

Canaries (cont.)

Marshall believes Lake Ripley might benefit from a reintroduction of lost species (such as banded killifish, blacknose and blackchin shiners, least darters and pugnose shiners), and suggests the lake is well positioned to support them. He points to improved water quality and habitat conditions, steady declines in the invasive Eurasian watermilfoil, and the growing number of waterfront landowners choosing to restore their lakeshores.



A survey site supporting good numbers and diversity of fish. Even on developed shorelines, leaving a small patch of lily pads or cluster of cattails can provide good habitat without limiting use of the shore.

A \$3,000 grant is now being sought to fully investigate the merit and feasibility of re-establishing lost fish species to the lake. The Lake District also continues to promote its landowner cost-share program that offers 50% grants for qualifying projects, including shoreline and wetland restorations, lake-edge treefalls, and rain gardens. Limited assistance is also available through our F.K. Elson Memorial Fund in which donations help fund fishery-enhancement work. ♦

Ripples
Lake Ripley Management District
N4450 County Rd. A
Cambridge, WI 53523

RETURN SERVICE REQUESTED

Landing Blitz Page 8

In July, the Lake District participated in the 2012 Landing Blitz, a “Clean Boats, Clean Waters” partnership with Wisconsin DNR and UW-Extension. Boat-ers were greeted at the public boat landing where equipment was inspected for invasive hitchhikers, and operators were questioned on their knowledge of Wisconsin’s aquatic invasive species laws. In Wisconsin, boaters are required to take the following actions prior to entering and leaving any waterway:

- INSPECT boats, trailers and equipment.
- REMOVE all attached aquatic plants and animals.
- DRAIN all water from boats and equipment.
- DISPOSE of unused bait in the trash, not the lake.
- NEVER MOVE plants or live fish between water bodies.



Jeanne Scherer (left) talks to boaters about what they can do to prevent the spread of aquatic invasive species. After taking part in a brief survey, the participants leave with a “Clean Boats, Clean Waters” boat towel and a better understanding of the threats posed by invasive hitchhikers.

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Vol. 20, No. 2 Summer 2012

FROM THE HELM



This has been an unusual and frustrating season at Lake Ripley. We know that because we have received many calls and questions about the weather-related changes that have affected the lake this year. I will try to explain some of the challenges we have faced in the last few months, including how they are currently affecting the lake and its management.

Last winter we had very little snowfall, unusually mild temperatures, and the fewest days of ice cover since we’ve been keeping records. That was followed by an extremely warm spring with 80° days in March. Continued, record-high temperatures and exceptional water clarity have allowed early and robust aquatic plant growth. Now we find ourselves in the midst of a summer drought, with lake levels dropping over 18 inches from the normal high-water mark. Since aquatic plants thrive in water 15 feet deep or less, the weed line has moved farther out into the lake, and plants are reaching the water surface at a more rapid rate. Many of these plants are native and not the invasive species we have had to battle in the past. Still, they are hampering navigation and getting chopped up by motor boats, meaning more floating plant debris washing up on our shorelines.

In response, we have intensified our offshore weed-harvesting program in accordance with our approved management plan and DNR permit. We now have a larger crew of harvester operators who are putting in double the number of hours from prior years. Much of this time is spent cutting, but it’s also spent making supply runs, maintaining the equipment and dealing with occasional breakdowns. As of late July and about halfway through the cutting season, we had taken a record 67 dump truck loads of weeds from the lake. For comparison, we removed 53 loads in all of 2011 and 49 loads in all of 2010. At the current rate, we could remove well over 100 loads before the end of the season.

Despite the additional cutting time, we are in an uphill battle with nature. Low water levels, extreme heat and robust plant growth have made life difficult for all of us who use the lake. Be assured that we are doing everything within our capacity to respond to these changes and make needed adjustments. Also, don’t forget to attend the September 8th budget hearing and Annual Meeting to learn more about our activities. The proposed 2013 budget and Annual Meeting agenda are found on page 3.

