

2013 NALMS Notes



January 2013

President's Message

New Year's Resolutions for Lakes and Those Who Love Them!

- Get everyone in the boat. Is the lake you love being loved “to death”? If your lake and watershed need “help”, be sure to get everyone in the boat to develop shared solutions.
- Make 2013 the year you volunteer, or recruit new volunteers to your programs. My mom used to say “many hands make light work”....this is true for volunteer monitoring, citizen science programs, etc. Grass roots efforts can and do make a difference.
- Resolve to lower your personal impact on the lake. Each of us can take positive actions to reduce or reverse negative effects on our lakes such as reducing lawn fertilizer application or modifying landscaping to eliminate shoreline erosion. You may start a positive neighborhood trend!
- Focus on the future. We remember fondly how the lake “used to be”, but it can be difficult to turn back the clock. Encourage behaviors that protect water quality and the environment today for the enjoyment of future generations.
- Jump on in; the water's fine! This is the lake equivalent of take time to smell the roses. Make time to enjoy the lake. Watch a sunset, fish, or water ski. Have fun, relax, and lower your blood pressure.



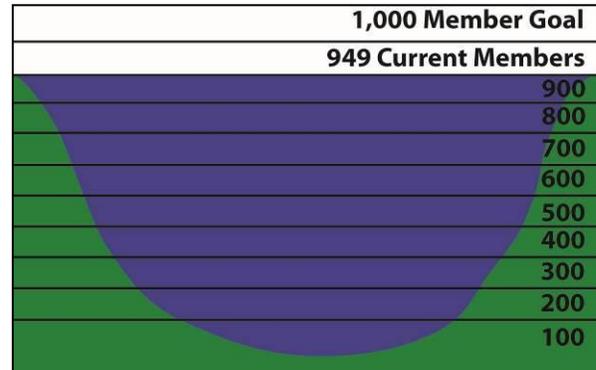
Happy New Year,
Ann Shortelle
President – NALMS
abs@srwmd.org

(PICTURE: New NALMS President, Ann Shortelle.)

WITHIN NALMS

Membership in Motion

In last month's newsletter I introduced our goal to break the 1,000 member mark this year. With this in mind I will occasionally include the graphic to the right to help us all keep tabs on our progress. As anticipated our numbers have dipped a little with memberships recently lapsing on December 31, 2012. However efforts to renew these members will continue as the Winter Membership period does not officially end until February 1, 2013. This is just to say that if you have recently let your membership lapse you still have time to renew before there is any disruption in your member benefits and publications.



And looking ahead to spring...yes, indeed I am already tired of our Wisconsin winter and I'm looking ahead longingly...recently I sent out renewal letters to folks whose memberships will expire on March 31, 2013. Hopefully these have all arrived by now and you are all merrily on your way to renew your memberships. But if not I hope that you will consider doing so soon.

As always, you may renew [on the NALMS website here](#) or you may [fill out a Membership Registration Form](#) and send it to the office. Call me at 608.233.2836 or email me at garenz@nalms.org if you ever have any questions.

Here is a list of members that I'd like to thank for joining NALMS or renewing their membership during the last month.

New NALMS Individual Members: Lee Bridges, Carolyn Franz, Zachrie Gutknecht, Lei Huang, Bradley Jones, Susan Lukas, Jeanna Paluzzi, Boqiang Qin, Guofeng Wu, Robert Zellers

Renewing NALMS Individual Members: Thomas Amidon, Timothy Asplund, Marilyn Bayerl, Ernie Benoit, Shannon Brattebo, Andy Bruere, Frank Burns, Larry Butler, Steven Colvin, Thomas Davis, Thomas Day, Angela De Palma-Dow, Carolyn Dindorf, Deanna Doohaluk, Stephen Duda, Paul Easley, Ron French, David Glaser, Kevin Grace, Dennis Haag, Brenda Hann, Dave Hayman, Steven Heiskary, Patty Hoch-Melluish, Dave Jensen, Jacob Kann, Patrick Kelly, Mike Kinney, Sandy Kubillus, Peter Kurtz, Matt Ladewig, Paul Lucas, Ken Madison, John Madsen, Rich Meade, Carl Moore, John Mudre, Ed Nishikawa, Emily Norton, Milt Ostrofsky Lynn Persson, Stephen Randtke, James Rhea, John Rueter, James Saunders, Angela Shambaugh, Tim Slaney, Daniel Smith, Al Sosiak, Lisa Wallender, Howard Wandell, Keith Williams, Tom Zagar

Renewing NALMS Affiliate Members: Illinois Lake Management Association (ILMA)

Renewing NALMS Corporate Members: Bio-Limo Research & Consulting, Inc., Aquarius Systems, YSI, Inc, SePRO Corporation, Clarke Aquatic Services, Biosonics, Inc.

