

Cattail Chronicles

Issues Affecting the Surface Waters of Lake County

Lake County Health Department and Community Health Center
Irene Pierce, MSN, Executive Director

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Summer 2010

WE MOVED!!

By: Mike Adam



After years (and years) of planning and discussion, we have finally moved into a new building. The Center for Planning, Development and Environmental Services (or The Center for short) in Libertyville opened for business on April 19. The primary purpose of this new facility is to fully integrate services for the county departments of Planning Building and Development (PB&D),

Environmental Health, and the Stormwater Management Commission (SMC). In addition, our Health Department lab combined with the Lake County Public Works lab, resulting in a much needed expansion. This integration will improve processes, paperwork, reviews and various permits which are were handled at separate locations.

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For information contact:

Population Health
Environmental Services
847- 377- 8030

<http://www.lakecountyiil.gov/Health/want/BeachLakeInfo.htm>





Cattail Chronicles

Spotlighting Wildlife: Red Swamp Crayfish (*Procombarus clarkii*) New Invasive Crawling Our Way!

By: Leonard Dane

North America has about 390 native species of crayfish, 75% of the world's total. Most North American crayfish have small ranges making them vulnerable to environmental changes. A threat to native North American crayfish is nonindigenous (or non-native) crayfish, many of which are from other parts of North America. In many cases nonindigenous crayfish have changed North American lake and stream ecosystems, harmed fisheries, and extirpated many populations of native crayfishes. Red Swamp Crayfish (*Procombarus clarkii*) feed on aquatic plants, snails, insects fish and amphibian eggs and young. They can reduce amphibian populations through direct predation and competition for habitat and can cause declines in native crayfish species.

Just across the border to the north the nonindigenous Red Swamp Crayfish has been found. First discovered last summer in a pond in Germantown, Wisconsin, the Red Swamp Crayfish was found last fall further south in a Kenosha, Wisconsin pond. The crayfish is dark red, has red spots on the claws, and is native to the Gulf Coast. The Red Swamp Crayfish is generally larger than native species. It is likely that these populations are a result of crayfish being used as school projects, imported for crayfish boils, used as fishing bait, or released after being kept as pets. This species of crayfish is farmed extensively in Southeastern United States. It is the most consumed species worldwide and commonly used for educational purposes.

The Red Swamp Crayfish are well adapted for areas of large water fluctuations and can survive long dry spells by remaining in burrows or crawling to other waterbodies. Males have been known to travel over land for up to

several miles at night and during wet weather.

In an attempt to eradicate the Red Swamp Crayfish from Wisconsin, the Wisconsin Department of Natural Resources used a chlorine bleach mixture to treat the ponds. This chemical solution not only killed the crayfish, but also killed other living organisms in the pond. In an attempt to minimize the mortality of desired species from the Kenosha pond, students from the University of Wisconsin-Parkside spent several weeks prior to the treatment trapping turtles, frogs and other animals from the pond.

Typically it takes about a week for the chlorine to fully work its way out of the aquatic system. No swimming, fishing, or use of the pond was allowed during treatment. Once the chlorine levels are reduced, the pond will be restocked with fish.

Traps were also used to remove as many Red Swamp Crayfish as possible before the treatment and monitoring hasn't found the crayfish in neighboring ponds. Continued monitoring will be used to verify whether the population of Red Swamp Crayfish has been eradicated.

To prevent the spread of invasive crayfish and other exotic species:

- Never release any aquarium pets into the wild.
- Dispose of unwanted plants and animals in the trash.



Identification:

Red swamp crayfish are dark red in color with raised bright red spots covering the body and claws and a black wedge-shaped stripe on the top of the abdomen. They may vary in length between 2 to 5 inches. Occasionally, a genetic mutation may turn the body and/or claws blue, however all other features including the red raised spots remain the same.



If you see a crayfish that looks similar to this, please report it to the Lake County Health Department—Environmental Services 847-377-8030

WE MOVED!! (Continued from Page 1)



Green Roof

We are excited about the facility as it will provide a central location for meetings and workshops (see page 7 for information our August 7th workshop), and puts us closer to many of our lakes. The facility itself has been designed to protect water quality. A grant was secured to plant an 8,000 square foot “green roof,” which is accessible from the second floor. In addition, there are bioswales in the parking lots and rain gardens with native vegetation on the property. The detention ponds on site have also been planted with native vegetation. These features are meant to absorb rainfall, filter pollutants and

reduce stormwater runoff. Extensive use of glass, a white reflective roof and a computer-controlled heating and cooling system also save energy.

