



Cattail Chronicles

Issues Affecting the Surface Waters of Lake County

Lake County Health Dept. and Community Health Center
Dale Galassie, MA, MS, Executive Director

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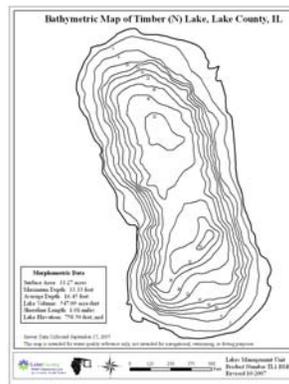
A lake you should know- Timber (Huntley) Lake

By: Mike Adam

If you are familiar with this lake in northern Lake County and are describing it to someone, you may have to call it by a number of names before that person knows what you are talking about: Timber Lake, Timber Lake North, Huntley's Lake, Old Huntley Lake, Pollock Lake, and that lake in the Raven Glen Forest Preserve. All of these names would be correct. For the sake of simplicity, we will call it Timber Lake.

Timber Lake is located west of Highway 45 and south of Highway 173. One landowner owns much of the western shoreline, which consists of numerous small rental cottages. The land adjacent to the northeast corner of the lake was a campground that included a beach until 2000. The Lake County Forest Preserve District (LCFPD) purchased the campground property and adjacent land in 2000.

They now own almost 95% of the lake bottom, the southern and eastern shorelines, and approximately half of the northern shoreline. Since purchasing the property the LCFPD has completed significant improvements to the area including



Bathymetric map of Timber Lake

wetland and woodland restoration and the installation of educational trails, fishing piers, overlooks, a picnic area, and trails for hiking,

biking, and horseback riding. Future trail access is planned at the northwest, southwest, and southeast corners of the property. Currently there is no beach at the lake.

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For information contact:

The Lakes Management Unit
Environmental Health Services
847- 377- 8030

<http://www.co.lake.il.us/health/ehs/lakes.asp>



Cattail Chronicles

Spotlighting Wildlife: Muskellunge (*Esox masquinongy*)



Leonard Dane (LMU) with a 38" Musky caught and released

By: Leonard Dane

The Muskellunge, also known as Musky or Muskie, is a highly prized gamefish in North America. Some reasons for their popularity include their large size, aggressive nature, and willingness to attack just about any type of lure. Although natural populations have been extirpated in Illinois, they have frequently been stocked in many lakes and reservoirs. In addition to the Chain O' Lakes, Musky have been found by the Illinois Department of Natural Resources in five other lakes in Lake County. Clear lakes with submersed beds of vegetation along with quiet back-water pools of river are the preferred habitat of the Musky.



deposited along the shoreline after sunset and before sunrise as the males swim

alongside the female and fertilize the eggs as they are laid. After 8 – 14 days, young musky will hatch with a yolk sac in place for feeding. Once the yolk sac is consumed, the small fish eat zooplankton before switching to a diet of fish.

Like the other pike, Musky are highly predatory fish eaters. As solitary hunters, they hide in aquatic vegetation and search for desirable prey. They can begin eating fish as early as four days old and can grow to 12 inches in the first four months. During the first five years, the Musky puts its energy into rapid growth with the majority of growth occurring June through September when there is an abundance of forage. After five years, the energy shifts from increasing length to increasing weight. In an average lake, a length of 30 inches may be reached in five years.

Armed with these facts, plan a fishing trip for Muskellunge this coming spring or even next fall. Set your trolling motor to take you along the plant edge. Try both top water and deep diving lures to coax an awaiting fish out of the plants and onto your hook. The Musky has a reputation for being hard to catch. Known as the fish of 10,000 casts, it may take awhile, but once you get the fish in the boat, remember how long it took for the monster to reach the length it is, take a picture, and release it back into the water. This way you and someone else can experience the fight of the Musky as well.

“SOME REASONS FOR THEIR POPULARITY INCLUDE THEIR LARGE SIZE, AGGRESSIVE NATURE, AND WILLINGNESS TO ATTACK JUST ABOUT ANY TYPE OF LURE.”

The Muskellunge is a member of the Family Esocidae (Pike), which also includes the Grass Pickerel and Northern Pike. A Musky differs from the others by having the lower halves of the opercles and cheeks scaleless. The coloring is olive, brown, or green with patterns of dark spots. The Musky will have 17 – 19 branchiostegals (membranes covering the underside of the gills) and 6 – 9 small sensory pores on the lower jaw.

