Harmful Algal Bloom Task Force Meeting

Tuesday, December 10, 2019 (8:30am-4:00pm EDT)

Location: DAV130, USF St. Petersburg, 140 7th Ave S, St. Petersburg, FL 33701
This meeting is open to the public.

In Attendance: Leanne Flewelling, Jill Fleiger, Don Anderson, Quay Dortch, Dave Whiting, Rhonda Watkins, Charles Jacoby, Duane De Freese, Andy Reich, Sherry Larkin, Barbara Kirkpatrick

Presenters: Gil McRae, Lisa Krimsky, Tom Frazer,

Regrets: None

Meeting Minutes:

8:30a.m. Welcome and Introductions

Gil McRae welcomed Task Force members and introduced Martin Tadlock, Regional Chancellor USFSP.

Tadlock gave welcoming remarks and spoke of USF and St. Petersburg campus students and programs, noting they are invested in the work the Task Force is doing.

McRae thanked Tadlock and gave opening remarks around Florida water quality, the importance of the Task Force's work to inform policy and management, and the supportive Governor to implement substantive changes based on recommendations of such bodies.

McRae introduced Task Force Chair Leanne Flewelling to lead the meeting.

9:00 a.m.
Flewelling went over housekeeping items and reviewed the Agenda for additions or objections. Task Force had no additions or objections, consensus reached to proceed with set Agenda.

9:03 am Florida Red Tide Mitigation & Technology Development Initiative

Flewelling noted Mote Marine Laboratory was scheduled to present but sent late regrets. Flewelling provided a brief overview of the Florida Red Tide Mitigation & Technology Development Initiative as outlined in F.S. 379.2273 and available on Initiative website Mote.org/RedTideInitiative. The Initiative funds $18 million over 6 years awarded by FWRI to Mote ($3m/year) to develop prevention, control, and mitigation technologies and approaches to address impacts of red tide on coastal environments and communities in Florida. Three components to the funded initiative include Infrastructure improvements at Mote to increase capacity for red tide related research, Mote red tide research programs, and external grants program for red tide research (RFP). The statute also requires annual reporting to the legislature and state agency, and establishment of a Technical Advisory Council (TAC). TAC membership and appointees to date:

• Chair: Mote Marine President & CEO (Dr. Michael P. Crosby)
• Appointed members:
– Governor: Private Commercial Enterprise (not yet appointed)
– Senate President: Public or Private University (Dr. James Sullivan)
– House Speaker: Non-university public or private organization (Dr. James Powell)
– FL Department of Environmental Protection (not yet appointed)
– FL FWC Fish and Wildlife Research Institute (Dr. Kate Hubbard)

TAC first meeting is planned at Mote for January 2020. Flewelling noted the Initiative launched external grants RFP at the 7th US HAB National Symposium with submissions due January 31, 2020 and anticipated funded projects announced in February. Mote anticipates funding 4-5 organizations approx. $150-250k each for one year, with a second RFP to launch in year 2.

Further questions should be directed to Mote's Kevin Claridge, kclaridge@mote.org or 941-388-4441 ext. 275

Questions from the Task Force:

- Dortch asked about role of TAC
- Flewelling responded - Details are pending but generally to review and approve recommendations coming forward for funding, general initiative structure and RFP peer reviewed recommendations.
- Kirkpatrick asked for confirmation the RFP submissions will be peer reviewed.
- Flewelling responded that was her understanding but contact Kevin Claridge for confirmation/further questions.

9:10 a.m. Blue-green Algae Task Force Consensus Document

Flewelling invited Tom Frazer, Chief Science Officer State of Florida, to present. Frazer presented on the Blue-green Algae Task Force recommendations in their consensus document dated October 11, 2019 and resulting actions.

Frazer presented "Blue-Green Algae Task Force Recommendations"

Questions from the Task Force:

- De Freese, recognized the great work the BGATF has done and would like the HAB Task Force to recommend supporting the recommendations and work of the BGATF if such a motion can be made.
- Flewelling noted the motion is appropriate and should be brought forward during the recommendations discussion portion of the Agenda.

9:30 a.m. Florida Sea Grant and Ocean Conservancy Stakeholder Survey

Flewelling invited Lisa Krimsky, Regional Specialized Agent Water Resources Sea Grant Florida, to present on the Florida Sea Grant and Ocean Conservancy Stakeholder Survey on water quality and HABs, specifically *Karenia brevis* red tide and *Microcystis aeruginosa* blue-green algae. Krimsky presented on preliminary survey results but noted analysis is still ongoing and respondents represent UF/IFAS Extension Advisory Committee Members only.

