

As landowners and lake users, there are many actions we can take to benefit ourselves, our properties, our lake, AND the lasting quality of our natural resources. Many projects and activities may even be eligible for funding assistance through the Lake District. These range from wetland and shore-line restorations, to residential rain gardens and erosion-control projects. Here are two other ideas that may be most applicable to larger landowners and our local farming community:

Land-Protection Agreements

Preserving family lands from future development can be a satisfying act of generosity for people inclined to protect the scenic beauty and rural character of their property. For many, the decision is made with the belief that there ought to be something left for our children and the next generation to enjoy and appreciate.

One way to protect your land and create a family legacy is through a land-protection agreement. Also called conservation easements, these voluntary legal agreements allow for private ownership of the land to

continue while making sure certain conservation values remain intact—regardless of who may own the land in the future. In our effort to protect wetlands and other critical areas, the Lake District has set up a program to assist interested landowners in developing such agreements. Several watershed landowners have already taken advantage of this opportunity, and we hope others will consider doing the same.

Conservation Farming

Top soil is the most precious resource for a farm, so farmers often plant crops without working up the fields in order to build soil, not deplete it. No-till farming can lead to soil that is softer and higher in organic matter. Consequently, the soil is better able to absorb and retain water, and is better aerated as a result of increased worm activity. Crop residue left in the field also helps control runoff and erosion, and is used as cover for pheasants and other wildlife.

Other conservation-farming strategies include planting row crops along the contour of the landscape, establishing grassed waterways along drainage routes, and following a nutrient-management plan.

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INSIDE: ANNUAL MEETING AGENDA AND PROPOSED 2010 BUDGET

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FROM THE HELM



People who know I am Chairman of the Lake District, or even just connected in some way to Lake Ripley, often stop me and ask "How's the lake?". I sometimes have to stop a minute before responding to such an open-ended question. But, I will use my space in this newsletter to try and answer it.

In general, Lake Ripley is doing well. Of course, that is relative, depending on your perspective. The good news is that we have repaired thousands of feet of eroding shoreline, purchased and expanded the Lake District Preserve, plugged polluting drainage ditches, restored acres of wetlands, and run an active weed-harvesting program over the years—among other accomplishments. So, another question we might ask is "What would the lake look like if we were not proactive in our approach to lake management?". Most certainly, the lake would be in a less desirable condition than it is today.

The bad news is that zebra mussels are now established in the lake, covering any hard surface on which they can attach and favoring certain kinds of algae growth. We continue to monitor the latest science on how to manage these and other invasive species, but, to date, there is no effective control method for zebra mussels. Our weed-harvesting program also continues, and we are lucky to have two experienced operators who do an effective job of removing Eurasian watermilfoil.

I get mixed, anecdotal reports from anglers regarding the fish population. Last year, I personally had one of my best years fishing in a long time, catching many bass and several very large northern pike. Yet, I heard that ice fishing was slow this winter. The bottom line is that our Wisconsin DNR fish manager surveys fish populations in the lake every year and is seeing stable populations of all species.

Lake use continues to be heavy at times. Our annual survey of piers and docked boats show fairly consistent numbers with close to 500 watercraft parked around the lake. Interestingly, we've found that many of the watercraft using the lake at any given time enter through the public boat launch, not off of private piers.

So how's the Lake? The lake is good. We have some issues to deal with and we are dealing with them. By later this year, we should have an updated Lake Management Plan that we will use to guide our efforts in the years to come. We also look forward to seeing and hearing from you at our Annual Meeting on August 29th.

John Molinaro, Chair

Algae: Friend or Foe?

There are many types of algae found in freshwater lakes like Lake Ripley. Some varieties are microscopic, free-floating and widely dispersed throughout the water column, giving lakes that characteristic green tint. Other varieties grow attached to rocks, submerged logs and plants like a slimy moss. There are algal species that float on the water surface, and those that regulate their buoyancy to track available sunlight and nutrients. Still others look like aquatic plants growing like a shag carpet on the lake bottom.