Although spawning has not been documented in Lake County, it typically occurs from mid-April to mid-May when the water temperature is between 49° - 60° F and in depths of 6 – 30 inches. Other factors such as increases in daylight and oxygen may trigger the spawning cycle. Eggs are

Kelly's Corner Kitchen



Bluegill Chowder

4 slices of bacon
1/2c chopped onion
1/2c diced carrots
1/2c chopped celery
Juice from half a lemon

1 lb of bluegill in pieces
1 can of cooked potatoes
1c water
2t garlic pepper
1c heavy whipping cream
1 can cream corn

Fry bacon and reserve, in bacon drippings add onion, carrot, and celery to pan. Cook for 5 min. Stir in fish, potatoes, lemon juice, water, and garlic pepper. Bring to a boil then simmer covered for 10 min. Blend in cream and corn and heat through.



Spotlighting Plants: American Lotus (*Nelumbo lutea*)

By: Adrienne Orr

Nelumbo means "sacred bean" and in many cultures American Lotus is considered a symbol of beauty. It has many common names such as alligator buttons, duck acorns, rattlenuts, water chinquapin, yonkapin, and yocker-nut, which refer to the round, dark brown seeds. Native Americans believed Lotus was sacred and used the seeds and tubers of the plant as food. They would roast the seeds and eat them like peanuts or grind them into meal to make bread, mush, or dumplings. A few of the descendants of pioneer families in the Illinois valley still make enough flour from Lotus seeds to bake a holiday cake once a year. The rootstock, which has somewhat the flavor of a sweet potato when boiled, was also eaten.

American Lotus can be found from Massachusetts to Minnesota and south to Florida and Texas, and it is thought the Native Americans carried it across the Allegheny Mountains to the east coast for its food value. In Lake County, the pale yellow flowers of American Lotus can be seen in the Chain O'Lakes and Sullivan Lake. Back in the late 1800's, Grass Lake was almost entirely covered with this unique plant each summer. A visit by tour boats to the American Lotus beds became popular for vacationing Chicagoans in the 1890's. Today there are still areas of the Chain O' Lakes in which American Lotus blossoms. The Lakes Management Unit has mapped the beds on the Chain O' Lakes in 2000, 2001, 2002, and 2007, with an increase in the area they cover.

They may cover large areas in varying depths

up to 8 feet and may have as many as 8,500 blooms per acre. In late spring the leaves, which can reach 2 feet in diameter, usually stand a foot or two above the surface of the water on thick stems. Then the flower buds appear in early summer and bloom in July. The yellow flowers are seen rising above the tallest leaves with a bright yellow pistil surrounded by dozens of stamens (pollen producing male organ). Flowers open in the morning and close at night for two days and then the petals begin to fall off. During this time cross-pollination occurs with the help of insects. Although the petals are gone, the center of the flower continues to grow until it is about 3 inches in diameter. This is the seed pod which can contain up to 20 seeds. These seed pods are often seen in dried floral arrangements in homes.

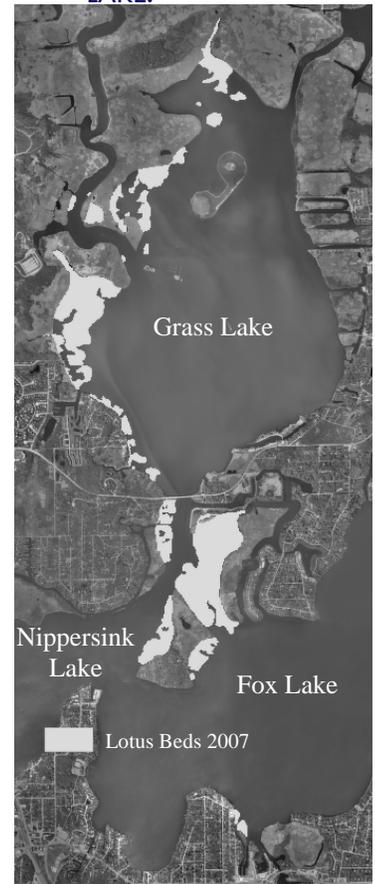
Plants can reproduce in one of three ways. First, American Lotus can use tubers (underground stems) to reproduce. Tubers are banana-shaped, can reach 10 inches in length, and weigh over a half pound. Lotus also has rhizomes (smaller stems), which creep along the bottom to produce additional plants. Thirdly, they can reproduce by seeds.

