



CONSERVATION COMMISSION

PUBLIC MEETING

2 Bathing Beach Road
Nantucket, Massachusetts 02554
www.nantucket-ma.gov
Monday, March 22, 2021

*This meeting was held via remote participation using ZOOM and YouTube,
Pursuant to Governor Baker's March 12, 2020 Order Regarding Open Meeting Law*

Commissioners: Ashley Erisman (Chair), Ian Golding (Vice Chair), David LaFleur, Joe Topham, Seth Engelbourg, Maureen Phillips, and Mark Beale

Called to order at 4:01 p.m. by Ms. Erisman

Staff in attendance: Jeff Carlson, Natural Resources Director; Joanne Dodd, Natural Resources Coordinator; Terry Norton, Town Minutes Taker

Attending Members: Erisman, Golding, Topham, Engelbourg, Phillips, Beale

Absent Members: LaFleur

Agenda adopted by unanimous consent

I. PUBLIC MEETING

A. Announcements

B. Public Comment - None

C. 2019 Annual Review

Sconset Beach Preservation Fund – 87-105Baxter Road (48-various) Area SE48-2824

Sitting Erisman, Golding, Topham, Engelbourg, Phillips, Beale

Recused None

Documentation SBPF Annual Report 2019; PowerPoint® presentation; Greg Berman comments; end scour photos; correspondence; Cumulative Mitigation Requirement graph

Applicant Steven Cohen, Cohen & Cohen LP

Representatives Dwight Dunk, Epsilon Associates Inc.

Josh Posner, 77 Baxter Road, Chairman 'Sconset Beach Preservation Fund

Jamie Feeley, Cottage and Castle, 'Sconset Beach Preservation Fund

Town George Pucci, K&P Law P.C.

Representatives Greg Berman, 3rd Party Review

Ken Beaugrand, Real Estate Specialist

Public Speakers Dennis Murphy, Attorney for Greenhill

David Kriebel, PhD, Coastal Engineer professor retired, scientific reviewer for Greenhill

R.J. Turcotte, Nantucket Land Council, Inc. (NLC)

Hugh Ruthven, III, Applied Coastal Research and Engineering, for NLC

Rick Atherton, 48 Squam Road, Nantucket Coastal Conservancy (NCC)

Barbara Bund, NCC

Josh Eldridge, Ask Any Fisherman

Discussion **Erisman** – We've had time to review the report. Opened it up for questions.

Cohen – Mr. Dunk has a presentation. Asked everyone to stay focused on 2019, not 2020 or the future. We found a clerical error that resulted in a shortage of sand delivered. It will be made up in the next round of sand nourishment.

Dunk – The PowerPoint presentation was not shared beforehand; it's a summary of the report. Findings: slope above array has been stable; shoreline positions and rate of change are similar to historic patterns; sand off the template is contributing; about 33,020 cubic yards (cy) sand remained on the template after 2018/2019 winter and about 10,200 cy after 2017/2018 winter. Sand on template: start of sand year 10,200 cy March 2018 and end of sand year 33,020cy December 2019. There could be some accretion at the toe of the bluff from littoral contribution. Underwater video is showing a good cover by hard bottom; no significant change is observed outside of seasonal differences. Provided a written response to Mr. Berman's comments; the written response was provided to the commission. Explained the error showing a 16,459cy sand shortfall in the 2019; that has been corrected. No additional shoreline change can be attributed to the project; reviewed the shoreline profiles.

Beale – Around Nantucket there have been several projects armoring the shoreline; in those cases, the result was erosion each side of the structure, so the structure stuck out into the sound. He hasn't seen any of this in 'Sconset and asked what affect the geotubes have had over the last 5 years.

Dunk – In coastal erosion, we talk about the average rate; in looking at this shoreline, it averaged 5 feet per year; but erosion is episodic. In a landform like this, the bottom of the bank gets nibbled away and the bluff becomes steeper until the bluff over-steepens, and a section sloughs off; that happened in the 2012/2013 storm season. This is nearly 1000 feet with some erosion of unprotected bluff north and south; part of the project maintenance

is to put sand back in at the end to prevent end scour. For previous projects, compensatory sand wasn't required and contributed to the end scour.

Engelbourg – His questions can be answered in a future report. In looking at the shoreline change, asked the square value of those analyses. When shoreline position is being referenced, the value we are actually looking at is mean-low-water minus 5. Asked if we could get the subcontractor at a commission meeting; he has a variety of technical questions for them.