The building is open Monday – Friday, 7:30 AM to 4:30 PM. Please come by and check it out! **Our phone numbers and emails will remain the same.** Please make a note of the mailing address change.

**Lake County Health Department
500 W. Winchester Rd. Suite # 102
Libertyville, IL 60048**

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Go Paperless*

Sign up to receive an electronic version of Cattail Chronicles:

Send us an e-mail requesting the environmentally friendly version of Cattail Chronicles

PRatiff@lakecountyil.gov or give us a call (847) 377-8030.

#9

In an effort to protect our lakes Highland Park joins eight other municipalities in Lake County to pass an ordinance restricting the use of lawn fertilizers containing phosphorus.

Intern



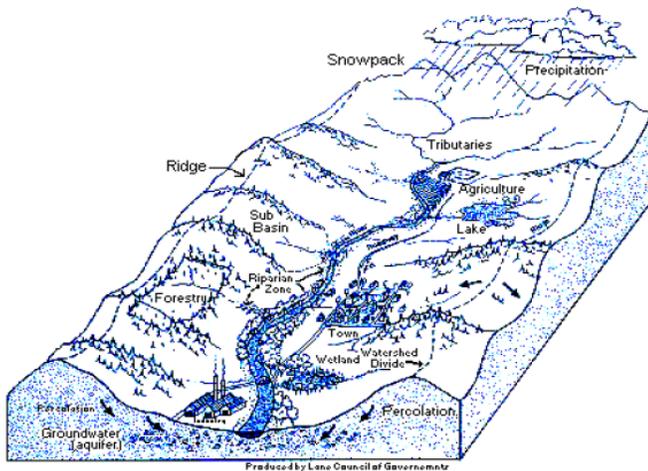
Sarah Bradbury is the lakes intern this summer. She is originally from southeastern Michigan and attended the University of Michigan, where she earned a bachelors of science degree. This past December, Sarah graduated from Indiana University University's School of Public and Environmental Affairs with a dual masters degree in environmental science and public affairs. She will be assisting Environmental Services with various projects including lake sampling and the North Mill Creek Watershed.

Cattail Chronicles

Spotlighting Watershed Groups: *North Mill Creek Watershed*

By: Kathy Paap

The North Mill Creek watershed encompasses 37 square miles (23,532 acres) of multi-use land located in southeastern Wisconsin (Kenosha County) and northeastern Illinois (Lake County). North Mill Creek watershed does not recognize political boundaries. It encompasses five municipalities (Antioch, Bristol, Lake Villa, Lindenhurst and Old Mill Creek) and five townships (Antioch, Bristol, Lake Villa, Newport and Salem) within its boundaries as well as unincorporated lands that fall both within Kenosha County (31%) and Lake County (37%).



A watershed is an area of land usually between two high ridges that drains into a river basin. It can be a small watershed such as is North Mill Creek or it can be a part of a larger basin like the Mississippi River. North Mill Creek drains into the Des Plaines River, which then drains into the Illinois River and eventually into the Mississippi River.

North Mill Creek was likely expanded back in 1916 with the construction of Dutch Gap Canal originating at Hwy C in Bristol, Wisconsin. This did not happen without controversy, for those who lived further away from the ephemeral stream were not willing to share in the cost of digging the canal. The first attempt in early 1900 failed to obtain approval through the Bristol Town Board. Another attempt was made by George Shields, a farmer with the marshiest land south of Hwy C, who had a petition to form a drainage district. He had gone as far as lining up a dredging firm before opposition to the movement again strengthened. At this point the contentious topic had made its way to the circuit court who ruled not to allow the plan to move forward. However, in 1916 a drainage district was formed with the financial backing of 77 property owners. The first scoop of soil was moved on April 20, 1916. Moving outside the boundaries of the drainage district, the canal continued its way down through Illinois and finally joined North Mill Creek on December 6, 1916 when it was reported by the Kenosha Evening News that waters from their county were on their way to Gulf of Mexico.

