



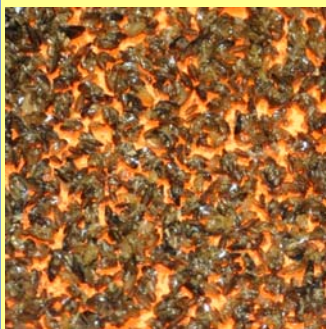
Lake Association News

A newsletter for the Association for the Preservation of Clear Lake

SUMMER / FALL 2012

ADULT ZEBRA MUSSELS DECLINE

Routine monitoring by the Aquatic Invasive Species staff of the Iowa DNR in 2012 showed that adult zebra mussel numbers in Clear Lake have declined while juvenile mussels have increased. This represents a typical population shift due to the zebra mussel life cycle. Zebra mussels typically live about 4 or 5 years and the majority of the population is often of similar age. This often results in large die-offs every 5 years followed by a new generation of young zebra mussels taking their place. Zebra mussels also appear to produce more young (veligers) towards the end of their life cycle in an effort to keep the population going. That certainly appears to be taking place at Clear Lake, as monitoring of veliger counts have shown levels higher than seen in any of the previous three years. The research showed that in June there were 136 veligers in every liter of Clear Lake water. This equates to over 200 veligers in a typical 20 oz. pop bottle. These numbers indicate why it is so important to properly drain and clean your boat before entering another waterbody. The decrease in adult zebra mussels does not appear to have affected water clarity, as monitoring has shown as good as or better clarity than in previous years.



Juvenile Zebra Mussels

Goose Deterrents/Beach Cleaning Providing Results at McIntosh

Visitors to McIntosh Woods State Park Beach this summer may have noticed a few new features at the swim beach. Along the shoreline, reflective Mylar ribbons were tied to several stakes placed in the sand. One may have even encountered a lifelike coyote decoy situated near the beach. So what is the purpose of these seemingly out of place objects? These and other items have been installed as a way to deter geese from using the swim beach area.

As goose usage of the swim beach increased over the past few summers, so did the amount of goose waste being deposited on the beach area. The waste on the beach can create an unsightly mess and reduce recreational use of beach. Additionally, research conducted in the summer of 2011 by the State Hygienic Laboratory indicated that waste from geese was a likely contributor to bacteria levels that can sometimes become ele-

vated at the swim beach.

The CLEAR Project and the Association for the Preservation of Clear Lake worked with DNR staff to develop ways to reduce goose usage of the swim beach. So far, the efforts have been successful as geese are no longer spending long periods of time loafing on the beach area. However, geese can become quickly acclimated to deterrents and it is often necessary to use a combination of deterrents for long-term success. Other features such as lights, audible deterrents, and vegetation management are also being considered for future use.

The goose deterrents were removed on the weekend so they didn't interfere with the public's use of the beach. Additionally, a beach cleaner was utilized each week to remove any waste that had accumulated. The cleaner also removed rocks from the sand and gave the beach a groomed appearance.

The combination of goose deterrents and routine beach cleaning appears to have had a significant impact on bacteria levels at the swim beach. Beach bacterial levels at McIntosh beach remained well below the standard set for swimming each of the 15 weeks of the 2012 monitoring season. Therefore, swim advisories did not need to be posted at the beach in 2012. A lack of rainfall may have also contributed to low bacteria levels.

The bacteria reduction efforts will be continued at the McIntosh swim beach and it is hoped that similar results will be seen in future years.



McIntosh Woods Beach after cleaning

Aquatic Plants ID: Curly-Leaf Pondweed

Curly-leaf pondweed is an invasive aquatic perennial that is native to Eurasia, Africa, and Australia. It was accidentally introduced to United States waters in the mid-1880s by hobbyists who used it as an aquarium plant. The leaves are reddish-green, oblong, and about 3 inches long, with distinct wavy edges that are finely toothed. The stem of the plant is flat, reddish-brown and grows from 1 to 3 feet long. Curly-leaf pondweed spreads through burr-like winter buds (turions), which are moved among waterways. New plants form under the ice in winter, making curly-leaf pondweed one of the first nuisance aquatic plants to emerge in the spring. It becomes invasive in some areas because of its tolerance for low light and low water temperatures. These tolerances allow it to get a head start on and outcompete native plants in the spring. In mid-summer, when most aquatic plants are growing, curly-leaf pondweed plants are dying off. Although present in Clear Lake, curly-leaf pondweed has not reached levels that would be considered a nuisance. The plant is most prevalent in the west end of Clear Lake. Although the plant is invasive, it can provide some benefits such as cover for fish and a food source for several waterfowl species that feed on the seeds and winter buds. Source: WI DNR