John Molinaro, Chair

Canaries in the Coal Mine

Banded killifish. Pugnose shiner. Least darter. Blackstripe topminnow. With names like these, one is inclined to think of exotic aquarium fish. Yet these and other strange-sounding fish are (...or were) included among Lake Ripley’s native inhabitants. Due to their small stature, and because they lack the status of a prized sport fish, these shallow-water dwellers represent an overlooked and underappreciated community of non-game fish species. Nonetheless, they are a link in the natural food web and play an important role within a healthy and balanced lake ecosystem.



Banded Killifish. Photo by Dave Marshall.

Continued on pg. 2 >>

Back in 1975, Lake Ripley's first-ever inventory of these lesser-known fish populations was performed by the Wisconsin Department of Natural Resources. Specialized nets, called small-mesh seines, were used to capture juvenile sport fish and those elusive minnows, darters and smaller fish species. These smaller fish are typically missed during fall electrofishing surveys that are often used to monitor sport fish populations.



Seining on Lake Ripley during the 2004 (top) and 2012 fish surveys.

At the time, 18 species were found, including a Wisconsin Threatened Species (Pugnosed shiner) and two Species of Special Concern (Banded killifish and Least darter). Considered “canaries in the coal mine,” the number and diversity of these environmentally-sensitive fish can reveal a lot about lake conditions. This is because each has a low tolerance for changes in habitat and water quality. Other factors also can reduce their presence, including loss of a food source or an increase in the number of predators that feed on them. Their decline or disappearance can warn of problems that may not be revealed through other lake-quality measures, such as water clarity, phosphorus levels or dissolved oxygen.

When the 1975 survey was eventually repeated nearly 30 years later in 2004, results showed a drop in species diversity and an apparent absence of those Threatened and Special Concern species. This prompted the Lake District to obtain a \$2,700 grant so a more aggressive, follow-up assessment could be conducted this summer. That work is now complete. Here are some of the key findings:

- Several native, environmentally-sensitive species found in 1975 were not re-captured during the 2004 or 2012 surveys. It is assumed that they no longer live in Lake Ripley.
- A small electroshocker for near-shore areas was used in combination with seine netting in the 2012 survey. This more aggressive sampling revealed the blackstripe topminnow, fantail darter and tadpole madtom—natives which had not been found in earlier seining surveys. Nonetheless, the number of environmentally-sensitive species has declined from what was documented in 1975.

- The reason for the loss of certain vulnerable species since 1975 is unclear. Possible factors include higher phosphorus levels and the use of chemicals to treat lake weeds prior to the formation of the Lake District in 1990. Aquatic invasive species infestations and the loss of near-shore habitat due to shoreline development may be other factors.
- Higher fish species richness, or diversity, was generally found at sites with better overall habitat (i.e., firmer substrate, good shoreline and aquatic plant cover, submerged tree limbs, etc.).



The seining crew heads to the next survey site. From left, Lake District project partners include Patricia Cicero (Jefferson County), Doug Lubke (DNR), and Laura Stremick-Thompson (DNR).



Staff from Underwater Habitat Investigations, LLC perform near-shore electrofishing. This method is particularly effective in muck, thick vegetation, and where obstacles make seining difficult. Photos by J. Scherer.

Jeanne Scherer, Lake District intern, was part of this summer's survey team. “I was amazed at the difference the habitat at each site made in the number of different species we found,” observed Scherer. “Around piers with little to no plant life and the sandiest bottoms, we only found a few species per site, and there would only be one or two of each. But near natural areas or shoreline restorations, the numbers and diversity of fish went up quickly. At the Scout Camp shoreline restoration, we found ten different species, including juvenile Rock bass which require good water quality.”

Another productive site was a stretch of wetland on the lake's west shore, and especially around a grouping of treefalls. Dave Marshall, an aquatic biologist with Underwater Habitat Investigations LLC, helped lead the survey effort and was not surprised by its findings. “I was involved with another Lake Ripley study several years ago that looked at the impact of different pier types and densities on near-shore aquatic communities. The most diverse and productive sites were in relatively undisturbed and well vegetated areas with the fewest piers.” He added that larger piers with big decks can actually lead to excessive shading, creating desert-like conditions beneath the structures. The problem is compounded when extensive areas are raked around piers for completely plant-free swimming beaches.

Continued on Pg. 8 >>

2012 will be remembered as a year of Extreme weather. Record-high temperatures and severe drought have taken their toll on our crops, yards and surface waters, and the evidence is all around us.

