

LAKE WAVES

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2016

Sample Container



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Illinois Lake Management Association

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The Illinois Lakes Management Association is a
nonprofit organization whose mission is to
promote understanding and comprehensive
management of lake and watershed ecosystems.
Membership is open to all.



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PRESIDENT'S MESSAGE

Dear ILMA Member,

As I step into the role of President for the Association, having observed this winter and rather bizarre spring weather patterns, I cannot help but think that future demand for proactive Lake Management skills will be an imperative. In the dozen years I have lived on Tower Lakes, here in Lake County, personal observations just out my home office window (looking a little southwest at our lake) convince me global climate change is real and we need to plan.

I want to congratulate all those involved in planning and producing a very good combined ILMA/ILAFS Conference last month. Thanks to all who attended as well. The Presenters did an excellent job and reconfirm my statement above, that in Illinois and in the world's watersheds as well, we are going to need all the skills and knowledge we can develop just to protect and maintain what we now have. I can't think of a better venue to gain these tools than our Conferences. Plan now to join us in Crystal Lake March 30 - April 1, 2017.

I would also like to thank Sharon Osterby for her time and efforts last year as President. (She continues her service to ILMA as a director.) I again express our gratitude to Leonard Dane and Brian Valleskey for their years of service as they take only a small step off the board! I am equally excited to welcome Karen Clementi and Keith Gray to their new terms. I already feel we have a very strong group of board members and close advisors to handle what 2016 brings.

As an association, ILMA faces additional challenges this year due to the state's political & financial status. With the loss of our IEPA sustaining grant we need to develop replacement sources of funding in order to maintain our vital activities at their best levels. To that end we created the "Buck-an Acre" challenge which I hope all our membership will review and find a way to participate. We are off to a good start and I am optimistic about success. We hope to use our recently updated website to show our progress and recognize our contributors. Key to this will be a renewed push to expand our membership roll over all.

I look forward to an exciting year and getting to know you all better through our activities, please look for information on upcoming PODs for our next chance to connect!

I ask that you feel free to call me with any ILMA ideas and issues you care to discuss.

Yours in the Lakes,

Rich Bahr
847-471-7525 mobile



Editor's Notes

Hello all you lake lovers out there! After another great ILMA conference that included many learning and networking opportunities, I am sure everyone is excited about the coming of Spring and warmer weather. The exciting new "Buck-an-Acre" ILMA fundraiser was introduced at the Conference and is also highlighted in this issue of Lake Waves. ILMA is issuing a challenge to all our members as well as all other Illinois Lakes and Watershed Stakeholders to help fund the continuing vital activities of this organization! As you may know all sustaining Grants from Illinois State agencies have been curtailed and we need to find replacement funding. You Can Help! Another fun opportunity to mention is the upcoming annual benefit golf outing on May 26 in Channahon, Illinois at the Heritage Bluffs Golf Course. Proceeds from this outing will benefit Water for People and the ILMA Scholarship Fund. Be sure to check out the new and improved look of the ILMA website at www.ilma-lakes.org and don't forget to check the ILMA Facebook page for new and interesting updates!

- Peter Berrini

"A lake is a landscape's most beautiful and expressive feature. It is Earth's eye; looking into which the beholder measures the depth of his own nature."

Henry David Thoreau, Walden



Remembering Two

For those members who have not yet heard, ILMA has recently lost two gentle giants that made a big impact on the organization: Bob Schmidt and Dick Schick.

Bob passed in February. He was part of the organization since its founding, served on the board and as President, a Lake Guardian Award winner, a VLM for Cedar Lake in Lake County for many years, and part of the ILMA Band (back in the early days).

Dick passed in April. He was one of the longest serving VLMs in the State (for Lake Zurich), a regular at ILMA conferences, and was the 2015 Frank Loftus Award winner.

We are sorry to see these guys go, but will be forever grateful for what they left us.

Dick Schick



Bob Schmidt



Diatoms on the Fox River: A New Phenomenon

By Karen Clementi, Senior Biologist and Vice President, Deuchler Environmental, Inc.

Illinois experienced a significant drought in 2012. In the following three summers, a different algal bloom was observed for the first time on the Fox River, located primarily in Kane and Kendall Counties. Although still not fully understood, these new algal blooms illustrate a dynamic river system and the complexities of river monitoring efforts.

