

Marine Resources Committee

Town of Bar Harbor

Approved Minutes

Regular Meeting

Wednesday February 15, 2023

CALL TO ORDER 4:03p.m. Port Authority Building, Bar Harbor

Present members: Matt Gerald, Scott Swann, Natalie Springuel, Joanna Fogg, Chris Petersen and John Avila

Guests: Chris Wharff-Shellfish Warden, David Dunton-commercial shellfish harvester, Alex DeKoning-aquaculturist, Carrie Jones-journalist, Lisa McHaley and Andy Revkin - Lamoine shoreland owners interested in potential aquaculture lease

APPROVAL OF MINUTES

Joanna F. moved to approve minutes, and Matt G. seconded motion. Passed 6-0

As a start to the meeting, Chris P. let everyone know that Heidi Leighton will no longer be the DMR biologist for our area. Hannah Annis will be from now on, as their regions were shifted by the Department as they reorganize for the new Nearshore Marine Resources Program.

Old Business

Microbial Resource Tracking (MRT) – Chris P. shared the results from the DNA analysis done at a laboratory at the University of New Hampshire. In 2 samples from Bar Harbor’s Northwest Cove, the *E. coli* bacteria found could be traced to mostly mammal, with little to no human or deer attribution. The site was positive for dogs, but the contamination could also be caused by any of several wild mammals, including beaver, mink, muskrat, and racoon.

In Pirates Cove in Mount Desert, the 3 samples analyzed were positive for mammal and dog, suggesting the contamination was dogs, beaver, or mustelids like otter, fisher, or mink. The committee was glad none was traced to human waste in either site. There was discussion of signs being posted at both coves, along with Clark Cove, asking people to pick up after their dogs to avoid contaminating shellfish flats. The report is attached to these minutes.

This led the committee into discussion of the proposed signage for Clark Cove based on some of the data collected in oral interviews during the summer of 2022. We confirmed we would like to convey the following- harvestable shellfish species; which species require a recreational license; harvest size for each, and in what dimension; harvest amount by law; 2 QR codes- one linking to DMR closures map and the other to the pamphlet designed and organized by Fiona DeKoning which the MRC provided to the town. Chris P. asked John A. and Joanna to come up with a visual draft for the next meeting. Chris W. said the parking and harbor master offices use PermaLine for sign making.

Chris P. summarized his presentation to the Town Council January 3rd about the Otter Cove community meetings again. He also brought up the conundrum of the MRC not being able to have a commercial harvester on the committee due to the town's ethics rules. Best practices would include co-management by all stakeholders.

New Business

David Dunton pointed out that the 2 nights of February 3rd and 4th were cold enough (~ -15 degrees F) to kill juvenile mussels as the low tide was around 3:30 a.m. Friday night. He said there had been a lot of small mussels at Hadley Point and he suspects most had been killed. Chris P. asked anyone going there in the next week to take photos and record notes so we have some record of the event.

Chris P. talked about the annual shellfish report and management plan he and Chris W. assembled and submitted to the DMR. Liz Graves also sent them our budget report. As we were looking at a slide of the form, Joanna pointed out the management plan portion should include our intent to put signage at Clark and Northwest Coves for harvester education.

Chris P. mentioned he would like to see DMR give feedback to towns on what they submit. Status quo has been after filing there is no further exchange.

Natalie S. told the committee about her Sea Grant office's meeting with Meredith White. Meredith spoke about a three-year plan to assess needs, organize and then implement actions. Natalie thought this would be a good time to get DMR to think about what to do with the town management plans.

Input for Bar Harbor's Comprehensive Plan was discussed next. Chris P. talked about all the info found on the Plan website. He suggested we weigh in on working waterfront and water access. He said he would see if he could get someone from the working group to come to MRC's March meeting.

Chris P. then shared some of the proposed state legislation that relates to Marine Resources. There were 6-8 acts in the works he thought we may want to look at and comment on as individuals or maybe even as a committee. The most developed act is LD 487, submitted by Lynn Williams and seems to be aimed at limiting marine-based aquaculture. Chris P. asked the members to go online and look at the acts before the next meeting.