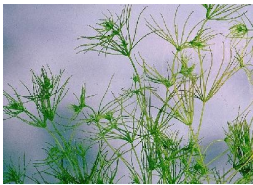


Some algae "blooms" form a bubbling, green scum on the water surface. (Photo: Lee Nachtigal)

What should I know about algae?

Not all algae are harmful or indicators of poor lake health. In fact, algae are generally present in even the most pristine lakes, and are a natural and important component of any lake ecosystem. They are some of the oldest living things on Earth, and play a vital role in the food chain. >>

Like plants (but without leaves, roots or stems), algae use photosynthesis to convert sunlight into energy and give off oxygen. They are also an important food source for zooplankton which, in turn, support the lake's fishery. Without algae, we would not have the fish and other biota that form the rich web of life that is unique to our freshwater lakes.



Muskgrass (*Chara vulgaris*) is a beneficial type of macro-algae that can carpet the lake bottom. It is often mistaken as an aquatic plant, and is common in Lake Ripley.

Too much algae growth (called "blooms"), however, can be a sign of nutrient pollution. This type of pollution often originates as fertilizer, eroded soil, pet and yard waste, and other contaminants that wash into the lake as storm runoff. As algae feed on this influx of nutrients, they quickly multiply and contribute to water conditions that can resemble pea soup. They may also form a thick scum layer on the lake surface that can shade out rooted plants. At best, these conditions detract from a lake's natural scenic beauty. At worst, they create public-health concerns and favor less desirable species over the lake's native flora and fauna.

What are blue-green algae?

Surprisingly, the most troublesome and despised "blue-green" algae are not even a true algae, but a type of primitive, photosynthetic bacteria (cyanobacteria). Blue-green blooms often resemble a film of green paint floating on the lake surface. While common, blue-green algae are not an important part of the food chain since they are not eaten by most aquatic organisms. They are not only a symptom of fertile (eutrophic) water, but can occasionally release toxins that may pose a risk to human health.



A blue-green algae bloom appearing like green paint on the surface. (Photo: Missouri DNR)

How can blue-green algal blooms affect my health?

Wisconsin lakes support many varieties of blue-green algae, but only certain species produce toxins. The toxins are only released when the cyanobacterial cells become stressed or die. Different species produce different toxins, and many species produce more than one type of toxin. Symptoms depend on the type and quantity of the toxin released, and the method of exposure.

What are the symptoms of adverse exposure?

Exposure from swimming or wading in a toxic blue-green algae bloom can lead to skin rashes, blistering, and irritation of the eyes, ears or nose. Swallowing water contaminated with algal toxins can lead to

more serious conditions such as mental confusion, nausea, vomiting, diarrhea, liver failure, paralysis, and possibly death in rare cases. Even motor boating through a heavy blue-green algae bloom can lead to exposure. This is because water containing algal toxins can be aerosolized and inhaled. Symptoms of inhalation exposure include coughing, wheezing, congestion, sore throat, watery eyes and runny nose.

When do algal blooms occur?

Most blooms occur in warm, nutrient-rich water when the weather is sunny and calm. They often follow large rain events during the summer months that wash mud, fertilizers and other material into the lake. Blue-green algae can form thick scum layers or mats, which may produce a foul odor and cause the lake surface to appear bubbly or frothy. Wind and water currents can move these mats to different locations.

Zebra mussels, which are now abundant in Lake Ripley, can increase the frequency and intensity of certain types of algae blooms. The non-native mussels filter the water and consume all forms of free-floating algae except blue-greens. This gives both the blue-green and attached, filamentous species a competitive advantage. Zebra mussels may also increase water clarity, allowing sunlight to penetrate to greater depths which promotes even more filamentous algal growth.



Filamentous algae can be found attached to plants, rocks and submerged timber. They grow well in fertile lakes, especially where zebra mussels suppress other algal species. (Photo: lakelawnandpond.com)

What can I do to protect myself?

