

**Lake of the Ozarks Watershed Alliance
Public Meeting Minutes
The Outlook Warsaw, Mo.
Monday, May 16, 2011**

The LOWA public meeting was called to order at 6:30 PM by LOWA President Christy Fera who then turned the meeting over to Executive Director, Donna Swall. Following the welcome, introductions were made round robin.

MDNR E-coli Cove Study—Scott Robinett

Swall introduced the first May speaker, Scott Robinett, who is an Environmental Specialist with the Missouri Department of Natural Resources (MDNR) and project manager of the 5-year MDNR E. coli Cove Study for the Lake of the Ozarks. Robinett summarized the results from the first four years of the survey and then presented plans for this year's monitoring season.

Robinett said that with the help of the LOWA volunteers, the Missouri Department of Natural Resources has been able to sample almost 3 times as many coves as they would have been able to without help from the volunteer water collectors. This year, the first sampling is scheduled to occur on May 31, 2011.

DNR Environmental Specialist Scott Robinett reviewed the results of the last four year's of the bacteriological survey as this year's testing gets set to begin saying that this year's focus will be on the upper reaches of the lake. Thirteen coves from the 61 mile-marker to Truman Dam will be tested by taking three to seven samples from each cove once each month.

Starting in 2007, new coves and sites have been selected each year in regions of the Lake for sampling to test for E. coli. According to Robinette, E. coli is a naturally-occurring bacteria and it is largely considered an indicator marker of potentially pathogenic bacteria and most strains of E. coli are not dangerous in of themselves, he added.

Most years, there have only been a few spots in a few coves that have tested high. Some of the tests have caught "hot spots," according to LOWA Executive Director Donna Swall, where a wastewater system was failing or perhaps a boat had dumped its wastewater into the Lake.

But, in reviewing the correlation between the level of E. coli in the tested coves and heavy rains in the prior 48 hours to sampling, Robinett said, "Rainfall seems to have the

biggest impact on results", with only one sampling date in May of 2009 showing several coves testing high, and that was after very heavy rains up to 5 inches over the weekend just before the water sampling.

So, for the most part, E. coli spikes occurred subsequent to heavy rains. There were also generally higher numbers in the spring even without heavy rain in the prior 48 hours, but the vast majority of those numbers were still not higher than the accepted limit for the bacteria.

"We can't explain everything. There's not enough data. But my theory for this is that it gets muddy with all the discharge in the spring from Truman Dam even if there hasn't been a recent rain," he said. All results from this 5-year study can be viewed on DNR's website at www.dnr.mo.gov.

As part of its Watershed Management Plan, LOWA is trying to reduce this storm water runoff into the Lake. While improper or failing wastewater systems may also be contributors to high E. coli samples, storm water runoff is considered to be a major factor in Lake pollution.

Storm water runoff carries sediment and other materials from the land into the Lake directly and via its tributaries. This sediment provides a platform for E. coli to grow on, according to LOWA Project Manager Caroline Toole, in a side note. Sediment also increases the levels of nutrients in the water, particularly nitrogen and phosphorus, which algae feeds on.

The Lake is healthy even though two arms of the Lake are on the EPA (Environmental Protection Agency) impaired waters 303d list, according to Robinett. The nutrient of concern causing the Niangua Arm of the Lake to be on the list is phosphorus and for the Osage Arm the nutrient is nitrogen.

These nutrients are needed to have a healthy ecosystem, but excessive amounts can cause problems. While a certain level of nutrients in the water are needed for fish and other organisms, excessive levels cause rapid increases in the growth of various forms of algae, called an algal bloom. The algae in the bloom grow very quickly and then die off very quickly, and this decaying algal bloom consumes dissolved oxygen in the water. This oxygen depletion can kill off fish and other aquatic life. Excessive algal growth can also give off toxic substances and foul odors, not to mention being very unsightly.

That has not occurred at Lake of the Ozarks. LOWA's goal is to maintain and improve the quality of the Lake's water and to specifically avoid an algal bloom, Swall said.