Renewing NALMS Corporate Members: Woodridge Lake Property Owners Association, Columbia Association

Renewing Libraries: Colorado State University Libraries McGill University, Serials Records - University of Minnesota Libraries, Swets Information Services, Inc.

I'd also like to point out that the changes to your online member benefits that I mentioned last month are now live on the NALMS website. Logging into the website should be clearer with the login fields now locked in place at the top of the homepage. And keeping tabs on when your membership will expire is now a snap with your member expiration date listed in the right hand corner of your membership profile.. And when you have chance please have a look at our new Member Directory. Instead of a simple search box you will now find a complete listing of all NALMS members that you can search and sort in a number of ways.

Finally, please don't hesitate to take advantage of all your membership benefits and opportunities! If you have any questions or concerns about your membership, please contact me at 608-233-2836.

Greg Arenz
Membership Services Coordinator

NALMS Office Notes

During winter, those short days with long shadows, my thoughts have already turned to spring. About a month from now Major League pitchers and catchers report to spring training. For me, this date is the first proof that spring will actually arrive in Wisconsin someday. I'm making tentative plans to spend a week in March soaking up the Arizona sun while watching the Cubs play and, more often than not these days, lose. These thoughts keep me going in those days when I leave home just as the sun is rising and return as it is setting.

Back in the real world, NALMS' annual changing of the guard is in full swing as a new president has taken reins and new board members have come on the scene. In effect, Greg and I get a new boss every year and there is always a period of adjustment as each president brings a unique perspective and a different working relationship with the staff. Each new president comes in eager to get to work on their priorities for the year as they realize that a year really is not a whole lot of time. We are, after all, already planning our midterm board meeting in the spring and moving into a higher gear in our preparations for next fall's symposium. We're still wrapping up the Madison symposium, but in just a few weeks, the call for papers for the San Diego symposium (October 30 – November 1) will be in your mailbox. In a few days, we'll also have our first conference call to plan the 2014 National Monitoring Conference. Time and tide wait for no man.



Philip Forsberg
Program Manager

An Update on NALMS Donations

At the end of 2012 NALMS sent out an appeal for end-of-the year donations. This appeal also announced NALMS' modest fundraising goals for 2013. Here is an update on how we're doing and a big THANK YOU to everyone who has donated so far! We really appreciate your gifts and your commitment to NALMS and our lakes!

The Eberhardt Memorial Student Fund – 2013 Goal: \$5,000 Amount Raised: \$0

- NALMS created this fund in honor of Tom and Elinor Eberhardt. Tom and Elinor were dedicated supporters of NALMS before a tragic plane crash cut their lives short in December 2010. This fund continues their legacy by providing travel grants for students to present the results of graduate-level research at NALMS' Annual Symposium.

The G. Dennis Cooke Symposium Fund – 2013 Goal: \$5,000 Amount Raised: \$2,700!!

- NALMS established this fund in November 2012 through a substantial gift from Denny Cooke, the first president of NALMS and Emeritus Professor of Biological Sciences at Kent State University. NALMS will use the investment returns from this fund to support themed sessions and plenary speakers at our annual Symposia.

Dr. Cooke has generously agreed to provide **an additional \$5,000 to match contributions made by others** to this fund within one year from the date of his original gift. **We currently need just \$2,300** in order to match Dr. Cooke's offer.

The Lake Givers Club – 2013 Goal: \$5,000 Amount Raised: \$1,000!!

- Provides a way for individuals and organizations to make a significant contribution towards the management and protection of lakes and reservoirs through a general donation to NALMS. NALMS will use gifts to the Lake Givers Club in support of our publications, programs, and operations.

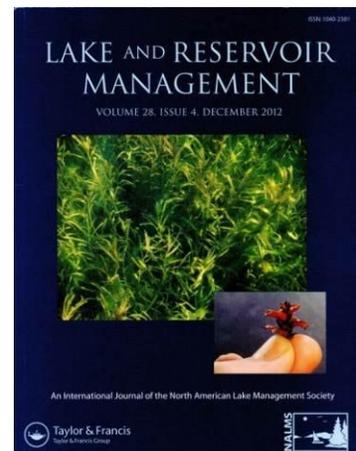
[Please click here to make a donation today!](#)

What's New in LRM?

