August 2013

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Notice Something Different?

Philip Forsberg | forsberg@nalms.org

Welcome to the new-look NALMS Notes!

After several years of the familiar email-based format of our monthly news from NALMS and look at lake news from around the world, we decided it was time to change things up a bit.

NALMS Notes takes a lot of time to produce. Our editors, Steve Lundt and Jim Vennie, spend many hours compiling articles from our regular contributors (who often need several reminders to get their articles done), from the submissions of NALMS members who spot interesting lake-related items and various conference, workshop and publication announcements. From this draft, those articles are laid out in html format by Greg Arenz for delivery to your inbox. There are several problems with this last step of the process.

While Greg and I both have some experience with html coding, we are by no means experts and producing an attractive product in html requires more expertise than we possess. And even with more expertise, the end result may look very different to different readers depending on what program they use to view NALMS Notes and how big their screen is. Complicating matters, the program Greg uses to email NALMS Notes is a little finicky. Even after saving his work often, it’s not at all unusual for the program to decide it doesn’t want to run anymore, necessitating starting from scratch.

In an effort to reduce the time and aggravation that can go into producing NALMS Notes, we decided to try something new. By producing NALMS Notes in PDF, we eliminate the aggravation of trying to produce a lengthy html email with complicated formatting. Instead I use a tool I am very familiar with and have used to produce issues of Lake and Reservoir Management, symposia programs and other NALMS publications. You will still get a monthly email, but you will be linked to this PDF file on the NALMS website. This is very much a work-in-progress, so if you have any comments or suggestions, please let us know!
**NALMS Notes**

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If you are having a conference, have a lake-related question, need advice, are looking for similar lake problems/solutions, have an interesting story to share, or just want to be heard throughout NALMS, please send your material to Steve Lundt at slundt@mwr dst.co.us. All newsletter material is due by the first Friday of each month to be considered for inclusion in that month’s issue.


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**President’s Message**

*Ann Shortelle | abs@srwmd.org*

Last year our organization embarked on a journey to move our not-for-profit incorporation from Maine to Wisconsin. There are lots of sound reasons for this including our office and staff in Madison. Those of you who attended the annual meeting at last year’s conference will remember the votes to initiate this task, and your elected board is continuing to slog down this path. While most of the membership puzzles over intriguing water monitoring results or new lake restoration techniques, a few of us are clustered around a virtual conference table reviewing paperwork. (Have I mentioned how much I love paperwork?) We will soon have a board-approved draft of new bylaws (really a combination of our current constitution and bylaws) to present to the membership for approval at the upcoming annual meeting. The format is new and frankly the whole thing will feel new when you see it, but I want you all to know that the bylaws committee, staff, and I first did a line-by-line comparison to our existing documents. Our intent has been, and continues to be, to include all elements of our existing structure and organization, keeping changes to a minimum except as necessary to conform to Wisconsin law. Once we were satisfied, we turned it over to the full board for a similar review and vetting. Next, it will be your turn. When posted you will have plenty of time to review and have your questions answered before the annual meeting.

Those of us who have witnessed some bylaw discussions and proposed changes at prior NALMS membership meetings are already either asleep or trembling. Changing the bylaws on my watch - really? Rest assured, NALMS organization and guiding principles have stood the test of time and remain unchanged. See you at the annual meeting in San Diego!

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**NALMS’ 2013 Elections**

Ballots may be cast online starting August 29. Watch your inbox for complete instructions on casting your vote.
We are steadily working our way back to the 1,000 member mark reached last month with our current total coming in at 975 members. We will continue to send out membership renewal reminders for those memberships that will expire on September 30th. If your membership will expire soon you can renew on the NALMS website, fill out a Membership Registration Form and send it to our office, or you may also renew when you register for the Symposium. Call me at 608.233.2836 or email me at garenz@nalms.org if you have any questions.

How did you celebrate Lakes Appreciation Month? I hope you were able to spend more time on the lake than I did! I saw plenty of Lake Mendota each morning as I drove to work and Lake Monona because it's in my neighborhood, but between visiting family, painting my garage, celebrating my wedding anniversary and other social obligations, I didn't get much chance to just stop and enjoy being on a lake in July. I plan to rectify that this weekend.

I missed sitting in my kayak floating around on the lake with a fishing pole, just enjoying being there. Not thinking about work, or what household project I need to complete, or trying to figure out when I’m going to have time to mow the lawn or go to the grocery store. There aren't many places where I can clear my head like that and just enjoy my surroundings.

Who cares if I actually catch a fish? I certainly don't. Most of the time I don’t even bait the hook! And on those rare occasions when I do catch a fish, I usually take it off the hook and throw it back in the lake to carry on with its day. The fishing is just an excuse to get on the lake and enjoy the surroundings, whether it be a great blue heron doing a better job of fishing along the shore, the family speeding by in their motor boat or my fellow kayakers quietly paddling by.

