

2012 NALMS Notes

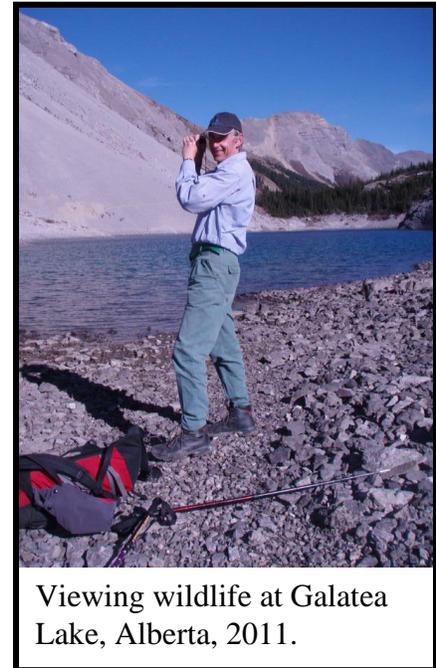


October 2012

President's Message –

It is that time of year again - the NALMS' students are looking for your support during the International Symposium next month at Madison! Whether a veteran or new NALMS member, we hope that you will consider supporting the NALMS' students through a donation to the silent auction. There are only a few weeks left for donations!

Each year a silent auction is organized at the NALMS International Symposium. Popular donations have included easily packed items related to lake recreation and certificates for dinner or stays at popular hotels and restaurants. These have been donated by various companies, non-profit groups, individuals, and others. The proceeds of the silent auction go to support student attendance and travel to the International Symposium. Providing the opportunity for student participation in the International Symposium actively involves the student in NALMS, and this involvement has contributed to the increase in NALMS' student membership over the past few years.



Viewing wildlife at Galatea Lake, Alberta, 2011.

Please consider supporting the NALMS' students by donating an item to the 2012 Silent Auction. For more information or to set up a donation you may call the NALMS office at 608-233-2836 or send an email to dlbigham@ufl.edu. NALMS' students are a big part of the future of lake management, and your support will help ensure the excellence of our lake management efforts for years to come. For those that have generously donated in years past, thank you again!

Al Sosiak
President - NALMS
Al.Sosiak@telus.net

WITHIN NALMS

Membership in Motion

We are still working towards renewing members who recently let their membership lapse on September 30, 2012 and will continue to do so until mid-November. So far, about 100 out of the 190 members up for renewal have renewed their memberships. Please consider renewing today if you've accidentally let your membership lapse! We have also started our early retention efforts for our winter membership period. Letters and early renewal reminders were sent out earlier this month.

NALMS is currently made up of 908 members. Thank you to all of our members for sharing in our mission and making our society great! The following is a listing of members that I'd like to thank directly for joining NALMS or renewing their membership during the last month - thank you!

New NALMS Individual Members: Katrina Adams, Darren Bade, Carter Bailey, Scott Brandt, Brenton Butterfield, Don Button, Daniel Cibulka, Joe DeMarco, Edward Filip, Rachel Gough, Trevor Hann, Heather Harwood, Derek Johnson, Marcy Kamerath, Mark Osborn, Rich Rollins, Bruce Rueger, Kirsti Sorsa, Michael Stouder, Caitlin Stroosnyder, Kathleen Wall, Owen Zaengle

Renewing NALMS Individual Members: Kumud Acharya, BiJay Adams, Linda Bacon, Lisa Benton, Stephen Carpenter, Donald Charles, Michael Chimney, Nicolas Clercin, Sandra Cooke, Anna Desellas, Tony Dodd, Chris Doyle, Harold Draper, Charles Druckrey, Judy Dudley, Mihaela Enache, Marie Esten, Martin Firth, Bill Foris, Johnny Foster, Ron French, Brian Friedmann, Richard Geney, John Hains, Krista Harness, Theodore Harris, Ron Hart, Karl Havens, Mark Howarth, Eric Howe, Tim Hoyman, H. Kenneth Hudnell, Brett Johnson, Brian Jonckheere, Susan Jones, Fawn Kearns, Christopher Knud-Hansen, Carl Koenig, Henry Komadowski, Dorte Koster, Christine Leistner, Lance Lombard, Mary Manning, Sue Miller, Mark Mobley, Nancy Mueller, Brian Murphy, Darby Nelson, Russell Nemecek, Brett Olds, Todd Olson, Jeffery Pasek, Matthew Petty, Robert Plotnikoff, Curtis Porterfield, Sharon Reedyk, Dianne Reid, Dennis Ross, Eric Sager, Elizabeth Scheessele, Kimberly Schulz, Todd Sellers, Ed Shallenberger, Ann Shortelle, Patrick Simmsgeiger, Cheryl Snyder, Patrick Sollberger, Jeffrey Spence, Barbara Speziale, Patricia Tarpey, Anna Thelen, Erica Tietjen, Jean Unmuth, DeAna Vitela-Hayashi, Roland Wang, Steven Watters, Andy Welch, Frank Wilhelm, John Wilson, Laura Young, Norm Zirnhelt, Ron Zurawell

