

NYS Ocean Acidification Task Force Meeting Minutes for December 3, 2019 Public Meeting

Location: Stony Brook University, Wang Center, Stony Brook, NY

Task Force Member Attendance

Present:

- James F. Gennaro (chair)
- Marci Bortman
- Malcolm Bowman
- Chad Cook
- Jeff Herter
- Steve Malinowski
- Jason Masters
- John McLaughlin
- Joyce Novak
- Chris Pickerell
- Larry Swanson

Absent:

- Carl Safina
- Jeremy Thornton

Summary of Chairman Gennaro's Opening Statement

Chairman Gennaro called the meeting to order and read an opening statement. The Chairman introduced himself and had the task force introduce themselves in turn. He then thanked the task force for their participation in the working group sessions, thanked the public for their participation and attendance, and thanked the task force staff members (Larry Swanson and Kaitlin Willig) for organizing the working group sessions and for their efforts on the draft report. The Chairman also thanked the representatives from NYS DEC DMR, Sherryll Jones and Dawn McReynolds, for their attendance and support and the Dean of the School of Marine and Atmospheric Sciences, Paul Shepson, for his attendance and support. The Chairman then discussed the new OATF law that has been chaptered and delineated the new requirements of the task force including a formal interim report, a public comment period, and a formal assessment of the public comments. He thanked Legislators Englebright and Kominsky for authoring the new law. Finally, the Chairman introduced the topic of the OATF joining the Ocean Acidification Alliance, to be considered later in the meeting, with the hope that it could be put to vote.

Status of the Report

Chairman Gennaro provided the task force with an update on the status of the report and the current plan for moving forward. The OATF recently convened working group sessions where they commented on version 5 of the report. Version 6 will incorporate those comments as well as the public comments from this public meeting. Once Version 6 is complete, it will be given to the task force for the next

iteration of working group sessions and an interim draft report will hopefully be the end product of those sessions.

Presentation by Dr. Brad Peterson

Task Force member, Larry Swanson, introduced Dr. Bradley Peterson as an ecologist and associate professor at Stony Brook University, School of Marine and Atmospheric Sciences. Dr. Peterson has reviewed a version of the report and identified a gap in seagrass content in the report. To remedy this, Dr. Peterson agreed to provide a presentation for the task force highlighting the potential for seagrasses to be included in New York's response to ocean acidification.

Upon completion of the presentation, the floor was opened for questions from the task force.

Task Force member John McLaughlin asked how the researchers controlled for the air-gas exchange during the flume study discussed in the presentation. Dr. Peterson described the use of bubble wrap to seal the top and minimize the exchange.

Task Force member Marci Bortman wanted to know the likelihood of an expansion of seagrasses in the other areas similar in magnitude to that observed in Shinnecock. Dr. Peterson stressed that not all environments around Long Island would produce the same results, but that it would be a fruitful exercise to find all habitable space and project all of that as covered to obtain an estimate for maximum seagrass coverage. He also identified seedbanks as an important component to seagrass recovery, though this is something that can be manually introduced as long as water quality and clarity are improved.

Task Force member Jeff Herter commented that success seemed more likely when trying to enhance a patchy area of seagrass rather than trying to reintroduce seagrass to a barren environment. Dr. Peterson agreed that improving patchy areas is generally more successful unless the reason for patchiness is related to the water current speed rather than water quality or clarity.

Chairman Gennaro inquired if the Task Force should recommend a research goal or project that could identify the best local habitats around Long Island for seagrass restoration. Dr. Peterson suggested a lot of that work has likely already been done regarding estimates of potential, but also reminded the task force that changing conditions (water quality, temperature, etc.) will cause these areas to change over time. Task Force member Chris Pickerell identified Cornell Cooperative Extension as having already developed these models for the Peconics, where temperature is largely the controlling factor for habitability. Cornell has not developed this type of model for the South Shore estuaries.

Dr. Peterson stressed again that the report does not address seagrass specifically in its current version, and that seagrass should be included in future versions of the report.