Wetland ponds in the Lake District Preserve were reduced to mud flats, while water barely trickled through the lake's inlet and outlet creeks. Water levels in Lake Ripley have plummeted to historic lows, and may continue to fall as long as the drought continues. In addition, high heat has produced warmer-than-normal lake temperatures. As water temperatures rise, lakes lose capacity to hold oxygen, which causes stress to our more sensitive fish and aquatic life. Warm water, high clarity, and low lake levels have also conspired to fuel rampant aquatic plant growth. In turn, these conditions have led to more intensified mechanical harvesting, more floating plant debris, and more boats left stranded on their hoists or stalled in thick plant beds.

If most climate scientists are correct, extreme weather events like this year's drought will not go away any time soon. Remember the 100-year flood events of 2007 and 2008? It wasn't long ago when we were dealing with lake levels that were too high and soils that were too saturated. The key to minimizing such severe-weather impacts is to make Lake Ripley more “climate change resilient.” It is why many of our management activities promote rainfall infiltration and groundwater recharge. They include building rain gardens, preserving wetlands and natural areas, and reducing water-impervious surfaces. By encouraging rainwater to percolate into the ground, such activities help conserve water when its scarce and control it when it's not. Looking ahead, groundwater will undoubtedly play an increasingly important role in



Wetland ponds at the Lake District Preserve lose much of their water during this summer's severe drought. At left, turtle tracks traverse the resulting mud flats. Photos by J. Scherer.

maintaining Lake Ripley's climate change resiliency. In the summer, when fish populations are most stressed due to high water temperatures and low rainfall, groundwater inputs maintain flow and cooler temperatures. Given the length of time the water spends underground, groundwater is relatively cold (51°) compared to surface water. Also, groundwater is cleaner than surface runoff, and it is slowly and steadily released to streams and lakes, unlike sporadic rainfall. ♦

Manure-Spreading Tips During Droughts

Few are hit harder by severe weather than our friends in the farming community. Whether it's the risk of flooded fields and eroded top soil during flood years, or withered crops during drought years, farmers must constantly plan for and adapt to change. Many operational decisions protect our lakes, streams and groundwater as much as they insure a farmer against financial loss. They include soil conservation measures, nutrient management planning, grass waterways and filter strips, and other good land-stewardship practices.

During times of drought, special attention is given to how manure is applied on cracked, dry soils. Taking some simple precautions helps reduce the risk of manure entering drain tiles and winding up in streams and farm ditches. They also increase the nutrient value of the manure by preventing it from moving below the crop root zone.

Before applying

- Check fields for soil cracks and locate drain tile inlets. Avoid applying manure to soil-cracked fields, with or without drain tiles.
- When spreading can't be avoided, work the soil with tillage equipment to fill in cracks and close off pathways. Have a containment and response plan at the ready in the event of a spill.
- Review your farm's conservation plan before working up fields.

During and after application

- Apply in smaller, lower-volume applications.
- Monitor tile outlets for manure before, during and for several days after it is applied and after it rains.
- Notify Wisconsin DNR's spill hotline (1-800-943-0003). Immediate reporting is required by state law and DNR staff provide assistance to contain the spill.

For more information, contact: Andrew Craig, DNR, 608-267-7695; Kevin Erb, UW-Extension, 920-391-4652; or Sara Walling, DATCP, 608-224-4501

Water Conservation Tips (...that also help the lake!)

- ☼ Attach a rain barrel to your roof downspout to collect and store rainwater for later use.
- ☼ Allow lawns to go dormant in dry weather.
- ☼ Choose landscape plantings that are deep rooted and tolerant of our region's climate.
- ☼ Monitor water use around the home, which is tapped from groundwater. Water down the drain means less for the lake.

Still dreaming of that vacation trip to the beach with family and friends? Well, it may be a lot closer than you think. In fact, it's right around the corner. And given the price tag, escaping to the beach has never been cheaper.



Beachgoers visit Lake Ripley Park to cool off on one of our many hot summer days.