Credit: Photo by Enrico Romani

2012 Water Levels Lowest Since 1989/1990 Drought

APCL ANNUAL PICNIC 2012

The APCL Annual Picnic was held on August 17th at Clear Lake State Park. Over 100 people attended the event and heard updates from DNR staff and the CLEAR Project regarding lake restoration activities. Mike McGhee, DNR Lakes Coordinator, commented that the water quality of Clear Lake fared better than most lakes he has visited this summer. The warm water temperatures have caused an increase in algae production in many Iowa lakes in 2012. Water monitoring data collected so far at Clear Lake this summer has shown that water clarity and quality has remained about the same as was seen last year.

If you have not yet renewed your membership, please remember to do so. Membership dues for 2013 are \$10 for individual or \$20 for family. A membership form is available at www.clearproject.net/apcl.htm. Payments can be sent to : APCL; PO Box 54; Clear Lake, IA

LAKE NEWS

Many long-time area residents have commented this year about Clear Lake water levels being the lowest since the 1989/1990 drought, and they are correct. The USGS has tracked water levels at Clear Lake for nearly 80 years now. During that time-frame, four major droughts, not including 2012, have occurred. The other significant droughts occurred during the mid 30's, late 50's, late 70's, and late 80's. Those droughts produced water levels that reached between 31 inches to 46 inches below crest. At the time of publishing this newsletter, lake levels were about 26 inches below crest. It should be noted that the previous severe droughts were typically a multi-year event. If dry conditions continue into 2013, it is quite possible for low water levels similar to the previous droughts to be seen.

Some people have asked why a "spring-fed" lake is impacted by a lack of precipitation. A brief explanation of the Clear Lake geology and hydrology helps explain this. It is true that Clear Lake does exist primarily as a result of groundwater. Scientists believe Clear Lake was formed by glacial action that scoured a basin in

the landscape. Because the basin was carved out below the groundwater table, the basin has remained filled with water as a lake.

The groundwater table, which forms the basis for the water level of Clear Lake, does vary depending on precipitation. Groundwater is recharged by rainfall as a portion of the precipitation soaks into the ground and raises the groundwater table. Additionally,

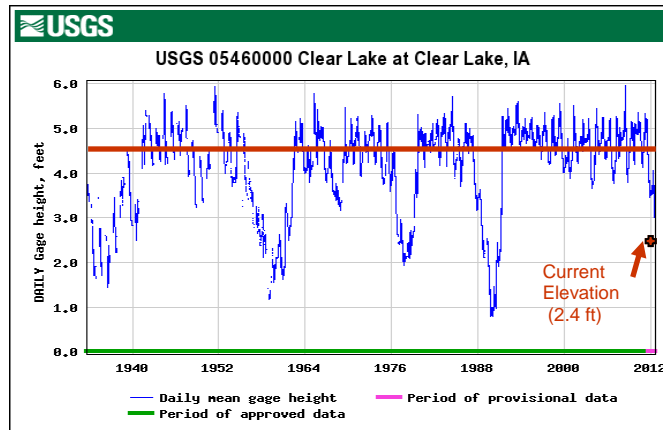
seeps out of the lake over the eastern 1/3. So, groundwater does help sustain lake levels, but is not solely responsible for the water level of the lake.

A major driving force for water loss during a drought cycle is evaporation. During hot summer days, the lake level can be reduced by 1 inch every 4 or 5 days. With no precipitation replenishing water loss due to evaporation, lake levels continue to decline.

Although low water levels do cause many hardships especially related to recreation, it is important to remember that these cycles are a necessary part of the long-term health of a lake. An important result of low water conditions

is the expansion of aquatic vegetation beds like rushes. These beds have become greatly reduced over the past 20 years. The aquatic vegetation provides critical habitat for fish as well as helps tie up nutrients in the water column.

It should also be noted that low water levels are a temporary inconvenience and when normal precipitation amounts return, so will the lake level.



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