In another month or so, the weather here in Madison will start to cool down and work on the symposium will keep me indoors on most weekends and the next thing you know, the snow will start falling and the lake will start freeze over. But for now, it looks like it's going to be a sunny weekend in the low 80s, so I'm going to go out and appreciate my lake. After all, shouldn't every month be Lakes Appreciation Month?
**Conferences & Events**

**NALMS 33rd Annual Symposium**

**Information**

October 30 - November 1, 2013
San Diego, California

*Lake Management in an Era of Uncertainty*

**Important Dates**

- **September 6, 2013**
  Early bird registration ends

- **September 27, 2013**
  Last day conference hotel rate available.

- **October 18, 2013**
  Regular registration ends

**Contact Information**

- **Todd Tietjen**, Symposium Co-Chair
  todd.tietjen@snwa.com

- **Imad Hannoun**, Symposium Co-Chair
  hannoun@wqsinc.com

- **Bill Taylor**, Program Chair
  lakefixer@yahoo.com

- **Jeff Pasek**, Local Arrangements Chair
  JPasek@sandiego.gov

- **Jeff Schloss**, NALMS Conference Advisory Chair
  jesschloss@unh.edu

- **Greg Arenz**, Sponsor Support
  garenz@nalms.org

- **Philip Forsberg**, Registration & Exhibitor Support
  forberg@nalms.org

**Sponsorship Highlight: NALMS 2013 Symposium**

The following companies have committed to sponsoring the 2013 Symposium in San Diego, California. We still have a number of sponsorship opportunities available. So if you are interested in sponsorship please contact us at 608-233-2836.

- Aquarius Systems
- Freese and Nichols
- HAB Aquatic Solutions
- Hach Hydromet
- PhycoTech
- Princeton Hydro
- Santee Lakes Recreation Preserve
- Tennessee Valley Authority
- Water Resource Services

**Maryland Water Monitoring Council 19th Annual Conference**

December 5, 2013 - Announcement and First Call for Contributed Papers/Posters

The Maryland Water Monitoring Council will hold its 19th Annual Conference at the Maritime Institute, North Linthicum, Maryland, on Thursday, December 5, 2013. The theme of the one day conference is Conserving Maryland’s High Quality Waters - from Monitoring to Action.

The morning plenary session will include talks by Elizabeth Buxton of the Maryland Environmental Trust and Tom DeMoss, formerly of USEPA. Concurrent session topics currently include Land Conservation and Water Quality Benefits, Volunteer Monitoring and Stewardship, USEPA’s Healthy Watersheds Initiative, Maryland’s Coldwater Habitats, Environmentally Friendly Landscapes, Headwater Streams, Dam Removal in the Patapsco River, and Maryland’s Stormwater Fee.

The early-bird registration fee (deadline - November 17, 2013) is $55 and includes lunch, breaks, and conference materials. After November 17, the registration fee is $70. The early registration fee for presenters is $50. Discounts for full-time students and members of non-profit organizations are also available on a first come, first served basis by request.

If you are interested in giving a talk or presenting a poster, the abstract deadline is October 31st.

For information about the conference, go to www.marylandwatermonitoring.org.
Can you Explain it? Pink Lakes

They might look like strawberry milkshakes, but pink lakes are unique and beautiful phenomena that seem fit for a Dr. Seuss book.

It’s the presence of a certain kind of algae that turns these lakes pink. Once the lake water reaches a higher salinity level than sea water and the temperature rises high enough, the reddish pigment beta carotene begins to accumulate in the algae.

The strawberry color is produced by salt-loving organism, Dunaliella salina. They produce a red pigment that absorbs and uses the energy of sunlight to create more energy, turning the water pink.

Fish Kill on a N.Y. Lake a Mystery

Hundreds of dead or dying fish have washed up on the shores of Canandaigua Lake, and it isn’t clear why.

The banks of the fourth-largest Finger Lake, 29 miles southeast of Rochester, New York have resembled a fish graveyard in mid-July. Cleanup of the shoreline is ongoing, but so far the cause of the die-off remains a mystery to local and state authorities.

Officials from the New York Department of Environmental Conservation began investigating the situation after receiving several complaints from residents about the odor generated by dead fish deteriorating along the shore. The water clarity, dissolved oxygen and algae levels were all within the normal range.

CSU-Pueblo Researchers find New Critters inhabiting Lake Pueblo
July 16, 2013, by Chris Wookda, The Pueblo Chieftain

Authorities say it is common to see a slight uptick in the amount of dead fish washing up on area beaches during spawning season. But what is unusual this year is the amount and the size of the fish, some almost 3 feet long, that have dotted the beaches and backyards in Canandaigua. The dead fish species range from large carp and largemouth bass to smaller perch and sunfish.

