

Hoard-Curtis Scout Camp Gets Makeover



Shore erosion and degraded woodland motivate caretakers of the camp to approach Lake District for help. Permits and grants from Wisconsin DNR and Jefferson County are obtained, allowing restoration to proceed.



Glacial boulders are anchored into the 870-ft. shoreline, providing long-term erosion control on this exposed peninsula.



61,000 sq. ft. of shorelands are targeted for invasive brush control, selective tree thinning, a prescribed woodland burn, and native understory plantings.



Erosion matting is used on steep slopes to shield bare soils and prevent new plantings from washing away during rain storms.



A variety of bulrushes are planted in the water in front of the recently-installed rock. At maturity, they will poke above the water surface. Temporary snow fencing protects the shallow-water plantings from waves and animal grazing.



A great blue heron finds a quiet perch to hunt for small fish along the beautifully restored shoreline.

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FROM THE HELM



Since the creation of the Lake Ripley Management District 20 years ago, our mission has been the protection and preservation of Lake Ripley. We had discussed forming a Lake District for a few years with tepid response from residents until we were faced with the invasion of Eurasian water milfoil. This non-native aquatic weed invaded the lake so aggressively that it was almost impossible to back a boat off a pier without killing the engine. The situation prompted a group of concerned residents to band together, raise funds to purchase a weed harvester, and donate their time to help clean up the lake.

That summer and the following winter the Lake District was created. Not everyone was excited about the formation of a new unit of government with the ability to tax. There were concerns that we would tax to the maximum allowable mill rate (2.5 mil), just because we could. Over the years we have made every effort to be fiscally responsible, never proposing a mill rate over 0.5 mil, while being true to our mission of protecting and preserving the lake. While we continue to actively manage the milfoil problem, we have indentified and are trying to deal with other threats to our lake.

With the creative and aggressive use of grants, we have addressed shoreline erosion, protected the inlet to the lake, and dealt with the arrival of new and troublesome invasive species. We have tried to stay on the cutting edge of new management approaches and technologies, and have collected important data about the lake to help guide us in our mission.

In this issue of Ripples, you will find our proposed 2012 budget that will be presented at the Annual Meeting on August 27th. Please take the time to review it and try to attend the budget hearing and els. This was not easy and included cut backs in some areas. I would like to thank the Lake District Board, our Lake Manager and part-time employees for all their hard work, and especially our small group of volunteers who donate their time to make Lake Ripley the special place that we all know it is.

John Molinaro, Chair

Aquatic Plants Reveal Clues About Lake Ripley

What can plants tell us?

Many of us look at Lake Ripley and think about catching fish, enjoying a cool swim, or heading out for a relaxing boat ride. But how many of us actually think about what's growing or not growing on the lake bottom? Beyond snagging fishing lures, tangling around boat motors and grossing out squeamish swimmers, aquatic plants play an important and often unappreciated role in keeping the lake clean and ecologically thriving. Plants represent both a shallow and narrow ribbon of life—growing only to about 15-foot water depths (Lake Ripley is 44 feet at its deepest)—but serve as the very foundation of the entire ecosystem.



A type of water lily called spatterdock (*Nuphar variegata*) growing in Lake Ripley's South Bay.

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Lake Ripley's underwater gardens are a product and indicator of its overall condition. Changes in the types of plants found in the lake, their relative quantities, and how they are distributed across the lake bottom offer important clues about how lake conditions may be changing over time. This is because different species of plants have different tolerances to impacts such as boat-induced turbulence, beach raking, pollution, sedimentation and shifts in water clarity.

Why do we care?

When it comes to plant life, Lake Ripley acts much the same as any upland landscape. Areas that support a lush variety of beneficial plants will undoubtedly attract and support the most wildlife. And just as plants shield the soil from eroding on land, they keep the lake bottom from getting stirred up due to wind and motor boat activity.