BACKGROUND

One of the reasons the Fox River is listed as impaired on the IEPA's 303(d) list is due to periodic offensive conditions like algae. Various species of algae are commonly found on the Fox River and usually become more abundant and visible during the summer months. However, the types of algae usually found in the Fox that the IEPA deems to be offensive are green, filamentous algae, such as *Spirogyra* sp. These algae form large masses, both as free-floating mats and as sessile colonies attached to the substrate. High nutrient levels in the river are the primary driver of these green algal blooms. Photosynthesis by the green algae creates dissolved oxygen diel swings and associated pH diel swings that are stressful to aquatic life.

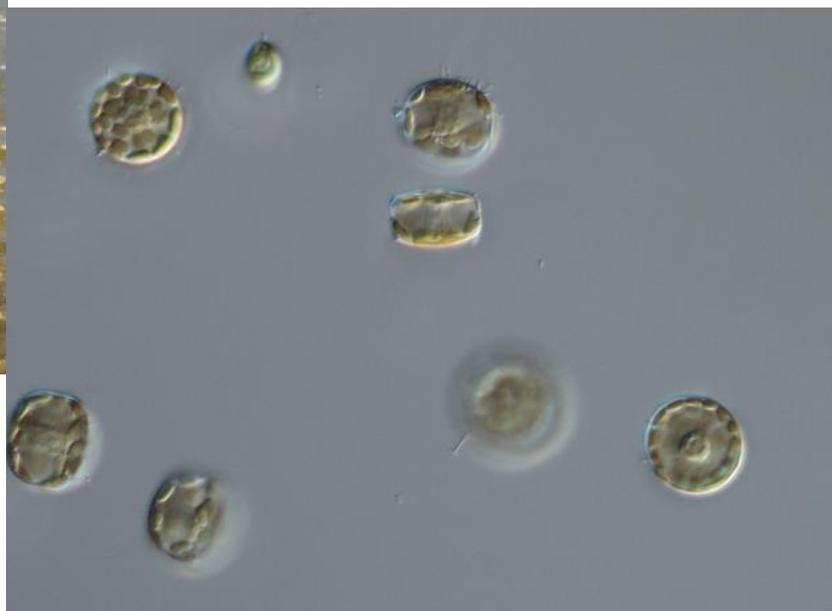
FINDINGS —————

Starting in July 2013, the first significant brown algal bloom was observed and concluded to be a type of diatom. These diatoms had been observed occasionally prior to 2012, but concentrations were usually low and of short duration. In 2013, an actual diatom bloom was noted to be present throughout the Aurora and Oswego area on the Fox River mainstem. It is unknown if the diatoms were present upstream or downstream of this area, as it was not traced beyond these general boundaries. The bloom lasted in this area approximately 3 days until a heavy rain event washed the algal colonies downstream. The IEPA and other various agencies were notified. In July 2014, another diatom bloom was observed. This bloom was more visually noticeable than the 2013 bloom and lasted for one week until heavy rains washed the algae downstream. The bloom was traced from Batavia to Yorkville on the mainstem and probably existed both upstream and downstream of the inspected areas. Again, the IEPA and other agencies were notified that a bloom was occurring. In June 2015, yet another diatom bloom was identified. This bloom was significantly more visible and continued for much of the summer. Peak bloom persisted for approximately 2 weeks. Several citizen complaints were logged by IEPA and the Fox Metro Water Reclamation District. The bloom was noted to extend from Crystal Lake to Yorkville, with heavy concentrations noted in dam pools and slack waters. In 2015, the bloom was also observed on several tributaries to the Fox River, such as Indian Creek (Aurora), Mill Creek (Geneva), and Crystal Lake Outlet (Algonquin).

In June 2015, the diatom species was confirmed to be *Cyclotella meneghiniana*, a common freshwater diatom that flourishes in urban waters. *Cyclotella meneghiniana* releases a sticky substance that causes the diatoms to bind together in irregular colonies. These colonies increase their surface-to-volume ratio, which helps the diatoms remain suspended in the water column. Aeration, such as water falling over a dam, helps the colonies stay suspended. *Cyclotella meneghiniana*, like all diatoms, have a silica-based cell wall. Unlike green algae that use chlorophyll a as their photosynthetic pigment, diatoms use chlorophyll a, c₁, and c₂ with an accessory photosynthetic pigment called fucoxanthin. The fucoxanthin gives *Cyclotella meneghiniana* its distinctive golden-brown color.