American Lotus is a food source for wildlife. The ducks utilize the seeds and beavers and muskrats eat the rhizomes. Lotus also provides habitat for many invertebrates. Although humans don't consider the plant to be sacred now, it is a native plant and is rare in this area. Steps should be taken to ensure its survival.



Grass Lake in the late 1800's. "IN LAKE

COUNTY, THE PALE YELLOW FLOWERS OF AMERICAN LOTUS CAN BE SEEN IN THE CHAIN O'LAKES AND SULLIVAN LAKE."



Map of Lotus Beds on the Chain O' lakes 2007

Environmental Links



<http://www.h2oconserve.org>

Calculate your household water use and learn water saving tips.



<http://www.gcycle.org/#>

Find out where to recycle batteries, electronics, and computer equipment.



<http://toxtown.nlm.nih.gov/>



Cattail Chronicles

Timber Lake (continued from page 1)

**Go Green
Go Paperless**

**Sign Up to Receive
an Electronic
Version of Cattail
Chronicles :**

Send us an e-mail request-
ing the environmentally
friendly version of Cattail
Chronicles via e-mail to
PRatliff@co.lake.il.us or
give us a call (847) 377-
8030.

Timber Lake Fun Facts:

Part of recently opened Raven
Glen Forest Preserve

Home to the Iowa Darter
endangered in Illinois

Maximum Depth 33.3 feet
Average Depth 16.5 feet
Surface Area 33.3 acres
Volume 547.1 acre-feet

Ranked in top 10 of Lake County
Lakes based on Total Phosphorous

Part of the North Mill Creek sub-
watershed of the Des Plaines River
Watershed

In C.F. Johnson's 1896 book Angling in the Lakes of Northern Illinois: How and Where To Fish Them, Timber Lake (called Huntley's Lake at that time) was described as a good fishing lake, particularly for perch, which experienced low fishing pressure because the lake was "further away than the other lakes". This is still somewhat true since the area around the lake has not been heavily developed. In fact, approximately 63% of the lake's watershed consists of agriculture, forest and grassland, or wetland.

Timber Lake is a glacial lake with a surface area of 33.3 acres and a maximum depth of 33.3 feet. A 2007 bathymetric map created by the Lakes Management Unit (LMU) calculated an average depth of 16.5 feet and an estimated volume of 547.1 acre-feet. The water depth drops quickly out from the shoreline, particularly on the west side of the lake. In fact, approximately 61% of the lake is deeper than 10 feet. The shoreline length is one mile.

The LMU sampled Timber Lake for water quality in 1995, 2001 and 2006. Due to the small watershed and limited development, the lake has very good water quality. The lake is generally clear and had an average Secchi disk (water clarity) depth of 10.35 feet in 2006, which is well above the county average of 3.28 feet. Nutrients are low as well. Timber Lake has the 8th lowest

average total phosphorus concentration of 163 lakes the LMU has tested since 2000.

In 2003, during a non-game fish survey the LMU with Max McGraw Wildlife Foundation found the Iowa Darter, an endangered fish species in Illinois. The most common species collected were Brook Silverside, Bluegill, Bluntnose Minnow, and Largemouth Bass. Also found during the survey were Black Crappie, Green Sunfish, Johnny Darter, Yellow Perch, and Yellow Bass. Catch and release only fishing is allowed through the LCFPD Raven Glen access.

Timber Lake had a healthy aquatic plant community during the LMU 2001 study, but it is declining due to the introduction and expansion of exotic Eurasian Watermilfoil (EWM). First discovered during the LMU study in 2001 as a small patch of plants near a pier, it has quickly spread to become the dominant plant in the lake. While the lake still harbors 13 plant species, with White Water Lily being the second most common plant, diversity has declined from the 19 species found in 2001. Timber Lake is a good example of where early action by residents could have prevented the spread of EWM and subsequent decline of native species. Action still can be taken to prevent additional species loss and help keep Timber Lake one of the better lakes in Lake County. On the positive side, with the recent and planned improvements to the area by LCFPD, this lake and its surroundings will be enjoyed by the public for years to come.

Spring Calendar of Events

Wisconsin Lakes Convention 2008

Green bay WI, April 17-19
KI Convention Center

More than Water:

Use dip nets to discover the health of your pond
Adults and children 6 yrs (or older) 5\$
Wright Woods, May 31, 1:30-3:00p.m.

