

## Ocean Acidification Task Force Meeting Minutes for November 1, 2018 Meeting

Location: Stony Brook University, SoMAS Endeavor Hall 120

### Task Force Member Attendance

Present:

- James F. Gennaro (chair)
- Marci Bortman
- Malcolm Bowman
- Todd Gardner
- David Gugerty
- Jeff Herter
- John K. McLaughlin
- Karen Rivara
- R. Lawrence Swanson
- Jeremy Thornton

Absent:

- Carl Safina

### Summary of Chairman Gennaro's Opening Statement

Chairman Gennaro called the meeting to order and read an opening statement. The Chairman thanked DEC Commissioner Seggos for designating him as Chair of the Task Force; he thanked Governor Cuomo for his commitment to probing the phenomenon of ocean acidification; he explained that DEC is the lead agency for this initiative; he introduced SoMAS as DEC's main partner in the support of the OATF and introduced Larry Swanson and Janet Nye as the two co-lead investigators for the OATF. He indicated that "the most important people here tonight by far" are the members of the OATF, saying they are "indispensable to the success of the mission of this Task Force," as he thanked them for their service. The Chairman also thanked the public for their interest in and engagement with the OATF, and welcomed them to make comments at the meeting at the designated time. And he praised Assemblyman Englebright, the main sponsor of the OATF law in the Assembly. The Chairman then yielded the floor to Assemblyman Englebright for a statement.

### Summary of opening Comments from Honorable Steve Englebright:

- Assemblyman Englebright first thanked Jim Gennaro for serving as the Chair of the OATF and praised Governor Cuomo for his advocacy of this task force and for appointing Jim Gennaro as the Chair.

- The task set forth for this task force cannot be more serious, as shown by the recent news article, “Startling new research finds large buildup of heat in the oceans, suggesting a faster rate of global warming”, from the Washington Post that was published on 10/31/18
  - This article reports on startling new research that has found evidence for a faster rate of global warming than previously estimated
  - “The rate of acidification is unparalleled”
  - This research is both terrifying and terrible
- Englebright raised the question: Are we in the midst of an extinction event?
  - He argued that we may find that we are if we don’t take action that is both policy-driven and science-driven
- He stated that the state is depending on this task force to find the truth and use it to make wise recommendations for wise policy to help protect our coastal area and to act as a role model for the rest of the country and the world.
- He argued that the recommendations coming out of this task force should not be narrowly-viewed, considering that acidification is a subset of many larger issues that are inter-related.
- He hoped that the task force would choose to take a broader view for recommendations
- He concluded by again commending the governor for his environmental positions in the coastal zone and coastal ecosystems
- He stated that while the issue of ocean acidification may not be a dramatic one, it is part of the gravest challenge we face anywhere -- making sure we have a livable and sustainable coastal region and earth to pass on to the next generation
- He concluded by thanking the task force for taking on this issue.

#### Introductions by members of the task force

- David Gugerty first introduced himself and stated his current positions as Chair of the Bayville Environmental Commission and member of the Cold Spring Harbor Protection Committee. He expressed that he believes he brings the perspective of an advocate trying to make Long Island coastal waters and embayments cleaner and healthier. He has done a lot of previous environmental work.
- Malcolm Bowman introduced himself as a professor of physical oceanography at SoMAS who has studied New York’s coastal oceans for his entire career. He is a specialist in storm surges and spoke about his time teaching at SoMAS, pointing out that these issues are on the minds of SoMAS’ students.
- Larry Swanson introduced himself as a physical oceanographer who has become more of a generalist and policy wonk. He feels that the task force is undertaking important and fun work.
- James F. Gennaro introduced himself, describing his work as a former member of the NYC Council, where he chaired the Council’s Committee on Environmental Protection for twelve years. He is currently a NYSDEC Deputy Commissioner and is gratified to serve as chair of the OATF.