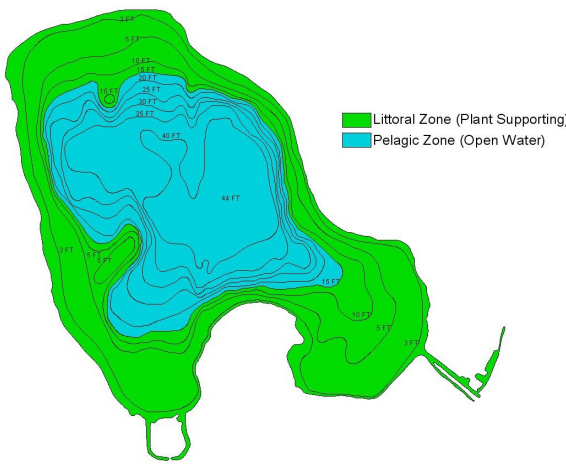
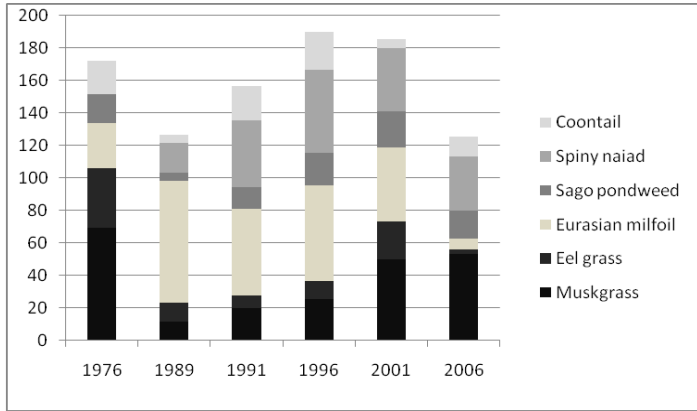
Unfortunately, there is no way to know if an algal bloom is dangerous. Not all blooms produce toxins and in sufficient quantities to cause a health concern. Plus, it takes at least several days for a laboratory to analyze a sample for toxicity. By that time, algae conditions will have undoubtedly changed for better or worse, making the results less than helpful for assessing risk. Instead, consider taking the following precautions to limit your risk of an adverse exposure:

- #1: Avoid contact with the water when and where a blue-green algae bloom is visible.
- #2: Towel off immediately after exiting the lake, and take a shower upon returning home.
- #3: If you or your pets are experiencing severe symptoms, seek medical or veterinary attention. Report an illness related to blue-green algae to the Division of Public Health at (608) 266-1120.