Renewing NALMS Affiliate Members: [Indiana Lakes Management Society](#)

New NALMS Corporate Members: [All Things Water](#)

Renewing NALMS Corporate Members: [Applied Polymer Systems](#), [A.W. Research Laboratories](#), [Aquatic Control, Inc.](#), [HAB Aquatic Solutions](#), [Sonic Solutions LLC](#)

New NALMS Nonprofit Members: [Lake of the Woods Water Sustainability Foundation](#)

Renewing NALMS Nonprofit Members: [Camp and Center Lakes Rehabilitation District](#), [Chautauqua Watershed Conservancy, Inc.](#), [City of Eagan](#), [Renaissance Lac Brome](#)

If you know of anyone who might be interested in NALMS membership, please let me know and I will send them some samples of our publications and offerings. And if your own membership is up for renewal during this period, you may [renew on the NALMS website here](#) or you may [fill out a Membership Registration Form](#) and send it to the office. As always, please call me at 608.233.2836 or email me at garenz@nalms.org with any questions.

Finally, I always like to end my article by highlighting a NALMS membership opportunity or benefit. NALMS offers a number of ways to help you sharpen your skill-set all at discounted rates. Access to the valuable technical sessions at our Annual Symposium is discounted for NALMS members. For the upcoming Symposium in Madison, WI membership registration fees were discounted by \$130 for early-bird registration. If you haven't registered yet you are still eligible for a discount – [click here to register today!](#) NALMS also offers member discounts on many of the publications in our bookstore. There are a number of excellent publications like back issues of LakeLine magazine for only \$4, the Lake Pocket Book for only \$8, and the Interactive Lake Ecology workbook for only \$4, among others.

As always, 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
garenz@nalms.org

NALMS Mourns Passage of Long-time Friend

Marianne McVoy, wife of former NALMS President Rick McVoy, passed away on September 23 after a short battle with an aggressive cancer. She was 62. Marianne accompanied Rick to many NALMS conferences and was a friend to many NALMS members. Many of us have fond memories of time spent with Rick and Marianne; NALMS may be about lakes, but it is people. Marianne was active in a number of circles, including music, their church, and their family life, and touched many lives in a positive manner. Rick, a long time lake specialist and water quality expert with the MA DEP, has been on a leave of absence to care for Marianne but can be reached at Richard.mcvoy@state.ma.us or at 80 Old East St. Petersham, MA 01366.

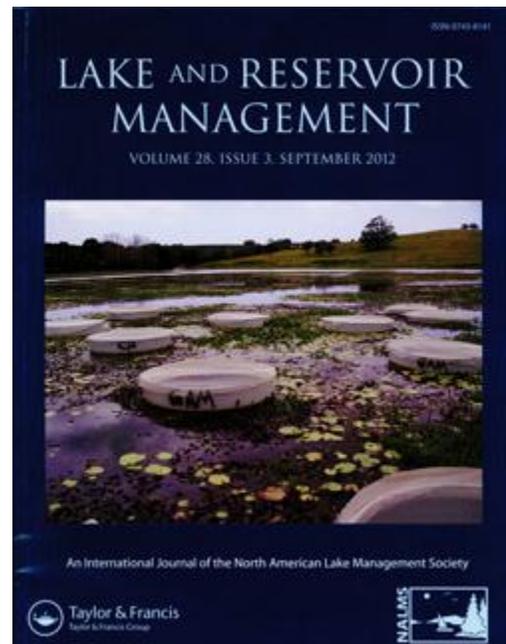
What's New in LRM?

Madison, WI - October 2012 - NALMS is pleased to announce the third 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:

- *Long-term oxygen conditions assessed using chironomid assemblages in brook trout laks from Nova Scotia, Canada.* J. Kurek, L. Lawlor, B.F. Cumming, and J.P. Smol.
- *Nutrient and algal responses to winterkilled fish-derived nutrient subsidies in eutrophic lakes.* Casey W. Schoenebeck, Michael L. Brown, Steven R. Chipps, and David R. German.
- *NOTE: The aquarium trade: A potential risk for nonnative plant introductions in Connecticut, USA.* Mark June-Wells, Charles R. Vossbrinck, Jordan Gibbons, and Gregory Bugbee.
- *The challenge of self-enhancement bias for educational programs designed to encourage natural shorelines.* Michael S. Amato, Bret R. Shaw, and John Haack.
- *Effects of carp, gambusia, and Australian bass on water quality in a subtropical freshwater reservoir.* Darren J. Akhurst, Graham B. Jones, Malcolm Clark, and Amanda Reichelt-Brushett.
- *An experimental approach to determine esocid prey preference in replicated pond systems.* Jesse M. Lepak, Eric R. Fetherman, William M. Pate, Christopher D. Craft, and Eric I. Gardunio.
- *Inland lake indicator bacteria: Long-term impervious surface and weather influences and a predictive Bayesian model.* Christopher K. Uejio, Theodore W. Peters, and Jonathan A. Patz.
- *Design and testing of a novel hypolimnetic oxygenation system to improve water quality in Lake Bard, California.* Jean-Francois Debroux, Mac W. Beutel, Craig M. Thompson, and Susan Mulligan.