Depending on its abundance and composition, this submerged carpet of vegetation affects everything from water clarity to the kinds of fish and aquatic life that might be present. Aquatic plants not only help cleanse and oxygenate the water, but provide food, shelter and nurseries for species ranging from microscopic plankton to the Great Blue Herons that stalk the shallows for small fish. Susan Graham, Lake Management Coordinator with the Wisconsin Department of Natural Resources, sums it up this way: *"To a fish, a lake devoid of plants would be like a living room devoid of a ceiling, walls and furniture. It's just not a welcoming or comfortable space!"*

Like your yard or favorite natural area, the lake has both desirable plants and undesirable "weeds." Together they form the larger plant community. It is this plant community that can be evaluated over time through scientific inventories. Over the last three decades, about 30 plant species have been discovered in Lake Ripley at one time or another, including two introduced weeds: Eurasian water milfoil (*Myriophyllum spicatum*) and curly-leaf pondweed (*Potamogeton crispus*).

Invasive weeds tend to dominate areas where they take hold, forming what is known as a monoculture. Once a monoculture is established, native plants are lost. In turn, fish, insect, bird, and animal species can also disappear. Lake Ripley's aquatic weeds have proven not only to be prolific and problematic for lake users, but have required aggressive management action to suppress their populations.

How are lake plants surveyed?

Aquatic plant inventories—conducted every several years—screen for the entry of new invasive species, and objectively quantify the diversity and distribution of desirable plants that keep the lake healthy. The resulting data help guide lake-management activities and can warn of emerging problems.



Staff from the Lake District and Jefferson County Land & Water Conservation Department identify plants collected on a rake sample.

Before the field work begins, a numbered grid is superimposed over a map of the lake. Geographic coordinates are assigned to each sampling point on the grid and then uploaded to a hand-held Global Positioning System (GPS). The GPS is used to navigate by boat to the precise location of each sampling point. Once over the point, a weighted rake (attached to a long pole or rope) is dragged over the bottom so that any plants collected can be brought to the surface to be identified and evaluated for abundance. Each rake sample is given a "fullness rating" on a scale of 1 to 3 which gets recorded on a data sheet. Next, the plants in the rake tines are identified to species and assigned their own fullness ratings. Additional notes about weed density and height are also recorded.

Whenever a species cannot be positively identified, it is bagged and sent to Wisconsin DNR Science Services in Madison for verification. This is especially important for suspected invasive species not seen in the lake before, or a native species that is just becoming established and increasing diversity in the lake.

"By collecting scientific data on lake ecosystems, we can analytically look at changes observed in these systems over time, instead of relying on anecdotal accounts, which may be biased."

Michelle Nault
Wisconsin DNR Science Ser-

During collection, samples of each plant species are taken and later pressed, mounted and labeled to be sent to a state herbarium collection. Upon completion of the field work, the data are entered into a spreadsheet for statistical analysis, and are used to create plant-distribution maps. This information can then be compared to other regional lakes for which similar sampling protocols were used.

Continued >>

LAKE RIPLEY MANAGEMENT DISTRICT
2012 PROPOSED BUDGET

	2010 ACTUAL	2011 JAN-JUNE ACTUAL	2011 JAN-DEC ESTIMATED	2012 PROPOSED BUDGET
Revenues:				
Real Estate Tax Levy	\$ 112,888	\$ 77,956	\$ 118,775	\$ 118,257
Grants	57,763			
Interest Income	726	401	802	
Carry-over		6,650	6,650	4,193
Other	4,072	240	260	
Restricted Funds Net	(49,520)	--	100	--
Total Revenues	125,929	85,247	126,587	122,450
Projects:				
Landowner Cost Sharing	16,493	0	10,000	7,000
Weed Harvesting	8,365	3,151	7,600	7,200
Lake District Preserve	3,371	2,900	5,400	4,500
Special Programs	0	520	630	250
Operations:				
Staff Payroll/Fringes/Taxes	64,979	33,636	67,272	69,950
Insurance	4,448	4,558	4,558	4,650
Legal Counsel	318	0	0	1,000
Dues & Conferences	792	937	1,107	1,400
Office & Community Outreach	6,638	2,266	6,000	6,100
Contingency	732	1,155	3,700	3,700
Commissioner Stipends	4,800	2,250	4,900	4,900
Rent	1,800	1,050	1,800	1,800
Capital Reserve, Land/Equipment Acquisition	10,000	2,037	10,000	10,000
Total Disbursements	122,736	54,460	122,967	122,450
Balance	\$ 3,193	\$ 30,787	\$ 3,620	\$ --