Madison, WI – January 2013 - NALMS is pleased to announce the fourth issue of the 28th volume of the International Journal *Lake and Reservoir Management* (LRM).

Published quarterly, LRM issues original, peer-reviewed and previously unpublished studies relevant to lake and reservoir management. Papers address the management of lakes and reservoirs, their watersheds and tributaries, along with the limnology and ecology needed for sound management of these systems. The newest issue of LRM includes the following papers:

- *Can free-floating and emerged macrophytes influence the density and diversity of phytoplankton in subtropical reservoirs.* Davi Gasparini Fernandes Cunha, Flávia Bottino, and Maria do Carmo Calijuri.



- *Accuracy and reliability of Dreissena spp. Larvae detection by cross-polarized light microscopy, imaging flow cytometry, and polymerase chain reaction assays.* Marc E. Frischer, Kevin L. Kelly, and Sandra A Nierzwicki-Bauer.
- *NOTE: A comparison between professional and volunteer collected trophic state chemistry data in Florida.* Mark V. Hoyer, Nijole Wellendorkf, Russel Frydenborg, Drew Bartlett, and Daniel E. Canfield, Jr.
- *Influence of habitat on the quantity and composition of leachable carbon in the O2 horizon: Potential implication for potable water treatment.* Rachel Gough, Peter J. Holliman, Naomi Willis, Timothy G. Jones, and Christopher Freeman.
- *Total phosphorus changes in New York and New Jersey lakes (USA) inferred from sediment cores.* Michaela D. Enache, Don F. Charles, Thomas J. Belton, and Clifford W. Callinan.
- *Newman Lake restoration: A case study Part III. Hypolimnetic oxygenation.* Barry C. Moore, Benjamin K. Cross, Marc Beutel, Stephen Dent, Ellen Preece, and Mark Swanson.
- *Comparison of Petrifilm and Colilert methods for E. coli enumeration in recreational water.* Gregory T. Kleinheinz, Kimberly M. Busse, Wendy Gorman, and Colleen M. McDermott.
- *Short-term declines in curlyleaf pondweed in Minnesota: potential influences of snowfall.* Ray D. Valley and Steve Heiskary.
- *Evaluation of lakewide, early season herbicide treatments for controlling invasive curlyleaf pondweed in Minnesota lakes.* James A. Johnson, Ajay R. Jones, and Raymond M. Newman.
- *Effects of repeated, early season, herbicide treatments of curlyleaf pondweed on native macrophyte assemblages in Minnesota lakes.* Ajay R. Jones, James A. Johnson, and Raymond M. Newman.

Since 2009 NALMS has partnered with Taylor & Francis, a publishing house and marketing firm, to create more exposure and reach for LRM through Taylor & Francis' extensive marketing, online platform, and distribution networks, while adding another significant and leading title to the Taylor & Francis Environmental Science portfolio. LRM subscription is included with NALMS' professional, organizational and student membership or through Taylor and Francis directly.

CONFERENCES & EVENTS

Letter from the Conference Chair for NALMS 2013 in San Diego

The NALMS 2013 organizing committee has been busy working on the San Diego meeting since leaving Madison. The Madison organizing committee, exhibitors, and attendees all gave us a lot to think about as we make our plans.



We have been working to identify special topics for invited and contributed sessions that will be of interest to those attending the conference. We have already contacted potential organizers for sessions on Lake Management in China, a repeat of the sessions on International Lakes, Stormwater Impacts, Responses to Environmental Change in Zooplankton and Phytoplankton, Invasive Species

Impacts and our organizing theme of Uncertainty. We are working towards an ambitious and interesting program; look for the call for abstracts soon.

It has not all been hard work; over the Thanksgiving holiday I traveled to San Diego with my family to take advantage of the pleasant weather for a quick getaway. We visited several of the museums and attractions that will be of interest to those of you that might be bringing your families to the conference. The highlight of this trip for both the 2 year old and the 5 year old was certainly Legoland, but the San Diego Zoo, Balboa Park, and the San Diego Aerospace Museum were pretty popular as well. We spent one evening in Old Town San Diego, the planned location of the 2013 Margarita Crawl. While we kept the margaritas to a minimum on this trip, the Mexican food and the overall atmosphere was a very enjoyable way to spend Thanksgiving evening.

