Red Lake Association
Wascott, Wisconsin

Spring 2011 Volume 6, Number 1

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Red Lake Association

http://www.redlakeassociation.org/

Wisconsin Association of Lakes

or

http://www.wisconsinlakes.org/

Douglas County Association of Lakes and Streams

or

http://www.fotsch.org/DCALS.htm

Contact Us

tom.mahoney@

millennialeaders.com

715.466.5951

Red Lake Association news

The Red Lake Association's (RLA) 2010 annual meeting was held on June 5th at the Wascott Town Hall.

Board members are:

President: Tom Mahoney
Vice President: Brad Guinn
Treasurer: Mary Jane Wesolowski
Secretary: Carol Skinner
Members At Large: Patrick Daly, Bev Robinson, Tom Johnson, Barb Johnson

Annual membership dues are $25 per family. Dues for 2011 are due when we meet May 28 for our Annual Meeting. Pease send your dues to Mary Jane Wesolowski at 16242 S. Ahrens Dr., Minong, WI 54859.

Our Mission

The purpose of the Association is to preserve and protect Red Lake in Wascott, Wisconsin and its surroundings, and to enhance the water quality, fishery, boating safety, and aesthetic values of Red Lake, as a public recreational facility for today and for future generations.

Next Meeting Scheduled May 28th

Summer meeting on August 27th

Wascott Town Hall 9am

The annual meeting of the Red Lake Association is scheduled for May 28th at 9am. The meeting will be held at the Wascott Town Hall.

Introduce members & board

Business meeting - Committee reports

New Business – grant update, boat landing monitoring for summer, membership, DCALS, any other concerns of members.

Water Quality Committee
Tom Johnson, Chair
Tom Mahoney
Leeann Pollock
Jeff Robinson

Membership Committee
LeeAnn Pollock, Chair
Joel Skinner

Grant Writing Committee
Mary Mahoney, Chair
Carol Skinner

Remember to Attend:

Red Lake Association Summer Meeting - August 27 @ 9am

Newsletter by Tom Mahoney

Please send any comments or ideas to:
tom.mahoney@millennialeaders.com

PO Box 211 Minong, WI 54859

715.466.5951

Member Roster

The following families were members in 2010. Dues are $25 per family for the year. 2011 dues are due at the annual meeting.

Ahrens Jr., Robert & Pat
Askay, Chris
Bailey, Jim & Mary Jane
Bauers, Gene & JoAnn
Braden, David & Ann
Buettner, Gary & Mae
Carpentier, Bill (Carp) & Sue
Chase, Jim & Bonnie
Coenen, Richard & Frances
Daly family
Donovan, Jim & Myrna
Gramoll, Gary & Lori
Guinn, Brad
Hero, Frances & Stephen
Hollingsworth, Lee & Carla
Jochims, Bob
Jochims, Jim & Marilyn
Jochims, Neil & Kathy
Johnson, Tom & Barb
Kennedy, John
Knabe, Jeanette & George
Lynn, Chester & Vi
Mahoney, Tom & Mary
Rathke, Jarold & Sharon
Robinson, Jeff & Bev
Rodemann, Bill & Lynn
Sandstrom, Dean
Santangelo, Ray & Bobbie
Skinner, Joel & Carol
Wecker, Dihl & Ruth Ann
Wesolowski, Mary Jane
Wigstrom, Tom & Sally

RED LAKE ASSOCIATION

News and Highlights

Grant awarded for Boat Landing Monitoring

The 2010 grant application to the DNR that we made through Douglas County in partnership with several other local lake associations was finally funded this winter, retroactive to August 1, 2010 and runs until May 2012. As you recall, Bonnie Chase and Mary Mahoney conducted a fund raising campaign to pay our boat landing monitor last summer, Keanan Franco. The drive was very successful and we raised a total of $2,010. Thanks to all who donated to our fund raising drive.

Our grant proposal requested $5,340 and the Red Lake Association (RLA) had to contribute 25% of that amount as a combination of hours worked and/or donations received after August 1, 2010. The total contribution required was $1,340. As mentioned above, we raised over $2,000 and Keanan worked 78 hours after August 1st. Based on our contribution, the Red Lake Association will receive a total of $4,000 from Douglas County.