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.



UPCOMING CONFERENCES & EVENTS

Register for NALMS 32nd Annual Symposium

Attendees can still register for NALMS 32nd Annual Symposium: Lakes in the Landscape: Values > Visions > Actions. Held at the Monona Terrace in Madison, WI from November 7th – 9th, 2012, the Symposium will emphasize the science of lakes in the landscape, ranging from in-lake to watershed to global, as well as approaches that facilitate lake management...from satellites to surveys to shorelines.



[Click here for our Registration Page!](#)

Full conference registration includes:

- Access to all technical sessions, Wednesday – Friday.
- Included lunch & refreshment breaks Wednesday – Friday, continental breakfast Wednesday – Friday, Wednesday reception and Thursday reception and banquet.
- Daily registrations include access to technical sessions, meals and included receptions only on the selected day of attendance.

Please note that One-day registrations may not be combined to create a two-day registration and that Guest registration does not include access to technical sessions.

Exhibition and Sponsorship at NALMS 2012 Symposium

We're still accepting Exhibitors and Sponsors for NALMS 32nd Annual Symposium. Please consider the following in making your decision to exhibit and/or sponsor:

- NALMS 2012 offers [Targeted Quality Sessions](#) that our Symposium Exhibitors and Sponsors can associate with their products or brands while pinpointing a targeted audience. The Symposium has a reputation for providing the highest quality sessions to a targeted field of lake and reservoir management professionals, academia, and interested citizens across a wide range of lake management topics.
- NALMS 2012 typically brings together an audience of 500-600 **Premium Attendees** to whom our Exhibitors and Sponsors can extend their brand visibility. NALMS leads the way in lake and reservoir management education and has a large geographic reach extending from North America to an international community that draws upon influential consumers, community leaders and business decision-makers within the lake and reservoir management field.
- NALMS 2012 will **Enhance Your Corporate Image** by building upon your brand identification while strengthening your association with NALMS, our valued members, high-quality publications and programming, and the superior sessions and events at our Symposium.

[Click here for more information on Exhibiting at NALMS 32nd Annual Symposium](#) or you may also contact Philip Forsberg at forsberg@nalms.org.

[Click here to learn more about Sponsoring NALMS' 32nd Annual Symposium](#) or you may also contact Greg Arenz at garenz@nalms.org.

What is the Best Way to get from the Airport to the Symposium?

The Dane County Regional Airport is just 15 minutes from downtown Madison. You have several options.

Option 1 is to check your hotel for a free shuttle service. Both the Hilton Madison Monona Terrace and the Inn on the Park offer complimentary airport shuttle transportation.

Option 2 is the Madison Metro Bus for \$2.00 one way. Just outside of Door #6 there is a bus stop. Madison Metro Transit System (608) 266-4466 TDD (608) 267-1143 Website: www.mymetrobus.com. Route 20 runs between the North Transfer Point and East Towne Mall via the Airport every thirty minutes during weekdays, and hourly weeknights, weekends, and holidays. For service from the Airport to downtown Madison, passengers should board buses reading "Route 20 - North Transfer Point."

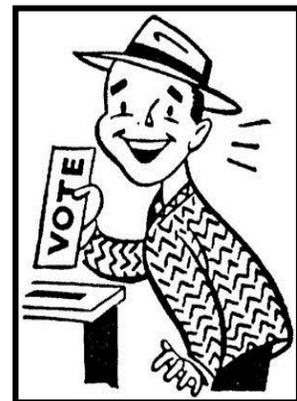
For more information about ground transportation to and from the Dane County Regional Airport, go to <http://www.msairport.com/guide/transportation.aspx>.

Absentee Voting While you are Away to Madison

Make sure you remember to get your vote in for the presidential race. The symposium will be held during the presidential election. Make sure you vote early or vote by absentee ballot.

NALMS 2012 Election runs from September 6, 2012 through October 21, 2012.

- You may **Vote Online** using the following:
 1. Navigate your browser to www.nalms.org
 2. Click on the 'Member Login' link at the top of the page
 3. Enter your email address and password (see NOTE)
 4. Click the "Login" button to go to the Members' Only section
 5. Click on the "Board Election" link on the member navigation panel on the right-hand side of the page
 6. Read the Ballot Instructions and cast your vote



- NOTE: If you do not have a password on file with NALMS, you may request a new one by entering your email address into the email login field and clicking on the "Reset/Request a Password" link above the password field.

A paper ballot may be requested by contacting the NALMS Office by phone at 608-233-2836 or by email at membershipservices@nalms.org. All paper ballot requests must be received by **October 6, 2012**. Paper ballots must be returned to the NALMS Office via fax, email or mail by **October 21, 2012**.

LAKE NEWS & INFORMATION

National News Coverage of Blue-green Algae Blooms this Summer

Source: ABC News, Sept 30, 2012, <http://abcnews.go.com/WNT/video/algae-lakes-toxic-swimming-blooms-us-17362157>

Based on the number of media stories, this summer's hot, dry weather pattern across the country seemed to have caused more algae blooms and fish kills than normal. The news across the Midwest has been reporting on lakes where algae blooms cause problems with recreation and fishing.