If anyone would like to help organize a special or invited session for the 2013 Conference please email us at NALMS2013@NALMS.org.

Thanks and see you in San Diego!

Todd Tietjen
2013 Conference Chair

LAKE NEWS & INFORMATION

Wisconsin scientists use lake mixer to drive out invasive species

Author: Matthew Hall Source: Great Lakes Echo - December 2012

University of Wisconsin scientists are studying how mixing the water in a lake could eliminate an invasive fish.

The technology works by moving large air bladders up and down the depth of a lake, mixing the water and raising its temperature to where it is intolerable for the fish, said Jake Vander Zanden, supervisor of [the study](#).



The bladders are much like gigantic trampolines, Vander Zanden said. They're about 25 feet across. Air is pumped in and out so it rises and falls.

The project is designed to eliminate invasive rainbow smelt from the small Crystal Lake in Vilas County, Wis. If successful, it may be applied to other lakes where smelt have invaded and decimated native populations of yellow perch, lake whitefish, northern cisco and commercially important walleye.

“They are highly predatory and voracious,” said Vander Zanden. “(They have) really big teeth and they specialize in feeding on the young of other fish species.”

The smelt can only live in the cold water at the bottom of the lakes. That's where the mixing comes in.

A typical northern Wisconsin lake is stratified with warm waters on top and colder waters on the bottom, said Jordan Read, the developer of the technology. "That's because warmer water is less dense than colder water."

When the mixer, called a Gradual Entrainment Lake Inverter, homogenizes the temperature of the lake, native species are unaffected. But rainbow smelt will become stressed and perhaps die, the scientists said...

<http://greatlakesecho.org/2012/12/13/wisconsin-scientists-use-lake-mixer-to-drive-out-invasive-species/>

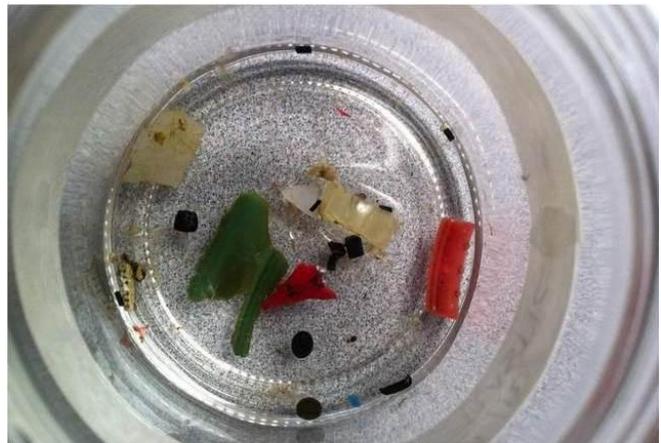
Study finds high levels of plastic in Lake Erie

Source: www.TheNews-Messenger.com; Dec 12, 2012 By: mkhorn@gannett.com 419-334-1044 or 419-734-7521 Twitter: @kristinasmithNM

ORT CLINTON — A group of researchers have found more plastic in water taken from Lake Erie than in samples taken from the Great Pacific Garbage Patch.

The garbage patch has been well-publicized in recent years as a place in the Pacific Ocean the size of Texas that is filled with degrading plastics: bags, pieces of bottle and tiny bits called microplastics.

In the three Great Lakes the researchers sampled — Erie, Huron and Superior — they found plenty of microplastics, which measure less than 1 millimeter in diameter.



This sample taken from one of the Great Lakes shows some of the plastic found there. / Submitted photo

And your bathroom could be the origin of some of these tiny pieces. They can come from facial scrubs that include exfoliating beads.

In some products, those little beads are made of plastic, said Sherri Mason, associate professor of chemistry at the State University of New York Fredonia.

They don't break down. Instead, they go down the drain after you wash, through the wastewater treatment process unscathed and out to the lake, she said.

"Finding the microplastics is much scarier," Mason said, comparing the microscopic beads to larger pieces of plastic netted during the study. "They could be sitting in the glass of water you have in front of you, and you could drink them and not know it."

Mason, fellow SUNY Fredonia faculty and students and the 5 Gyres Institute, an organization dedicated to studying plastic pollution in the world's waters, sailed on the tall ship Niagara last summer to complete the first study of plastic pollution in the Great Lakes.

5 Gyres has tested the world's oceans for plastic pollution, and its leaders felt the Great Lakes — as the largest freshwater system in the world — also should be examined, said Marcus Eriksen, the organization's executive director. Mason partnered with the institute to do the study, which is expected to be published next year.