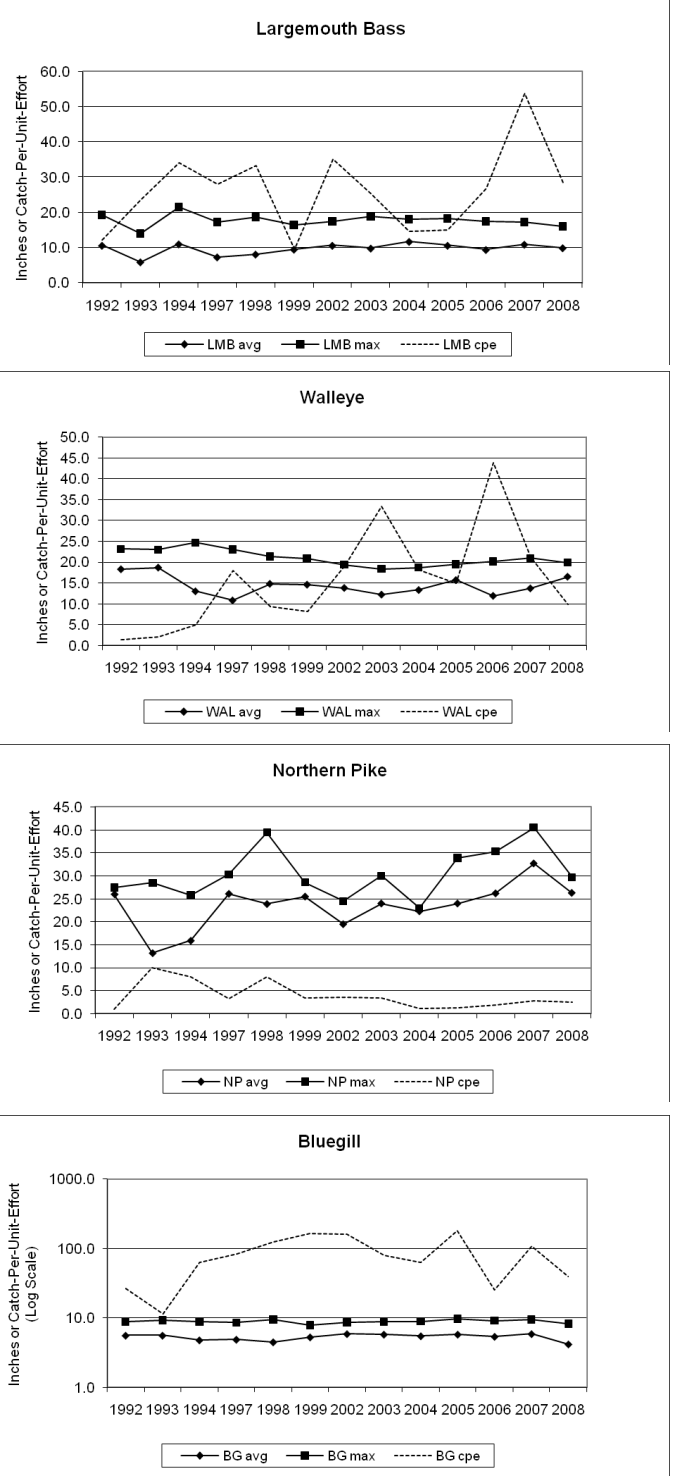
While various species live mainly in a particular habitat niche, they belong to a larger interacting community. Because of these relationships, the best way to manage the numbers and types of plants and animals in a lake is to deal with the entire community as a whole, rather than attempt to manage an individual plant or animal species in isolation. If one habitat is altered, or if one particular species is added or removed, the whole community is likely to change in some way. These changes can ripple up or down the food chain and affect the lake in different (and often unanticipated) ways. Invasive species introductions, illegal fish stocking, and indiscriminate plant-eradication efforts have all been known to impact lake conditions for the worse.

A look at Lake Ripley's plant and fish communities

The following graph depicts the frequency of occurrences for six aquatic plant species that are common to Lake Ripley. Results were from plant inventories conducted between 1976 and 2006. Frequency of occurrence represents the percentage of times a particular species was sampled within areas capable of supporting plant growth. This measure is used to describe how widely distributed a given species is found throughout the lake's littoral zone.

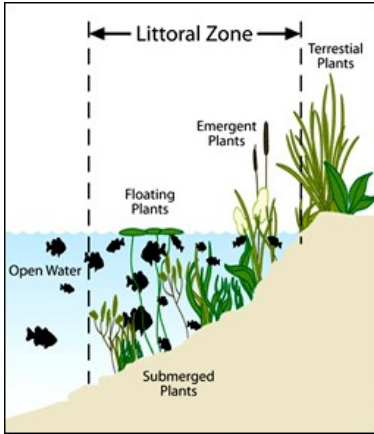


Fall electrofishing results are summarized for large-mouth bass, walleye, northern pike and bluegill in the graphs below. Graphs depict minimum, maximum and average lengths found during the 1992-2008 survey period, as well as the number of fish caught per hour of sampling, referred to as Catch Per Unit of Effort (CPE). Size-frequency distributions were found to be representative of similar lakes found in Southern Wisconsin, and with no unusual trends evident.



Advantages of an underwater garden

As with algae (see pg. 1 article), rooted aquatic plants are a normal and necessary part of a healthy lake. They include submersed, floating-leaf and emergent varieties. A thriving and diverse native plant community offers many benefits, ranging from better fishing to improved water quality. Plants oxygenate the water, keep algae in check, stabilize loose lake-bottom sediment, guard against shore erosion, provide cover and spawning sites for fish, create shelter for zooplankton (algae consumers), serve as food sources for waterfowl and other wildlife, and generally make our lakes more interesting and teeming with life.