Restricted Funds:	Capital Reserve, Land & Equipment Acquisition	F.K. Elson Memorial	Friends of the Preserve	Preserve Restoration & Development
Est. Balance (12/31/10)	\$ 57,985	\$ 205	\$ 1,810	\$ 0
Additional 2010 activity:				
Increase			100	
Decrease	(4,378)			
Final Balance (12/31/10)	53,607	205	1,910	0
2011 Est. Additions	20,932		100	7,800
2011 Est. Interest	268	1	10	39
2011 Est. Expenditures	(12,969)			(5,595)
Est. Balance (12/31/11)	\$ 61,838	\$ 206	\$ 2,020	\$ 2,244

Budget Hearing
August 27, 2011
8:00—9:00 a.m.
Oakland Town Hall

Annual Meeting Agenda
August 27, 2011
9:00 a.m.
Oakland Town Hall

- I. Call to order
- II. Approve 2010 Annual Meeting minutes
- III. Nomination of board candidates (Names on Ballot: John Molinaro and Dennis McCarthy, incumbents)
- IV. Chairman's report
- V. Treasurer's report
- VI. Budget and tax levy
- VII. Tabulation of vote and election of board members
- VIII. Proposal to allow board discretion in scheduling future Annual Meetings later in the calendar year
- IX. Adjournment

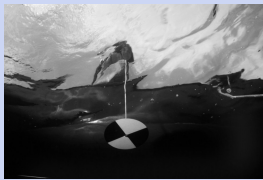
The strange plant formation pictured below, called a gall, is the result of gall flies laying their eggs inside the stems of goldenrod. The larvae eventually hatch and begin to eat and release a chemical in their saliva that causes a gall to grow around the larvae, providing food and protection.

Gall fly larvae predators include birds and wasps that leave holes in the galls as evidence of their visit. Chickadees love gall fly larvae! Ice fishermen have even been known to pick the galls and take them out on the ice where they dig out the larvae to use as bait. Since the larvae are very small, it would be interesting to learn more about how that works. Tiny hook? Let us know if you have the scoop.



From top: The summer and fall versions of a gall that might be encountered while hiking in the Lake District Preserve. Bottom: Evidence that a bird or wasp was searching for a gall larvae snack.

- Please welcome our new **summer intern, Jeanne Scherer!** Jeanne lives in the area with her husband, Eric Jorgensen, and is currently studying Environmental Science/Ecology and Geographic Information Systems (GIS) at the University of Wisconsin-Whitewater. She is working toward a career that satisfies her lifelong interest in nature and the environment. A former teacher, writer, and active volunteer with the Rock Lake Improvement Association and Rock River Coalition, Jeanne is already proving to be an invaluable addition to our Lake District team. We are especially thankful for her assistance with the aquatic plant survey, our Facebook photo contest, and work on this newsletter.
- Are **Canada geese** affecting your use and enjoyment of Lake Ripley? Tell us your stories and consider volunteering to help us keep tabs on their numbers. We can also share tips on legal and humane ways to dissuade problem geese from taking up residence on your property. Hint: They are particularly fond of open, manicured lawns extending down to the water's edge.
- As of this writing, record-setting summer temperatures are providing the ideal environment for large **algae blooms** and reduced **water clarity**. According to Board commissioner and volunteer monitor Dennis McCarthy, clarity has fallen from 13 feet in late June to only 4 feet as of late July.
- Please join us in congratulating Lake District Chair **John Molinaro** for receiving the 2011 **Rock River Basin Protector Award!** The award was presented by the Rock River Coalition to honor John's work as County Board Chair to establish the Glacial Heritage Area, among other accomplishments.



What's been learned and where do we go from here?