Public Comments

Lisa McHaley and Andy Revkin spoke about their interest in possibly obtaining an aquaculture lease and raising oysters off their land in Lamoine. The 3 aquaculturists present offered to speak with them further at another time.

Lisa and Andy also shared their observations of the mussels near them being full of pearls. They also described the commercial rockweed harvesting that has been going on at the north end of Frenchman's Bay.

Joanna F. motioned to adjourn the meeting. Matt G. seconded the motion and it passed 5-0 (Scott S. had to excuse himself earlier).

Meeting ended at 5:15 p.m. Individuals were awarded 1.5 hours of conservation time for this meeting.

Attachment: Microbial Source Tracking – Mount Desert Island 2022

Over the summer of 2022, water samples were collected at two seasonally closed areas, Northwest Cove in Bar Harbor and Pirates Cove in the town of Mount Desert. Both locations are closed during the summer due to increased levels of fecal coliform, but the source of the contamination is unknown. Microbial source tracking can suggest the potential birds and mammals that are the source of the fecal contamination. Samples were taken on 10 dates, for a total of 20 samples. Samples were taken to the DMR Lamoine water quality lab, where the lab processed half the sample for bacterial levels, and froze the other half. In late fall, the samples with the highest levels of contamination were sent to the lab of Dr. Steve Jones at the University of New Hampshire to do microbial source tracking, which compares the DNA of the samples to DNA from *E. coli* from known hosts (such as humans, horses, ruminants, geese, etc). The results were sent back in late January 2023.

For the eg25 site (NW Cove in Bar Harbor), mammals and birds both show up (not human), but in the qPCR (this gives relative magnitude of sources) it is all mammal (all data refer to figure 1). The bird numbers are low and goose was not a hit. Dog is positive, but human and ruminants (deer, cows) aren't. So the fecal contamination could be from dogs but also could be wildlife such as beaver, muskrats, racoons. This watershed doesn't have agriculture so non-ruminant mammals (ie horses) are not likely. The human results are all below health threshold.

For the eg31 site (Pirates Cove in Mount Desert), again mammals and birds both light up, but again it is dominated by mammals. The three samples are slightly different, all implicate mammals over birds, although bird *E. coli* is present in all three, but at low levels, and no goose. Dog is variably positive (2/3) and human comes up in 1/3 samples, but really humans are never a major signal given the qPCR. This implicates non-farm mammals, such as dogs or wildlife such as beaver, muskrat, etc.

Figure 1. Results from microbial source tracking of 5 samples with highest bacterial counts. R=ruminant, G = Goose.

Date	Location	E.coli	Presence/Absence						qPCR (copies/100ml)		
			Mammal	Human	Dog	R	Bird	G	Mammal	Human	Bird
8/10/22	NWCove	64	+	-	+	-	+	-	37,980,888	<167	<167
8/17/22	NWCove	18	+	-	+	-	+	-	188,669,809	<167	<167
7/13/22	PiratesCv	72	+	-	+	-	+	-	34,528,615	<167	<167
8/23/22	PiratesCv	69	+	-	-	-	+	-	70,216,554	<167	<167
9/26/22	PiratesCv	33	+	+	+	-	+	-	298,511,211	351	<167

These results suggest that any work to remedy the bacterial contamination not focus on human fecal contamination, but instead focus on both pet (dog) and patterns of mammalian wildlife use. Potentially signs at NW Cove requesting people clean up after their dogs may be beneficial.

Steve Jones' lab at the University of New Hampshire performed the tests and read over these conclusions and agreed with them. Some of Steve's notes:

The consistent bird presence is typical of coastal areas around here; you are correct that the levels are quite low, indicating a low level of contamination either due to low loading levels or loading in the distant past (degradation) or location (dilution). The dog presence is real, and something to consider- too bad we do not have a qPCR assay to give relative quantification of this source. The human qPCR level is below 4200 CN/100 ml, the threshold level published that indicates a level of concern that is significant. Any human contamination, however, is a public health concern.

As for other sources, from my former MS student Derek Rothenheber's thesis: "the presence of white tailed deer, raccoons, muskrats, squirrels, foxes, and other small mammals are the likely wildlife fecal sources in coastal Maine areas".

Submitted at the February 15 BHMRC meeting

-Respectfully submitted by J.Avila