94% of all lake life is born, raised and fed within 30 feet of where the water meets the land (illustration: www.thepondlady.com).

Canaries in a coal mine

The relative abundance, distribution and types of rooted aquatic plants are a good indicator of lake quality. Just as a dead canary would alert early miners of poisonous air in the mine shaft, plants can tell us a lot about lake conditions. Fish, too, are biotic indicators of environmental quality. The interactions between plant and fish communities are so closely intertwined, that a sudden imbalance could lead to any number of cascading effects. Effects can include changes to predator-prey dynamics, fish growth rates, water clarity, algae abundance, and the redistribution of nutrients and food resources.

Ideally, lakes will have at least moderate levels of native plant growth characterized by high species diversity. Evidence of problems may include an unusual absence of vegetation, or a plant community that becomes increasingly dominated by a thick crop of non-native “weeds.” Polluted runoff, sedimentation, motor boat turbulence and propeller damage, sun-blocking algae blooms, shore development, and the removal of beneficial plant beds may all be potential culprits. This explains why many weed problems are found in the vicinity of stormwater inlets and boating routes.

Green Fact

A sustainable game fishing lake requires 20-40% rooted plant coverage. Based on Lake Ripley’s depth and clarity, only about half the lake bottom (0-15’ littoral zone) can be colonized by plants. Protecting existing plant beds is therefore important to sustaining the lake’s fishery.

The consequences of too little or too much

Too little vegetation and associated habitat can lead to declines in native fish and wildlife, while favoring more tolerant “rough fish” like carp. Through their feeding activities, carp will often make a bad situation worse by uprooting young plants and stirring up the lake bottom. A lack of vegetation may also lead to more algae blooms as a result of less competition for available nutrients, and easier predation by small fish on zooplankton. Finally, water clarity is likely to decline due to the re-suspension of lake sediments that are no longer anchored by plant growth.

Green Fact

19 species of aquatic plants were collected during Lake Ripley’s 2006 inventory. All but two species (Eurasian water-milfoil and curly-leaf pondweed) are native to the lake. Inventory data show that the aquatic plant flora is becoming somewhat more diverse and spatially balanced (with a precipitous decline in milfoil dominance), suggesting a shift toward a healthier lake.

A different set of problems occurs when non-indigenous lake weeds gain dominance and become overly abundant. This situation reduces plant diversity and habitat quality, impedes recreation, stunts fish growth, and causes large fluctuations in dissolved oxygen levels that can stress aquatic life. Aside from depleting the water of oxygen, the eventual decomposition of excessive plant biomass can lead to late-season algae blooms. The algae thrive on the release of nutrients previously tied up in living plant tissues. This is one reason why herbicide treatments—which allow dead plants to remain in the lake—can produce more problems than they solve.

Balance and interdependence

Fish and other organisms require habitats that provide food, shelter, reproduction sites, proper water chemistry and other life-sustaining conditions. If any one habitat requirement is in short supply, the biotic community can be negatively impacted, beginning with the most sensitive or habitat-specific species. Also, because each organism and species requires a different set of conditions, each occupies a unique niche within the larger lake environment. Walleye prefer cooler water and need gravel bars for spawning. Northern pike need wetlands in which to spawn and plant cover in which to ambush prey. Bluegills, bass and crappie spawn along the shores of lakes where they fan away silt to create “nests.” >>



A juvenile game fish finds cover and feeding opportunities among some aquatic plants (Photo: UWEX-Lakes).

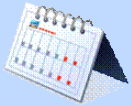
Budget Hearing
August 29, 2009
9:00 a.m.
Oakland Town Hall

Annual Meeting Agenda
August 29, 2009
10:00 a.m.
Oakland Town Hall

- I. Call to order
- II. Approve 2008 Annual Meeting minutes
- III. Nomination of board candidates (Name appearing on ballot: Georgia Gomez-Ibanez, incumbent)
- IV. Chairman’s report
- V. Treasurer’s report
- VI. Budget and tax levy
- VII. Tabulation of vote and election of board members
- VIII. Action on advisory committee recommendations for bringing bylaws into statutory compliance
- IX. Adjournment

Mark Your Calendars!