Lake Ripley's 2011 aquatic plant inventory follows several others that preceded it, dating back to 1976. The last one was performed in 2006. This summer's inventory is already yielding valuable information on changes that have occurred since earlier surveys, and how management action (like weed harvesting) can be adjusted to better respond to these changes.

Compared to 2006, preliminary findings reveal a slightly greater chance of encountering plants (called "frequency of occurrence") growing among the roughly 400 sample points. There also appear to be increases in the average number of total species and native species per site, and greater diversity between plant communities found at each sample location. This represents a positive change since plant communities with high diversity are usually representative of healthier lakes, and also tend to be more resistant to invasion by non-native species.

While recent surveys show Eurasian water milfoil on the decline since its 1990 peak, purely anecdotal observations over the last couple years suggest that the invasive curly-leaf pondweed may be gaining prominence in some areas, particularly in East Bay around the inlet. This is something that is being closely watched, and we will soon learn if the data confirm these accounts.

Thank you to the Jefferson County Land & Water Conservation Department, and particularly Patricia Cicero, for their partnership in completing this summer's aquatic plant survey.

The Good Guys

A diverse plant community plays a vital role in stabilizing the lake bottom, reducing shoreline erosion, and providing homes for much of the lake's aquatic life. Rooted plants also help suppress algae by competing for available light and nutrients. Below are a few beneficial plants that are common to Lake Ripley.

Illinois Pondweed (*Potamogeton illinoensis*)

This plant is found in lakes with good water clarity, and does not tolerate turbidity. Besides providing excellent shade and cover for fish, it is eaten by waterfowl and muskrats.



Sago Pondweed (*Stuckenia pectinata*)

Sago is pollution tolerant and can rapidly colonize unoccupied habitats. The plant tends to occur in discrete beds and often in stressed environments. It provides shelter for invertebrates and young fish, and is heavily grazed by waterfowl.



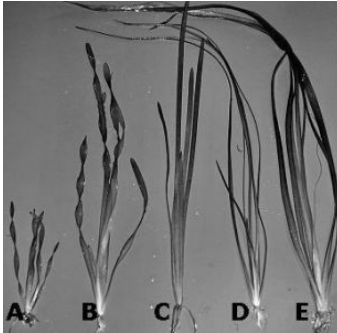
Coontail (*Ceratophyllum demersum*)

Coontail prefers soft lake bottoms and can tolerate poor water clarity. Bushy stems offers valuable shelter for both fish and invertebrates, even under the ice where it overwinter as an evergreen. A wide variety of wildfowl graze on the foliage and fruits.



Eel-grass (*Vallisneria Americana*)

Serrated, ribbon-like leaves make this plant an easily identifiable species. It prefers firm lake bottoms and can tolerate turbid water. Waterfowl and shore birds enjoy eating every part of the plant, and fish hide in its shade while feeding.



White Water Lily (*Nymphaea odorata*)

If you observe closely, you'll notice that the flowers of white water lilies open in the morning and close by mid-afternoon. Seeds are eaten by waterfowl, and the leaves provide shade and shelter for fish.



You can learn more about these and other plants in the Aquatic Plants chapter of the Lake Ripley Improvement Plan, available at www.lakeripley.org.

Beachgoers love the feel of soft sand underfoot, so it is understandable why waterfront owners desire white sand beaches. However, sand beaches on Lake Ripley are unnatural features that often require considerable and ongoing effort and expense to maintain. Not only are sand beaches prone to erosion (representing an ongoing financial and loss-of-property cost), but they also are shown to negatively impact the quality of the water and destroy fish habitat (representing an ongoing environmental cost).

Am I allowed to create or maintain an existing sand beach?

Dumping sand into the lake or on the shoreline is illegal without a permit. Travis Schroeder, Water Management Specialist with the Wisconsin DNR, warns that permits to place sand in a public waterway to create or maintain private beaches are “not likely” to be granted. Doing so without a permit can result in steep fines and other penalties.