At the end of September, ABC News reported a story about Petenwell Lake in Wisconsin and provided some level of explanation for the increased algae blooms across the country, including the recent algae growth in the newly renovated Reflection Pool in Washington D.C. (see related story below). This 2 minute news video may be something that we see more of in the near future. NALMS might need to get their own field reporter with waders.

TMDL Comment Period Extended for Pope County Lakes

Source: Morris Sun Tribune, Sept 25, 2012,

<http://www.morrissuntribune.com/event/article/id/28802/group/homepage/>

The Minnesota Pollution Control Agency (MPCA) has extended the comment period for a TMDL report conducted for eight lakes in Pope County that are impaired due to excess phosphorus. The lakes are Ann, Emily, Gilchrist, Leven, Malmedal, Pelican, Reno, and Strandness. Comments on the report must be sent in writing to the MPCA by Oct. 17, 2012.

A TMDL report determines the maximum amount of a pollutant that a water body can accept from various sources and still meet water quality standards. Phosphorus was identified as the primary pollutant leading to excessive growth of plants, such as algae, in these lakes. The study determined phosphorus reductions ranging from 35 to 90 percent are needed for these lakes to meet state standards.

Sources of phosphorus include feedlots and wastewater treatment facilities; stormwater runoff; loading from upstream waters; atmospheric deposition; subsurface sewage treatment systems; groundwater, internal loading, and in-stream erosion. Where specific sources were identified, the report assigned allocations to them. These include the Blair Farms Inc. feedlot, wastewater treatment facilities in Lowry and Starbuck, and stormwater runoff from construction activities in Pope County.

Implementation of the TMDL will be accomplished by both state and local action. Water quality restoration efforts will be led by the Pope County Soil and Water Conservation District, Pope County, the Chippewa River Watershed Project, and through lake associations and the Pope County Coalition of Lakes Association.

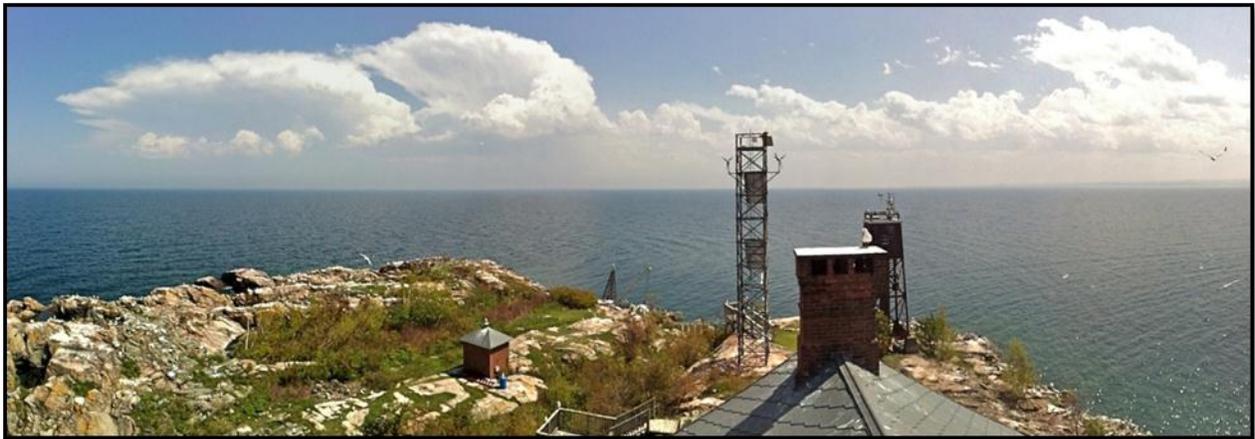
Copies of the TMDL report are available for review at the MPCA office at 714 Lake Ave. in Detroit Lakes and on the MPCA's Pope County 8 Lakes TMDL webpage. Alternatively, an electronic copy of the report is available from Tim James of the MPCA (email tim.james@state.mn.us or phone 218-846-8103).

Written comments must include (1) a statement of your interest in the draft TMDL report; (2) a statement of the action you wish the MPCA to take, including specific references to sections of the draft TMDL report that you believe should be changed; and (3) the reasons supporting your position, stated with sufficient specificity to allow the MPCA commissioner to investigate the merits of your position.

Comments should be mailed to: Tim James, MPCA, 714 Lake Ave., Ste. 220, Detroit Lakes, MN 56501; or they can be sent by e-mail to tim.james@state.mn.us. Comments must be received by Oct. 17, 2012.

The “Global Lake Temperature Collaboration (GLTC)” – A Recent Effort by NALMS Members and other Lake Scientists

Source: Brittany Potter



View of a Lake Superior monitoring station from a lighthouse on Granite Island (near Marquette, Michigan).