*Diatom colonies near Violet Patch Park in Oswego in 2014.
(Photo credit: Deuchler Environmental, Inc.).*



*Microscopy picture of Cyclotella meneghiniana (Photo credit:
Fox Metro Water Reclamation District Microscopy Lab).*

DATA ANALYSIS —————

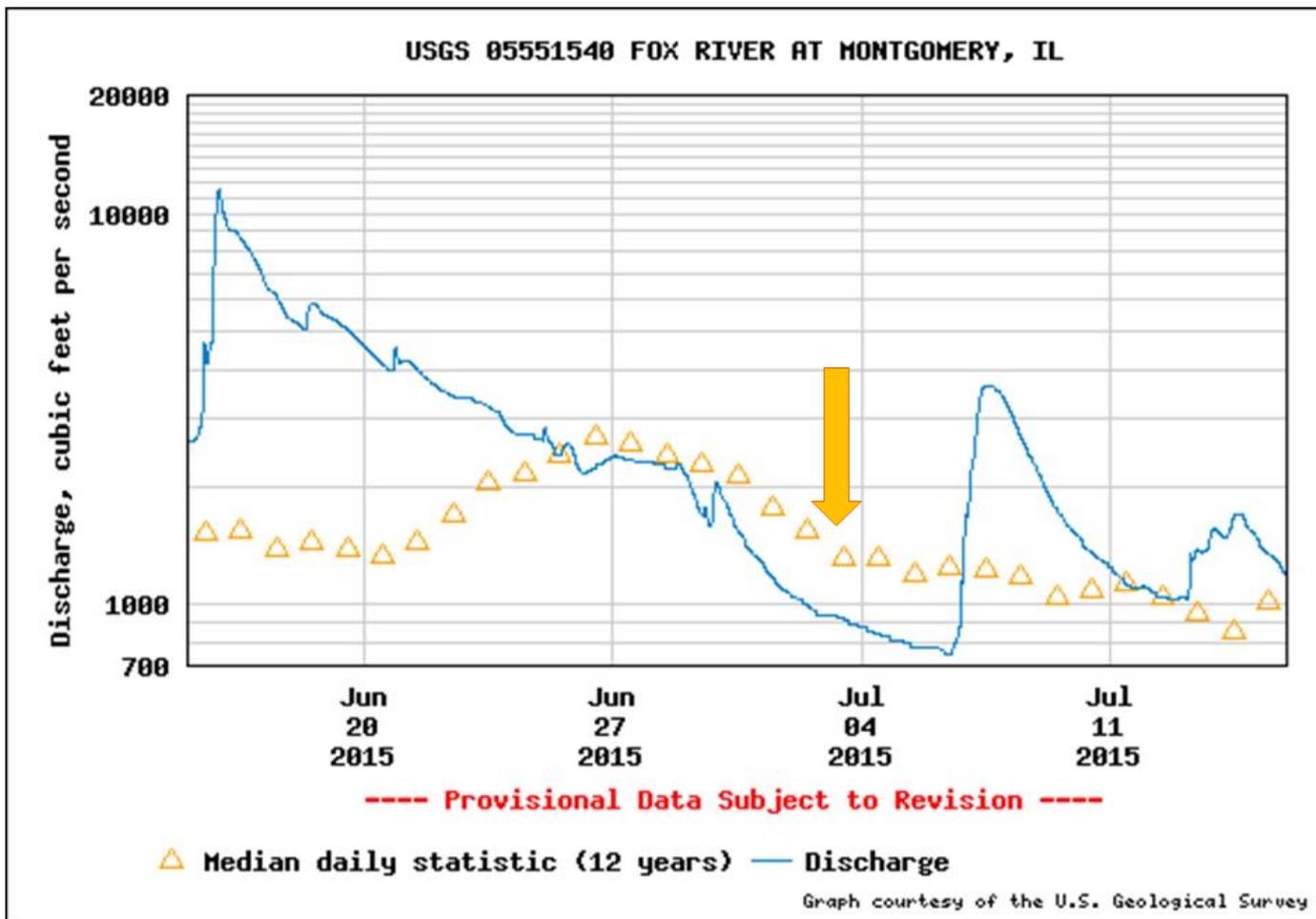
Since diatoms photosynthesize in a different way than green algae, high nutrient levels are not likely to be the primary driver of diatom blooms. Accordingly, no dissolved oxygen diel swings were observed with these diatoms blooms. Green algae may play a role in creating favorable conditions for diatom blooms though. The green algae and aquatic plants reach their maximum growth rate during June to July since the maximum day length is reached during this time of year. In turn, the photosynthesis increases the pH in the river. Silica becomes more soluble at higher pH levels and the diatoms readily uptake the silica.