Sand intended to be placed on shore and above the high-water mark falls under the purview of the Jefferson County Planning & Zoning Department. While the creation of new beaches is not permitted, sand replenishment MAY be allowed to maintain existing, private beach areas with special permit approval. The county’s shoreland zoning ordinance states:

“Maintenance of a public or private beach which is the principal use of a property and which serves an established lake association, property association or subdivision association of 25 people or more on a regular basis shall be permitted in the shoreland with the issuance of a zoning permit. As part of the zoning permit review, the applicant shall demonstrate the need for maintenance, proposed type of maintenance (i.e. said fill, grading, bank restoration, etc.) and demonstrate compliance with the Jefferson County floodplain ordinance and any DNR requirements...Only existing beach area may be issued a maintenance permit and no expansion of an existing beach is permitted.”

What damage might I cause by adding sand to an existing beach?

Developing and maintaining sand beaches effectively displaces the natural shoreline vegetation and ecological conditions that would otherwise exist in those locations. It is that type of varied and structurally complex plant habitat (which gets buried by the sand) that provides the greatest value to fish and

aquatic life. While one small beach on a lake might seem inconsequential, the cumulative impacts of multiple beaches and ongoing sand dumping can be significant.

Sand not only effects the immediate lakeshore area where the dumping occurs, but can easily smother fish-spawning grounds and cause other ecological disruptions elsewhere on the lake. This is particularly true as erosive wind, waves, ice and currents transport the sand offshore. Unlike leaves, aquatic plants and other organic material, beach sand stays in the lake and does not decompose. Over time, the sand essentially fills in the lake and makes it shallower by adding to the lake’s natural sediment load.

Sand dumping can also introduce pollutants to the lake. While the quartz in beach sand is inert, the sand will often contain water-clouding “fines,” algae-producing phosphorus, and other contaminants. The resulting plume of suspended sediment (called turbidity) from freshly-deposited sand is capable of traveling long distances, clogging gills and interfering with normal fish behavior. Studies even find beach sand to be a breeding ground for bacteria.

Any advice for owners of sand beaches?

The most lake-friendly thing you can do is replace the sand beach with natural shoreline vegetation. Obviously, this is not always feasible. Fortunately, you don’t need to get rid of your existing sandy beach to be a good lake steward. You can start by not adding new sand to the beach each year, and then take measures to keep the remaining sand from easily washing into the lake. Here are a couple tips to keep sand in its place and limit the impact of your beach:

- Partially bury and anchor one or more rows of 12-inch “biologs” parallel to shore and just above the high water line. The biologs are made of long-lasting but biodegradable coconut fibers that act as a soft, kid-friendly sand barrier. Cost: \$12/ft.
- Reduce the size of the sand beach area. Start by planting native shrubs and groundcovers in areas that are steep or prone to erosion. Creatively landscape with logs, rocks and plants to separate the beach from the water’s edge, which makes it harder for sand to wash into the lake. Use paths for access.



Do you have an amazing native plant garden or shoreline restoration? Are you the best fisherman on the Lake? How about the coolest dude in a kayak or cutest kiddo on the beach? Have a picture to prove it? Then join our Facebook photo contest! It is your chance to win great prizes valued at over \$250! Participating local businesses include: J. Rowe-Cambridge Pottery Co., The Keystone Grill, The Mill, The Village Pharmacy, Wild Things, House to Home, Sienna River Gallery, and The Woodshed.

Simply email us your amateur photos from the Lake Ripley area: fish and wildlife, lake-friendly landscapes, people having fun on the water, or scans of old pictures from yesteryear. Entries will be accepted up to the final day of the contest, which has been extended to **Aug. 18th**. Vote by opening the albums and clicking “Like” under your favorite photos. Only one vote per photo, but you can vote for as many as you like. Full contest information, including categories, can be found at www.lakeripley.org. Even if you don’t enter, please visit the albums and “Like” your favorite photos to thank our contestants for sharing their talent. Here’s a sneak peek at some recent entries (original pictures converted to black and white):



Photos: Nikki Smithback (#1), Barbara Killen (#5), Jenna Neumiller (#2, 3, 6), Linda Winn (#4, 7), Jeanne Scherer (#8), and Regan Bush (#9). The last photo (#10) is an example of a scanned picture that would qualify for the “Yesteryear” category. As of this printing, entries are still needed to start this album.