- Marci Bortman introduced herself as the conservation director for The Nature Conservancy (TNC) and a graduate of SBU SoMAS, where she trained as a marine scientist. She was recently asked to lead the climate change adaptation team at TNC and thinks this task force is timely in dealing with a serious issue.
- Jeremy Thornton described himself as an avid fisherman who has been involved in conservation and the preservation of our bays. He has a strong interest in and passion for preserving our oceans and bays.
- Karen Rivara is the owner of an oyster company (Aeros Culture Oyster Company). She has been growing shellfish since 1983 and has seen the effect of ocean acidification on small shellfish, especially larvae.
- Jeff Herter works for the NYS Dept. of State Office of Planning Development and Community Infrastructure and is a graduate of SUNY ESF. He manages an online data portal to provide data to the public and make data more transparent. He is learning all he can about Ocean Acidification and is looking forward to making a difference on the OATF on behalf of the NYS Dept. of State.
- Todd Gardner is a New York State Professional Engineer who works at the NYS Office of General Services where he develops environmental specifications for products and helps state agencies identify the benefits of purchasing green products.
- John K. McLaughlin briefly introduced himself as the managing director of the Office of Ecosystem Services at the NYC Department of Environmental Protection.

Jim Gennaro stated that the background and purpose of the OATF (the next item on the agenda) was largely covered by Steve Englebright in his opening statement. Gennaro then moved on to highlight some details about the operations of the committee, etc.

- Gennaro stated that he is working on the OATF almost full time, so he will be in touch as updates are made to the draft document and he welcomes participation at and in between the meetings
- He asked the task force if they felt the bylaws needed to be read out loud. Upon seeing no positive response, the bylaws were not discussed with the exception of item 9, which was summarized:
  - Item 9 welcomes public involvement, participation and comments during meetings and any comments or literature the public may want to send to the task force
  - That said, while the public is present at these meetings to observe and make comments during the appropriate times, the task force cannot answer questions or respond to the public during the meetings as per the bylaws.
  - Task force members are able to engage and question those who come before the OATF to make comments, but will not answer questions from those who comment or from the audience at large.
- Gennaro then solicited questions or comments about the bylaws

- The general consensus was that the bylaws were comprehensive and that it was also important to highlight that task force members cannot attend meetings remotely via skype or phone conference, etc.
- David Gugerty motioned that the task force accept the bylaws
  - This was seconded by Jeff Herter
  - The vote was unanimous to accept the bylaws as written

Janet Nye presented an overview of Ocean Acidification as described in the briefing document provided in advance to the OATF members. A copy of the presentation was also provided to all task force members. Questions about the presentation were then solicited from the task force.

- Marci Bortman asked: How difficult is it to obtain this kind of data and how likely is monitoring to continue? Response:
  - Monitoring is part of an automatic system that is installed on a vessel as part of a whole ecological study. It is very efficient economically to get as much data as possible. SoMAS has an MOU to continue the monitoring for 10 years, which should help to address local ocean acidification more completely toward the end of this period.
- John McLaughlin asked if the data were to be collected seasonally. Response:
  - Yes, the first cruise, which was shown in this presentation, was in July but the study group will be going out again in a few months to obtain seasonal data.
- David Gugerty had an observation and a question.
  - Observation: Gugerty was interested in factors of coastal acidification because of issues with sewage contamination causing coastal eutrophication.
  - Question: Can we tell the difference between atmospheric and coastal acidification?
  - Response from Nye: Yes, using mathematical models, which the Nye Lab is currently in the process of using.
- James Gennaro commented:
  - The land-based phenomena which have OA impacts on the coastal environment versus global phenomena that affect OA in the ocean need to be matched up with deliverables from the task force to figure out where the split is within the deliverables that the OATF is mandated to produce.
  - Some deliverables will focus on coastal acidification and influences but the task force still needs to cast a wide net with the final OATF report.
- Larry Swanson asked why the presentation did not include an atmospheric carbon dioxide timeseries map from New York.
  - Response (Nye): We do not have any atmospheric CO<sub>2</sub> records in New York as far as I know
  - Swanson followed up, asking if that is a mistake that the task force should look to rectify
  - Response (Nye): the records show the same trend worldwide, so we probably wouldn't find a different trend from New York measurements. The task force may want to recommend a monitoring station, but the trend will likely be the same.
- Malcolm Bowman asked why the Mauna Loa CO<sub>2</sub> time series show a zigzag curve

- Response (Nye): that is the earth “breathing” -- it is the seasonal cycle of vegetation in the northern hemisphere. This zigzag pattern larger/smaller in amplitude based on the amount of vegetation in the region of each sensor.
- Jeremy Thornton asked: How does New York compare to the other stations based on the data from the first ocean acidification study cruise?
  - Response (Nye): It is too early to know, but at a first glance, the data from the cruise this past summer is similar to a transect off New Jersey that was sampled as part of a NOAA-funded cruise from the Gulf of Mexico to the Gulf of Maine. We do not know the interannual variability in the Mid-Atlantic cold pool which is where we see cold, low pH water. Our cruises will allow us to understand how long the cold acidic bottom section lasts, how large it is, etc. but monitoring has only conducted a single cruise so far.
- David Gugerty asked: Does kelp fall into the group of organisms that are positively affected by ocean acidification and can they be used to mitigate ocean acidification?
  - Response (Nye): Yes, they do fall into that group. Some research groups have looked at the use of seagrass and algae to mitigate ocean acidification. These organisms are responding favorably because they use CO<sub>2</sub> to photosynthesize.