They took about seven samples from each of the three lakes studied.

“Relatively speaking, we sampled very little of the overall surface area of the Great Lakes,” Mason said. “Our point was to look (for plastic). It does indicate this is an emerging issue within the Great Lakes.”

Lake Erie has highest plastic counts

Samples with the highest counts of plastic were found in Lake Erie between Erie, Pa., and Dunkirk, N.Y., on the cusp of the Central and the Eastern basins.

One sample taken in that area showed 600,000 pieces per square kilometer.

“That's more than twice any sample that I've taken on the ocean,” Eriksen said. “We were really surprised at what we found in the eastern part of Lake Erie.”

Another sample taken in the same area showed 450,000 pieces per square kilometer, Mason said.

The team also took samples in the Lake Erie Islands area and found plastic there, she said. The levels of plastic in those samples were not as high as the ones on the cusp of the Central and Eastern basins.

Finding more plastic in Lake Erie than in Huron or Superior wasn't a surprise.

“The most populated shoreline of the Great Lakes is Lake Erie,” Mason said. “We have the most people. We have the most industry.”

Water also flows down from the Upper Great Lakes into Lake Erie.

Effect on fish, wildlife

So how does all this plastic affect the fish and other animals in the lakes?

Because this is the first study done on plastic pollution alone, scientists really can't say for sure, Mason said. But plastic pollution on the ocean provides some possibilities.

Mason points to the stomachs of sea turtles and the albatross, a bird.

“Any time you find one of these animals dead, its gut was literally filled with plastic,” she said. “(Researchers) also know it intertwines with their intestines and affects how nutrients are absorbed into the bloodstream.”

Whether those plastics, which animals cannot digest, caused the turtles' and birds' deaths, scientists can't say, she said. Still, that stomach content likely is not beneficial to animals, she said.

Eriksen said microplastics could mimic food, like fish eggs, and could be eaten by organisms that are in turn eaten by other animals, causing the plastic to move up the food chain.

More research could answer some of these questions, and Mason is working on grant funding to continue the study next summer.

More study needed

Mason hopes to sample Lake Michigan and some of the river systems in the Great Lakes.

In the meantime, she and Eriksen said there are simple ways people who live around the lakes can stop contributing to plastic pollution. Recycling and not dumping trash are obvious, but both also encourage people who use facial scrubs to choose products that don't use microplastic beads.

"It's appalling we use plastic to intentionally wash it down the drain," Eriksen said. "One jar of facial scrub has conservatively 5,000 beads of microplastic.

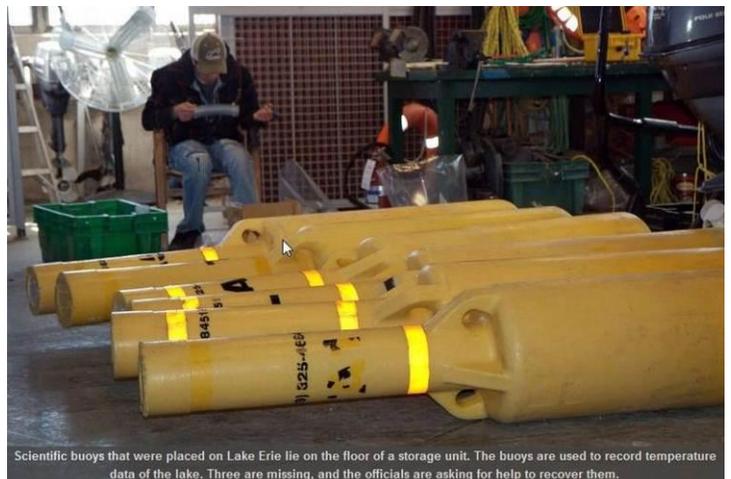
"It's a single-use plastic culture that we want to see fixed."

<http://www.thenews-messenger.com/article/20121212/NEWS01/312120034/Study-finds-high-levels-plastic-Lake-Erie?gcheck=1>

Canadians alert for missing scientific buoys

Source: Toledo Blade; Published 12/14/2012 By: Matt Markey; Blade Outdoor Editor

The Lake Erie Management Unit from the province positioned the buoys in the west-central area of the lake in the spring, in places where the water is 33, 49, and 66 feet deep. When crews went out to retrieve the buoys this fall, they were gone. What makes the buoys so valuable is that they act like bobbing, floating, 24-hour scientists for the duration of their stay in the lake. Since Hurricane Sandy crashed onto the scene and turned Lake Erie into a nasty, roiling mess, the plot thickens. Storm events of that magnitude could have torn the buoys loose and tossed them south toward the Ohio shoreline, or west toward Michigan. That's where we join the search party.