Task Force Member Malcolm Bowman asked if seagrasses photosynthesize year-round. Dr. Peterson explained that seagrasses photosynthesize in the spring, summer, and early fall, but not in the late fall and winter months. Task Force Member Chris Pickerell pointed out that seagrasses could be grown in concert with kelp, which photosynthesize only in the late fall and winter, to have full seasonal coverage.

Task Force Member Larry Swanson requested that Dr. Peterson explain why the seagrasses did not recover from a large die-off in the 1930's in New York's coastal waters. Dr. Peterson stated that the 1930's die-off event was caused by disease continued for multiple years. Due to the fact that seed stock

only lasts for a few years, once the disease was no longer contaminating the shellfish, the area had little to no seed stock to repopulate. The population did recover but much more slowly due to the restricted access to seed.

Working Group Conclusions/Discrepancies

Task Force Member Larry Swanson led the Task Force through this portion of the agenda, identifying key points from each working group session and bring up for discussion those points where the working groups did not seem to agree.

Larry began by highlighting the Task Force's decision to focus on mitigation, which is somewhat unique as compared to the results of other State task forces around the country. He stated that the working groups both wanted to reorder the pillars as follows:

1. Mitigation
2. Education/Outreach
3. Research
4. Engaging Business, Industry, and Governments
5. Legislative Action Plan

There were no objections from the Task Force and Swanson moved on to discussing education and outreach. He informed the Task Force of an undergraduate research effort prompted by himself and to be led by Stony Brook University faculty member, David Taylor, targeting how to use social media effectively for ocean acidification. It is the hope of the task force staff that their results can be incorporated into the report. One of the undergraduate students involved in the research, Madison, as in attendance and stated that the research is in its infancy but that they plan to work on a series of videos and other outreach methods. Larry stated that the task force staff is looking for sound ideas of how to use social media effectively and opened up the floor for task force member suggestions.

Task Force Member Marci Bortman asked what the message of the social media efforts will be. Larry Swanson stated that the message would be discussed as well, but this was more about methods. TFM James Marsters suggested the message be personalized based on the platform (LinkedIn, YouTube, tik tok, etc.) because these platforms all have different audiences that we should contextualize our message for. Swanson responded that the staff is open to anything concrete in this line of thought.

Swanson then returned to the issue of message. The task force discussed having a goal message outside of the deliverables in the legislation and both working group sessions agreed with this concept, but there was some discrepancy about how specific the goals should be. While some TFMs expressed their desire for discrete pH limits to be recommended, this does not seem possibility given the context of the Task Force and time restraints. If discrete limits were to be produced, Swanson argued that they may not be meaningful due to the limitations of the task force. Swanson instead suggested that examples could be provided of this type of pH goal without a discrete pH value being presented. These examples could be in sidebars and could give examples of indicator species that could be used, which may be better than trying to create concrete pH limits for all of New York's waters.

Chairman Gennaro agreed, stating that the report should illustrate these examples to guide executive agencies, so they can invoke their regulatory/legislative powers based on these recommendations. He

personally thought that the idea of sidebar examples could be a good balance and avoid the risk of the report becoming overly specific.

TFM Marci Bortman specified that her working group session was interested in using language that used biological proxies rather than discrete pH values, i.e. 'where water quality is such that a given sentinel species can flourish.' Chairman Gennaro stated he thought the report would be able to go down this road without going too far, while TFM Swanson suggested the TF would run into the problem of picking a specific charismatic species. TFM Malinowski also pointed out that any given indicator species would have a discrete pH value associated with that species but TFM Pickerell argued the TF still would not be giving an absolute value, instead leading people to consider what such a pH limit would be rather than proscribing the limit. TFM Swanson cautioned that this could become locally specific, requiring the TF to get to a level of detail which they may not want or be prepared to do. TFM Pickerell recommended addressing it at an estuary level, but TFM Swanson argued that there is still a lot of variation at that level.