Free Boat Safety Inspection

U.S Coast Guard recognized boat safety inspection
Call (847) 381-0669 for event dates and times

2008 Plants of Concern Workshop

Chicago Botanical Gardens, Glencoe IL, April 27
More Information: www.plantsofconcern.org

Green Landscaping

By Adrienne Orr

We all live within a watershed which eventually drains into a stream or lake. Therefore, what we do in our backyard will have an impact on the water quality within the receiving body of water. By making a few simple changes to the landscape of our yards, we can reduce the impact to the body of water, as well as time, and money.



Build and Maintain Healthy Soil

Soil should be loose to allow air, water, and plant roots to penetrate the soil.

- Know what your soil needs – Test it! (Contact the local soil and water conservation district)

Compost – loosens clay soil, helps sandy soils hold nutrients and water.

- Create your own out of leaves, flowers, grass, and vegetable matter.

Mulch – stabilizes soil temperatures, prevents weeds, conserves water and helps to feed the soil.



Plant Right for the Site

What kind of soil do I have? What are the main uses of my yard? Is it sunny or shady?

Choosing plants - Native plants can provide a beautiful landscape as well as benefit the environment.

- They are low maintenance, more hardy, and don't require fertilizers.
- Native plants have deep root systems therefore require less water.
- Provide food and shelter for wildlife and promote biodiversity.



Practice Smart Watering

Make use of the rain. Rain water can run off of roads, roofs, and compacted soil which can impact the water down stream. It erodes

stream banks and makes water murky, which in turn can harm aquatic life.

- We can help keep this rain water in our own yard by planting rain gardens or using rain barrels to collect rain water.
- Plant native species which have deep root systems to stabilize soils and filter runoff.



Practice Natural Lawn Care

Mow more frequently in order to cut no more than 1/3 of the height of the grass.

- This cuts back on the amount of grass clippings.
- Add grass clippings to compost piles and the use in the garden.

Adopt a Holistic Approach to Pesticides

Beautiful lawns can be maintained without using pesticides.

- Choose plants adapted to the environment
- Diversify plants for fewer problems
- Rotate plants each year
- Water in the morning so plants can dry out during the day
- Know the beneficial insects (lady beetles) which eat insect pests



Save Money

By following the tips listed we can save money. Native plants that are adapted to the environment eliminate the need to water excessively. By diversifying the plants we also eliminate the need for pesticides.

If we all work toward these goals we will not only save money, but we will create a beautiful landscape that is environmentally friendly.



Use Phosphorus free or reduced phosphorus fertilizer. Learn more by visiting our web site www.co.lake.il.us/health/ehs/lakes.asp



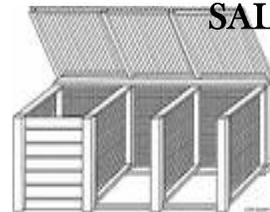
Rain Barrel & Compost Bin

Rain Barrels–

Capture rainwater to use all summer, even during watering restrictions.
-- Order rain barrels through April 14.
-- www.LCFPD.org/rainbarrels

Compost Bins–

Turn kitchen scraps and yard waste into rich fertilizer for gardens.
-- Order compost bins through May 8.
-- www.LCFPD.org/compostbins



SALE!!!

11th Annual Native Plant Sale

Independence Grove Forest Preserve, Libertyville

Mother's Day Weekend May 10-Saturday 9 AM-3PM May 11- Sunday 10AM-3PM

"Native plants can provide a beautiful landscape as well as benefit the environment". Proceeds benefit "Enviro-Patrol," the youth stewardship education program of the Lake County Forest Preserves. **You can also pick up your ordered rain barrel and compost bin!

Access a free catalog online at www.LCFPD.org/plantsale



Cattail Chronicles

SwimCast On-Line

By Leonard Dane:



Waukegan SwimCast Tower

As you plan your trip to the beach this summer, wouldn't it be nice to know how warm the water is, how big the waves are, or if it is safe to swim. Starting in the summer of 2008 all of this information and more will be available from three SwimCast monitored Lake County beaches with the click of your mouse.

SwimCast measures air temperature, water clarity, wind direction, precipitation, relative humidity, rainfall, wind speed, wave height, insolation (light energy), and other water quality parameters to help predict when *E. coli* levels are high enough to call for a swim ban. This is very different from the standard method, in which water samples are taken each morning and tested. Using this standard method, it takes 18 to 24 hours to determine *E. coli* levels. This is why swim bans using the standard method are typically a day late. SwimCast, however, can predict *E. coli* levels in "real-time".