The purpose of the grant program is to monitor boats entering and leaving Red Lake from the boat landing to check for Aquatic Invasive Species (AIS), especially Eurasian watermilfoil (EWM).

This grant funding will enable us to continue our boat landing monitoring this summer using a combination of volunteers and/or hiring local high school or college age students. Students must be at least 16 years old and must also complete the DNR's Clean Boats/Clean Water training course. Training schedules will be announced soon.

Northwest Wisconsin Lakes Conference (Friday June 24, 2011) @ Northwood School

Mark your calendar. The *2011 Northwest Wisconsin Lakes Conference* will be held on Friday, June 24 in Minong at the Northwood School. This popular program will again be a great opportunity for lake enthusiasts, local government officials and others interested in protecting our water resources to take in a full day of educational presentations, exhibits and networking. Dr. Nancy Langston, Professor in the Department of Forest and Wildlife Ecology and the Gaylord Nelson Institute at the University of Wisconsin-Madison, is the conference's keynote speaker on the topic, "Toxic Bodies and the Struggle for Healthy Watersheds." Her current research focus is on Lake Superior.

Breakout sessions at the conference will cover a wide variety of lake-related subjects and issues, including: aquatic invasive species control strategies, using mapping tools for lake projects, lake legislative updates, using conservation easements to protect lakeshores, model shoreline zoning ordinance, lake grant programs, bringing wildlife

to your shore, history of water resource protection, algae in your lake, update on the clean boats clean waters program, lake projects that work, loon status update, and frogs in your lake.

The registration fee is $45, which includes: admission, program materials, a continental breakfast and lunch. Doors open at 7:30 a.m. and conference concludes at 3:45 p.m.

For more information or to register, contact the Sigurd Olson Environmental Institute at (715) 682-1223 or *pkalmon@northland.edu*. You can also register online at *www.northland.edu/soei*. For more detailed information on the conference program and speakers, contact John Haack at *john.haack@ces.uwex.edu* or (715) 635-7406.

DCALS

The Red Lake Association voted to join the Douglas County Association of Lakes and Streams. This is a group of many lake associations and conservation organizations throughout Douglas County. Dues are $50 per year.

Wascott Neighborhood Watch Program

Barb Johnson helped to coordinate the neighborhood watch program for Wascott. The lake association voted to buy 5 signs ($20 each) and they were placed at several locations around the lake: Heinz Rd & Red Lake Drive; Boat Landing; Ahrens Rd, Near Red Lake Resort, Bailey Rd & Witzig Rd. Signs are also available for purchase by residents.

Annual July 4th Boat Parade

Boats & Pontoons - meet at noon at the North end of lake and then parade around the lake.

Kayaks – meet at noon in the middle of the lake and then parade around the lake inside the boat path.

DNR Core Sediment study conducted on Red Lake

Last summer through participation in the Wisconsin Lake Leaders Institute, Tom Mahoney made contact with some DNR scientists who agreed to conduct a Core Sediment study of Red Lake since they were in NW Wisconsin doing some other work. Some highlights are presented below.

If anyone would like a copy of the complete study, please let Tom know. Copies of the study can be emailed to those who want one. There will be some extra copies available at the annual meeting on May 28th. What follows in the next section is not the complete summary as some pictures, charts and graphs are not included here.

RESULTS OF SEDIMENT CORE TAKEN FROM RED LAKE, DOUGLAS COUNTY, WISCONSIN

Paul Garrison and Gina LaLiberte
Wisconsin Department of Natural Resources
December 2010

Aquatic organisms are good indicators of a lake's water quality because they are in direct contact with the water and are strongly affected by the chemical composition of their surroundings.

Most indicator groups grow rapidly and are short lived so the community composition responds rapidly to changing environmental conditions. One of the most useful organisms for paleolimnological analysis are diatoms. These are a type of algae which possess siliceous cell walls, which enables them to be highly resistant to degradation and are usually abundant, diverse, and well-preserved in sediments. They are especially useful, as they are ecologically diverse. Diatom species have unique features as shown in Figure 1, which enable them to be readily identified. Certain taxa are usually found under nutrient poor conditions while others are more common under elevated nutrient levels. Some species float in the open water areas while others grow attached to objects such as aquatic plants or the lake bottom.