TFM Masters then asked how much emphasis would be put on aragonite saturation state rather than pH level, stating that aragonite saturation is arguably more important than pH. TFM Swanson opened that question up to the Task Force who were in general agreement that aragonite saturation state should be the larger emphasis. TFM Swanson requested information from the task force to be included in the report regarding aragonite saturation states. TFM Masters identified Dr. Peterson or TFM Pickerell as potentially having this information. TFM Pickerell stated this would be more of a research project. TFM Masters then recommended including more dual sensor monitoring in NY coastal waters.

TFM Bowman asked the current state of science regarding the relationship between increased atmospheric CO₂ and oceanic CO₂ in future projections. TFM Swanson stated that this information is present in the introduction and an appendix for the report and opened the floor to discuss whether more information should be added. Chairman Gennaro further identified that the report also currently includes information regarding local drivers for coastal acidification and stated that his goal would be for the task force to focus on these local drivers and mitigation efforts, where the state can make the biggest difference, while still acknowledging global climate change and global drivers, which are largely out of the control of New York State. TFM Masters pointed out that a lot of modelling work for global correlations between atmospheric and oceanic carbon dioxide are already ongoing. Upon TFM McLaughlin's request, TFM Swanson affirmed that the report will separate ocean acidification from coastal acidification.

TFM Swanson touched on the topic of seagrasses, stating that Dr. Peterson has agreed to provide the task force with some text to be included in the report. He then moved the discussion onto prioritization, stating that the current report has five chapters, with only mitigation having any level of prioritization. TFM Swanson acknowledged that some task force members are in favor of prioritizing within each chapter to a greater degree than is currently being done even in the Mitigation chapter, while others have expressed their dissent from this opinion. He opened up the floor for discussion.

Chairman Gennaro expressed that in his perspective any ideas contained within the report are ideas that the task force has deemed worthy of investigation and to prioritize further would be to downplay some items within the report. TFM Pickerell recalled that in his working group session, the group discussed how a lack of prioritization would equalize ideas/methods that are straightforward or proven with those that are experimental. TFM Bortman, suggested sequencing rather than prioritizing, such that the

different concepts are ordered in terms of what should be done first, second, third, etc. using the knowledge that some concepts will take longer, while others can be acted on more quickly. TFM McLaughlin asked if TFM Bortman meant that the sequencing would be in terms of difficulty, which could be better, but would likely lead to the “lowest priority” or last group of sequenced concepts being ignored completely. TFM Herter expressed support for the current prioritization schema in the Mitigation Chapter (promising, potential, and substantial). TFM Masters asked if TFM Herter felt that was enough and expressed the need for promoting science-based mitigation. Chairman Gennaro expressed support for the current schema because it removes the stigma of being “number 5” on the list of priorities.

TFM Novak stated that promising and potential should either be clearly defined or changed with regard to language, but that it is better than a one to five type of prioritization. TFM Bortman expanded on this, emphasizing the importance of how the terms are used, commenting that she disagrees with how some of the concepts are currently marked in the report, calling out the use of caustic drips in sewage treatment plants as one example. TFM Swanson stated he would argue that caustic drips *are* substantiated and that this difference of opinion highlights the problems with even more in-depth prioritization. TFM Pickerell asked the task force if they could all agree that a three tier system works, but that the terms may need to be re-evaluated, and that the task force can vote as a group on where each item stands. TFM Gennaro expressed agreement with this but asked who should come up with the new terms. TFM Swanson cautioned that if the terms get too precise, it will come back being the same as a one to five priority list. TFM Novak disagreed and felt that it would be different than that.

At this point, the task force discussed the current three tier terms: potential, promising, and substantial.

The task force generally felt okay with the term promising and wanted research topics to correlate to that term, but TFMs Novak and Pickerell felt that promising and potential were too similar. TFM McLaughlin suggested changing potential to experimental but TFM Bortman felt that promising concepts also require more research. TFM McLaughlin argued that promising concepts may need more research but they have been done before and would therefore be different from potential/experimental. TFM Pickerell suggested using conceptual rather than potential and the task force agreed.

TFM Swanson cut in to address the public, acknowledging that this level of discussion may seem trivial, but due to the way the legislation is written, the task force is only able to meet in full in public meetings, so there is no other avenue for these types of discussion to occur.