SwimCast equipment operates at four of the

11 beaches along Lake Michigan (from Highland Park to Winthrop Harbor) that are monitored by the Lakes Management Unit (LMU). The equipment is installed at Rosewood Beach in Highland Park, Forest Park Beach in Lake Forest, Waukegan South Beach in Waukegan, and Illinois Beach State Park South Beach.

Waukegan and Rosewood Beaches are equipped with a cellular modem which allows the LMU to download the data to the Waukegan office. The data is downloaded every two hours from 8:00 a.m. to 4:00 p.m. In 2007, this data was added to the LMU website <http://www.co.lake.il.us/health/ehs/SwimCastDataAP.asp> allowing anyone to view the data from Memorial Day through Labor Day. This year we hope to have the *E. coli* prediction available on the site also. In addition, the equipment at Forest Park Beach is being upgraded and the data should also be available on the website in 2008.

So before you head to the beach, check the web to check the water temperature, how big the waves are, or even if the beach is open. Enjoy your summer and see you at the beach.

Hello



"Change"- that is a theme we are hearing in this year's political races. It is also something that is a reality for the Lakes Management Unit. We say good-bye to two staff members, Shaina Keseley and Adrienne Orr, and hello to Kelly Deem and Jennifer Grzesik.

In December, Shaina accepted a position in her native state of Minnesota with the MN Pollution Control Agency. We will miss Shaina's sense of humor and hard work. Adrienne's departure has been known for some time as she has been taking

evening classes to obtain her teaching certification. Adrienne left us in March and immediately began her student teaching at Zion-Benton High School. We will miss her humor as well as her expert editing of *Cattails*. We wish them both the best of luck!

Kelly received her bachelors in Natural Resources Fish and Wildlife Ecology from Northland College in Ashland WI. Her background is in fisheries where she conducted fisheries samples on rivers, streams and lakes in the Midwest. Currently Kelly and her husband James live in Wisconsin with their two dogs and two cats. Kelly enjoys hunting, fishing, hiking and cooking. Jennifer obtained her bachelors degree from the University of Wisconsin Milwaukee in Biology and a masters degree in Biology with an aquatic emphasis. Her experience lies in stream surveys focusing on stream habitat, macroinvertebrates, and fish. Jen enjoys scuba diving, traveling, and being outdoors. She lives in Delavan Wisconsin with her fiancé Andrew and dog Yummy.

Goodbye



Licensed Swimming Beaches: What you need to know (Part 2)

By: Mike Adam

In the fall edition of *Cattails*, Part 1 of this article discussed what a licensed beach is and what is required by state law. I am sure by now any beach not licensed before is planning to do so now. In this article, discussion will focus on what it means when a beach is closed and what are some ways to prevent closures.

As you may recall, to close a beach for swimming (we call it a SwimBan) a water sample has to have an *E. coli* concentration of >235 colony-forming units per 100 milliliters (cfu/100mL). This is based on guidelines established by the U.S. Environmental Protection Agency for recreational waters. What is *E. coli* and why might it be in high numbers?

E. coli actually stands for *Escherichia coli* and is a common bacterium that lives in human and animal intestines. There are numerous *E. coli* strains and most are relatively harmless, causing illnesses (typically gastrointestinal in nature) only when consumed in high numbers. At any time there may also be other organisms present in the water that can make people ill, such as *Campylobacter*, *Giardia*, and *Cryptosporidium*. However, it is extremely time consuming and expensive to test for all the potential harmful pathogens in the water. Therefore, based on historic studies, *E. coli* is used as an indicator organism. This means research has found that if *E. coli* concentrations are high, so potentially are other harmful pathogens. For a more detailed review of some of these pathogens see the IEPA "Lake Notes: Waterborne Pathogens" at <http://www.epa.state.il.us/water/conservation-2000/lake-notes/waterborne-pathogens.pdf>

There are many ways *E. coli* can end up at a swimming beach. Heavy rainfall and strong winds associated with storms can cause the water to become cloudy with sediment churned up from the lake bottom. Stormwater from rain can also wash in other particles from lawns, streets, and buildings. This sediment and stormwater may contain high levels of *E. coli*. Therefore it is important to use common sense and good judgment anytime you swim in natural waters. If the water does not look inviting, don't swim. If there was a heavy rain event last night, don't swim. However, high bacteria levels can be very localized. If a water test comes back high in *E. coli*, it may still be safe to swim in other parts of the lake. If there are multiple beaches on the lake (for example, Bangs Lake in Wauconda) it is extremely rare that all of the beaches around the lake would have high bacteria counts at the same time.