By determining changes in the diatom community it is possible to determine water quality changes that have occurred in the lake. The diatom community provides information about changes in nutrient concentrations, water clarity, and pH conditions as well as alterations in the aquatic plant (macrophyte) community.

On 6 October 2010 a sediment core were taken from near the deep area (N46.17412° W91.76801°) of Red Lake in about 36 feet of water using a gravity corer. Samples from the top of the core (0-1 cm) and a section (30-32 cm) deeper in the core were kept for analysis. It is assumed that the upper sample represents present conditions while the deeper sample is indicative of water quality conditions at least 100 years ago.

Results

In Red Lake, historically the major component of the diatom community are those species that float in the open water of the lake. The major taxa of these planktonic diatoms in the bottom sample were the chain forming diatom *Aulacoseira ambigua* and *Cyclotella michiganiana* (Figure 2). These diatoms are common in lakes throughout the Upper Midwest with low to moderate nutrient levels. The diatom *A. ambigua* grows in the upper part of the water column while *C. michiganiana* is found in the middle part of the water column and requires good water clarity for its growth.

In the top sample these species are largely replaced by *Fragilaria crotonensis* (Figure 2) and *Asterionella formosa* (not shown). Both of these species are some of the first diatoms to increase as a result of nutrient enrichment following human disturbances. Recent studies have shown that these diatoms respond more to an increase in nitrogen and not necessarily to an increase in phosphorus.

The percentage of planktonic diatoms was lower at the top compared with the bottom sample.

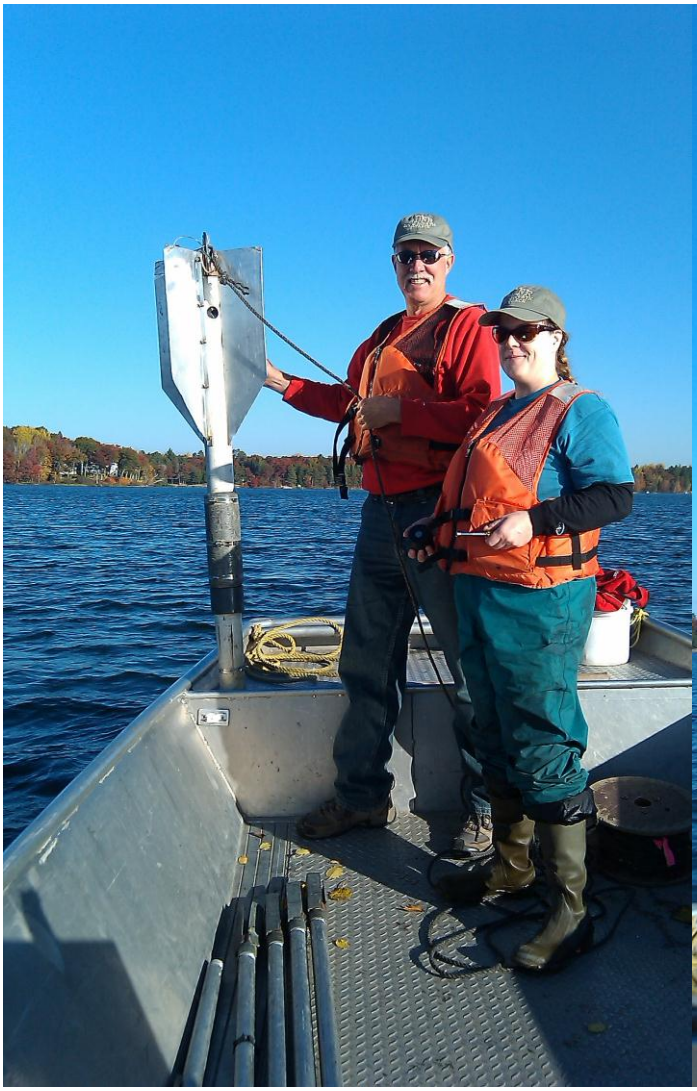
The number of diatom species and the diversity of diatom community is greater at the top of the core. This because there was an increase in the diatom species that grow attached to substrates such as submerged aquatic vegetation (SAV). This indicates that there is more SAV at the present time compared with prior to the construction of shoreline cottages. The increase in plants following cottage development is common in lakes. Dr. Susan Borman recently conducted a study in lakes in the northwestern part of WI where she compared the SAV community in the 1930s with the present day community. She found that lakes with cottages have more plants and the species have shifted to those that are larger and grow closer to the lake's surface. The diatom community indicates this has happened in Red Lake.