To read the 2000 article written for the Kenosha News you can link to: <http://www.lakecountyil.gov/Stormwater/Documents/Planning/North%20Mill%20Creek/March%2025,%202010/Dutch%20Gap%20Canal%20Dredging%20Article.pdf>

Presently, there are 21 lakes in the North Mill Creek watershed. Four of those lakes are located in Wisconsin. Ten of the Lake County lakes have impaired water quality. In 2010 the Health Departments Environmental Service (ES) (formerly Lakes Management Unit) will be providing data on 12 of the lakes within the watershed. Nine of the lakes are impaired, and three are not. ES is not monitoring Rasmussen Lake during 2010 as a dam removal is scheduled to take place sometime in the immediate future.

Dutch Gap Canal/North Mill Creek has poor water quality. The overall condition of the creek has been rated non supportive as it has degraded fish and macroinvertebrate populations and poor

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Environmental Links



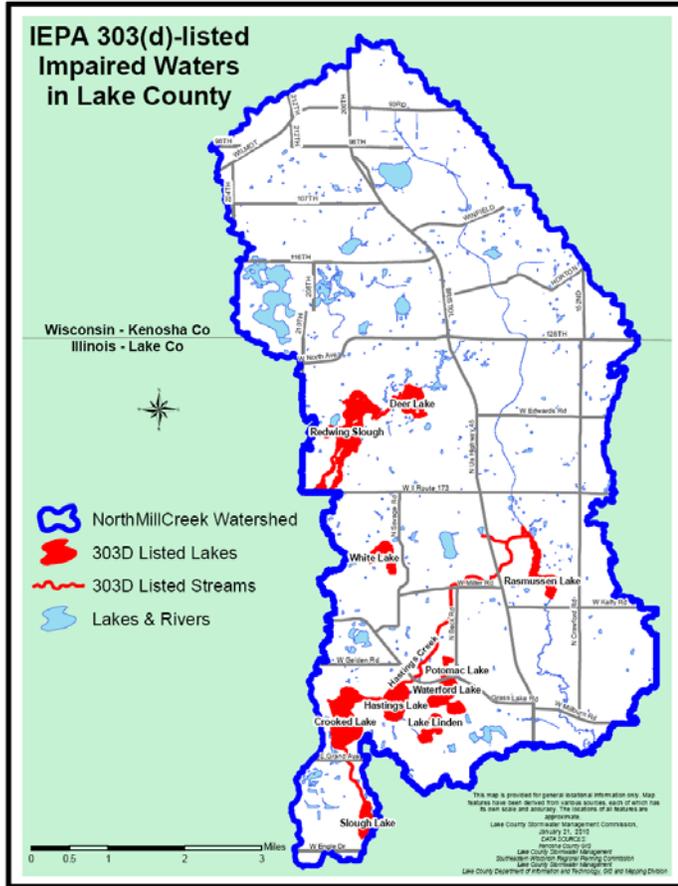
Illinois Lake Management Association <http://www.ilma-lakes.org>
To promote understanding and comprehensive management of lake and watershed ecosystems



North Mill Creek Watershed <http://www.lakecountyil.gov/Stormwater/LakeCountyWatersheds/NorthMill.htm>
Information on the watershed planning process.

Spotlighting Watershed Groups: *Why watershed groups are important*

Continued from page 4



water quality (IEPA, 2008). Flooding remains a problem downstream along the Des Plaines River.

ES is monitoring water chemistry at three sites along North Mill Creek; one at Rte 173, another near Kelly Road, and a site on Hastings Creek which flows into North Mill Creek north of Rasmussen Lake. Nutrients, solids and chlorides are among the

parameters that will be monitored both in lakes and in stream. It is important to get a baseline assessment on the water quality of the lakes and stream in the watershed in order to determine what management practices should be initiated to improve the water quality of lakes and streams in the watershed, as it has been identified as both a concern and a valued resource by the stakeholders present at meetings.

There are two treatment plants located in the North Mill Creek subwatershed, one is located along Hastings Creek near Lindenhurst and the other ties into the Dutch Gap Canal in Kenosha. Hastings Creek was a natural creek and was canalized in 1925 to drain agricultural land and as of the late 1950's it also receives wastewater discharge from a sewage treatment plant near the very head of the ditch.