SoMAS graduate student Teresa Schwemmer then presented the second presentation of the meeting -- an overview of the actions of previous ocean acidification task forces around the country. A copy of the presentation was also provided to all task force members. Questions about the presentation were then solicited from the task force.

- James Gennaro commented: We have specific deliverables we need to produce and we have pure science and knowledge of what some other states have done. Let’s have the task force staff look at each of the deliverables and parse them, to characterize them as either coastal or ocean phenomenon and determine what we need to do to get a better handle on these deliverables specifically. The task force staff should also identify anything we have in the way of known science or known gaps that can get us towards these deliverables.
- Karen Rivara asked: With regard to raising awareness, did any of the reports have any pieces where they reached out to the public to help people change habits to mitigate their CO<sub>2</sub> contributions? Were there any processes identified where organizations could get nutrient credit for removing nutrients/ CO<sub>2</sub>?
  - Teresa Schwemmer did not recall any examples specifically about nutrient credits, but stated she would find out for the task force. Concerning general public recommendations, the Northeast coastal acidification network is working on something to this end.
- Larry Swanson commented about monitoring: with the exception of New York City, the most common thing about long term monitoring is that they are short-lived due to administration changes, etc. It is important to get help from the legislature that there will be long-term commitment to any monitoring efforts that are recommended by the task force.
- James Gennaro responded, stating that there are ways to get to that in the deliverables. On a local government level, Mayor Bloomberg created PlaNYC and then Gennaro created a law to

make that office a permanent part of the mayoralty. We should stress that monitoring needs to be ongoing and this can be done through a law with a no-sunset clause.

- Malcolm Bowman asked for clarification regarding one of the common themes: “Promote Adaptation and Resilience: for example by incorporating hotspot/refugia considerations into long-term planning...”
  - Response (Schwemmer): One of the common recommendations was to open marine sanctuaries and refuges in ecological hotspots/key regions to remove anthropogenic stressors to the maximum benefit.
- Marci Bortman asked if it was Teresa’s assessment after reading the reports that our issue of eutrophication will be a big factor compared to these other areas
  - Response (Schwemmer): All of the other states mentioned also considered eutrophication in their task forces because nutrient inputs are easier to control for the states. In her opinion, it should be a large focus and it is something that we can really control.
- David Gugerty felt that Marci brought up an excellent question, but asserted that although nutrients are likely the easiest to address, it is important to think big and still go after carbon emitters if the task force finds that to be necessary.

James Gennaro’s email address and the Ocean Acidification website URL were provided to the public at this point via the blackboard. This information was left up for the duration of the meeting.

At this point, the floor was opened for a discussion amongst the taskforce.

- John McLaughlin:
  - The task force should address the gaps- there was nothing in the presentations about short-term measures for mitigation of acidification. Reducing carbon output is vital but short-term measures, like adding old shells to acidified water as a carbon source should also be focused on.
    - Gennaro responded that this was a point well taken. With regard to local phenomena and the coastal aspect, there are other efforts going on to reduce nitrogen (LINAP) so we need to make sure we take into account other efforts to see where this task force overlaps with those.
- Jeremy Thornton:
  - The task force should look for turn-key opportunities to adjust legislation that is already in place, but we need to ask the question of whether or not these opportunities scale up.
    - Gennaro responded, suggesting that the staff should look into this.
  - Thornton also commented that we have close neighbors with NJ and CT and that they also affect our waterways. He stated that it is important to do things that they can adapt or adopt or things that they may already be doing: our efforts should be concerted.
    - Gennaro responded that the staff has a good appreciation for this. Janet Nye identified the New England Climate Initiative that is currently in the works.

Gennaro concluded that local recommendations and adaptations would be shared by the task force and that the task force would try to be a role model for the local region.

