In The Matter Of:

Coastal Resources Management Council

Perry Raso

Vol. 2

November 13, 2020

Subcommittee Hearing

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
COASTAL RESOURCES MANAGEMENT COUNCIL
SUBCOMMITTEE HEARING

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IN RE:
CRMC File No. 2017-12-086
In the matter of Perry Raso
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Date: November 13, 2020
Time: 1:00 p.m.
Place: Via Zoom
Rhode Island

MEMBERS PRESENT
Jennifer Cervenka, Chair
Raymond C. Coia, Vice Chair
Donald T. Gomez
Patricia Reynolds
Anthony DeSisto, Esquire, Legal Counsel

STAFF PRESENT
Jeff Willis, Executive Director
Lisa Turner, Secretary
Ryan Moore, Moderator
James Boyd, Deputy Director
David Beutel, Former Aquaculture Director

APPEARANCES
Elizabeth Noonan, Esq.....For the Applicant

Leslie Parker, Esq.....For the Applicant

Christian Capizzo, Esq.....For the Objectors
(Hunt, Latham, Cooney and Quigley)

Dean Wagner, Esq.....For the Objectors
(Andrew Wilkes and 454 Beach Road, LLC.)

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to provide public comment they should register today. We're not taking any of that over the weekend, correct?

MR. WILLIS: Right, that is correct. We should have the information by the close of today's hearing.

CHAIRWOMAN CERVENKA: Okay. Great. Thank you. I'm going to turn it back over to Ms. Noonan who is going to present her third witness, I believe.

MS. NOONAN: Thank you, Madam Chair. I am in fact presenting my third witness. We have three witnesses today, so it will be Drs. Carrie Byron, Dr. Michael Rice, and Dr. Robert Rheault. So I'd like to start with Carrie Byron first.

Carrie, are you up there?

DR. BYRON: I am here.

DR. CARRIE BYRON,

Being duly sworn testifies as follows:

COURT REPORTER: Please state your name for the record.

THE WITNESS: My name is Carrie Byron.

DIRECT EXAMINATION BY MS. NOONAN

Q. Good afternoon, Doctor. How are you?

A. I'm well, thank you.

Q. Good. Dr. Byron, could you please tell this subcommittee of CRMC where you presently are employed?

particular, my dissertation work that was done in Rhode Island is recognized globally around the world, some of my most highly cited work.

MS. NOONAN: I'm going to ask this committee to qualify Dr. Byron as an environmental scientist as she is a professor of marine science.

CHAIRWOMAN CERVENKA: Tony?

MR. DESISTO: It's going to take a motion which is an order, by the way.

CHAIRWOMAN CERVENKA: Same as last time. Can I get a motion to qualify Ms. Byron as an environmental scientist, Ms. Noonan?

MS. NOONAN: With a specialty as a professor in marine science.

MR. COIA: Madam Chair, Ray Coia to be recognized?

CHAIRWOMAN CERVENKA: Yes, Mr. Coia.

VICE CHAIR COIA: Madam Chair, based upon the CV that's presented to us on screen and the representation, I would move to accept her as an expert in the fields as indicated.

CHAIRWOMAN CERVENKA: Thank you, Mr. Coia. Is there a second to Mr. Coia's motion?

MR. GOMEZ: Don Gomez, second to Mr. Coia's

motion.

CHAIRWOMAN CERVENKA: Thank you, Mr. Gomez. Any discussion? Okay, I'm going to do a roll call. Ray Coia?

VICE CHAIR COIA: Ray Coia votes aye.

CHAIRWOMAN CERVENKA: Patricia Reynolds?

MS. REYNOLDS: Reynolds votes aye.

CHAIRWOMAN CERVENKA: Ron Gomez?

MR. GOMEZ: Ron Gomez aye.

CHAIRWOMAN CERVENKA: Vin Murray?

MR. MURRAY: Vin Murray aye.

CHAIRWOMAN CERVENKA: Jennifer Cervenka aye. Motion to qualify carries. Thank you.

MS. NOONAN: Thank you.

Q. Dr. Byron, do you know the applicant Perry Raso?

A. I do.

Q. And how long have you known him?

A. About 12 years.

Q. And how did you get to know Mr. Raso?

A. I first met him while doing my dissertation work at URI as just described.

Q. And are you familiar with the application that Mr. Raso has submitted to CRMC for this project?

A. Yes.

Q. And were you watching the proceedings yesterday afternoon of this subcommittee proceeding?
A. Every minute of them.
Q. Great. Thank you. What other materials did you review in preparation for your testimony today?
A. As an academic I always turn to peer review literature first, but I also received the CRMC staff report dated in June and the opposition package to CRMC I believe dated last week.
Q. Okay. In that staff report which we've identified as being admitted as Exhibit 17, there's a section where Mr. Beutel makes a reference to a 5 percent rule with a citation after it. Are you familiar with this 5 percent rule?
A. I am.
Q. Can you tell us about that, please.
A. This 5 percent rule was developed in parallel to my dissertation work that I just described. If anything, it motivated my dissertation work. The 5 percent rule came -- well, it came out of discussions among multiple users of these systems in Rhode Island. And the goal, as I understand it, was to come to an agreement on how much aquaculture could be developed in these systems including the salt ponds. And the way that it was agreed on 5

percent would be the rule, is that that 5 percent was based on a calculation intended to reflect the ecological carrying capacity of the system.