All meetings and events are held at the Oakland Town Hall (N4450 County Rd. A) unless otherwise noted.



- 8/29: Budget hearing (9 a.m.)
Annual Meeting (10 a.m.)
- 9/26: Board meeting (9 a.m.)
Management plan hearing (11 a.m.)
- 10/03: Southern Wisconsin Lakes Conference in Waukesha [co-hosted by the Lake District]
- 10/17: Board meeting (9 a.m.)
Preserve dedication (11 a.m.)
- 11/21: Board meeting (9 a.m.)

LAKE RIPLEY MANAGEMENT DISTRICT
2010 BUDGET

	2008 ACTUAL	2009 JAN-JUNE ACTUAL	2009 JAN-DEC ESTIMATED	2010 PROPOSED BUDGET
Revenues:				
Real Estate Tax Levy	\$ 110,211	\$ 71,808	\$ 110,517	\$ 112,888
Grants	240,830	-	75,000	-
Interest Income	5,695	337	837	-
Carry-over	2,700	1,572	1,572	4,000
Other	1,107	2,048	4,006	-
Restricted Funds Transferred	117,523	10,250	10,250	-
Total Revenues	478,066	85,815	202,182	116,888
Projects:				
Staff Payroll/Fringes/Taxes	60,448	31,679	63,359	64,588
Landowner Cost Sharing	7,304	13,635	28,635	10,000
Weed Harvesting	6,749	1,506	5,314	5,775
Lake District Preserve	1,710	50	2,000	3,000
Special Programs	72	33	250	250
Conservation Easements	-	-	-	-
Grant Expenses	6,595	-	-	-
Preserve Restoration/Development	-	2,800	2,800	-
Insurance:				
General Liability	1,879	-	1,956	2,000
Marine & Truck	1,053	-	1,149	1,300
Worker’s Compensation	923	918	918	950
Operations:				
Legal Counsel	574	-	-	3,000
Dues & Conferences	501	80	510	1,400
Office & Community Outreach	6,897	1,532	5,424	6,415
Contingency	1,000	-	1,500	1,500
Commissioner Stipends	4,700	2,450	4,900	4,900
Rent	1,800	1,050	1,800	1,800
Capital Reserve, Land/Equipment Acquisition	408,254	674	10,000	10,000
Total Disbursements	510,459	56,407	130,515	116,888
Balance	\$ (32,393)	\$ 29,408	\$ 71,667	\$ -

Non-lapsible Fund:	Capital Reserve, Land & Equipment Acquisition	F.K. Elson Memorial	Friends of the Preserve	Floodplain Study	Lake Planning Grant	Preserve Restoration & Development
Est. Balance (12/31/08)	\$ 120,045	\$ 198	\$ 1,792	\$ 82	\$ 12,722	
Add. 2008 activity:						
Increase	288,209	5				
Decrease	-408,254			-82	-3	
Final Balance (12/31/08)	0	203	1,792	0	12,719	
2009 Est. Additions	92,250					\$ 3,000
2009 Est. Interest	50	1	9			
2009 Est. Expenditures	-42,524				-12,719	-2,800
Est. Balance (12/31/09):	\$ 49,776	\$ 204	\$ 1,801	\$ -	\$ -	\$ 200

Did You Know?