TFM Swanson then addressed the task force, asking if there was agreement on using the terms: conceptual, promising, and substantiated? Hearing no objections, he stated we would try those terms for the next iteration of the draft and decide based on that. Chairman Gennaro suggested a vote, but TFM Swanson requested the task force wait to vote until the next iteration of the draft report.

TFM Swanson next stated that based on the two working group sessions, there seemed to be general agreement for shorter descriptions of each concept/mitigation method/etc. within the body of the text and any longer context that is deemed necessary to be included as appendices or side bars. The task force had no objects and expressed agreement with this direction for the report.

TFM Swanson stated that some members of the task force have expressed their desire for references to specific locations and facilities to be removed from the report. One example of this is that the report currently highlights Jamaica Bay but the specific location could be removed to make a more general recommendation about filling in deep anoxic holes in NY coastal waters. TFM Masters expressed his reluctance to remove specific locations/facilities, arguing that the OATF report should be identifying and highlighting trouble areas in order to give it strength as an action plan. TFM Swanson and McLaughlin both stressed that in some areas, like Jamaica Bay, there are other circumstances and legislation that can impede or contradict recommendations the task force might make and so a more general recommendation could be of more use to the legislators who will be reading the report. Chairman Gennaro reminded the task force that this report will be used as a toolbox for how to approach/mitigate ocean acidification and stated that getting too geographically specific could leave out areas that may be important but outside of the taskforce's area of knowledge, despite the broad backgrounds from which the taskforce is made up. He cautioned that targeting specific locations within the report may not be fair and may not be worthwhile given the downsides.

TFM Pickerell suggested having an appendix that would list sites of interest that the task force has knowledge about as a way to avoid only targeting the locations given while still giving the legislators locations to consider. TFM Masters stated that at the least, the report should include all the watershed plans so that they can be targeted. Chairman Gennaro pointed out that the report will be going to the state, which has ultimate authority, and has been promoted by the governor's office, which is eager to get started. He again cautioned getting too geographically specific, noting that it would be very ambitious to try to create a comprehensive list, such as what TFM Pickerell is recommending. TFM Bortman suggested that TFM Master's suggestion to include and callout the watershed plans could be a happy medium because those watershed plans have the details for their specific areas and would be better suited to finding the local areas more suited to mitigation efforts or research projects. TFM Swanson stated that the report already includes this, to a degree. He commented that at this time, most estuary programs have not addressed pH, and that including these programs in the report could do well in bringing ocean acidification to their attention. TFM McLaughlin referred back to the earlier discussion about Jamaica Bay stating that the watershed protection plan in that area actually did call for filling in the local anoxic deep hole but other factors have prevented it from happening yet.

TFM Bowman suggested calling out types of environments rather than specifically locations, to which TFM Swanson agreed that the report will try to be more discreet in its next iteration.

TFM Swanson commented on legislation not specific to OA. The report currently has a mitigation concept regarding winter cover crops – unrelated to the OA report, a local town (East Hampton) has recently legislated the need for winter cover crops to manage erosion. He commented that this is the type of legislation that could result from the OA Report.

TFM Swanson finished up the discussion of the working group conclusions with the topic of quantifying potential mitigation measure outcomes, arguing that it is not feasible to do so in this report. Chairman Gennaro agreed and TFM Swanson elaborated, stating that some members had expressed a desire to quantify the effect of the recommended mitigation measures. TFM Bortman clarified that within her working group session the group felt that the report needed to have a plan to come to a specific outcome, which would be defined using ecological proxies, such that "we know we've succeeded if species x can survive." This would be accomplished in the goal statement, and the legislators can then

find out how much they need to do to succeed in mitigating a region. TFM Herter stated his understanding was that the goal statement would paint an aspirational picture of where NY wants to be in the future, but would not have specific outcomes such as what TFM Bortman was describing. TFM Novak, suggested that both concepts are along the same lines, but it comes down to picking the right ecological proxy.