However, the information on hand at the time that calculation was made was limited, and prior to my work using the more comprehensive food web model, that calculation was made based on a study done in New Zealand where that ecosystem in New Zealand is much different than the ecosystem in Rhode Island salt ponds but it took some calculation from that New Zealand ecosystem and applied them to oyster culture in Rhode Island.

One of the witnesses that you'll hear from after me was the one who actually made that calculation, Dr. Rheault. Feel free to ask him more about it.

Q. We shall.

A. He's the one who drafted that calculation and suggested five percent as an ecological carrying capacity for aquaculture, and the other stakeholders at that table at that time in that discussion agreed that that should become a rule or a maximum allowable amount of aquaculture in both in Narragansett Bay and the salt ponds.

To be clear, the 5 percent is describing a surface area coverage of the total surface area of any particular

water body.

Q. Let's just back up a little bit. When you talked about carrying capacity, can you explain that and what carrying capacity is and what it means in the context of that culture?

A. I would be happy to. Carrying capacity is a term used in ecological science to describe the maximum of population, level population that any ecosystem can support. So if you were to exceed the carrying capacity, you would expect that that population would crash, would diminish. The ecosystem would change in some way. It's describing how many resources are available to support a certain level of population of an organism.

This definition that ecologists use has been adapted to specifically for aquaculture. And there's actually a couple different ways in which we can describe carrying capacity for aquaculture. These definitions are now widely accepted in the legislature, and I'm happy to run through that.

Q. Sure, if you can describe the different types of carrying capacity, please.

A. Absolutely. So the first type of carrying capacity is physical carrying capacity which simply is the amount of space available to aquaculture. This definition does not

consider biology, ecosystems or even humans of the system and is therefore irrelevant for conversation today.

Another type of carrying capacity is production carrying capacity, and this is the level of maximum production possible at the farm site irrespective of where this farm is located or ecology supporting that farm.

Operating at production carrying capacity would impact the ecosystem and also not what is in question here today.

The next type of carrying capacity is ecological carrying capacity which you herd me refer to already. This is the level of farm development above which would have unacceptable ecological impacts. This in particular is my area of expertise and is highly relevant to the testimony and conversation regarding Mr. Raso's proposal.

And then the fourth type of carrying capacity is social carrying capacity which is the level -- development above which would cause unacceptable social impacts. There are many different ways to describe, define and quantify social carrying capacity, and it's highly dependent on the interests and the values of the humans of that place or that system.

Q. Okay. In terms of Potter Pond in Rhode Island, that is

one of the salt ponds that you have been discussing initially in your dissertation, right?

A. Correct. Potter Pond is included as one of the salt ponds in southern Rhode Island.

Q. Do you know what the ecological carrying capacity of Potter Pond is?

A. According to my food web model, it would be 46 percent of surface area of the salt pond, a magnitude higher than our 5 percent rule in other words.

Q. Okay. I think you talked about this a little bit. I don't know if there's anything else to add about your involvement with the creation of the 5 percent standard.

A. I'll just reiterate that that 5 percent rule was calculated and agreed on prior to the completion of a more comprehensive food web model that calculated this much higher ecological carrying capacity.

Q. How would you describe or define your food web, a food web model?

A. That's a great question. So the food web model describes basically who's eating who and how much in the ecosystem so it's capturing transfer of energy. Humans are part of this ecosystem and humans are included in terms of fishing or other extractive exercise -- activities such as harvesting of shellfish. And so the model looks at

data for all the major species present in the ecosystem, and looks at how much of them is there, and there are known rates of production and consumption and respiration, all of our sort of bodily actions that keep us moving and alive, right, from plants up to top predators. You can describe how they are using the energy that they are consuming from their prey and what that means in terms of what is available for that next link in the food chain, that next predator above them.

So that model captures all of those transfers of energies between species. And what that allows us to do is it really gives us a tool. It gives us a description of the ecosystem and how it's operating, and it provides us a tool by which we can then ask questions, different scenarios, things that are -- what's really interesting is you can ask these questions right on an ecosystem scale instead of having to rely simply on experiments done in small tanks, for example. It's really hard to do ecosystem wide experiments. So by using modeling we can do that in a quantitative way.

Q. Going back to the 5 percent standard that's set forth now in the CRMC regulations, do you have any understanding of what the initial rationale was for it?

A. Yes. The initial intent of calculating that 5 percent

rule was an ecological carrying capacity as I said earlier.

Q. Okay. Based upon your review of Mr. Raso's application and your education and experience, what will be the effect of the ecological carrying capacity of Potter Pond from this proposal?