CSU-Pueblo Researchers find New Critters inhabiting Lake Pueblo
July 16, 2013, by Chris Wookda, The Pueblo Chieftain

It’s been nearly five years since evidence of invasive zebra mussels was found in Lake Pueblo, setting off a statewide campaign to keep them and their cousins, quagga mussels, from spreading.

The continued mussel study at Lake Pueblo by Colorado State University-Pueblo researchers has turning up another exotic species. A type of water flea called Daphnia lumholtz has been found in Lake Pueblo in Pueblo, Colorado. While there are several native species of fleas, the invader has spines that reduce its value as fish food.

This type of water flea has the potential to do the most damage, because unlike native species, it has long spines. Fish feeding on them would be expected to grow more slowly.

Cracking the Blue-Green Code: Study of Gene Expression in Blue-Green Algae Reveals What Makes It Bloom, Toxic

If your local pond, lake, or watering hole is looking bright green this summer, chances are it has blue-green algae and it may be dangerous to you or your pets. A newly published study has used a novel approach to better understand why these algae form blooms and what makes them toxic.

Matthew Harke and Christopher Gobler of Stony Brook University’s School of Marine and Atmospheric Sciences,
used global gene expression analysis of the most common blue-green algae, Microcystis, to uncover how it uses different types of nutrients to form blooms and what regulates the production of its toxin, microcystin. The study, entitled "Global transcriptional responses of the toxic cyanobacterium, Microcystis aeruginosa, to nitrogen stress, phosphorus stress, and growth on organic matter," published in the July 23rd edition of the journal PLoS ONE, is the first to use this approach with this algae.

This study grew the toxic blue-green algae known as Microcystis with high and low levels of different sources of nutrients such as nitrogen and phosphorus and used high-throughput sequencing of its transcriptome to simultaneously evaluate the expression of all 6,300 of the genes in its genome. In doing so, the study revealed the sets of genes it uses to sustain blooms, specifically during summer when some types of nutrients can be in short supply, and yet Microcystis still grows quickly.

A striking finding in the study was the ability of nitrogen to alter the toxicity of Microcystis. Scientists have long debated the relative importance of nitrogen and phosphorus in controlling blue-green algae blooms. By examining all of the genes responsible for synthesizing the microcystin toxin, it was observed that genes were turned off when the nitrogen supply of Microcystis ran out and that the cells contained less toxin.

The findings of the study lend support to the notion that limiting nutrient input into lakes will restrict the intensity of blue-green algae blooms. The findings also demonstrated that lessening the input of both nitrogen and phosphorus may be needed to reduce the density and toxicity of these events.

Lake Tahoe’s Clarity Improves Again for 2012


Lake Tahoe’s clarity improved for the second straight year in 2012, a report released this month by UC Davis researchers shows. But long-term trends indicate climate change is working against that clarity.

For the first time, the lake’s annual “health exam” also assessed how climate change needed to be considered in efforts to protect Lake Tahoe. Predictions for the 21st century include a rise in air temperatures – as much as 10 degrees – and a decline in snowfall, which could lead to droughts. Potential also exists for dried streams, dramatic increases in flood magnitude, habitat loss in deep waters, and lake surface level drops.

Annual average clarity rose to 75.3 feet, 6.4 feet more than the previous year and approaching the clarity target of 78 feet. Researchers attribute the change to less rain bringing fewer watershed pollutants and a lack of surface waters mixing with deep waters, which ordinarily limits the transport of pollutants. The third main is the presence of the lowest levels of microscopic algae, specifically Cyclotella, in the past five years. The increase in the species has been linked to climate change and reduced summertime clarity.

The report also revealed new technology. For 11 days in May, an underwater glider showed the presence of enormous internal waves, which have the potential to move algae and pollutants more than 150 feet vertically. The underwater glider was used for the first time, as was a water-quality monitoring station off the west shore, which provided data down a 600 meter spectrum every 30 seconds.

UC Davis researchers have been monitoring Lake Tahoe since 1968 to measure progress toward its restoration. Funding for State of the Lake Report 2013 came from UC Davis and private donors.

SOLitude Lake Management Recommends these Proactive Measures to Treat for Hydrilla

Virginia Beach, VA, July, 17 2013, www.solitudelakemanagement.com

In response to the recent news about the $500,000 per year cost to manage the 900 acre infestation of hydrilla in Lake Waccamaw (North Carolina) and the potential risk that the plant spreads to other lakes, rivers, and streams, SOLitude Lake Management recommends the following to lake owners and users:

- Boats and other recreational vehicles should be carefully inspected before introducing them to any lake after being in another body of water. Any remnant vegetation should be removed from the bottom of the boat and propellers before putting them in another lake or waterbody.
- Recreational users of any lake for fishing, boating, or swimming should know what hydrilla looks like. Any sighting should be reported to the lake’s management organization or appropriate local/state government officials.
Good or Bad for the Lake – You Decide

Many times, we read or hear a quick news item about a lake related topic. As a well-educated lake expert and member of NALMS, you should question these situations and ask if it makes sense or would you make the same choices. It is your job as a NALMS member to determine whether or not the next lake-related news item is “Good” or “Bad” or what you would have done.