A grassroots network of limnologists, climatologists, and remote sensing scientists recently launched a project called the “Global Lake Temperature Collaboration (GLTC).” There are currently more than 50 investigators from 15 countries, and some of the GLTC participants are also NALMS members. The motivation for the collaboration stems from recent studies that have found lakes to be warming rapidly – some at a greater rate than that of the ambient air temperature. The goal of the GLTC project is to compile global datasets of inland water temperature from satellites and *in situ* measurements, and then analyze the data for patterns in

lake warming/cooling, mechanisms driving lake temperature, and the impacts on lake ecosystems. The principal investigators for the GLTC project are Simon Hook (NASA JPL; California Institute of Technology), John Lenters (University of Nebraska-Lincoln), Peter McIntyre (University of Wisconsin-Madison), and Catherine O'Reilly (Illinois State University). Lenters is the lead investigator and will give a plenary talk on the world's warming lakes at the upcoming NALMS Symposium, as well as at this month's 3rd European Large Lakes Symposium in Konstanz, Germany. More information on the GLTC project can be found at <http://www.laketemperature.org>, including a summary of the first GLTC workshop that was held in Lincoln, Nebraska this past June. If you're interested in joining the GLTC group, please contact John Lenters (jlenters2@unl.edu) or the GLTC outreach coordinator, Brittany Potter (bpotter@huskers.unl.edu).

Good or Bad for the Lake – You Decide

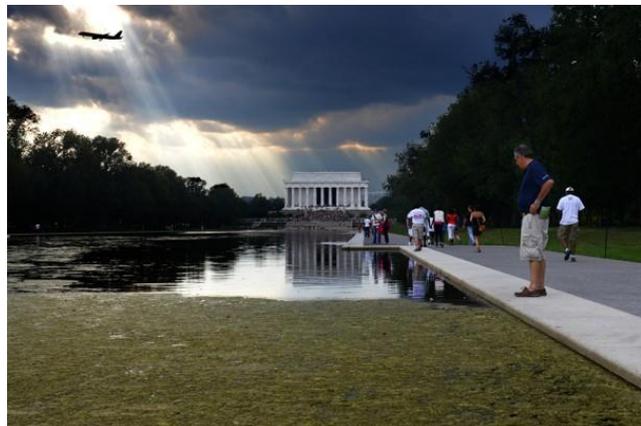
Many times, we see a quick news item about a local lake having a problem or a lake manager, city department, or lake association deciding what to do about a lake issue. Read the below article to see if they made the right choices.

Lincoln Memorial Reflecting Pool having Algae Problems

Source: Stefanie Dazio, Published: September 26 http://www.washingtonpost.com/local/after-34m-overhaul-park-service-must-tackle-algae-invasion-in-national-mall-reflecting-pool/2012/09/22/5ab02460-04ec-11e2-9132-f2750cd65f97_story.html

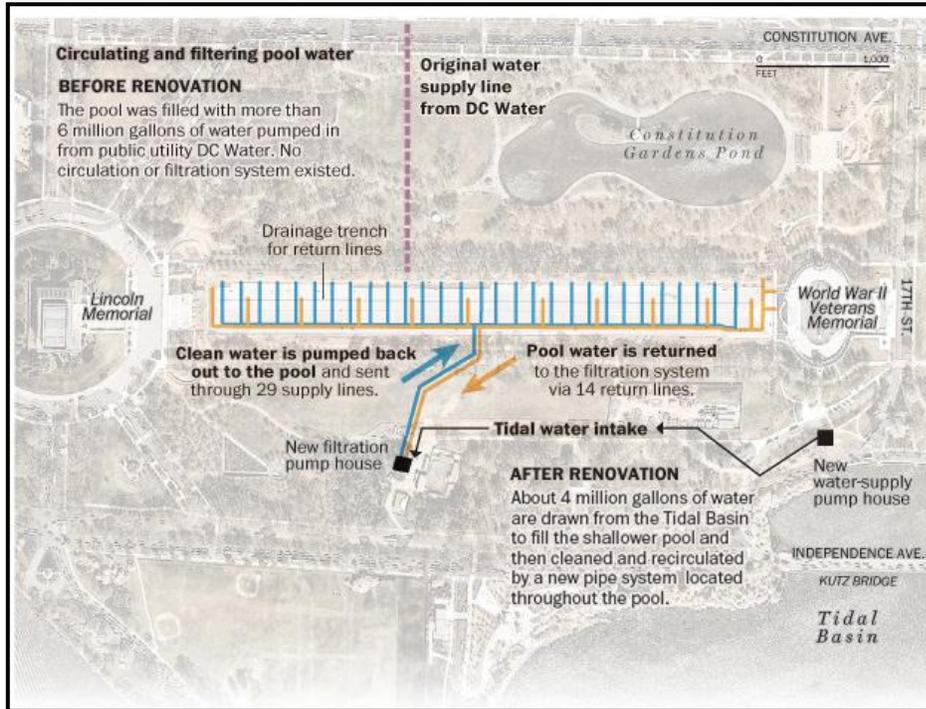
Less than a month after reopening, the Lincoln Memorial Reflecting Pool is full of algae, a sea of green overshadowing the nearly two-year, \$34 million renovation of the famous site.