In February 2010, stakeholders along Dutch Gap Canal (Wisconsin) and North Mill Creek (Illinois) met during two “Kick-Off” meetings. They were presented with some historical and preliminary information on the state of the resources within the watershed. The stakeholders broke down into small groups to address a list of questions regarding issues and opportunities in the watershed. In March a second meeting was held to prioritize the lists of issues and opportunities. Updates in the watershed plan process for Dutch Gap Canal/North Mill Creek Watershed are posted on Lake County Stormwater Commission website: www.lakecountyil.gov/Stormwater/LakeCountyWatersheds/NorthMill.htm.

The process of creating a watershed plan provides stakeholders a voice in addressing problems or opportunities that are occurring within their watershed. The ultimate goal of the watershed plan is to address issues and opportunities that will improve water quality, alleviate flooding, protect and enhance natural resources, as well as educate by identifying practices, programs and projects that can be managed by stakeholders within the NMC watershed.

Kelly's Corner Kitchen



ASIAN Carp: Jamaican me CRAZY!

- | | | |
|------------------|-------------------------------|--------------------------|
| 1 T paprika | 1 t onion powder | 1/2 t oregano |
| 1 t cayenne | 1 t fresh ground black pepper | 4 lbs Asian carp fillets |
| 1 t white pepper | 1 t garlic powder | Juice of 2 limes |
| 2 t salt | 1/2 t thyme | |

1. Combine first 9 ingredients (paprika through oregano) in a small bowl.
2. Rub fillets generously with spice mix, then place them in a resealable plastic bag. Add lime juice to the bag. Seal the bag and shake it to combine all the ingredients. Marinade for 20—60 minutes. (DO NOT EXCEED a 60-minute marinade time, or the acid in the juice will begin to “cook” the fish causing it to fall apart on the grill.)
3. Grill over a hot fire until done. Serve.

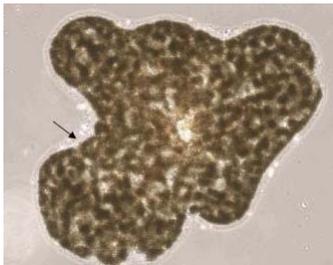
Cattail Chronicles



Aphanizomenon Sp.



Anabaena Sp.



Microcystis Sp.

Lake Issues: *Blue-green Algae*

By: Kelly Deem

Lake County is known for being lake rich. Residents enjoy aesthetic and recreational benefits which can be negatively influenced by excessive algal blooms.

Blue-green algae, also known as cyanobacteria, are not a true algae but are in fact closely related to bacteria. Similar to bacteria in structure, these simple organisms are credited for first using chlorophyll to make food from sunlight and for boosting oxygen in the Earth's early atmosphere. Today this organism forms an important role at the base of the food chain in our lakes; however they also pose a potential harmful health effect as they reach nuisance and noxious populations due to the high nutrient loads in our lakes.

Blue-green algae are naturally present in lakes and streams in low numbers. Blue-green algae can become abundant in warm, shallow, undisturbed surface water that receives a lot of sunlight. Under some conditions the algae becomes so abundant that they can form floating rafts or scums on the surface of the water. Both true algae and blue-green have similar growth requirements including sunlight, warmth, and nutrients (phosphorus and nitrogen). However an oversupply of nutrients, especially phosphorus, will often result in excessive growth of blue-green algae because they possess certain adaptations that enable them to out compete true algae. One of these adaptations is positive buoyancy; blue-greens contain gas vesicles that allow them to rise to the lake surface during calm conditions to take

advantage of sunlight. The second adaptation of some blue-green algae is the ability to fix nitrogen from the atmosphere when nitrogen supplies are low. This is especially useful in Lake County where 62% of the lakes have high levels of phosphorus. This means that in lakes with high phosphorus there is not enough nitrogen, thus the need for this adaptation.

In addition to having unique adaptations, some blue-green algae can also produce toxins, these are known collectively as cyanotoxins. Not all blue-green algae produce harmful conditions. The three primary genera in our area that are responsible are *Anabaena*, *Aphanizomenon*, and *Microcystis*.