If you haven't visited Lake Ripley Park, you are missing out on one of our area's local gems. The 18-acre park, owned by the Cambridge Foundation, is located on Lake Ripley's west shore off Park Rd. The park has been a popular attraction since the early 1900s. Although in private ownership, it has been maintained for the public's use and enjoyment since 1946. Daily management is provided through the Cambridge Community Activities Program (CAP).

Park amenities include a 500-foot sand beach; protected swim area; volleyball, tennis and basketball courts; children's playground; picnic shelters; grills; restrooms; and a concession stand. New this summer is a nine-hole disc golf course and paddle craft rentals. The park also hosts various community events, including free family movie nights, the Cambridge Pottery Festival, Umbrella Daze, and winter's "Dip for Dozer" fundraiser.

Hours:	9:00 a.m. to 8:00 p.m. daily
Season:	Memorial Day to Labor Day
Gate fee:	\$2 for adults, \$1 for kids 12 and under (Season passes also available)
Shelters:	Rented through Cambridge CAP (423-8108, www.cambridgecap.net)
Paddle craft:	Canoes, kayaks and stand-up boards (Rented at the park, or call 423-2111)
Golf discs:	Rent at park for \$5 or bring your own
Advisories:	Jefferson County Public Health (920-262-8094)
Prohibited:	Pets; glass bottles

Although no lifeguard is on duty and swimming is at your own risk, beach safety and water quality are important management issues for park personnel. Every morning the sand is groomed, washed up plant debris is raked and composted, goose droppings are collected, and trash is picked up.



Park personnel groom the beach so it's ready for the day's visitors.

Water quality is monitored for bacteria on a weekly basis by Jefferson County Public Health. Swim advisories are posted if bacteria readings exceed public-health thresholds. Advisories are infrequent but do occur from time to time as a result of geese activity. Geese are discouraged from congregating at the beach through the use of temporary fencing, trained herding dogs, and other measures. So far this summer, bacteria counts have been very low and the beach has received a clean bill of health.



Kayaks, canoes and stand-up boards are offered for rent at the park by CamRock Cafe and Sports.



Competitive swimmers Herb Redmond (left) and Pete Grunwald take a break from training. Knowing the width of the buoyed swim area is 500 feet helps them track distances. Photos by J. Scherer.

For general questions about the park, call Jody Wilke at Cambridge CAP at (608) 423-8108. To learn more about the Cambridge Foundation, including what you can do to support the park, visit www.cambridge-foundation.org, or call 608-423-3254.



LAKE RIPLEY MANAGEMENT DISTRICT
2013 PROPOSED BUDGET

	2011 ACTUAL	2012 JAN-JUNE ACTUAL	2012 JAN-DEC ESTIMATED	2013 PROPOSED BUDGET
Revenues:				
Real Estate Tax Levy	\$ 118,775	\$ 79,127	\$ 118,320	\$ 118,320
Grants		10,855	10,855	
Interest Income	448	431	826	
Carryover				680
Use of Unrestricted Funds				17,500
Restricted Funds, Net		<11,517>	<11,679>	
Other	294	500	500	
Total Revenues	119,517	79,396	118,822	136,500
Projects:				
Landowner Cost Sharing	2,368	7,463	14,238	5,000
Weed Harvesting	9,086	2,376	7,500	10,560
Lake District Preserve	5,113	1,985	4,500	14,750
Special Programs	676	65	250	250
Operations:				
Staff Payroll/Fringes/Taxes	67,038	34,769	69,950	70,620
Insurance	4,558	5,191	5,191	5,220
Legal Counsel	0	0	1,000	1,500
Dues & Conferences	992	830	1,400	1,400
Office & Community Outreach	5,596	2,082	6,282	7,300
Contingency	2,463	970	3,200	3,200
Commissioner Stipends	4,600	2,100	4,750	4,900
Rent	1,800	900	1,800	1,800
Capital Reserve, Land/Equipment Acquisition	10,000	0	10,000	10,000
Total Disbursements	114,290	58,731	130,061	136,500
Balance	\$ 5,227	\$ 20,665	\$ <11,239>	\$ --