The lake-related topic this time is about a death of a dog, blue-green algae, and Phoslock.

In 2012, a Jack Russell terrier died after drinking blue-green tainted lake water from Mill Pond, a small lake in East Hampton, Long Island, NY. Then in late April, the Southampton board of trustees initiated an experimental treatment in Mill Pond to reduce phosphorus, which was also blamed for a 2008 fish kill. Mill Pond does not allow swimming.

The project, which was permitted by the state, involved using Phoslock. After several days of rain in the region earlier this summer, the bloom appeared but has lessened. A second treatment is slated for next spring and results will be tracked.

So did they use the correct in-lake management tool to solve their problem of blue-green algae, fish kills, and dead dogs? Can one claim that Phoslock reduced the level of algal blooms this summer? Not all of the data or information is available but this is an interesting example of a typical lake management approach.

Lake Photo of the Month

Lightning over Madison, WI 07-21-2013 488-2, by Richard Hurd

To be considered for NALMS’ Lake Photo of the Month please submit your photo to the North American Lake Management Society (NALMS) Flickr Group. Photos should focus on the lake and be geotagged or include the name or location of the lake in the title, description or tags of the photo.

Website of the Month – Good Source for Lake Projects

Repurposing is the new black. This website is a great place to find unique industrial material that can be re-used for lake management projects. Cable, water proof fabric, liners, wood, concrete, rubber belts, and other throwaways can be used for lake projects.

This company out of Colorado produces a weekly newsletter highlighting their repurposed products and what people are doing around the country with the material. Be creative and see what you can use to help your lake out.

www.repurposedmaterialsinc.com

Example: Repurposed Project at a fish farm used big steel cable to help construct fish cages by adding weight so they would stay submerged.
Welcome New Members!

Philip Bachand
Marcus Beck
Emily Chen
Christopher Churchill
Jamie Davidson
Debi DeShon
Bud Downs
Sabine Flury
Howland Green
Jerald Harness
Michael Hodges
Richard Kiesling
Bomchul Kim
Daniel McGinnis
Peter Pescheck
Mark Swinton
Deal Lake Commission
Kansas Department of Health & Environment
Genesis Water, Inc.

Thank You to Our Renewing Members!

Kumud Acharya
Bijay Adams
George Antoniou
Lisa Benton
Dana Bigham
Marisa Burghdoff
Stephen Carpenter
Sandra Cooke
Christopher Costello
Eric Howe
Bradley Hufhines
Paul Hunt
Jean Jacoby
Brett Johnson
William Jones
Whitney King
Mike Koopal
Mark Lund
Robin Matthews
Rob Montgomery
Katherine Morris
Nancy Mowell
Nancy Mueller
Brian Murphy
Paul Myers
Gertrud Nürnberg
Reed Oberndorfer
Karim O’Connell
Todd Olson
Daniel Opdyke
Matthew Petty
Joel Rohde
W. Daniel Sable
Bradford Sherman
Ann Shortelle
Stanley Smith
Roy Stein
Anna Thelen
William Tietjen
Nancy Turyk
Andy Welch
Barbara Wiggins
John Wilson
Lindsey Witthaus Yasarer
Rob Zisette
Indiana Lakes Management Society
Oregon Lakes Association
City of Eagan
Voyageurs National Park
Abraxis LLC
Aquatic Control, Inc.
Premier Materials Technology, Inc.
Turner Designs, Inc.

As the Symposium draws closer we want to remind members that one of their membership benefits is the eligibility to vote in NALMS affairs. In the coming months you will all have the opportunity to make your mark on the future of NALMS by placing your vote in our annual election of the board and by joining us at our annual membership meeting in San Diego to discuss the proposed changes to our bylaws. Look for more information on these two items in the coming months. Please take advantage of all of your membership benefits and make sure to exercise your vote.

Update Your Contact Information:

NALMS members can now go online to correct their own contact information and are encouraged to do so. Please tell your friends and colleagues who are NALMS members to check and update their records. If they are not getting LakeLine, Lake and Reservoir Management or NALMS Notes something is wrong. If they don’t have access to fix their own contact info, they can call the NALMS office at 608.233.2836 or email Greg Arenz at (garenz@nalms.org) to make changes. This goes for postal service mail as well.