Algal toxins could pose a health risk to people and animals when they are exposed to the toxins in large quantities. Health effects could occur when surface scums or water containing high levels of blue-green algal toxins are swallowed, come in contact with the skin or when airborne droplets containing toxins are inhaled while swimming, bathing, or showering. Lake County residents get their drinking water from Lake Michigan and ground water; both of which have minimal levels of nutrients and algae cells unlike our inland lakes. Consuming water containing high levels of blue-green algal toxins has been associated with effects on the liver and on the nervous system in laboratory animals, pets, livestock and people. Livestock and pet deaths have occurred when animals consumed large amounts of accumulated

Continued on page 7

ILMA 2010 Lake Conference

Presentations and Pictures Are Now Available!!



We recommend that lake associations and private homeowners become members of the Illinois Lake Management Association (ILMA). ILMA is a group of professional and citizens with interests in lakes management. There is an annual conference where ideas are exchanged and questions can be answered. In addition, members receive a membership directory with contact information if you have questions between conferences. For more information visit: <http://www.ilmalakes.org/>

Lake Issues: *Blue-green Algae* (Continued from page 6)

algal scum from shorelines. Direct contact or breathing airborne droplets containing high levels of blue-green algal toxins during swimming or showering can cause irritation of the skin, eyes, nose and throat and inflammation in the respiratory tract. To protect yourself against exposure do not swim, boat, water ski, etc in water that looks like “pea soup,” green or blue paint, or that has a scum layer or puffy blobs floating on the surface.

There is no quick or easy way to control blue-green algae. Chemical treatments can control blue-green algae temporarily, but repeated applications are often necessary. It is best to treat blue-green algae when populations are low. Treating large populations can cause large amounts of toxins to be released at once. While the bloom may no longer be visible, toxins may be present for some period of time following treatment. Reducing the amount of nutrients in the lake or pond will eventually reduce the frequency and intensity of the blooms. Homeowners can help reduce nutrient concentrations by promoting the following land management practices:

- Use phosphorus free fertilizers and only where truly needed
- Plant and maintain native plant buffer strips along shorelines of lakes, ponds, and streams
- Prevent yard debris from leaving property (ie leaves, grass clippings, etc.)
- Maintain septic systems (if applicable)
- Clean up after pets
- Don't dump anything in the storm drain

It is not understood when or why blue-green algae release toxins, if you suspect that you are experiencing symptoms related to exposure to blue-green algae such as stomach cramps, diarrhea, vomiting, headache, fever, muscle weakness, or difficulty breathing contact your doctor or the poison control center. For more information or to report a blue-green algae bloom contact the Lake County Health Department Environmental Services (847) 377-8030.



During a Blue-green algae bloom lakes can develop a paint-like appearance

Aquatic Plant Identification Workshop

August 7th, 2010
500 W. Winchester Rd
Libertyville, IL 60048

Common Species

Exotic Species

Schedule:

- 9-12 General Identification for common and exotic species
- 12-2 Lunch at Butler Lake for field identification
- 2-4 More technical information for those who would like to learn more

\$10.00 Lunch at Butler Lake Optional *

Please RSVP by August 4th

For more information:

CONTACT
Lake County Health Department
(847) 377-8030

Can You Name This Lake?



Clues:

This glacial lake is located within the Des Plaines River Watershed, and drains into North Mill Creek. This relatively shallow lake has a surface area of 60 acres, and a maximum depth of 8 feet. Situated within a calm rural setting, this lake provides an excellent habitat for a variety of birds, mammals and other wildlife. It is managed by the Illinois DNR, and may be of particular interest to seasonal guests interested in waterfowl hunting, also the ES is sampling it in 2010. Name this lake!



Lakes Scheduled to be Sampled in 2010

Bangs Lake*	Long Lake*
Cedar Lake*	McDonald Lakes
Countryside Lake*	Potomac Lake
Cranberry Lake*	Redwing Slough
Crooked Lake	Slough Lake
Cross Lake	Third Lake*
Deer Lake	Timber Lake
East Loon Lake	Waterford Lake
Forest Lake	West Loon Lake
Hastings Lake	White Lake
Lake Linden	Wooster Lake*

* Sentinel lakes monitored annually, 2005-2010

*Inside:
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new address*

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