The National Park Service anticipated a "break-in period" in which problems would need to be addressed, spokeswoman Carol Johnson said, but no one expected the amount of algae that is there now.



Officials are working to remove the algae by increasing the level of ozone in the water to treat what is there and prevent more from growing. The agency plans a one-time removal of the algae, but first the ozone level needs to be fine-tuned.

While the pool took its water from the city's drinking system, the reconstruction allows it to take



water from the Tidal Basin, saving the city 32 million gallons of water a year. But because the pool is a smaller and shallower water source, the algae cells bloom more easily.

The pool was added after the Lincoln Memorial's dedication in 1922, and over the years it leaked and cracked. The renovated pool opened Aug. 31, after being closed to the public since 2010.

What would you do to clean up the algae? Would you have predicted more primary productivity by using the Tidal Basin water? Did anyone sample the Tidal Basin water to see how much nutrients are there? Does residence time matter?

Piranha Caught in New York Pond

Source: Washington, Sept 14, 2012, <http://wtop.com/681/3037281/A-Fish-Tale>

Two kids fishing with their grandpa in a New York pond recently got a toothy surprise at the end of one of their lines. What initially was suspected to be a sunfish turned out to be a red-bellied piranha; a predatory and ferocious fish normally found in South America. And it may not be the only one lurking in the pond on Staten Island.

Slide Show about Staying out of the Water during an Algae Bloom

Source: <http://grist.org/slideshow/stay-out-of-the-water-a-toxic-algae-slideshow/>

A Lake in Retreat

Source: Pepper Trail, Summit Daily News, Sep 20, 2012,

<http://www.summitdaily.com/apps/pbcs.dll/article?AID=/20120920/COLUMNS/120919788/1055/RSS&template=printart>

I'm standing on the shores of Summer Lake, or, to be more accurate, what used to be a lakeshore but is now a dry lakebed in Oregon's high desert. I'm here with a group of writers, scientists, and artists, all of us gathered to talk about changes in the northern Great Basin.

Sharp environmental contrasts, through both time and space, have always been a feature of life in the Great Basin. We know this because the region's arid conditions that make living here a challenge are also ideal for preserving the remains of past life.

In lake sediments, packrat stockpiles and even in exquisitely air-dried human dung (coprolites), ecological change has been revealed by the painstaking work of geologists, paleontologists, and archeologists. That knowledge has recently been synthesized in a masterful book, "The Great Basin: A Natural Prehistory," by Donald K. Grayson of the University of Washington, and it's required reading for anyone interested in the West.

The most dramatic changes in the Great Basin over the past 100,000 years are the appearance and disappearance of lakes. The Great Basin is comprised of many lesser basins that are connected to some degree, but which have no outlet. In the late Pleistocene, about 15,000 years ago, the Great Basin was a labyrinth of lakes, covering almost 28 million acres by Grayson's calculation. The largest of these, Lake Bonneville, was almost the size of Lake Michigan and reached depths well over 1,000 feet. Its shriveled remnant is the Great Salt Lake.

Summer Lake, too, was part of a much larger Pleistocene lake, called Lake Chewaucan, which covered 480 square miles and reached a depth of 375 feet. At its springtime maximum these days, Summer Lake is lucky to cover 70 square miles at a maximum depth of three feet. By late summer, the lake has retreated to a puddle, a thin dark smudge almost lost in the heat waves.

The Pleistocene lakes existed when the continental ice sheets deflected the jet stream southward. This brought both high precipitation and cool temperatures, which together filled the basins of the Great Basin. In contrast, the greatest retreat of Great Basin lakes occurred during a period of high temperatures and drought sometimes called the Altithermal, from about 7,500-4,500 years ago. The causes for this climatic shift in the middle Holocene are not well understood, and its effects were not equally severe everywhere. Nevertheless, the implications for the future of the region are sobering.

The Altithermal appears to have been characterized by temperatures 5-15 degrees higher than today; in other words, within the range of predicted Great Basin temperatures by the end of this century. And what were the effects of these temperatures? Many Great Basin lakes and marshes virtually disappeared. The frequency of fires increased, as shown by studies near Lake Tahoe. A variety of mammals associated with sagebrush were replaced by species adapted to drought-tolerant saltbush. The hardy woodrats, whose middens are such a reliable source of data on

environmental conditions, disappeared from many sites, to return only after the end of the drought.

Even the most adaptable of creatures, human beings, suffered population declines during the Altithermal. Those who survived were forced to adapt to a diet heavy in small seeds that were extremely labor-intensive to gather and process, and we know this from their coprolites. All in all, Grayson singles out the Altithermal as the least hospitable time for humans in the Great Basin over the past 10,000 years.

This bad time seems to be returning. And the challenges ahead will not be due to climate change alone. Human population density in the Great Basin is far greater than it has ever been, with major cities in Las Vegas, Salt Lake City, and Reno. These urban populations, especially those in Las Vegas, rely on water sources that may not last the century, and most rural residents also depend on readily available water for farming and ranching. It is hard to imagine how these populations can be sustained in the face of conditions approaching those of the Altithermal.