In one prong of its efforts to keep a major problem from happening here, LOWA is encouraging homeowners and businesses to implement low impact landscaping (LILs). These methods can reduce storm water runoff and the nutrients runoff carries into the Lake. LOWA LILs was the topic of the next speaker, Caroline Toole.

LOWA LILs for a Healthy Lake of the Ozarks—Caroline Toole, Project Manager

In April of 2010, MDNR accepted LOWA's Lake of the Ozarks Watershed Management Plan, focusing on the first 18.8 miles of the Lake. Then, 2 different grants were written to try to address the many issues facing the Lake, based on the ideas described in the watershed management plan. DNR then asked LOWA to merge the two grants into one smaller grant under the EPA's 319 Watershed Protection Program. The 319 Program focuses on nonpoint source pollution, which includes stormwater runoff.

LOWA LILs for a Healthy Lake of the Ozarks is the grant awarded to LOWA in January of 2011, and the Low Impact Landscapes program was up and running. Even though LOWA LILs is the major focus of this grant, the grant includes several other aspects, all of which were discussed by Toole. Many partners are on board with LOWA, working together to help keep our Lake healthy and beautiful. Some of these partners include Schultz and Summers Engineering in Lake Ozark, Realty Executives in Laurie, University of Missouri Extension Master Gardeners (the Lake Area and the Prairie Bloomers chapters), Missouri Master Naturalists Lake of the Ozarks Chapter, Ameren Missouri, Lake Media, Lake TV Channel 32, MO Dept. of Conservation, and two Missouri native plant outlets, Prairie Hill Farm and Lake Area Industries Gifted Gardens. Several of the Lake area's major resorts also frequently donate meeting room space to LOWA, including Tan-Tar-A and The Lodge of 4 Seasons.

Watersheds, Toole explained, are the land areas that drain into a body of water. The watershed for the Lake of the Ozarks is huge, reaching all the way into Kansas, as streams flow into rivers and rivers flow into other rivers, all ending up in the Osage River at Bagnell Dam. The focus area for LOWA's grant is the land around the first 18.8 miles of the Lake, almost to the Grand Glaize Arm, but excluding also the Gravois Arm. This is just the way the land lays, says Toole. The two subwatersheds in the grant are called the Buck Creek and Lick Branch watersheds (HUC # 102901090406 and 102901090407, as defined by a numbering system used by MDNR). We all live in a watershed, but why should we care about watersheds? Stormwater runoff comes off of the land and washes all kinds of materials into the Lake, including plant debris like leaves and animal feces like deer droppings and even dog and cat droppings. Runoff also washes in soil and all the materials from roads and parking lots. Most of this material is a large source of the

excessive nutrients discussed earlier in the program (see Scott Robinett's discussion above). LOWA's grant attempts to address these sources of nutrients and the main program in the grant is LOWA's LOWA LILs program. LOWA LILs are the many ways individual land owners can take care of their lawns and green spaces in order to reduce the amount of stormwater runoff reaching the Lake, allowing that water to soak into the ground where it can be used by plants.

The LILs of LOWA LILs stands for Low Impact Landscapes and these include landscaping techniques such as rain gardens, which are depressions constructed in the ground and then filled with mulch and planted with beautiful native perennials. Rain gardens are designed to capture the runoff and let that runoff soak slowly into the ground after the rain event. Another LOWA LIL is the use of rain barrels. Rain barrels capture the stormwater coming off of a roof and then the rainwater can be used to water plants or released slowly onto the ground after the storm is over. Some other LOWA LILs include vegetated channels, vegetated buffer strips, and terracing. All LOWA LILs are designed to reduce the amount of stormwater runoff reaching the Lake (or other body of water draining to the Lake) and slowing that runoff down so that the rainwater has a chance to soak into the ground instead of running off and carrying various materials into the Lake.