- Jeff Herter:
  - With regard to the regional aspect, Janet used some figures from MARCO (Mid-Atlantic Regional Council on the Ocean), which is made up of New York, New Jersey, Maryland, Delaware, and Virginia. The New York State Department of State is on that council and the chair of that council rotates between states every two years. New York State will be taking over the chair position next year. Further, ocean acidification is already one of their tenets. He concluded by commenting that our work can inform theirs and vice versa.
    - Gennaro stated that any information Herter could share about this with the staff would be most appreciated.
- Malcolm Bowman:
  - The Governor of Washington State has been pushing for a carbon tax/credit system that is on the ballot again next Tuesday. If passed, it may give courage to other states to try to reduce carbon dioxide emissions into the atmosphere. We are all in this together in terms of atmospheric pollutants so we should develop networks at both the local, state, federal, and world level.
    - Gennaro stated that while the task force is not a legislative body, it can present things to the governor and legislature of this type and that the task force should “thing big.”
- David Gugerty:
  - Thinking locally, David was interested in finding out the potential for kelp farming in Long Island Sound (and the bay areas) to act as nitrogen sinks that can be harvested as a super food and prove profitable. He was interested in the results of the pilot study from the governor’s office. This type of system is being done in Laurel Hollow with oysters, where the oysters clean the water and they are able to be consumed as well.
    - Gennaro stated that for the next meeting it would be good to have someone from LINAP because there is a real nexus between this task force’s initiatives and theirs. While this is just one task force, there are other entities that are doing other things that bear on the actions of this task force.
    - The Long Island Sound Study also comes to mind with regard to potential speakers for the next meeting.
- Karen Rivara:
  - We have sources of information available to us and Cornell Cooperative Extension and it would be nice to meet people with suggestions for legislation to come up with ways that people can actually do something. The task force needs to get a grasp on the scope of the problem and combining short-term mitigation with long-term goals.
  - Response (Gennaro): This is a good point.
- Marci Bortman:

- Does the DEC allow us to put shell back into the water?
  - Rivara- the DEC does but the Army Corps of Engineers considers it fill so it is harder to do. Connecticut does not have a problem with it.
- Eelgrass restoration does not seem to be an option until we fix the water quality. While kelp may work, eelgrass won't.
  - McLaughlin- There were pilot projects just west of Jamaica Bay and eelgrass restoration worked in small, ideal locations. The eelgrass patches survived a long time but were eventually thwarted by biological factors.
  - Swanson- What exactly do we mean by water quality?
    - Bortman- nutrient-related water quality
  - Gennaro stated that the task force needs to focus on what science we need to undertake, near-shore or global, and that this matrix of identified needs will be a help in moving forwards.

Following the task force discussion, the floor was opened up to public comments. Those of the public who wished to comment filled out comment slips containing their name and affiliation and were called upon by James Gennaro.

- Mike Kaufman
  - He stated that he is a land use attorney by trade. One of the requirements for this task force is to produce a report and an action plan for recommendations for state and local legislature. The task is to address regulatory aspects. There are some laws that are ongoing, such as SEQRA, but they are baby steps. Some regulatory changes could make it easier to implement solar installations for properties smaller than 50 acres. This would help with carbon dioxide reduction. New York State is starting to move a little bit, but there are still a lot of gaps. Currently, "Type Two" actions are excluded on the land use side. Planning and development are a current gap, as they are ignored with regard to carbon except with environmental impact statements. As is, environmental impact statements are largely advisory and are usually not rejected. The task force should realize that legislation is needed on the land side and that it is just as important as the ocean side. He recommended trying to look at changes with SEQRA but stated that it is just a starting point. Long Island is paving over everything, increasing the carbon footprint, but the task force should look at the land side extensively and make recommendations to push land use into the 21<sup>st</sup> century.
- Maureen Dunn
  - She stated that she has been looking at ocean acidification for a while as a water quality scientist at Seatuck Environmental Association. This is a passion for her. She stated that she is part of a project that initiated an oyster shell recycling program along with the Town of Hempstead, where shells are collected in Brookhaven, Islip, and Smithtown, and then aged for 6 months before they are used in restoration efforts. These shells are being used to combat ocean acidification. Coastal acidification and returning oyster shells are things that we can address; when there are oysters that need buffered water,



oyster shells work great. 20 states recover and recycle oyster shells and New York only does it through the Billion Oyster Project and the Town of Hempstead. This project has collected about 12 tons of shell so far and it is great because it reaches the public and it engages them. The project also studies residence times originally as part of the LINAP though they are not consigned to do it, and they are currently modelling residence times in Great South Bay. These areas have very long residence times so where there are acidification events, flushing does not mitigate them much. She wanted to bring attention to oyster shell recycling; many states have it mandatory, but New York State does not.