Scientific buoys that were placed on Lake Erie lie on the floor of a storage unit. The buoys are used to record temperature data of the lake. Three are missing, and the officials are asking for help to recover them.

For the whole story:

<http://www.toledoblade.com/MattMarkey/2012/12/14/Canadians-alert-for-missing-buoys.html>

As water-quality rules are hatched, tribes sit out

Source: The News Tribune; Dec 6, 2012 By: Jordan Schrader, Staff Writer 360-786-1826 blog.thenewstribune.com/politics jordan.schrader@thenewstribune.com

As part of setting new limits on water pollution based in part on how much fish people eat, state government is convening meetings of interested parties. But the state's Indian tribes are refusing to participate.

Discouraged by lack of progress, and asserting their rights as sovereign nations, tribes are trying to bypass the state's process.

"We want action, not further discussion," Andy Whitener of the Squaxin Island Tribe wrote to Ecology Director Ted Sturdevant in a letter turning down an invitation to join a group providing advice.

Nisqually tribal member Billy Frank, the chairman of the Northwest Indian Fisheries Commission who supported Democrat Jay Inslee in his successful campaign for governor, wrote a blog post Monday calling on Inslee to "reset" the process after taking office next month.

Tribes say current state water-quality rules that call for making sure people are safe eating 6.5 grams of fish a day are woefully inadequate. The people who run industrial plants and municipal water-treatment facilities don't disagree – but they do worry the rules that result might be so onerous they will have to spend huge amounts of money on upgrades that still don't meet the standards.

Some skeptics also say the state hasn't collected enough information to be able to trace fish routes from Washington waters to residents' stomachs.

"It's very clear that there seems to be a greater need for data," said Rep. Shelly Short, R-Addy, who says factors that need to be considered include fish that originate or spend much of their lives outside Washington waters.

Tribes say their studies clearly show many Native Americans' diets depend heavily on local fish and call for a fish consumption rate that at least matches Oregon's, the highest in the nation at 175 grams a day.

The issue became contentious as the Department of Ecology sought to set a higher fish-consumption rate as part of a process of writing rules for contaminated sediment. After months of work, Sturdevant opted last summer to leave a rate out of those rules, letting them vary from site to site based on local data.

He shifted the question of how much fish Washingtonians should be able to safely eat to a new, accelerated process for setting rules for water quality, expected to be completed in early 2014.

"All it took was for business and industry lobbyists to voice some concerns to stop development of the new rate dead in its tracks," Frank wrote on his blog.

Ecology says the critical water-quality process is far from stopped and instead has been speeded up. The agency is also moving to design options for dischargers of pollution to comply with the rules, addressing concerns that it will be impossible or too costly. It is holding meetings with interested parties, with key players sitting at what the department calls a “delegate’s table.”

But when the table convened Oct. 29, it included none of the tribal delegates who had been invited. Most were from businesses and local governments.

Fran Wilshusen, habitat services manager for the fisheries commission, called it a boycott of the process. Some tribal leaders, including Jim Peters of the Squaxin, portrayed it more as tribes determined to be treated as fellow governments.

“We respect their decision not to participate,” said Tom Laurie, executive adviser to Sturdevant. “We’re hoping they will involve their staff, though. ... We respect the government-to-government relationship, and we will consult with tribes in an appropriate manner as we go through this.”

Tribes are trying an alternate route. They met with Ecology and the federal Environmental Protection Agency and hope to turn that trio into a separate oversight group.

“The way the tribes are feeling is, they just invested years of effort for nothing. So what’s going to change to start again now? Nothing. So they’re trying to reset it,” said Wilshusen, who said tribes are still looking for ways to work with industry, but separately. “Why would we sit back around again and talk about it with the same people? It’s unlikely there’s going to be any change in point of view.”

Read more here: <http://www.thenewtribune.com/2012/12/06/2392485/as-water-quality-rules-are-hatched.html#storylink=cpy>

New potentially toxic algae turns up on Great Lakes beach

Source: Great Lakes Echo; Dec 20, 2012 By: Leslie Mertz

A new species is apparently making its way onto Great Lakes beaches, and it is potentially toxic.