Another aspect of the LOWA LILs program is to encourage individuals to have their soil tested. Soil tests determine whether the lawn or other plantings need fertilizer, and if so, what kind and how much. LOWA's volunteers will come out to the business or home property and sample the soil for individuals and then take that soil to the University of MO Extension office to have the soil tested. Soil tests cost an individual \$13, providing a discount of the usual \$15 fee charged.

LOWA has established a cadre of volunteers called TVEs – Trained Volunteer Evaluators – who, for no charge to the individual, will sample the soil for a soil test, advise property owners on how to help with runoff control and erosion control, where to put various LOWA LILs, and what sorts of native plants will work well where. LOWA is encouraging the use of native perennial plants with the LOWA LILs because native plants are already used to our Missouri weather and soils, they have deep root systems, that once established, need very little fertilizer or maintenance.

Another program to go along with the LOWA LILs program is LOWA's LOWA LIL Lake Protector Yards. When utilizing healthy watershed landscaping and yard maintenance techniques, individuals can qualify to become a Lake Protector Yard and receive a LOWA LIL Lake Protector sign that will be the envy of their neighbors. LOWA is hoping whole neighborhoods and coves will work with LOWA LILs to really make an impact on maintaining and improving the health of our beautiful Lake of the Ozarks.

Other aspects of LOWA's grant program include the Pump Out Program where property owners with septic tanks can receive a discount for a septic tank pump out from a reputable pump out company and learn all about why it is important to properly maintain a septic tank.

Another program with the grant is LOWA's Pump Don't Dump program which encourages boat owners to responsibly dispose of their onboard waste instead of simply dumping that waste into the Lake (which, by the way, is illegal!). LOWA has a brochure with a map and a listing of the marinas and campgrounds around the Lake with pump out stations. That brochure will be updated and reprinted through this grant.

A new monitoring program is another aspect of this grant. Under this program, 9 coves in the focus area are being tested for phosphorus, nitrogen, total suspended solids, and E. coli. Three of the coves are undeveloped, 3 coves are treated by a regional waste water treatment plant, and 3 coves are with septic tanks. This year these coves are being sampled in a 20-week water collecting program (run by Geosyntec with volunteers providing the boats, captains, and collecting), then a focused program of LOWA LILs will be encouraged, and then in the grant's 3rd year, another 20-week water collecting program will happen. Results will be analyzed by Geosyntec through the grant. All E. coli results are immediately sent to MDNR and the county health departments and results are posted on DNR's website at www.dnr.mo.gov, click on 'read about Lake of the Ozarks water sampling'.

Beautiful Yards for a Healthy Lake of the Ozarks workshop will be held June 25th at the Lodge of 4 Seasons. For a \$10 registration fee, participants will receive a native plant, a tote bag, lunch, and course materials. This workshop is a short course on how individuals can help keep the Lake healthy and beautiful with low impact landscape techniques. The agenda includes Watersheds 101, Healthy Lawn and Soils, Integrated Pest Management and Chemicals, Right Plant Right Place, and Rain Gardens as experts share their knowledge with workshop participants. Native plants will also be on sale. Call 573-434-4400 and ask about the Beautiful Yards workshop, sign up online at www.soslowa.org (click on BYHL Workshop – or send name and phone number with a check for \$10 to LOWA, PO Box 836, Sunrise Beach, MO 65079. **Do it TODAY!**

LOWA Committee Reports

Water Quality: Greg Stoner

Greg Stoner, Chair, announced the 5th year of the DNR Cove Study for LOZ. This year they will be sampling the last part of the Lake from the 60 mile marker up to Warsaw. Thirteen coves will be sampled once a month for 6 months. Results will be posted on the DNR website.

2 Dam Days: Alice Walker

This year's 2 Dam Days canoe and kayak event with accompanying Clean Water Festival will take place September 23-25, 2011. Kicking off Friday evening the 23rd in Warsaw, a Clean Water Festival will welcome the marathon kayakers with music, booths and festivities. Clean Water Festivals will also occur Saturday at Captain Ron's in Sunrise Beach (the end point for several races) and Sunday on the Bagnell Dam Strip stage area (end point for several other races). Booths, music and festivities will accompany the Clean Water Festivals as we showcase our beautiful Lake of the Ozarks for the world!