Dunk – In terms of shoreline positions, the monitoring protocol is to examine down to minus 5, but the baseline is mean low water to see what's happening to the beach.

Golding – Shared photos of end scour from March 10 and March 16, 2018 before and after nourishment sand was dumped. Also, he noticed substantial differences in unit costs; asked why there was such a huge variation.

Dunk – He doesn't have a response to that; he's not involved in purchasing.

Erisman – The accounting error was mentioned and that you are self-correcting; she's concerned they didn't come to the commission right then to discuss a solution to correct it; it is a potential failure criterion. There seems to be a lack of communication by SBPF with the Commission to problem solve. We might need to consult with other experts on how to make up the deficit. Hopes SBPF will be more forthcoming in the future.

Dunk – Prepared the report a year ago during a time when they were involved in a number of emergency situations. Promised to work to improve communications with the Commission.

Engelbourg – As he understands the deficit, it is helpful SBPF will make up for that deficit in 2020; however, it's now an issue that needs to be referenced every year. Any deficit is less material to be contributed to the littoral system. Asked if there is a way to analyze the impact of the deficit.

Dunk – The template is the on-site sand stockpile; that year was a calm year so most sand remained in the stockpile on top of the array and continued to grow in volume.

Engelbourg – You are required to provide 22cy per foot per year of sand; he understands it isn't always needed but it provides a credit in the event of an emergency. Asked that operations adhere to the Order of Conditions.

Phillips – This is for Mr. Berman. He states adaptive management has not been approved and surplus combined with deficit might indicate no contribution from the template during non-storms. Asked Mr. Berman to expand on why it would be a problem.

Berman – During smaller storms it might not reach the upper level of the template and natural erosion isn't occurring.

Phillips – This goes to the argument about adaptive management and concerns we have had and why it wasn't allowed. Asked Mr. Dunk's response to that point by Mr. Berman.

Dunk – The purpose of the sand is to ensure adequate sand is being contributed into the system. By making sure there is adequate sand to cover exposed tubes, that ensures there will be sand to be washed away. SBPF has been starting each year with 10-15 liner feet of sand on the template and adds to that as needed; that is based upon the Malone and Bloom letter referenced in the Order of Conditions.

Phillips – Pointed out that SBPF explained part of the problem for getting sand was due to a ConCom Cease and Desist Order. It was our duty to issue that Cease and Desist because of specific concerns about possibly contaminated sand, which thankfully was not found, but it was much contributed by the fact we weren't clear about the source of sand. We now get details on where the sand is coming from. Mr. Berman expressed concern about how the accretion was being measured. Mr. Berman noted there should be very high accuracy, but when he looked at the accuracy, it was much less than stated variation and that he felt this is a significant issue. She was surprised to see that SBPF agrees accuracy is important, but she didn't see an explanation about whether or not they agree with Mr. Berman's calculation about the offset.

Berman – Both accuracy levels were reported in the Epsilon report. The Airshark consultant showed about 1.5cm of vertical resolution, which is good. The Epsilon report talks about the bluff accreting and reported 11.7cm vertical resolution. SBPF should narrow down what that vertical access actually is.

Dunk – He has to take the accuracy from the vendor. In 2019, the Bluff above the geotube showed accretion, which is counter intuitive; we don't know where that sand came from. It could be the equipment picked up some vegetation or there was some wind-blown sand deposited on top of the Bluff. Mr. Berman made a comment about the vertical accuracy being used to convert to a volume, so it becomes a plus or minus; we did that for the 2020 report.

Golding – We seem to be going in circles; it was discussed in great depth last year that there is only 7cy per linear foot of sand on the face of the geotubes before a storm. He's lost count of the number of times that was stripped off during a storm leaving nothing being contributed until the end of the storm event. It is then pushed down from the template on top. There is a regular deficit from that length of geotubes of contribution into the littoral system during a storm.

Cohen – This is a recurring point, which he feels is a red herring; though what Mr. Golding says is true, there is no requirement that sand be always available. This system has much more sand available than other systems.

Golding – As Mr. Cohen says it is true and is fundamental failing of hard armoring that don't have sufficient sand to add into the littoral system. It might be a better system to have the sand not so high where it can't be pulled into the littoral system. That is a statement of fact and not a red herring.

Erisman – She agrees with Mr. Golding.