Native to the southeastern United States, it is a blue-green algae, or cyanobacteria, called *Lyngbya wollei*. It was first found in the Great Lakes region in the St. Lawrence Seaway in 2005. Then it was spotted in Lake Erie in 2006.

Now it has been identified at Lake St. Clair Metropark north of Detroit, according to Wayne State University ecologist Donna Kashian.

Her research paper on the finding is under review for publication in an upcoming issue of the [*Journal of Great Lakes Research*](#).

Kashia first spotted the cyanobacteria in 2009 while documenting vegetation prior to an effort to remove an invasive shoreline weed from the park.



“Once we got there, it became obvious there was this other stuff all over the beach,” she said. She immediately recognized it as a type of *Lyngbya*. “It’s very distinctive. It washes up in balls, like pebbles. If you took coarse hair and rubbed it like Play-Doh between your hands into a ball and dyed it green, that’s exactly what it looks like.”

In 2010, she and several other researchers separately determined it was *Lyngbya wollei*, the same organism that has plagued waters in the southeastern United States for decades. It forms thick, nuisance blooms and releases toxins that can cause skin, oral and gastrointestinal inflammation.

Kashian suspects that the cyanobacteria entered the Great Lakes system by hitchhiking on the hulls of boats.

She has seen *Lyngbya wollei* at the park every year since her initial discovery. She noted an especially large amount in 2012, possibly due to the hot summer.

But it may have been around for some time.

For a decade or so, park staff have seen what is presumed to be the same cyanobacteria on the beach, although they never identified it, said Paul Muelle, chief of natural resources for the Huron Clinton Metroparks, which includes the Lake St. Clair park.



Image: Vijay Kannappan

“We get some (every year), but since we clean the beach on a daily basis during the use season, it really hasn’t been a huge problem there,” he said. Because other weeds make up the bulk of the daily beach grooming, pinpointing the cost for removal of the cyanobacteria is difficult. Nonetheless, using information from Muelle, Kashian estimated that the park’s tab for removal of *Lyngbya* was about \$10,000 in 2010.

“Where we are noticing it more is in the natural areas where we don’t do active management,” Muelle said. He described mats of *Lyngbya wollei* that extend “40-50 feet wide,” in the area of the park near Point Rosa Marsh.

“And it’s deep,” he said. “We had grass growing on the top of it. It looks like solid ground and I tried to walk out there, but you could go up to your waist in gook. It was pretty excessive.”

One concern is that *Lyngbya* will spread to other areas, particularly to shallow-water areas such as parts of Saginaw Bay and to inland lakes, Kashian said. The other concern is that it will produce toxins.

“It absolutely could become toxic here, but we don’t know enough about it,” Kashian said. She noted that even with the blooms of *Microcystis*, a different type of cyanobacteria that has been heavily studied, scientists still don’t know why only some blooms are toxic.

“They don’t know what triggers it to start producing toxins, and we know even less about *Lyngbya* than *Microcystis*,” she said.

While *Lyngbya wollei* typically carries a toxin in the southern United States, the Lake Erie sample was not toxic. Kashian's funding didn't cover toxicity research. Instead, she investigated if the cyanobacteria at the park harbor *E. coli* bacteria, a bacteria that often prompts beach closings.

"We found very high levels of bacteria in these mats," she said. "That's a problem because it's all over the beach, and if you have a lot of bacteria and kids play on it, they can potentially get sick. In addition, if you have large deposits on the shore and there's wave action, bacteria could actually be transported back into the lake and that could contribute to beach closures."

The mats also disrupt water flow into and out of Point Rosa Marsh, Muelle said. Marsh-restoration is under way and the removal of the *Lyngbya* mats is part of that effort. At the swimming beach, "the question is how do we manage this," Muelle said. "If there are problems, obviously we're concerned about public contact."

Kashian added, "It's definitely an invasive, nuisance species worth watching, because it hasn't been documented in the Great Lakes before the first sightings in the St. Lawrence."

© 2012, Great Lakes Echo, Michigan State University Knight Center for Environmental Journalism.

<http://greatlakesecho.org/2012/12/20/new-potentially-toxic-algae-washes-up-on-great-lakes-beach/>

Clean Water fund faces tenuous finances

General Assembly slashes appropriations nearly 90 percent in past two years

Source: Charlotte Observer: Dec. 31, 2012 By Bruce Henderson 704-358-5051 Twitter: @bhender

North Carolina's Clean Water Management Trust Fund, which has spent nearly \$1 billion to clean up polluted waters and protect untainted ones, will face a dicey future as legislators convene in January.