Krimsky presented: "Perceptions of Water Quality & Harmful Algal Blooms in Florida: Causes and management opportunities from an engaged community"

Questions from the Task Force:

- Reich inquired if they plan on looking at the responses regionally.
- Krimsky responded absolutely. They will look regionally as well as comparing inland versus coastal counties to look at difference between areas impacted by red tide versus blue-green algae.
- De Freese asked if they have a method to get the information out to officials local to state level, and its importance to impact policy.
- Krimsky said no. They have just started analyzing, but when they have more robust responses/analyses they would like to. She requested the Task Force to assist them with these efforts communicating to policy makers, as well as discuss how the Task Force can use results as an information tool.
- Jill Fleiger commented on survey respondents/stakeholders identifying impact as focused on public health and wildlife over economic impacts.
- Krimsky noted data still being analyzed, could be representative of Florida stakeholders but could also be bias to the selected respondent group.
- Don Anderson noted a similar survey targeting scientists on methods of response (prevention, mitigation or control) would be interesting to see how they would respond.
- Krimsky noted the impact survey question did not differentiate between blue-green algae and red tide, but HABs as a whole.
- Dortch asked if the survey provided examples of control methods when related questions were asked? And if so, did the survey detail any of the trade-offs of applying different control methods? Noting NOAA environmental survey is required to do this, and as a result has largely taken biological control off the table.
- Krimsky noted yes the survey did provide examples of control methods but did not go into great details about the risk. This survey was general focused on identifying messaging needs.
- Kirkpatrick asked on if the question related to willingness to pay sales tax further identified the amount stakeholders are willing to pay?
- Krimsky confirmed, no. Noting, it was discussed at survey development but would have required adding a large addition of questions to capture potential amounts so was not included in the interest of keeping the survey length reasonable.

- Anderson asked since respondents were a targeted/more engaged and educated audience if they through responses would be different from a general public survey.
- Krimsky noted she felt they would be similar with the unknown of how the general public might perceive their ability to contribute to change.
- Reich encouraged to look at details of non-respondents, ways of how to reach those audiences.

Flewelling thanked Krimsky and proceeded with next agenda item.

10:04am Focal Areas Review and Approval

Flewelling reviewed the charge of the Task Force F.S 379.2271 and read the revised long-term general Focal Areas from the September meeting. The current focal areas read as:

The HAB Task Force has adopted general, long-term focal areas within which it will evaluate existing approaches or knowledge; pinpoint gaps in our efforts or understanding; build a portfolio of strategies and tactics to fill those gaps by assessing their attractiveness and feasibility; and recommend:

1. actions to reduce excess loads of nutrients entering our freshwater and coastal systems developed in collaboration with the Blue-Green Algae Task Force, Department of Environmental Protection, Department of Economic Opportunity, Department of Health, Department of Agriculture and Consumer Services, Visit Florida, water management districts, and other relevant stakeholders;

2. improvements to current policies and procedures that mitigate the impacts of harmful algal blooms on public health, ecosystem sustainability, economic viability, and other valued facets of society;

3. enhancements to communication, coordination, cooperation, and collaboration among stakeholders charged with responding to harmful algal blooms and their effects; and

4. ~~useful~~ strategic research into the biology and ecology of species creating harmful algal blooms; detection, tracking, modeling, and prediction of blooms; fate of algal toxins; impacts of blooms on valued facets of society; control and mitigation of blooms; and other key issues.

The Task Force discussed, requesting change to wording of item 4 from “useful” to “strategic”. Flewelling put forward vote to adopt with change. All Task Force members were in favor. Revised Focal Areas were adopted.

Break 10:17 – 10:32 a.m.

10:32 a.m. Discussion of *Karenia brevis* Research Priorities

Flewelling opened agenda item research priority needs for red tide. Reminded the Task Force members this is a continuation from the September meeting identifying needs for Management and Response, Communications and Public Health. Noted the same facilitated method will be used as at the September meeting. Following needs, Task Force members will break into working groups to begin work on Recommended Actions for all priority areas.

Flewelling introduced facilitator Caroline Gorga to lead the research priority needs discussion.

Gorga reviewed process from September meeting and noted will discuss research priorities by subarea, amending, adding or removing research needs identified from State of the Science Symposium as a starting point.

Task Force reviewed and discussed identified needs from State of Science Symposium, for initial revisions and prioritization:

Research – Initiation, development and Termination

1. Identify and determine the role of various nutrient sources supporting nearshore blooms.
2. Geographically and temporally identify *Karenia brevis* bloom initiation zone(s) and/or mechanisms.
3. Understand bloom triggers and control via experimental work (lab, mesocosm, and field experiments).
4. Evaluate bloom termination, including role of environmental factors such as predation, hypoxia, etc.