- Engelbourg** – The 1.5cm resolution is considered professional. He read the report about the equipment being used. In 2018/2017, there were differences in monitoring being done by Lidar and Photogrammetry; Photogrammetry takes vegetation into account and Lidar doesn't.
- Dunk** – The Order of Conditions is written such that sand will erode off the face of the geotube and the tube is recovered after the storm. The mechanism for the mitigation by Massachusetts Department of Environmental Protection (DEP) and CZM is to look at these as an annual event; there are many projects where the sand is put down only once a year. Our project has sand being put down after every event and we document how much goes into the littoral system on an annual basis; it is greater than what the bluff would naturally contribute.
- Erisman** – We know you are running at a yearly deficit and there is an accumulation on top of the tubes; that highlights that sand is not contributing to the system. This area contributes more to the system than the unprotected areas north or south of the project; that sand requirement was conditioned because this area was eroding at a greater rate. It is time for SBPF to take ownership of these issues. Asked Mr. Berman what the deficit might mean.
- Berman** – Thinking about other projects around the State, most projects are based on annual replacement. Explained the reason is most of those are fairly small. This is a large project. Over one year, a deficit isn't an issue but over the long term the system is not getting the sand it needs. A deficit over three years is concerning because it carried on for so long; if it happens during a period of light storms, that is okay. If you see areas that are eroding potentially more rapidly than usual, it could be attributed to the deficit. It's hard to measure due to the amount of sand moving through this area.
- Dunk** – The long-term averages and the volume of sand in the littoral system of east shore of Nantucket is huge. When we compare the average sand moved off the template to the reach, we are exceeding what the Bluff was contributing.
- Erisman** – Increased erosion should be happening with sea level rise and increased storm frequency; Mr. Berman said this structure would require more sand over time.
- Dunk** – There has been sand on top of the template that has been managed to provide sufficient sand to recover after winter storms.
- Erisman** – Opened to public comment.
- Murphy** – David Kriebel has been retained to review the report. The Greenhills have been involved for the length of this project and support their neighbors and NCC and NLC.
- Kriebel** – Mitigation placement lags well behind the requirement; also, he questions placement of mitigation and adaptive management. Explained cumulative mitigation rather than month-to-month. If you look at actual placement in a cumulative fashion, the trend line is 13.4cy per foot per year; the graph also shows the shortfall over time. Eventually, that shortfall will take its toll on downdrift locations. As second point is the effectiveness of the fill; we ensure sediment is beach compatible. There was nothing in the report indicating the grain size of the nourishment sand is compatible with the beach. The nature of the template and where sand is appearing is ill defined; there should probably be two templates: design and mitigation. In most projects of this type, the mitigation template is in front, not on top; that is why the tubes are getting exposed so often. Adaptive management was to look at what is there and only replace a small amount of sand as a way not to provide the 22cy per foot per year. One way or the other, you need the 22cy per foot per year.
- Turcotte** – Our position now is that the mitigation is very inadequate; the monitoring is not being carried out correctly; the drone data is not consistent year to year; and they are not submitting reports on time and when they come in, they are not correct. Clerical error or not, this started years ago and is compounding. They are short a year's-worth of mitigation material. Three failure criteria are being met at this time and is compounding over multiple years. The Commission should have SBPF come before them to address these issues, so they stop compounding.
- Ruthven** – There have been repeated comments from SBPF that contradict the reality. There has been a lot of talk about mitigation tonight; Condition 73 allows SBPF to put mitigation sand at the end of the project, so they don't need to cover vegetation above the array. Shortfalls began back in 2015; we are down another 10,000cy; that's 30,000cy total over the past years. The delivery system is flawed and needs to be designed to prevent long-term erosion rate. Between 2001 & 2013 north of the project the average loss has been 0.02cy per linear foot; looking to the south between 2013 and 2020, we're at a deficit of minus 2.8cy per linear foot with a similar trend to the north during that same timeframe. In 2020, we're at a deficit of minus 3.5cy per linear foot; that is definitely eroding faster. As he sees it, SBPF has been changing conditions to meet their own needs; in 2019 they forgot to do a survey and forgot to submit the annual report and submit the sediment report, they put down material not compatible with the beach. The mitigation criterion has always been 22cy per foot per year; that is clear and SBPF has not met that. They haven't been compiling out to minus 5 since the 2017 and the report was adopted without that. If you look at the Woods Hole Group 2020 contract on the Town Website, it says they are not going to do what ConCom requires for monitoring. By reducing the frequency of monitoring, we are going to reduce the long-term effectiveness. Erosion is increasing. It would be great if ConCom would have SBPF take all their entire data set from GIS and put it on the Town website; anyone could look at it. This is in breach of 3 out of 5 failure criteria; how this project is performing needs to be considered.
- Atherton** – The letter from NCC makes it clear that failure criteria are being met; we hope ConCom will take some action to that regard. On the deficit of the sand supply, SBPF would have us believe it was a clerical error;

they have consultants, professionals, and project managers and know how much sand is delivered at any time. They could have taken action to fix that deficit at any time.