Physical characteristics of the river were analyzed and seem to be the primary driver of diatom blooms. All three years have a similar river flow pattern: heavy rain storms early in the summer, followed by 2 to 3 weeks of dry weather. Over this same time period, river water temperatures surged to over 25oC, which is the temperature level that *Cyclotella meneghiniana* reaches its peak growth rate. Additionally, the Fox River starts to widen downstream of the Montgomery Dam, so the diatom colonies were more visible in the slower and shallower areas of the river. These slow, dry, and warm river conditions created the perfect conditions for a diatom bloom.

CONSEQUENCES OF DIATOM BLOOMS —————

Diatoms are not toxin producing like certain species of blue-green algae that have been in the news lately. According to the IEPA, the only known effects of diatom blooms are fish kills when the blooms are severe. *Cyclotella meneghiniana* has been linked to a fish kill on the White River in Indiana in 2009 and the Iroquois River in Illinois in 2010. No known fish kills have occurred on the Fox River during the 2013, 2014, or 2015 diatom bloom events.

Diatoms are known to cause two primary problems for water treatment plants: taste and odor issues and clogged treatment filters and screens. The City of Aurora and the City of Elgin both have drinking water intakes along the Fox River. The City of Aurora uses surface water from the Fox River with a blend of water from shallow and deep



Velocity data from the Montgomery Dam Fox River gage. Arrow designates the peak time of the diatom bloom. Heavy storms on June 15 resulted in the flow velocity peaking at approximately 12,000 cfs; by July 2, flows had dropped to approximately 900 cfs. (Graph courtesy of the USGS).

wells. The City of Elgin uses Fox River water exclusively. In July 2013, at approximately the same time as the diatom bloom, the City of Aurora's Water Production Division noted that their filter run times were declining from algae in the raw water while utilizing about 55% river water. As a result, the raw water production was switched to approximately 55% well water to reduce impacts on the treatment process. In 2014 and 2015, the City of Aurora reported no issues with regard to the diatom blooms and were utilizing approximately 65% and 70% river water, respectively, during the bloom time frames. The City of Elgin's Water Department reported no known unusual treatment issues during these diatom blooms in 2013, 2014 and 2015. Due to the potential adverse effects of algae on the water treatment processes, both communities regularly monitor algae conditions in the Fox River.

FUTURE ACTIONS —————

Additional research and monitoring is planned for future summers to further investigate the drivers for the formation of diatom blooms on the Fox River. The causes for the recent increased prevalence of *Cyclotella meneghiniana* blooms are not fully understood. Perhaps the drought of 2012 had an adverse effect that created new conditions favorable to the diatom growth. Further understanding of these diatoms blooms is important for river management and policy decisions, wastewater treatment plant infrastructure improvements, and future river expenditures that work toward removing the Fox River from the 303(d) list for offensive conditions.

Improving the physical characteristics of the Fox River by returning the river to its free-flowing state, i.e., removing dams, would likely decrease the frequency, severity and duration of diatom blooms. River monitoring data has been used and will continue to be used to predict future blooms. Flow and temperature parameters have shown to be best indicators so far of a likely upcoming bloom. For example, by observing diffuse amounts of diatoms on the river's surface and reviewing the flow and temperature data, a news release was published on the Fox Metro Water Reclamation District's website to alert the public that a bloom was likely in 2015 a week before the peak bloom. The IEPA was notified ahead of the bloom and they used the advanced notice to gather information to have readily available for the public's inquiry. The general public via FMWRD's website, the IEPA, City of Aurora and City of Elgin's Water Production Departments will also be alerted in the future if conditions seem favorable for bloom formation.



Peak of 2015 bloom on July 1, 2015 in Montgomery Dam pool (Photo credit: Deuchler Environmental, Inc.).

ANNUAL BENEFIT
Golf Outing

Presented by:
ISAWWA & ILMA

— **DATE** —
THURSDAY
MAY 26, 2016

— **TIME** —
9:00 AM
SHOTGUN START

Join us for our Annual Benefit Golf Outing presented by the Illinois Section AWWA and Illinois Lake Management Association.

All proceeds will benefit Water For People and the ILMA Scholarship Fund.

The outing will be an 18 hole, four person scramble. Your outing fee will include driving range balls and box lunch.

Space is limited to 72 golfers!