- You can sign up to receive the **Lake Ripley E-Bulletin** by sending us your name and e-mail address. This is a good way to find out about upcoming Lake District-related events and other time-sensitive issues that might come up between newsletters.
- Zebra mussels** can find their way into boat motors, live wells and bilge pumps while in their larval stage. This increases the risk that the invasive mussels will foul boating equipment or get spread to other lakes. If possible, raise your boat motor out of the water when it is not in use, and drain any water before moving or storing your boat.
- The Jefferson County Health Department tests for **E. coli bacteria** at the Lake Ripley Park beach throughout the summer. The latest test results can be found online at www.wibeaches.us. In the event of a high bacteria count (which is rare), the health department notifies the park manager who will post warning signs or close the beach. For park information, visit www.cambridgecap.net or call Bridgette Scott at (608) 423-8108.
- A statewide ban, with a few exceptions, is now in place on the sale and use of **phosphorus lawn fertilizers**. The Lake District was part of a large coalition of groups that pushed for this measure to protect our lakes. Most soils in our area are already rich in phosphorus. Adding more of this nutrient is not likely to make our lawns healthier, but it can turn our lakes green with algae.



A view of one small portion of the 167-acre **Lake District Preserve** (photo: Jay Settersten). Thanks to over \$326,000 in grants and donations, the Preserve grew by 65% and is now undergoing additional restoration. Recent support includes a \$75,000 grant award from the North American Wetland Conservation Act Program of the U.S. Fish & Wildlife Service. The goal of the Preserve is to permanently protect and improve the conservation value of natural areas surrounding the lake's inlet, thereby safeguarding the future health and quality of Lake Ripley.

Work at the Preserve has recently included the seeding of a 4.5-acre field to prairie on the west side of County Road A. This was made possible through a \$2,000 grant from Pheasants Forever and a \$1,000 grant from Natural Resources Foundation's C.D. Besadny Program. The District also signed a two-year tenant farming lease on 26 acres of existing cropland east of County A. Rental income will help finance the property's conversion to native prairie once the farm contract expires.

A draft **management and restoration plan** for the Preserve is now available for public review and comment. An Adobe PDF version of the plan can be viewed under the "Links & Downloads" section of our website (www.lakeripley.org). To celebrate the recent expansion and thank our many contributors, we will be hosting a **dedication event** (and tours!) on Saturday, October 17th, starting at 11:00 at the Town Hall.



Lisa Reas of LJ Reas Environmental Consulting Corporation is shown giving a talk at last year's **rain garden workshop** for area homeowners. Because of its popularity, a second workshop was hosted once again this spring. Participants learned about the benefits and applications of rain gardens, and gained practical tips on choosing the right plants and designing their own gardens. They also walked away with instruction manuals, plant lists, Lake District cost-sharing standards, and a few starter plants. A plant sale followed the workshop with over 30 varieties of native plants available to the public at discounted prices.

In addition to rain gardens, homeowners can help control runoff and protect the lake by conserving water, capturing roof runoff with rain barrels, and by limiting the extent of hard-surface development.



One of several reference buoys is shown marking Lake Ripley's **slow-no-wake zone**. Motorized watercraft must operate below wake-producing speeds within 200 feet of any shoreline (Town ordinance), within 100 feet of any pier, raft or marked swimming area (State rule), and within the buoyed no-wake areas of both bays (Town ordinance).

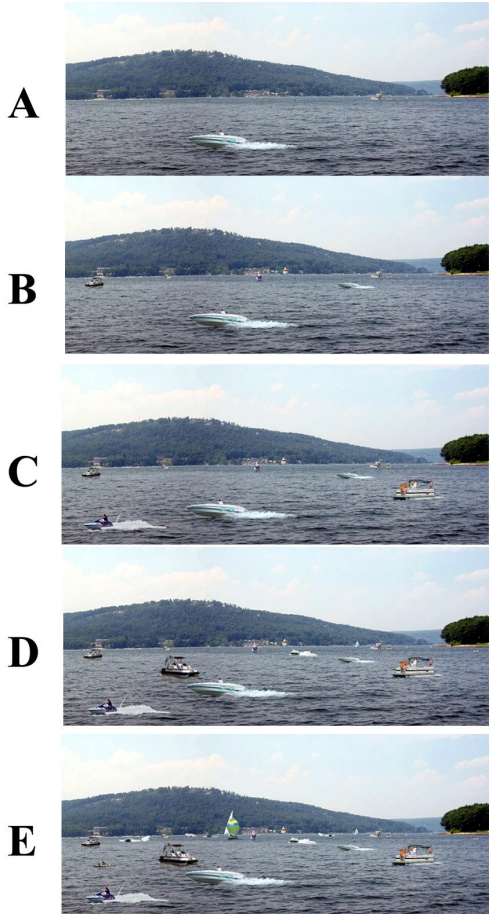
Lake Ripley also has **slow-no-wake hours** that are in effect daily between 7:30 p.m. and 11:00 a.m. In addition, motor use of any kind is strictly prohibited within Vasby's Channel located in South Bay.



