it. Actually, you hope for controversy, you hope people say this is good, or no I much prefer the estuary. Like the arguments between farmed salmon and wild salmon. Let there be a controversy. But I think there is a lot of consumer out there who would like to know that this is fully traceable, there is no vibrio in it and no chance of any unwanted contaminants whatsoever, and it's a different product.

[0:24:11.4]

TP: It may taste great, I don't know. And you also can adjust that taste, I mean once you get very smart about what you are doing, maybe, maybe the feed that you are giving them, maybe you put more of, maybe you can buy vitamins, agriculture grade vitamins, what would that do for them? You know, what, some change in the source of salt. I don't know.

GK: And one more question for you because I know we are coming up on 30 minutes here. But, are you, you know, thinking about this as a feedlot, like you've got a cattle feedlot, and then you've got oysters. How much can you grown. How many oysters could you grow in that space that you are working in, in that barn? Do you have an estimate for that?

[0:24:58.8]

TP: we have a, to start with, we have one room set aside within the barn, 3500 square feet, and we can harvest, we estimate 100,000 oysters a month from that. The barn is, the ground floor of the barn is five times bigger so that would be a half a million oysters a month. And that's quite a lot. So, the bloke, the guy who owns the barn, the marine scientists, drives each day from Troy to Waldoboro, and in that one drive, he counts 20 abandoned barns, ok.

GK: That's a lot of oyster.

TP: I could be a lot of oyster I mean. [Laughter] So one of the things that you, it is very obvious about it is that you'd be looking for the export market. Which is kind of interesting because so much of our seafood is imported and at last, along something that Americans can actually export, like to China and Japan. We have talked to exporters about it and they are interested.

[0:26:09.9]

GK: What does that, do you have to do, how quick do they need to get there? The oysters?

TP: Oh, the oysters travel wonderfully?

GK: They do? Oh that's good.

TP: Actually, China buys a lot from France and from Australia.

GK: So they are not, like, a day ship type of thing?

TP: No. You can, even unrefrigerated, a day is nothing.

GK: Great. Well Tap, this was wonderful, and I am so glad that you came it and told us this, about the project you are working on, and also that you started NOAA, that's pretty amazing.

TP: I didn't start it, I am the last living...

GK: You are the last living first member of the Commission, correct?

[laughter]

TP: Yeah.

GK: Ok, that's what it is. That's great. I was wondering actually on this release form, if I could check this box that said "would you be willing to be contacted for a follow up interview sometime? By one of us?"

TP: Sure.

GK: So I will check that and I will get your contact information. Is there anything else you wanted to say today?

TP: Thank you for asking. You know, I never told anybody all of this, so this is the first.

GK: Oh that's great. Well hopefully we can talk even more.

[0:27:30.3]