- Determine the impact of climate change, major storms and other global scale impacts on blooms.
- Broadscale oceanographic surveys.
- Metagenomic analysis at entire community.

Research – Prediction and Modeling

1. Develop suite of models to address multiple stakeholder needs including aerosol, particle transport, bloom dynamics, nutrient dynamics.
2. Routine *multi-parameter* observations (water and air), improve spatial and temporal at subsurface and surface to inform models.
3. Tie water quality conditions both inshore and offshore to bloom predictions or conditions.

- Develop models that can separate out point source and non-point sources of pollution.
- Tie predictions back to what society uses that information for. Developing stakeholder driven predictive tools.

- Determine what the best models are to get those predictions and evaluate the data gaps. Use ensemble model approach.

Research – Detection and Monitoring

1. Develop affordable/effective field tests for cells/toxins – measure simultaneously.
2. Improve routine monitoring of nearshore and offshore, particularly at depth.
3. Conduct more comprehensive and consistent monitoring (biology, chemistry and physics).
4. Improve our detection capabilities.
5. Tiered monitoring approach and event response.

- Form partnerships to develop monitoring programs that will be comprehensive and non-overlapping.
- Develop central data portal (visualization tool).

Research – Control and Mitigation

1. Develop basic criteria to guide pilot development (responsive research and innovation) and for facilitating effective and efficient projects.
2. Conduct pilot studies (lab, mesocosm, small areas) to assess feasibility and scalability of new technologies to mitigate blooms.
3. Expand lab studies investigating impacts of red tide mitigation technologies on marine life.
4. Determine via social-science study what the public really wants (e.g., water quality or *Karenia* control or nutrient reduction).

- Coastal watershed investments/restoration activities that would reduce the occurrence, duration, and severity of future blooms. -
- Use multiple approaches to bloom control. -

Gorga identified the working lunch process. Task Force members will break-out into 2 working groups to develop recommended actions for each priority area then report out to the entire Task Force for further discussion.

- Group 2: Communications • Management/Response (Gorga to facilitate)
  - RW, DD, DW, JF, SL, LF
- Group 1: Public Health• Research (Abbott to facilitate)
  - AR, QD, BK, CJ, DA

<u>Break – Lunch Delivery 12:30-1:00p</u>

<u>1:00-2:00 p.m. Task Force Small Group Discussion of Recommendations</u>

Task Force groups discussed identified priority needs and began capturing recommended action concepts, with consideration for why the recommendations apply and potential entities that could lead efforts to work with stakeholders to reach action goals.

2:00 – 2:50 p.m. Small Group Report Out and Task Force Discussion of Recommendations

Task Force members discussed initial recommendations developed by break-out group work. Reminded all members these capture the CONCEPT of action needed related address priority areas and not the final recommended action language.

Task Force members presented and discussed following items:

- Establish a working group with scientists and communication specialists from FWC, DOH, DEP, FDACS, tourism and other state partners and stakeholders to 1) review current red tide communication strategies and tools, 2) develop a plan to accurately and appropriately inform all stakeholders during red tides, 3) create a long-term educational campaign to develop a better-informed public across all age groups and demographics and 4) create a repository of resources for shared use/consistent messaging. *PH, MR, C
- Create a one-stop shop for HAB information, a webpage with information for if you have an issue with HABs, managed by multiple agencies. Would report out through social media as well. *MR, C, R
- Create a data portal to be shared amongst partners, all water partners - shared FL agency data portal. *MR, C, R
- Develop an emergency response communication strategy, similar to how we manage natural disasters, tiered system coordinated amongst response entities. *PH, MR, C
- Develop a mechanism for signage, educational versus warnings etc. determining triggers for when apply/use. *PH, MR, C
- Improve the state's ability to do hazard communication both Social science skills for communicating risk and hazards, and use of digital tools/social media. *PH, MR, C
- Develop a statewide response plan that links over to the communication strategy that identifies triggers for action/response. HAB and other algal blooms. *PH, MR, C
- Create a best practice guide for local communities to define roles and responsibilities of these communities. *MR, C
- State should create a regulatory framework to address unique technologies for bloom management. *MR
- Develop a statewide integrated coastal and ocean monitoring system. *MR
- Support the Blue-green Algae Task Force recommendations.
- The DOH should identify specific research needs regarding the short and longterm health impacts from exposures to brevetoxins (dermal, ingestion, inhalation, neural) and prioritize (include wildlife exposure? Sentinel species?). *PH, R
- Develop a more aggressive training program for health care professionals in the State of Florida for awareness, training and reporting of related HAB illness. DOH with Professional Associations. *PH, MR, C

