

MINUTES
HARMFUL ALGAL BLOOM WORKGROUP
July 2, 2008
10:00 a.m. – 12:00 p.m.

Jack Williams Library
Texas A&M University - Galveston

Participants were Lythia Metzmeier (TCEQ), Winston Denton, Andy Tirpak, and Meridith Byrd (TPWD.) Teleconferencing in were Janet Nelson and Luci Cook-Hildreth of TPWD.

The meeting began with the introduction of Luci Cook-Hildreth, who came to TPWD in May as the Golden Alga Coordinator. She replaces Liz Singhurst, who left in late 2007. Luci previously worked for TCEQ in the water rights and permitting department. She is currently finishing her Master's degree in aquatic biology at Texas State University and received a B.S. in biology at UT. In 2006 she was a summer intern at TPWD's A.E. Wood Fish Hatchery in San Marcos.

Action Items from previous meetings:

HAB Response Plan: Last year Meridith began the process of updating the Texas HAB Response Plan. This document is intended for staff of any agency or entity who might come upon an algal bloom in the course of their work. Meridith has contacted all those people listed in the Plan as being willing to receive water or tissue samples for testing. Andy Chapman of GreenWater Laboratories has agreed to be listed as a contact in the section on cyanobacteria. Additional suggestions which Meridith will pursue:

- expand definition of HAB to include non-toxic species (i.e. anything that causes ecological or economic effects)
- look at WHOI or the Gulf of Mexico Alliance for their HAB definitions
- mention wrapping samples in wet paper towels before shipping
- Preservation: Winston has used Utermohl's solution in the past but the preservation didn't work. Will not include Utermohl's in the Plan.
- It was previously suggested that, if Lugol's iodine is not readily available, that pharmaceutical iodine (Betadine) might be used. Research this further.
- Appendix: bloom investigation form with things to look for during blooms (form that people can fill out)
- Get copies of other states' plans for comparison.
- List contacts for Mexico and Louisiana in case our bloom expands.
- Photos: good quality photos of blooms/cells needed – photos may look different electronically than on paper
 - disclaimer that photo color quality will vary depending on printer

Phytoplankton Monitoring Network

An updated graphic of PMN-monitored sites is included in the e-mail and on TPWD's O drive. Yellow = active. Red = hasn't submitted data for 3-4 months.

Jeff Paternoster of the PMN is coming to Texas in August to host another round of volunteer trainings as well as meet with active volunteers. TexHAB members are interested in volunteering or know of others who might be are encouraged to pass along this information:

Phytoplankton Monitoring Network New Volunteer Training
Phytoplankton ID & Harmful Algal Blooms Discussion

Saturday, August 2nd 2008 – 10am to 3pm

Texas A&M University at Galveston
CLB 201 (Building 3007), 200 Seawolf Park, Galveston, TX, 77551

Presenter: Mr. Jeff Paternoster, NOAA Phytoplankton Monitoring Network
Hosts: Mr. Shane Ferguson (TX Master Naturalist) & Dr. Antonietta Quigg (TAMUG)

- 10am Introductions
- 10.10am PMN Program Background & Algal Blooms Introduction ~ PP presentation
- 10.40am Phytoplankton Morphology ~ to genus level on approximately 20 different phytoplankton ~ PP presentation
- 11.30am Sampling Techniques: plankton tow and salinity ~ actually going outside and performing these techniques to get practice
- Noon Break for lunch (Donation requested: students & seniors \$5, others \$10)
- 1pm Practice ID with digital microscope ~ as a group to get comfortable with basic ID of actual , live phytoplankton ~ on LCD projector
- 1.15pm Scope Work for Phytoplankton ID ~ very important time for participants to be at scopes actively trying to ID what's in the sample
- 2.30pm Data Entry into ArcIMS Database

Updates

Bloom updates

Aphanizomenon flos-aquae, Twin Buttes Reservoir, San Angelo

The bloom at Twin Buttes looks to be declining for the time being. The Upper Colorado River Authority monitored the bloom on Friday, May 30 and found dissolved oxygen at 0.3 mg/L and pH at 7.4. However, dead fish and discolored water were reported upriver by fishermen. Water quality readings taken June 2 by TPWD at the site of the decaying bloom found 1.0 mg/L of dissolved oxygen a pH of 7.3. The only fish seen were some *Gambusia* spp. swimming in the

shallows. Readings taken from another site away from the bloom showed 7.4 mg/L of oxygen and a pH of 8.3.

TPWD biologists received a report of a dead dog that was thought to be associated with the Twin Buttes bloom. The dog's owner said that her vet thinks the dog died from some kind of a bacterial infection of the lungs. He sent a sample off to a California lab and they couldn't identify the specific bacterium. The dog died about one month before the first reports of the algal bloom. She has property up near the riverine part of the reservoir, an area where the bloom has not been reported so far. It is unclear if the death is related to the bloom.