— **LOCATION** —
Heritage Bluffs Golf Course
24355 West Bluff Rd, Channahon, IL 60410
P 815.467.7888

— **REGISTER & PAY** —
Online at http://www.isawwa.org/wfp_golf
or
Complete the attached form and mail



American Water Works Association
IllinoisSection

ANNUAL BENEFIT GOLF OUTING REGISTRATION FORM

THURSDAY, MAY 26, 2016

Option 1		
<input type="checkbox"/>	\$499	Four Person Team Signage on One Hole Acknowledgement at Award Ceremony and in Splash.
Option 2		
<input type="checkbox"/>	\$125	Signage on One Hole Acknowledgement at Award Ceremony and in Splash.
Option 3		
<input type="checkbox"/>	\$99	Individual Golfer Only

Billing Information	
Step 2: Complete	Name
	Company
	Address
	City
	State
	Zip
	Phone

Step 3: Select One

ISAWWA (Water For People)
 ILMA (Scholarship Fund)

Step 4: Mail Registration Form & Payment to

Illinois Section AWWA, 545 S. Randall Road, St. Charles, Illinois 60174

Scenes from the 31st Annual ILMA Conference

A recap from Leonard Dane



Mike Garthaus (left) receiving the Lake Guardian Award from Rick Twait (right)



Tim Pasternak (left) presenting the Frank Loftus Award to Frank Palmisano, Jr. On behalf of John Huebner



From left to right: Dan Brill, Michelle Nicol, Teri Holland, Dick Hilton, and Jeff Boeckler— Dick Hilton presenting the Dick Hilton Watershed Award to members of the Lake Springfield Resource Planning Committee



Your 2016 Board of Directors (from left to right) Natalie Mentzer, Ed Lochmayer, Tim Gardner, Keith Grey, Rich Bahr, Karen Clementi, and Tim Pasternak

This year's annual Illinois Lake Management Association (ILMA) conference was conducted jointly with the Illinois Chapter of the American Fisheries Society (ILAFS). It was held at the Wyndham City Centre in Springfield, IL from February 29 - March 2. The conference started off at 1:00 PM on Monday and concluded at 2:30 PM on Wednesday. There were concurrent sessions both days with one room devoted to ILAFS and one to ILMA. The ILMA Board of Directors met Monday evening. The 2016-2017 officers were elected and they welcomed the newest additions to the Board. The President is Rich Bahr, Vice President is Ed Lochmeyer, Treasurer is Tim Gardner, Recording Secretary is Natalie Mentzer, and Membership Secretary is Tim Pasternak. The Board welcomed Karen Clementi and Keith Gray as well as Tim Gardner and Nancy Schumm back for a second term and said goodbye to Leonard Dane and Brian Valleskey. The ILMA Annual meeting was held on Tuesday afternoon. The meeting kicked off with the award presentations. The IEPA presented Harry Hendrickson with the Stephen D. Kolsto Environmental Education Award. The Lake Guardian Award went to Mike Garthaus of the IDNR, the Frank Loftus Award went to John Huebner (posthumous) of Round Lake, and the Dick Hilton Watershed Award went to the Lake Springfield Resource Planning Committee. ILMA was able to hand out four scholarships this year. The Steve Kolsto scholarship went to Eric Smith, the ILMA scholarship went to John O'Connell, the Robert Esser Student Achievement scholarship went to Alex Loubere, and the Integrated Lakes Management scholarship went to Kasey Yallaly. The membership voted to approve the updated by-laws. The annual meeting concluded with the auction of the Secchi Disk. This year's winner was Joe Rush and it brought in over \$300!

Each organization had a significant number of items in their bucket raffles. The "big" items were the kayaks and the smoker. Teri Holland won the ILAFS kayak, Dick Hilton won the ILMA kayak, and Natalie Mentzer won the Membership smoker. Trent Thomas is the first time repeat winner of the much coveted Turtle Flambeau Flowage fishing trip donated by Wisconsin Licensed guide Leonard Dane.

Announcing ILMA's



“Buck-an-Acre”

Grant Replacement Challenge

We are issuing a challenge to all our members as well as all other Illinois Lakes and Watershed Stakeholders to help fund the continuing vital activities of this organization! As you may know all sustaining Grants from State agencies have been curtailed and we need to find replacement funding. You Can Help!

Just One Dollar (**\$1**) for every Acre of Lake you represent (or a portion thereof) from our members alone would more than offset the grant loss and sustain our activities.

The challenge has already been met by several representatives of lakes in our membership. You can see their contributions and our progress here: <http://www.ilma-lakes.org/buck-acre>

If you don't have lake you are affiliated with : adopt a POND, LAKE, STREAM of appropriate size or just pick your own metric to contribute against (i.e. \$1 for every lake we treat, \$1 for every yard/mile of stream we maintain, \$1 for every fish I caught last year – Buck-A-Bite...)