Dunk – He hasn't seen any of the comments mentioned by these speakers. In terms of Dr. Kriebel's graph, one thing is that as we talked about, the 22cy per foot per year is 1.8 times the volume of sand contributed off the Bluff prior to construction. That graph should have a 3rd line which is what the unprotected Bluff would have contributed. The sand sources have always been examined; the sand used is analyzed and provided to the Commission. The sand on the face of the template is greater than the yearly contribution by the unprotected Bluff.

Bund – Mr. Dunk keeps telling us the 22cy per foot per year is greater than what normally comes off the bluff. The 22cy per foot per year was specified in the Order of Conditions; she doesn't see the relevance of their argument. There is a rule they did not follow.

Erisman – The cost is not commission purview. The 22cy per foot per year was directed by DEP and is in the Order of Conditions.

Turcotte – SBPF needs to go through proper channels when they are planning to cease monitoring. They are shorting what is supposed to be put on the template. What not meeting 3 of 5 failure criteria means needs to be discussed in a public meeting as well as what removal of the project would look like.

Carlson – Public Comments from YouTube. Kate Shae asked that the SBPF report be posted; that is on the ConCom website. Burt Balkind asked how many days the tubes were exposed in 2019 and how much sand is contributed when they are exposed.

Erisman – She feels like the 2019 report highlights that SBPF meeting failure criteria. Asked Mr. Pucci for his advice. We need to discuss this further as far as enforcement and further action.

Golding – His family lived at 99 Baxter Road for over 30 years and he witnessed losing 300 feet of bluff; his sympathies are with the homeowners. However, there was a Nor'easter that took nearly 30 feet of the bluff, which would have been nearly 200cy. We need to bear that in mind when talking about going forward and how difficult it is to arrive at a compromise.

Pucci – What action to take is at ConCom's discretion. Enforcement isn't part of this meeting. Right now, you have SBPF's description about that year and comments from other parties raising issues of concerns. You can schedule that discussion for another meeting or to coincide with the 2019/2020 annual report. From SBPF's perspective, they were not expecting potential enforcement measures to be discussed at this meeting.

Erisman – Suggested scheduling the 2020 annual review ASAP then have a discussion about further action based upon both reviews.

Carlson – We sent Mr. Berman the 2020 annual report; it should be back to us about mid-April. We can schedule the review toward the end of April.

Pucci – There is also a process that the Select Board has initiated to have a full review of issues and options for the Bluff through the ARCADIS process. Those findings aren't binding for the commission; however, the ConCom might benefit from the information coming out of that process.

Carlson – That study is due back to the town toward the middle to the end of September.

Ruthven – Agrees with Mr. Pucci that the Town process would be useful, but it doesn't eliminate the need for mitigation now. Waiting for ARCADIS recommendations would mean another year of a deficit.

Erisman – It would be wise, before we look at 2020 annual report, for SBPF to have a proposal on how to make up that deficit; it is important for them to be proactive.

Phillips – With regard to the ARCADIS report and possible enforcement action, ARCADIS can't change the requirements in the Order of Conditions and she can't see their comments changing the current situation. Our issue of enforcement is independent of anything else; we should do something about that ASAP. She would say get to enforcement before we review the 2020 annual report because we have a concerned public.

Atherton – What he hears is take your time, which amounts to a delay. This has been going on a long time. The Commission should have a discussion amongst themselves as what should happen before the 2020 annual, report review. We don't know if they plan to bring the deficit current and if they are contributing the proper amount now.

Commissioner consensus supports a discussion prior to the 2020 Annual Report review.

Eldridge – Echoes what Mr. Atherton said. Listening to these conversations, these are the same arguments he heard 20 years ago when we lost the bottom out there.

Carlson – He can have dates for a discussion prior to the annual review and dates for the annual review available for Thursday's meeting.

D. Adjournment

Motion **Move to Adjourn at 6:22 p.m.** (made by: Beale) (seconded by:)

Roll-Call Vote Carried 6-0//Beale, Engelbourg, Erisman, Golding, Phillips, and Topham-aye

Submitted by:

Terry L. Norton