Akashiwo sanguinea, Corpus Christi bayfront: this bloom went away after 1-2 days but there is concern that recent rains might bring it back. No fish kills or other effects reported. Winston pointed out that *A. sanguinea* has caused large fish kills in the Galveston area in the past. Sabine Pass oysters have come up toxic in the past. Galveston area kills occur about 10 years apart. Lythia reminded the group to notify her as well when things go on in the area.

Dinophysis acuminata: TPWD field staff collected a total of 120 water samples during the bloom period. TPWD conducts bay trawls of randomly-selected areas and water samples were collected at the site of the trawls. Katie Swanson (UTMSI), Alex Nunez (TPWD) and Meridith Byrd (TPWD) are currently looking at the preserved samples for any *D. acuminata* cells.

Prymnesium parvum:

(April) Possum Kingdom had a fish kill related to golden alga around the 24th of April and into the first week of May. It involved mostly threadfin shad but also including a handful of crappie, small catfish and some largemouth bass. The Red River, Rio Grande, Brazos, and Canadian River Basins all had low to moderate cell counts, but not many fish kills.

(May) No fish kills related to golden alga. Rio Grande, Colorado, Red River, and Brazos have had moderate to low cell counts.

(June) No fish kills related to golden alga. Very low to non-existent cell counts for most bodies of water sampled.

Golden Alga Research Update

John La Claire (UT-Austin)

Has done over 100 solid phase extractions and is building a large matrix of data for future statistical analysis. They are working to quantify the analytes isolated with solid phase extractions and then will optimize the protocol to develop the spectrophotometric methods of quantification. He is planning on going experiments that would help distinguish toxic from non-toxic blooms and diagnose particular growth phases of a bloom.

Johannes Hagstrom (UTMSI)

Removal efficiency after adding clay in all treatments is 50% after 3 hours. Cell numbers back to fish-kill levels in 3 to 7 days. They were going to study *P. parvum* in 200-L tanks after 24 hours but now that is not thought to be sufficient. Propose a change to project to study treatments over 14 days with three different regimes (1, 2 and 3 treatments of clay). Project was delayed 3 months. The contract has been extended to the second week of December 2008. He says they should have a manuscript ready by end of November.

Bryan Brooks (Baylor)

Completed 1st round of competition experiments w/ other algae. So far only purified microcystin from cyanobacteria suppresses growth/abundance of *P. parvum*. Will be conducting experiments on encystment and germination over next 6 weeks and then more competition experiments. They are creating numeric models to look at competition with other algae and take into account chemical and physical aspects of environment in a case study of Lake Granbury. Still monitoring Waco, Granbury, and will start sampling Whitney in September.

Meridith Byrd, Janet Nelson (TPWD)

Lake Whitney: Completed sampling in April. No indication of golden alga bloom during entire study. Data analysis ongoing.

Coastal Survey: The tidal portions of 10 rivers from the Sabine to the Rio Grande were surveyed in February and March. Water samples were sent to PhycoTech for phytoplankton analysis and we are awaiting results.

Golden Alga Research Symposium/HAB Session at Texas Chapter of the American Fisheries Society

There will be a Steering Committee meeting with TPWD staff and TCAFS members on July 17th at the Radisson Hotel in Fort Worth to go over more details of the upcoming symposium. Abstracts and manuscripts from speakers have begun trickling in. We are in the process of solidifying speaker arrangements and nailing down sources for advertising. Loraine Fries has worked to get the advertisement for the symposium on the World Aquaculture Society website, as well as the American Water Resources Association (AWRA), Phycological Society of America, American Society of Limnology and Oceanography, and WHOI HAB web pages and soon should be on the International Society for the Study of Harmful Algae Blooms web pages. There will also be an ad in the Fisheries magazine. The deadline to have abstracts in for posters at the symposium is December 1st. More meeting information can be found at the [TCAFS website](#). The TCAFS meeting will feature a session on HABs; workgroup members are encouraged to attend and submit an abstract for a poster or oral presentation.

HAB ID workshop overview

5 agencies were represented by 19 participants at the Texas HAB ID workshop, held the week of June 16 at the UT-Pan American Coastal Studies Lab in South Padre Island. The class was taught by Andy Chapman (cyanobacteria), Dr. Carm Tomas (flagellates), and Dr. Karen Steidinger (dinoflagellates.) Each instructor spent one full day on their particular topic.

Next Meeting

The next meeting is scheduled for Wednesday, September 17 at Texas A&M-Corpus Christi's Natural Resource Center room 2010. Dr. Joanna Mott will give a presentation on *Vibrio vulnificus* in response to a request for a presentation on the topic.