ILMA is a 503c organization and your contribution is tax deductible.

With 84,000 Lakes and ponds in Illinois this should be a “Buck-a-Body” of water.

LET'S FILL THE LOGO! The Grant provided about \$15,000 annually.

Accept Challenge: <http://www.ilma-lakes.org/buck-acre>

A shout out to those who have contributed so far to this initiative....

Contributor	Lake	Amount	Comments
Bangs Lake Advisory Committee	Bangs Lake	\$ 310.00	Bangs Lake is 310 acres
Tower Lakes Improvement Association	Tower Lake	\$ 76.00	This is the Tower Lakes Improvement Association Donation to the Buck an Acre Challenge.
VLMP-Lake Charles, Westmont, IL	Lake Charles	\$ 50.00	I gave more than a buck an acre cuz I like what your organization does!
Leonard Dane	none	\$ 6.00	Buck an Acre Challenge - \$1 for each wonderful year on the ILMA Board
Wonder Lake MPOA	Wonder Lake	\$ 830.00	Wonder Lake is 830 acres
Grayslake Park District	Grays Lake	\$ 80.00	Grays Lake is 80 acres
Peter Berrini	none	\$ 101.00	For the 101 plus lakes he has worked with during his career!
Woodhaven Association	Woodhaven Lakes	\$ 100.00	
Round Lake Management Commission	Round Lake	\$ 230.00	Round Lake is 228.6 acres
Lake Wildwood Association, Inc	Lake Wildwood and Lake Tanglewood	\$ 250.00	Total approximately 250 acres
	Total	\$ 2,033.00	

And an extra thanks to our 2016 conference sponsors

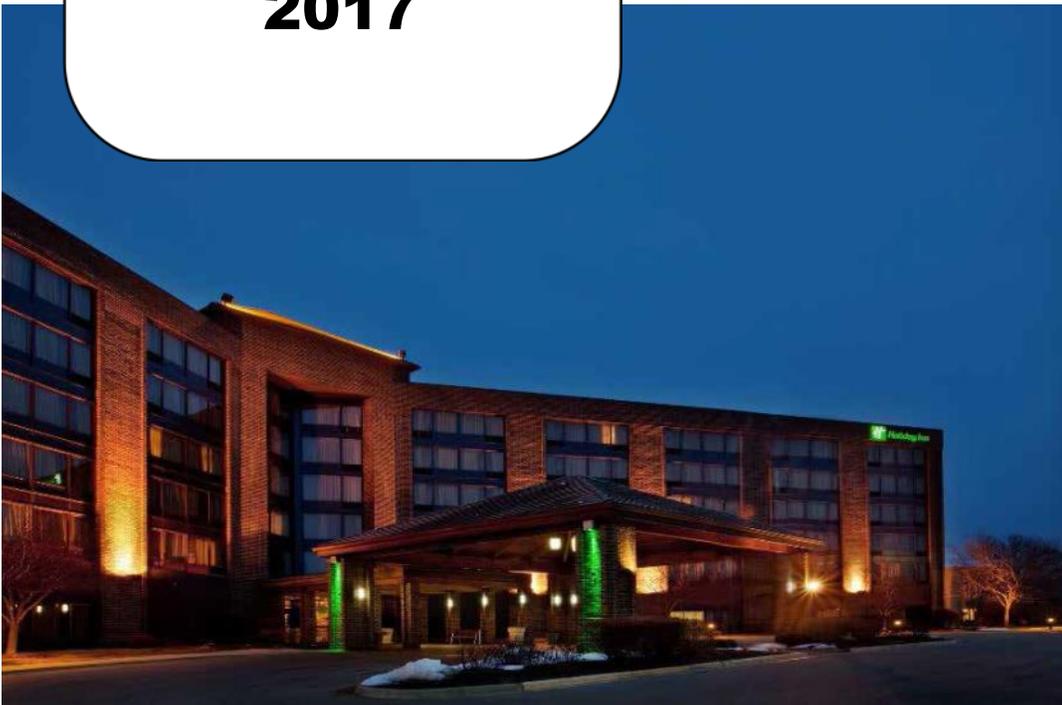


Cygnets Enterprises, Inc.

Products to enhance our water resources®



Mark your calendar



www.ilma-lakes.org



Holiday Inn Crystal Lake & Conference Center

32nd Annual ILMA Conference

Illinois Lake Management Association
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Springfield, IL 62708