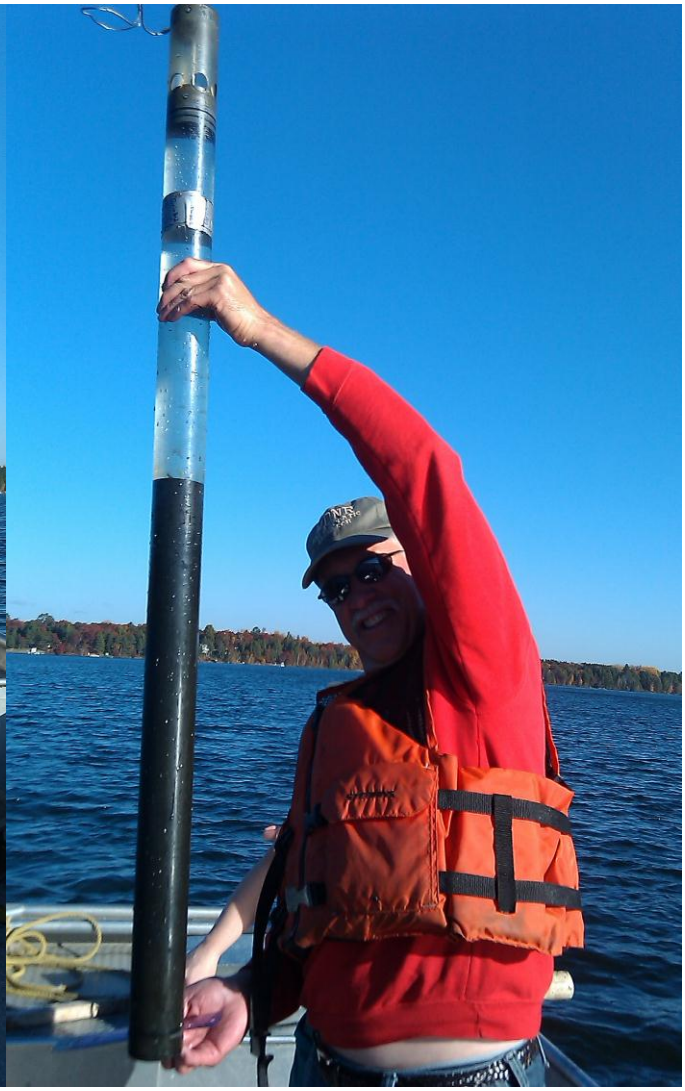
Diatom assemblages historically have been used as indicators of nutrient changes in a qualitative way. In recent years, ecologically relevant statistical methods have been developed to infer environmental conditions from diatom assemblages. These methods are based on multivariate ordination and weighted averaging regression and calibration. Ecological preferences of diatom species are determined by relating modern limnological variables to surface sediment diatom assemblages. The species-environment relationships are then used to infer environmental conditions from fossil diatom assemblages found in the sediment core.

Such a model was applied to the diatom community in the core from Red Lake. The model indicates there has been a small increase in phosphorus of around 2-3 µg L-1. We were not able to apply the model to changes in nitrogen concentrations but it is likely the change has not be more than 0.1 mg L-1.

In summary, the sediment core indicates that the greatest change that has occurred in Red Lake during the last 100 years has been an increase in the submerged aquatic vegetation. Nutrient levels have only increased a small amount. This is very common in lakes in northern WI that have shoreline development where there is an increase in SAV but little increase in nutrient concentrations. Although there is an increase in nutrient delivery from the developed area on the lakeshore, attached algae associated with the increased plant growth intercepts the nutrients and reduces the nutrient delivery to the open water of the lake.

Other studies have shown, as the amount of nutrients that runoff from the watershed increases, eventually the algae attached to the SAV is not able to incorporate all of the nutrients and algal blooms result.





Paul Garrison and Gina LaLiberte with the DNR gravity corer about to drop into Red Lake's deepest area.

Paul holding up the sediment sample taken from the bottom of the lake – with 100 years of sediment to be analyzed.