Shoreline restorations using rock and native plantings may be eligible for 50% cost sharing through the Lake District's **landowner-assistance program**. These types of projects benefit both the lake and qualifying landowners by controlling shore erosion, re-establishing fish and wildlife habitat, providing a means of absorbing and filtering runoff, and enhancing the lakeshore's natural scenic beauty.



Tree-drops, which serve as structural habitat for fish and other aquatic life, can be part of a restoration and may qualify for assistance. (This practice requires a permit and is only recommended in certain situations, like if a tree is in poor health or poses a hazard.)



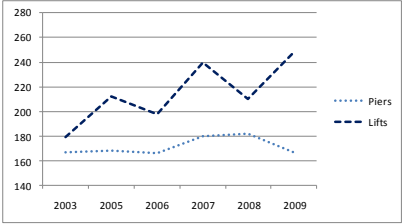
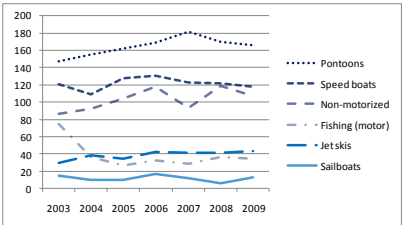
OK, it's not Lake Ripley. However, this digitally-altered picture sequence illustrates different levels of crowding and congestion that could easily be encountered (Photos: ERM, Inc.). At what point would your use and enjoyment of the lake be adversely impacted? What other factors (i.e., water quality, lake-surface conditions, weather, etc.) affect your decision on when to boat on Lake Ripley?

To address such "**carrying capacity**" questions, the Lake District has asked volunteers who boat on Lake Ripley to keep a log of their boating decisions and the factors influencing those decisions. This information will build upon earlier attempts to define recreational carrying-capacity thresholds for the lake. Findings will be presented at the Southern Wisconsin Lakes Conference on October 3rd. They can also help inform future discussions relating to public-access and lake-use policies.



Counts of **piers, boat lifts and parked boats** have been taken on Lake Ripley starting in 2003. Results are presented graphically at right.

State rules governing piers and boat slips can be found online at <http://dnr.wi.gov/org/water/fhp/waterway>.



Ted Teske, a seasoned operator and lake resident, leaves the Hoard-Curtis Scout Camp near the Town boat landing to resume **weed harvesting** (photo: Bill Ratzberg). Harvesting equipment includes a mechanical harvester, shore conveyor for off-loading cut plant material, and a dump truck for transporting weeds to a nearby farm for composting. Operations are performed in accordance with an approved aquatic plant management plan and Wisconsin DNR permit. A Board oversight committee regularly tours the lake to evaluate program performance.

Mechanical harvesting is used to target invasive Eurasian watermilfoil weeds and clear navigational lanes in approved locations. Beneficial plant communities are left undisturbed. Thirty years of plant-inventory data show that these efforts are helping to improve the condition of the overall plant community. An Adobe PDF version of our aquatic plant management plan, plant inventory findings, and harvesting policies can be viewed under the "Links & Downloads" section of our website at www.lakeripley.org.



The **Lake Ripley outlet** and a small, rubble spillway located at the northwest corner of the lake. Water eventually flows through culverts under Park Rd. and USH 18, and then empties into the main channel of Koshkonong Creek. The outlet is known to stop flowing during severe droughts, exposing portions of the lake and creek bottom. During flood events, the outlet's channel-discharge capacity can be reached, placing property and structures in the floodplain at risk of flood damage.