Restricted Funds:	Capital Reserve, Land & Equipment Acquisition	F.K. Elson Memorial	Friends of the Preserve	Preserve Restoration & Development
Est. Balance (12/31/11)	\$ 61,838	\$ 206	\$ 2,020	\$ 2,244
Additional 2011 activity:				380
Increase				
Decrease				
Final Balance (12/31/11)	61,838	206	2,020	2,624
2012 Est. Additions	10,500		150	
2012 Est. Interest	300	1	10	13
2012 Est. Expenditures				(1,515)
Est. Balance (12/31/12)	\$ 72,638	\$ 207	\$ 2,180	\$ 1,122

Budget Hearing
September 8, 2012
8:00—9:00 a.m.
Oakland Town Hall

Annual Meeting
September 8, 2012
9:00 a.m.
Oakland Town Hall

- Call to order
- Approve 2011 Annual Meeting minutes
- Nomination of board candidates (Name on Ballot: Georgia Gomez-Ibanez, incumbent)
- Chairman's report
- Treasurer's report
- Budget and tax levy
- Tabulation of vote and election of board members
- Adjournment

Lake Ripley is an incredible water resource enjoyed by residents and guests alike. But it is not the only water source key to our lives. Even more important to our daily health and wellbeing is the water from household faucets that we use for drinking, bathing and cooking. In our area, this water comes from groundwater that we tap through private wells. It is important to remember, particularly during droughts, that this water also feeds our lakes and streams. Tap water wastefully sent down the drain goes to a treatment plant that discharges outside of our watershed, meaning less water for Lake Ripley.



Source: Url.biz

Groundwater Basics

Groundwater is water trapped in the pore spaces between soil particles and fractured rocks below ground. Rain and snowmelt that does not evaporate, or is not captured by plant roots or a surface water, travels deeply underground. Just as water moves downhill on the land surface, water that soaks into the soil will move lower and lower until it reaches a point where the ground is already saturated or bedrock stops its downward flow. The water table is the point below the ground surface where water has settled as deeply as possible. Groundwater can then move laterally underground, eventually discharging as springs or seeps at points (like wetlands and lakes) lower in the landscape. It is estimated that Lake Ripley receives as much as 40% of its water this way.

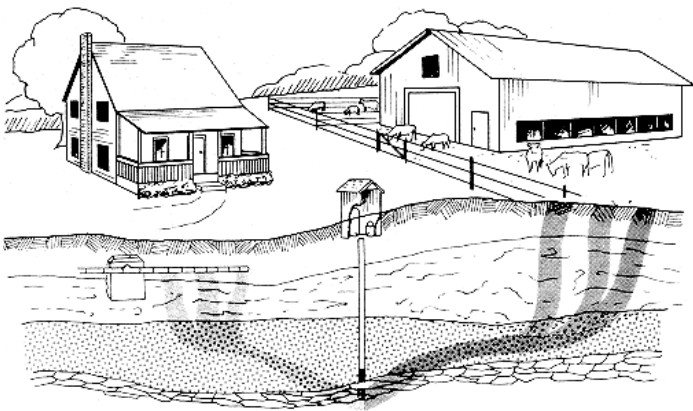
Private Wells

Wells are drilled to a depth where the water below the water table can be drawn up to the surface for our use. The goal is to drill deeply enough to avoid bringing up contaminated water that has not been completely filtered of surface pollutants by the soil.

In the Lake Ripley watershed, 285 private wells are on file with the Wisconsin DNR. Unlike municipal water systems that are routinely tested for a variety of contaminants, private well owners are responsible for their own testing. Depending on the risk level of the owner's location, it may be necessary to test as frequently as once a year to know the water is safe to consume. Bacteria, nitrates and pesticides represent the most common contaminants of concern. For homes built prior to 1985, lead from old plumbing systems may also pose some risk.

General Risks for Bacteria, Nitrates and Pesticides

In terms of well safety, risk is primarily a matter of location. For example, nitrates and pesticides are a familiar concern for people living on or near farms that are applying fertilizers and pesticides. Contaminants can end up in the groundwater and put a well at risk if the well is within one-quarter mile of feedlots, barnyards and agricultural fields where manure, fertilizers or pesticides are spread. The risks increase if the well is downhill of any of these sources.