- Marci Bortman: Where do you age the oyster shells?
  - Maureen Dunn: they are aged in a composting facility in Brookhaven town in Manorville to reduce disease. It actually takes a year for the entire process: 6 months of collection and 6 months of aging.
- We don't need to throw these shells away as waste.
  - John McLaughlin: The state requires 6 months above 45 degrees F to kill parasites and diseases.
  - Swanson: Is there any scientific evidence that 6 months is necessary?
    - Response- yes there is evidence for the 6 month waiting period.
- Tom Gulbransen
  - He is associated with Batelle. He first thanked the task force and wished them good luck. Tom studied under Malcolm Bowman and Larry Swanson at SBU SoMAS. He stated that he hopes this group can balance the leveling, short and long term studies and acts. The task force needs to pursue levels that are not short term. He implored the task force to please try to balance instigating actions, mitigating efforts, legislation, and litigation. The task force needs to address long term goals as well as short term goals.
- August Ruchteshel
  - He stated that he is associated with the Suffolk County Department of Economic Development and Planning and works with shellfish farmers and fishermen often. "Borne out of cynicism and pessimism" his recommendation is that the task force needs to take a worst-case-scenario approach: a post treatment plan. What are the mitigation strategies that can be explored in the worst case scenario where the oceans do acidify? Examples being mechanical bio-extraction, artificial reef building, etc. Suffolk County has funded a kelp research study, and the report is currently being finalized by the Cornell Cooperative Extension, but is not yet available. SUNY RF also received a grant for kelp research funding. In his opinion, bio-extraction is key.

Following public comments, James Gennaro summarized the meeting and outlined the road ahead, including the plan for the next meeting.

- From this meeting, the staff has new direction and the task force was able to meet and come together for the first time. Originally the plan was to have the next meeting in Nassau County

but this will possibly be reconsidered, because it is important to have a quorum. Nassau County is still the ideal location for the next meeting. James Gennaro will be in touch with the task force and staff in terms of timing for the next meeting, but the current plan is for January 2019. The task force will be given advanced notice of the meeting time and place. Indicative of the direct involvement of the governor's office in this initiative, it was posited that it would be good to guide the efforts in the task force for SoMAS to have a preliminary draft report before the end of 2018. By the time of the next task force meeting, we will have the rudiments of a preliminary report for the task force to review and build upon. James Gennaro invited input from the task force for what should be included in this preliminary draft report and that this input should be sent to himself. Suggestions for future presentations were invited and should also be sent to James Gennaro.

- James Gennaro invited concluding remarks from the task force
  - Larry Swanson stated that, considering that ocean acidification is an extremely complex process and the science is difficult with even harder solutions, he was concerned that a preliminary draft report in this time frame would not be able to be written with enough deliberation to be very meaningful. He felt that this timeline was very difficult.
    - James Gennaro responded that Larry Swanson's concerns were duly noted but that it was important to get "some clay on the wheel." He stated that it also depended on the staff's and task force's understanding of what a preliminary draft report entails. He stated that he would continue the conversation with Larry Swanson after the meeting. He stated that anyone who wished to weigh in on this should contact him via email following the meeting.
- Malcolm Bowman questioned whether a quorum was the issue with moving the meetings.
  - Jim Gennaro responded that the task force needed to be fair to the process and the people with regard to geographic fairness, etc.
- Malcolm Bowman asked what would happen if there was not a quorum at a meeting?
  - Jim Gennaro answered that if there was no quorum, the task force could have discussions and presentations with as few as four task members but no votes could occur. He emphasized that this was not how he wanted the task force to operate. Gennaro stated that the task force has the attention from the governor's office, NYS DEC, NYS DOS, etc. and that this is the "it" project right now, so there is more pressure to show results.
- David Gugerty commented that he felt this meeting was a terrific start between the preparation of the staff and the studies. He stated that there were good comments from the public and that he thought that the task force would meet the milestones and that there are a lot of good possibilities. He stated that Assemblyman Steve Englebright had great impact with the article he showed in his beginning remarks and that the task force has a good direction to go in moving forward.
- Jim Gennaro made a final statement, concluding that Honorable Steve Englebright attending the meeting was extremely meaningful.

There as a motion to adjourn the meeting and the motion was then seconded, ending the meeting.