While most of Lake County is served by sanitary sewer services, some portions of the county still use septic systems. Many of these septic systems can be found near and along the shorelines of some of our lakes. Summer cottages, built in the post World War II era, later became year-round residences. They had septic systems designed for part-time use. Aged and overused systems are a potential source of

bacteria, viruses, and protozoans to lakes. Proper maintenance of these systems is important to public health throughout a lake's watershed.

Another source of *E. coli* contamination is the feces of gulls, geese, and other wildlife. Beach habitats, with the flat smooth surface devoid of any vegetation, coupled with swimming platforms, piers, and other surfaces, all adjacent to manicured lawns provide an ideal location for some of these animals. In these urban environments geese and gulls can congregate in large numbers and make quite a mess on beaches and piers. Beach managers and residents are strongly encouraged to clean the beach and piers of feces daily (pick up and discard, do not sweep the feces off the pier and into the water!). These birds may also need to be discouraged from using the beach area through a combination of techniques such as lines of string, streamers, dogs, etc. However, harassment of these birds needs to abide by local, state, and federal laws protecting migratory bird species. Check with local officials, as well as the Illinois Department of Natural Resources, before implementing a harassment program.

Often, swimming-related disease outbreaks in Illinois have been associated with fecal discharges from swimmers. Here are a couple other good tips:

- If you are sick, DO NOT swim
- DO NOT drink the water while swimming
- Children who are not toilet trained should wear tight-fitting rubber or plastic pants
- Practice good hygiene, take a shower before entering the water, and have the kids take frequent bathroom breaks
- Wash your hands after exiting the lake

A common question that arises when beaches are closed is, "are the fish safe to eat?" Fish consumption advisories are issued by multiple state agencies, not the LCHD. However, these advisories are for chemical accumulation such as PCB's and mercury. If you would like more information, please visit <http://www.idph.state.il.us/envhealth/factsheets/fishadv.htm>. In general, the fish should be safe to eat, since the pathogens that may cause illness in humans should be killed if cooked properly. Hopefully this article will not scare anyone away from using one of our beaches this summer. Practicing common sense and good hygiene will go a long way in preventing illnesses. In addition, licensing these beaches through the state and having LCHD monitor bacteria levels are an important part of protecting public health. If you have questions about your beach, please contact us at (847) 377-8030.

Can You Name This Lake?



Clues

There is a *buzz* about this *sweet* 66 acre glacial lake located within the Flint Creek Watershed. It is located in the Village of North Barrington and is scheduled to be sampled by the LMU in 2008. Name this lake!

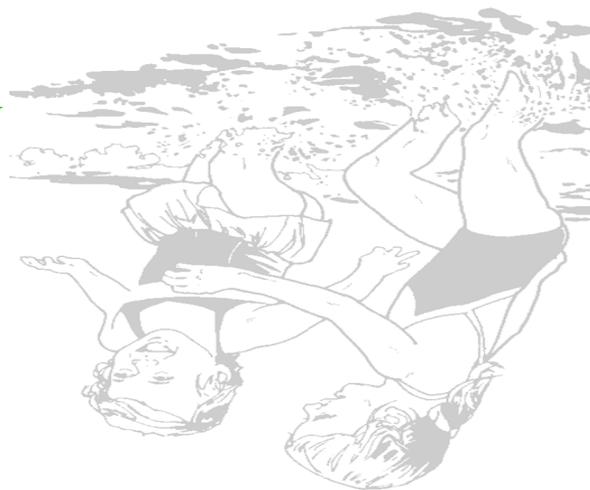


Lakes Scheduled to be Sampled in 2008

Bangs Lake*
 Cedar Lake*
 Countryside Lake*
 Cranberry Lake*
 Deep Lake
 East Loon Lake
 Echo Lake
 Flint Lake
 Grassy Lake
 Honey Lake
 Lake Louise
 Lake Zurich
 Little Silver Lake
 Long Lake*
 Sun Lake
 Third Lake*
 West Loon Lake
 Wooster Lake*

* Sentinel lakes monitored annually, 2005-2009

*Updated Information for
 Your Trip to the Beach
 Inside:*



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Environmental Health Services
 3010 Grand Avenue
 Waukegan, IL 60085

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