TFM Pickerell stated that within his working group session, the discussion was in the context of aquaculture and how much should be promoted without compromising public use. TFM Masters pointed out that the actual square footage that aquaculture currently occupies in the Peconic Bay is less than 0.5% of the Peconic Bay's total surface area. He argued that the benefits hugely outweigh the potential of occupying the excess space and that there are already laws in place to limit any expansion. Chairman Gennaro welcomed text to include in the report to this end and TFM Masters offered to meet with Suffolk County and TFM Pickerell and put together some text for the report.

TFM Swanson reminded the task force that there would be pushback from recreational users who would argue that aquaculture is impinging on their use. TFM Novak concurred, stating that this is an extremely contentious issue in eastern Long Island. TFM Masters stated that the contention could be resolved through continued education and TFM Novak agreed but reiterated the level of fear currently surrounding the topic.

This concluded the discussion and the meeting moved on to the public comment period.

Public Comments

George Hoffman – Setauket Harbor Task Force

Hoffman commended the panel for giving their time and expertise to help figure out OA. He urged to the task force to make sure any recommendations they come up with are actionable so that New York can start to make changes. He spoke about Shell Day (held on August 22, 2019), an event coordinated by Connecticut DEEP where 100 harbors tracked alkalinity via salinity for a full tidal cycle, and called it to the Task Force's attention. He urged that New York should work collaboratively to fix these coastal issues.

TFM Masters clarified that Shell Day was set up by MECAN and that Setauket Harbor was one of the collection points.

Adrienne Esposito – Citizen's Campaign for the Environment

Esposito supported George Hoffman's comments, urging the task force to work backward, starting at who the audience is for the report and what you want those readers to do. She cautioned that if the report was written like a science report, it would not be effectual because most legislators are not scientists. She urged the task force to be as specific as possible: to delineate what needs to get done and

what the results will be. She cautioned that marking the recommendations as substantiated, potential, promising/conceptual, may not give enough guidance to the legislators and decision makers. She recommended giving actions for specific estuaries and reminded the task force that this document is for policy makers not scientists.

Chairman Gennaro thanked her for her comment and encouraged her to come again and comment on the interim report once it is published.

Jeff Levinton – Stony Brook University

Levinton expressed his support of the previous comments and recommended ordering the goals of the report. He commented that mitigation measures should be scaled appropriately and that a map of vulnerability and mitigation efforts should be included in the report. Levinton also emphasized citizen interaction and involvement, using yacht clubs as an example of interested parties that are often very involved once they have been engaged. He also highlighted schools as potential groups for engagement and involvement.

TFM McLaughlin asked for clarification about the concept of mapping mitigation efforts, asking whether Levinton believed that not all strategies would be good for all sites.

Levinton clarified that there are gradients of success for mitigation measures and that different mitigation measures are more appropriate for different goals: reducing regional nitrogen by 1/3 would require different strategies than reducing nitrogen in Islip by the same fraction.

Chairman Gennaro thanked Levinton for his comments and shared information about how the task force is currently attempting to reach out for citizen engagement via notices and emails for the public meetings.

TFM Bowman suggested including the yacht clubs on the current public notification mailing lists used by the task force.

Anthony Fresco –

Fresco identified mechanical, electrical solutions to low Dissolved Oxygen levels as an area that has not yet been considered by the task force. He recommended the task force consider novel solutions in electrical, mechanical methods using salt water ions as an energy source. Fresco also expressed his support of the other public comments.

Chairman Gennaro requested that Fresco propose any language or comments to the task force after the interim report has been made publicly available or to provide the task force with references so they can further investigate this potential solution.

Task Force Discussion

Chairman Gennaro put forth a vote to join the OA Alliance.

The task force unanimously voted to join the OA Alliance.

Chairman Gennaro then thanked the Task Force for a great meeting and stated information for the next meeting would be shared once the meeting is scheduled. He opened the floor to further task force comments before adjourning.

Chairman Gennaro suggested a motion to adjourn.

It was moved by TFM Pickerell and seconded by TFM Herter.