The General Assembly slashed the fund's appropriations nearly 90 percent below their \$100 million peak in the past two years as the state grappled with budget problems. More worrisome to supporters is that legislators dropped it from the state's recurring budget, meaning the fund now has to fight for unspent money.

The program has methodically sprinkled grants across every county, gaining deep support from local governments, conservation groups and outdoorsmen. Those allies are talking up its worth to Gov.-elect Pat McCrory's transition team and Republican legislators' new super-majorities.

"If you keep reducing the fund, it ends up losing its presence. This will be the third year we've been below \$50 million, and it gets to where the work is not there," said executive director Richard Rogers. "Given all that, we've gotten no messages



from the governor's office or others that they want to do away with the program.”

The fund wants \$40 million for each of the next two years.

Republican-led legislators repealed a statutory mandate of \$100 million in annual appropriations in 2011, but diversions of the fund's appropriations have been bipartisan. Democratic Gov. Bev Perdue transferred its whole \$100 million in 2009 to help fill a budget shortfall.

When legislators created the fund in 1996, hog manure was washing down rivers, coastal fishermen were reporting lesion-riddled fish and development threatened to pollute drinking water supplies.

Since then, it has granted \$520 million to buy land and protect waterways, \$251 million to fix failing sewage treatment plants and \$96 million on restoration projects.

In Mecklenburg County, more than \$15 million in grants helped to protect Mountain Island Lake – the main water source for Charlotte and Gastonia – and to restore polluted Little Sugar Creek. Gaston County projects got another \$15 million, many of them aimed at reviving the South Fork of the Catawba River, once known as the “Rainbow River” for the textile dyes dumped into it.

McCrory, the longtime Charlotte mayor, is expected to set the tone for legislators when he produces his first budget. Trust fund boosters have already met with his transition team, which made no commitments.

“Since the fund was made non-recurring, it is absolutely critical that we get support for some level of funding in the governor-elect's budget,” said Edgar Miller, government relations director for the Conservation Trust for North Carolina, a statewide conservation group.

McCrory and his pick as the state's environment secretary, John Skvarla, talk of balancing environmental protection with economic development.

“We are in the process of reviewing policies for this as well as for the (environmental) department as a whole,” said spokesman Ricky Diaz.

Rep. Ruth Samuelson, a Charlotte Republican and supporter of the fund, said Clean Water fell victim to tight budgets, not politics.

Removing the fund from the state's recurring budget wasn't intended as a message that legislative leaders no longer support it, said Samuelson, who chaired the House Environment Committee in the last session. “I am not hearing anybody who is not in favor of it,” she said.

But a special challenge in 2013, added Rep. Chuck McGrady (R-Henderson), is that more than half the members of the legislature will be in their first or second terms.

“Their awareness of the fund and what it does is not real high yet,” said the former Clean Water trustee. “The challenge is going to be, in tough financial times, to make the case for why money should go to the trust fund.”

Shifting approach

Conservationists view the reduced appropriations as a lost opportunity to buy land at depressed prices. Some legislators have viewed it differently, limiting the use of Clean Water grants for land acquisition in 2011.

The Charlotte-based Catawba Lands Conservancy used \$3.8 million in Clean Water grants in the last few years for a 15-county trail network called the Carolina Thread Trail.

Smaller appropriations have “significantly limited the amount of conservation work that can be done, and we’re in window – really a generational opportunity – to preserve a lot of important land just because of the state of the real estate market,” said Tom Okel, the conservancy’s executive director. “We could have done significantly more.”

The state’s two other natural-resources trust funds have also taken budget hits. Legislators diverted \$16.4 million from the Natural Heritage and Parks and Recreation funds in 2011, but they restored the flow of money the following year.

Clean Water has laid off nearly half its staff since 2009. This year it approved \$11.6 million of the \$122 million in grants that were requested.

As Republicans took control in 2011, legislators steered the fund toward protection of military bases and drinking-water sources. The fund now emphasizes its benefits to the military, agriculture, tourism and economic development – such as the craft breweries going up around Asheville.

“We will try to demonstrate to them that what we do is worthwhile,” said trust fund chairman John McMillan, a Raleigh lawyer. “I think we have enough friends up there in both parties who understand that.”

<http://www.charlotteobserver.com/2012/12/31/3755502/clean-water-fund-faces-tenuous.html#storylink=cpy>

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