Nitrates

Nitrates are compounds formed when nitrogen (usually from fertilizer applications of ammonia) combines with oxygen in water. They are associated with a human-health condition called methemoglobinemia, known commonly as "blue baby syndrome." When infants ingest nitrates in water used to make their formula, the nitrates in their stomach are changed to nitrites. Nitrites interfere with the blood's ability to carry oxygen, resulting in a blue-grey or lavender tint to the skin. If the condition is not treated promptly, coma or death may occur. People with certain medical conditions, such as heart disease, may also want to avoid nitrate contaminated water. 14% of the wells in a 2007 survey of domestic wells in Wisconsin had nitrate concentrations above the safe standard for drinking water.

Pesticides

A pesticide is any substance used to control or repel pests that may harm crops or other plants we wish to protect. A pesticide may be a chemical mixture to control a fungus that attacks soybeans, an insecticide that kills a worm that destroys corn, or even an herbicide (like Roundup) used widely on fields, yards and gardens to eliminate weeds. The Wisconsin DNR recommends you test your well for pesticides and

follow up every 5-10 years, especially if the well is within one-quarter mile of corn fields or locations where pesticides are processed or stored.

Bacteria

E. coli and other bacteria may occur in animal wastes, decaying vegetation, or fouled surface water that has overflowed and been reabsorbed by the soil. Not all bacteria are bad, but there are many that present a high risk to human health. The sulfur smell noted in some drinking water is actually due to iron and sulfur bacteria, which are considered nuisance bacteria, but are otherwise safe. Odor, taste or color changes are often an indicator of bacterial contamination and signal a need to test the well. Testing for bacteria is recommended once per year.

Testing

Although home tests are available, they will not indicate the range of issues a professional lab test can measure. In addition, they generally only show the presence of a contaminant and not its concentration in the water. Without knowing the concentration level, it is difficult to decide what, if any, action is necessary.

Helpful Links

- General well-testing information:
<http://dnr.wi.gov/org/water/dwg/welltest.htm>
- Common tests for private wells:
<http://dnr.wi.gov/org/water/dwg/pubs/TestsForWell.pdf>
- Well compensation grants:
<http://dnr.wi.gov/Aid/WellCompensation.html>
- Wisconsin State Lab of Hygiene (pricing)
<http://www.slh.wisc.edu/ehd/testfee.dot>

The Wisconsin DNR provides a list of certified labs that can provide you with a test kit. Once you have your results, you will know if your well is safe or if you have to take steps to protect yourself and your family. If a new well or other expensive measures are necessary, there are grants available to assist lower income families. ♦

Grants awarded to help fund Preserve restoration

We are pleased to report that over \$10,000 in grants were received to support a large-scale woodland restoration at the Lake District Preserve. The work will be conducted over a three-year period by Applied Ecological Services, starting with forestry mowing this winter in the 22-acre woodlot that adjoins Lake Ripley's inlet creek. Aimed at controlling woody invasive species, this effort is identified as a priority in our 20-year Preserve Plan. Funding sources include: Enbridge Energy Company, Inc. (\$5,000); Alliant Energy Foundation (\$3,750); and the County Conservation Aid Program (\$1,500).

UW-Whitewater Collaboration

Partnering with research professors and students from UW-Whitewater, important baseline information is now being collected on the various plants and animals found within the Preserve. The work is being led by Dr. Nicholas Tippery, a biologist and professor at UWW, with the goal of tracking the impacts of restoration projects as they get implemented over time. Any information gained should help guide management decisions that recognize the value of a healthy Preserve in protecting the downstream Lake Ripley ecosystem.

Score Your Shore

It is hard to find lakefront property owners who do not want to protect and enhance their shorelines. Maintaining the beauty, health and accessibility of our lakeshores is a top priority. We want to see and appreciate the lake; prevent erosion; have a safe place to swim; attract desirable wildlife; and be able to catch fish from our docks. Most importantly, we want to do what's good for Lake Ripley.

The challenge is that not all shorelines are alike, and no single management approach can be right for all situations. In general, the Lake District promotes "natural" or "restored" lakeshores that balance reasonable access and use of the shoreline. But what does this mean? What makes one shoreline better or more lake-friendly than another? One way to evaluate the health of your shoreline is to score it. Find out how by visiting: www.dnr.state.mn.us/scoreyourshore/index.html