Races this year include the **Main Event** – a 2 day marathon paddle from Truman Dam to Bagnell Dam, ending at Captain Ron's on Saturday and Iguana Watersports on Sunday. Several divisions exist with a guaranteed prize purse. Entrance fee for the Main Event is \$150.

The **Adventure Series** includes a 31.5 mile race on Saturday and a 20 mile race on Sunday. The entrance fee for the Adventure Series is \$100 and has a cash purse based on the number of entrants.

The **Just For Fun Series** includes a 12.5 mile paddle from Half Way Inn to Captain Ron's and includes canoes and kayaks propelled by handheld paddles. The **Anything Goes** race is for anything that will float and be propelled without a motor or sail. This 3.5 mile race will be plain old FUN! There are no cash prizes for these categories and they have a \$25 entrance fee but fun prizes and/or awards will be presented.

For more information, please go to 2damdays.org or call 573-434-4400. Sponsorships for booths are available for all 3 Clean Water Festivals. Volunteers are needed to help LOWA at the Clean Water Festivals and at race checkpoints, as well as volunteers to be out on their boats or personal water crafts to help protect the kayakers as they race down the Lake!

Education and Outreach: Caroline Toole

May was very busy with several education events with area students as LOWA worked with almost 500 students in Clean Water Celebrations and Earth Day is Everyday events. Volunteers are always needed and welcome for educational events as well as for booths and other outreach events. Call 573-434-4400 or sign up online at www.soslowa.org if interested.

Lake Safety: Carroll Vogel

Lake Safety Carroll, Chair and liaison with the Lake of the Ozark Water Safety Council, managers of the Designated Captain Program and the Think Before You Sink campaign, said WSC will be visiting restaurants and bars throughout the lake area, introducing and promoting the Designated Captain Program which discourages drinking while driving a boat. The WSC will be updating the brochure that shows where all the establishments are that recognize the Designated Captain Program.

LOWA LILs: Kathy Fayant

The LOWA LILs committee has been very busy installing a rain garden at Willmore Lodge and organizing various workshops, including the very popular and successful

Beautiful Yards for a Healthy Lake of the Ozarks, held March 16th and to be repeated June 25. Sign up online for the Beautiful Yards workshop or call 573-434-4400. For only \$10, participants will receive lunch at The Lodge of 4 Seasons, a tote bag, and a native plant in addition to learning all about how individuals around the Lake can help keep runoff from reaching the Lake through installing beautiful Low Impact Landscapes.

Recycling: Gaye Belloir and Nancy Pope

April 30th LOWA held its Household Hazardous Waste Reclamation Day 2011 event. Over 480 cars came through in 5 hours. Tons of hazardous waste was kept from area landfills and ditches. The following number of pounds of materials was collected:

Oil	1925	
Latex bulk	7641	
Latex loose	1659	small cans in cubic yard box
Cylinders	8	
Aerasols	971	
Bulk flammables	1363	
Loose flam	9665	oil base paint in cubic yard box
Oxidizers	34	
Organic peroxide	75	
Pesticides	764	
Tox solids	409	
Batteries	1936	
Mercury	7	
Acids	155	
Bases	138	
Misc	27	

Total 26,780 lb

Also taken away was 2 very full pickup loads of paints and other materials for Habitat for Humanity and 1 ½ semi trucks and 1 large box truck of electronic waste.

Clean Water Initiative:

LOWA is working with the Lake's 4 County Commissioners to coordinate efforts about waste water around our Lake.

Gifted Gardens: Native Plant Sale

Lake Area Industries Gifted Gardens brought native perennials from their greenhouses for interested patrons.

The meeting was adjourned at 8:45.

These minutes respectfully submitted by J. Dabbs Assistant to Executive Director / MO Clean Water AmeriCorps Member and by C. King Toole, LOWA Recording Secretary.