- DOH, FWC, FDACS, et al. Improve communications strategies during bloom events. Centralized data portal. *PH, MR, C
- Develop capabilities for monitoring REALTIME aerosol concentration. *PH, R
- Develop and refine models for inland transport of aerosols. *PH, R
- Establish a robust coastal ocean observing system. GCOOS. *PH, MR, C, R
- Establish a centralized data portal that provides a stakeholder driven product. GCOOS. *MR, C, R
- Develop and improve methods for HAB cell detection in water and air. FWC. *R
- Develop suite of models to address multiple stakeholder needs including aerosol, particle transport, bloom dynamics, nutrient dynamics. *PH, MR, C, R
- Develop basic criteria to guide pilot development (responsive research and innovation) and for facilitating effective and efficient projects. DEP. *MR, R
- Support a research program that addresses / targets pilot scale bloom control. State of Florida. *R
- Establish shelf scale oceanographic surveys and process cruises to identify bloom dynamics. FWC. *R
- Conduct lab experiments to obtain data needed to parameterize models and/or explain blooms mechanisms. FWC. *R
- Develop tools to track economic impact and trends (e.g., conduct an impact analysis, standardize economic metrics). *R

2:50 p.m. Public Comment

Flewelling opened the Public Comment period, inviting registered speakers one as a time.

Speaker 1 – Cris Costello, Sierra Club, requests the Task Force adopt the recommendation to stop using the term "naturally occurring" in communications. She noted it was a red herring term as there are many naturally occurring items in our world such as rats, mosquitos where we don't apply the term to them, even though we are trying to address control and mitigation of impacts. By using the term distracts the public from the known issue of nutrient loading by changing the narrative and focusing funds on control only not addressing source control. A written statement was provided, view here.

Speaker 2 – Chris Costello, Sierra Club on behalf of local St. Petersburg resident Catherine Harrelson, a longtime clean water activist and supporter in the area. Discussed the sales bans and fertilizer ordinances and requested the Task Force support localized control and implementation of ordinances and point of sales bans allowing for easier enforcement, particularly during bloom events. A written statement was provided, view here.

Speaker 3 – Kate Hubbard, FWC, noted the need to include validation and skill assessment (veracity testing) in research under HAB predictions and modeling, especially if ensemble forecasts will be introduced and statistical approaches. These or other models should be used to inform the experimental design associated with a holistic monitoring program that then feeds back into predictive/other models.

Speaker 4 – Kendrick Lewis, from Congressman Charlie Christ's office, requests the Task Force provide more input. Noted Christ sits on appropriations committee in Congress to support funding lines/requests. His office is hoping to hold a red tide roundtable with regional stakeholders in January, relying on input and expertise from the Task Force.

Questions from the Task Force:

- Kirkpatrick asked if $10m is national, and asked for tentative date of roundtable in January.
- Kendrick confirmed funding is national, and tentative date is January 11.

3:00-3:15 Break

3:15 p.m. Task Force Discussion Public Comment

Public Comment:

Speaker 2 local fertilizer bans.

Watkins – discussed the history of Collier County's experience and noted they opted not to support it based on recommendations/science by UF which did not support wet season bans.

Speaker 1 term naturally occurring

Members discussed the comment by Sierra Club of term "naturally occurring" as red herring statement. Members had mixed views as to the intent of using "naturally occurring" and history of use but reached consensus that it is not necessary to adopt a formal position. The Task Force agreed it is important to communicate in clearly understood public messaging that supports the science but does not raise unnecessary issues.

Other Written Comment Received:

Task Force members discussed recommended actions captured by breakout groups and reviewed for additions/revisions from various public comment received to date including written recommendations from the Ocean Conservancy.

3:50 p.m. Action Items and Closing Remarks

- Task Force members discussed blue-green algae task force recommendations, the progress they have made/timeliness with legislative session, and how they could effectively support their work while ensuring public does not misunderstand the complexity of HAB issues remaining to be addressed.

- Task Force members requested Flewelling take a first attempt at developing final recommendations document, reviewing identified priorities and conceptual actions for developing needs narrative and specific recommended actions, noted assessment should be a first step to all actions. Task Force members agreed final recommendations document should additionally include vision statements for

commitment to sustained long-term initiatives and global leadership in clean water technology (De Freese and Flewelling).

- Draft recommendations document to circulate for full review and public comment early January.

- Meeting date set for January 13, 9a.m., at FWRI for final recommendations document review and approval

4:25 p.m. Adjourned