The dry bed, or playa, of Summer Lake, has a stark beauty. Every evening, our group gathers on its salty edge to watch the shadow of Winter Ridge roll smoothly across it as the sun sets. The history of the Great Basin assures us that this lake will be brim-full again --- in a thousand, or 10,000 years. But that is cold comfort for the hot days ahead.

Fish and Game Permit Proposal Roils Private California Lake Owners

Source: Edward Ortiz, Sept 30, 2012, <http://www.sacbee.com/2012/09/30/4866937/fish-and-game-permit-proposal.html>

Operators of private fish ponds and lakes around the state say a recent court ruling could saddle them with devastating costs and potentially force some out of business.

The Sept. 19 ruling by Sacramento Superior Court Judge Lloyd Connelly allows the state's Department of Fish and Game to proceed with plans to require fish pond owners to obtain permits for their operations. The new permitting requirement would apply to 4,000 lakes and 20,000 ponds in California.

Pond and lake owners would have to pay an as-yet-undetermined fee to obtain a permit. Some would also have to conduct an environmental review to show that their fish would not invade other bodies of water and cause harm to native fish or animals. Fish and Game also proposes to require them to provide a certificate stating that their fish are pathogen free.

The permitting is meant to safeguard a list of 89 "decision" native animal species, each of which may come under threat depending on what kind of fish a landowner decides to stock in a pond or lake.

Fish and Game proposed the new regulations after environmental groups filed lawsuits arguing that the department was not adequately evaluating the potential impact on native fish species

reared in its own hatcheries. The department responded with new rules for the hatcheries and is now proposing new scrutiny for private lakes and ponds as well.

Fish pond owners in the Central Valley say they're worried that it will be expensive to comply with the proposed permitting requirements, because they may have to pay for an environmental assessment that could cost thousands of dollars.

Green Lake Closes in Seattle

Source: Associated Press, Oct 2, 2012, <http://www.sacbee.com/2012/10/02/4876107/toxic-algae-no-swimming-at-seattles.html>

Add Seattle's popular Green Lake to the list of Puget Sound-area lakes hit by toxic algae blooms. Seattle Parks and Recreation Acting Superintendent Christopher Williams has closed the lake to swimming, wading, and "wet-water boating" activities like sailboarding. Parks officials also cautioned dog owners not to let dogs drink from the lake while the bloom persists.

The lake remains open to fishing and boating, since people engaging in those activities are unlikely to ingest the water. The parks department says the closure will last until the algae bloom completes its life cycle, which could be weeks or months.

Water quality experts have recently issued toxic algae warnings for several other lakes in King and Pierce counties.

Meet the Lake so Polluted that Spending an Hour there would Kill You

Source: Jess Zimmerman, Grist List, <http://grist.org/list/meet-the-lake-so-polluted-that-spending-an-hour-there-would-kill-you/>

Welcome to beautiful Lake Karachay, a Russian lake so tainted by nearby nuclear facilities that it's considered the most polluted place on the planet. In 1990, just standing on the shore for an hour would give you a radiation dose of 600 roentgens, more than enough to kill you. On the plus side, lakefront property is probably really, really cheap.

You can't really blame Lake Karachay for acting up. It comes from a really rough area. The lake is located within the Mayak Production Association, one of the largest and leakiest nuclear facilities in Russia. The Russian government kept Mayak entirely secret until 1990, and it spent that period of invisibility mainly having nuclear meltdowns and dumping waste into the river. By the time Mayak's existence was officially acknowledged, there had been a 21 percent increase in cancer incidence, a 25 percent increase in birth defects, and a 41 percent increase in leukemia in the surrounding region of Chelyabinsk. The Techa river, which provided water to nearby villages, was so contaminated that up to 65 percent of locals fell ill with radiation sickness which the doctors termed "special disease," because as long as the facility was secret, they weren't allowed to mention radiation in their diagnoses.

Lake Karachay is now full of concrete that's intended to keep radioactive sediment away from shore. Downstream water in the Techa River has almost no radioactive cesium, though you still can't drink the upstream stuff and the riverbanks will be dangerous for hundreds of years. And today, 20 years after Mayak started appearing on maps again, it's even possible that you could stand on the shores of Lake Karachay and not die. But we wouldn't risk it.

Brain-eating Amoeba in West Boggs Lake Suspected in Death

Source: Ken Kusmer, Associated Press, Sept 5, 2012

A parasite commonly referred to as the "brain-eating amoeba" infected a man teaching his daughter to swim in a southwestern Indiana lake, killing him within weeks.

State and federal officials have not yet confirmed that Waylon Abel, 30, of Loogootee, died of a rare, usually fatal infection known as primary amebic meningoencephalitis, or PAM, but an autopsy report listed it as the primary cause of death.

Abel went to Jasper Memorial Hospital with a headache, nausea vomiting and fever on Aug. 4 and received antibiotics, the autopsy report said. He returned 12 hours later and was diagnosed with what doctors suspected was bacterial meningitis.

The Loogootee man's condition worsened, and he was placed on a ventilator and airlifted Aug. 7 to St. Mary's Medical Center in Evansville, where he died hours later, five days before his 31st birthday. The story was first reported Aug. 31 in the Washington Times-Herald.