A. Mr. Raso's proposal will not impact the ecological carrying capacity. The scale at which he's proposing to develop is quite small in comparison to what the pond is able to support.

In other words, the addition of this proposal to the pond, the addition of another 3 acres of -- farming will still be well below the carrying capacity for this pond.

Q. That was the number that you indicated in your dissertation was 46 percent based upon your modeling, correct?

A. Correct. Not only my dissertation, but that work has been published and peer reviewed and it is highly cited.

Q. In the staff report from CRMC which is Exhibit 17, it indicated that if the application is proved, Potter Pond would be at 3 percent of allowable aquaculture activity. Do you have any reason to disagree with this conclusion?

A. I have no reason to disagree.

Q. Okay. Do you have an opinion as to whether or not that 5

percent standard is appropriate?
A. That 5 percent standard from an ecological perspective is highly conservative.
Q. Would the addition of this farm, again, affect the ecology of Potter Pond?
A. The addition of this farm will not harm the ecology of Potter Pond.
Q. Okay. Dr. Byron, are you familiar with the CRMC category B assent requirements?
A. Yes.
Q. And based on your experience, your testimony, your experience, your review of the materials, do you have an opinion as to whether the addition of this farm will or will not create significant deterioration in the quality of the water of Potter Pond?
A. I do not expect that this farm will have an impact on the water quality of this pond. It certainly will not harm the water quality of this pond. If anything, it may act to improve the water quality and clarity of this pond.
Q. If you were watching yesterday, as you were, our focus was -- a lot of it was on Segar Cove. Do you have an opinion as to whether the addition of this farm would create a significant deterioration in the quality of the water of Segar Cove?

A. No. My answer is the same. Segar Cove and Potter Pond are connected. There's water flushing between those areas of the pond. My work describes the whole pond. It does not look at particular bays. I don't expect that there would be any harm to Segar Cove in particular.

Q. Okay. Do you have an opinion as to whether the proposed aquaculture farm will or will not result in significant impacts on the abundance and diversity of plant and animal life?

A. That's exactly what the model was designed to look at, the abundance of organisms. The carrying capacity calculated, again, which is an ordered -- higher than this 5 percent rule, suggests that organism abundance and diversity will not be harmed at the level of farming that Mr. Raso is proposing.

Q. Do you have an opinion, again based on your experience and familiarity with the application and the area, as to whether the proposed farm will or will not result in significant impacts to water circulation including flushing, turbidity and sedimentation?

A. Yes. Again, the small scale development I do not see how this farm will impact flushing or sedimentation.

Q. And do you have an opinion as to whether under the alteration or activity -- whether the alteration or

activity by the farm will or will not result in significant impacts on erosion and/or definition processes along the shore and in the tidal waters of Potter Pond?

A. At this small scale development I don't understand how the farm could impact soil erosion or deposition.

Q. Okay. Finally, based on your review of the application and your expertise, what if any impact will this farm have on Potter Pond?

A. Looking at other farms in this region, it's possible to see localized positive benefits, actually, such as enhanced water clarity, nutrient cycling, provide structure and habitat by diversity. I do not anticipate any pond-wide impacts or harm to the ecosystem of Potter Pond with this proposal. Mr. Raso's proposal is well below the 5 percent rule and below calculated ecological carrying capacity for this pond.

MS. NOONAN: Madam Chair, if I might just have a moment?

CHAIRWOMAN CERVENKA: Yes.

[PAUSE]

MS. NOONAN: I have no further questions for Dr. Byron.

CHAIRWOMAN CERVENKA: Do the subcommittee

members have any questions for Dr. Byron? Mr. Gomez?

MR. GOMEZ: Yes. I think somewhere in all you said you've answered my question, but it's a bad day for me when I can't learn something so I have a question relative to the -- is there any difference in impact if the farm has a mixture of scallops and oysters, or do they pretty much work together the same? This farm is proposed to have a scallop farm and then have oysters, and we're getting more and more of that. Their interaction seems to me to be fine, but I'm not -- it's not my professional expertise. If you had a comment, I would be very interested.

THE WITNESS: It's a great question. I don't expect any of my answers to change based on whether this would have been all oysters or half oysters, half scallops. They are all filter feeders. They all taking plankton particles out of the water and improving that water quality. So I don't see any -- I mean, if anything, you're introducing or you're reducing the polyculture. It's always -- polyculture is always better for the environment, multiple species.

MR. GOMEZ: Same with the land. It does seem to impact, in this case, the social carrying capacity and that the scallops -- bottom, where the oysters would be

C E R T I F I C A T I O N

I, Lisa M Reis, hereby certify that the foregoing Pages 169 through 295, inclusive, are a true and accurate transcript of my stenographic notes of the proceedings, via Zoom, which occurred on the above-entitled dates, to the best of my ability.

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LISA M. REIS, RPR
Court Reporter/Notary Public
My Commission expires on 7/27/24

Sworn to and subscribed before me,
This 16th day of November, 2020