The autopsy report prompted the Daviess County Health Department to issue an advisory about PAM and Superintendent Michael Axsom of the Daviess-Martin Joint County Parks and Recreation Department to order the beach closed for the season Friday at West Boggs Lake, 46 miles southwest of Bloomington.

The Centers for Disease Control and Prevention has three confirmed cases of PAM this year in Minnesota, Oklahoma, and South Carolina and expects to receive and test samples of the suspected Indiana case later this week.

The parasite that causes the disease, *Naegleria fowleri*, thrives in warm water, and PAM occurs during the summer when the temperature is hottest.

The amoeba enters the body through the nose and travels to the brain, where it destroys tissue, the CDC says on its website. From 2002 to 2011, 32 infections were reported in the U.S. Only one person has survived out of 123 known U.S. cases from 1962 to 2011.

Lakes React Differently to Warmer Climate

Source: ScienceDaily, Oct. 4, 2012,

<http://www.sciencedaily.com/releases/2012/10/121004093153.htm>

A future warmer climate will produce different effects in different lakes. Researchers from Lund University in Sweden have now been able to explain that the effects of climate change depend on

what organisms are dominant in the lake. Algal blooms will increase, especially of toxic blue-green algae.

The study in question has been carried out by a group of researchers at the Department of Biology at Lund University. The research team is specifically focusing on predictions regarding what our water resources will be like in the future, in terms of drinking water, recreation, fishing, and biodiversity. They have now published findings on the impact of a warmer climate on lakes in the journal "Nature Climate Change".

"The most interesting and unexpected result from the study is that the reaction to climate change will vary between lakes; this has been observed previously but has puzzled researchers. We have shown that the variation is dependent on what organisms are dominant in the lake," says Lars-Anders Hansson, Professor of Aquatic Ecology at Lund University.

In lakes without fish, a warmer climate will lead to clear water without algal blooms. However, the results will be different in lakes containing fish. There, the warmer climate will benefit the fish, which will eat up large quantities of crustaceans (zooplankton). These crustaceans keep the algae in check. When the number of crustaceans falls, the algae will be free to multiply, and algal blooms will increase.

Conditions will be particularly favorable for the development of blue-green algae, and this is an even greater cause for concern, in the view of Lars-Anders Hansson. Blue-green algae are the type of algae that cause the most problems in lakes and oceans because they form very strong and often toxic algal blooms.

The researchers already know that climate change is expected to lead to a rise in temperatures of 2-5 °C within the lifetime of the coming generation. An increase in leaching of humus-rich water from land and forests is also expected, which will at least double the brownness of the lake water

"We know that we are going to see a change in the climate, but we are also seeing other major environmental changes taking place, for example 'brownification'. This means that we have several simultaneous changes that will interact and possibly create synergies," says Lars-Anders Hansson.

In the Future Water research project, a large experiment has been set up based on these conditions, in order to study what impact they may have on organisms and water quality in the future.

New device will help Madison address algae problem

Source: Susan Andres, Madison Commons, Oct 3, 2012,
<http://madisoncommons.org/?q=content/new-device-will-help-madison-address-algae-problem>

Every year, blue-green algae blossoms on Madison's waterways, contributing to beach closings and public health concerns. A research team from UW-Madison and UW-Milwaukee will soon have a new tool to address the problem.

Researchers are nearing completion on a device that autonomously collects water samples and preserves the biological material for later testing. The device will make it easier to study water quality issues such as cyanobacteria which are difficult to anticipate, said Katherine McMahon, associate professor of both bacteriology and civil and environmental engineering at UW-Madison.

Wisconsin's lakes have problems with cyanobacteria largely because of phosphorus runoff from streets and farms. This has been difficult to manage, since runoff is hard to control and traditional filtering methods are expensive and relatively ineffective. Despite the biological material's prevalence, its short life-cycle makes studying it a daunting task.

That's where the device, called the Sample Filtration and Archival (SaFA) device, will help: researchers will be able to install it in a body of water, program it to collect samples on a certain schedule, and then go out and collect all of the samples at once.

Researchers will be able to install a device in Lake Mendota, for example, to take two or three samples a day and then collect them at the end of each week. McMahon expects to eventually install two or three of the devices around Lake Mendota.

This enhanced sample collection will help them better understand how the toxic and non-toxic species of cyanobacteria come and go. They will also be able to study the role of nitrogen, which could help them predict what kind of cyanobacteria will show up based on nitrogen concentration.

The device costs around \$10,000 to build, but that all of the plans and software for it will be available for other researchers to download under an open source agreement. The research team tried to use as many easily accessible components as possible though there are some that researchers will have to make themselves.

Their research received funding from both the Sea Grant Institute and the National Science Foundation (NSF), though the NSF funds are ongoing.

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Lake Photo of the Month

The Migration Begins

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By [humbletree](#)

To be considered for NALMS' Lake Photo of the Month please submit your photo to the North American Lake Management Society (NALMS) Flickr Group. Be sure to include the name or location of the lake in the title.



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