

**Lake of the Ozarks Watershed Alliance (LOWA)**  
**Escollo Room at The Lodge of 4 Seasons**  
**General meeting February 19, 2008**  
[www.soslowa.org](http://www.soslowa.org)

**Contents**

Subject	Page
<b>Zebra Mussels in Missouri</b>	1
<b>Boater’s Guide to Preventing the Spread of the Zebra Mussel</b>	4
<b>Cove Testing</b>	6
<b>Urban Construction</b>	9
<b>Discussions By Element Chairs &amp; Webmaster</b>	10
<b>LOWA Webmaster</b>	10
<b>Lake Safety</b>	10
<b>Waste Water</b>	10
<b>MO Stream Team</b>	11
<b>Shoreline Clean-Up</b>	11
<b>Recycling</b>	11
<b>Lake District Plan</b>	11
<b>Round Table Discussion</b>	
<b>Concerned Citizens of Camden and Miller County— Quarry Issue</b>	12
<b>Future Meetings</b>	13

Donna Swall, LOWA Executive Director, called the meeting to order at 6:30 pm, introduced herself, and then proceeded with a round robin of introductions of all present, over 30 people.

**Zebra Mussels in Missouri**

Zebra mussels in Missouri, presented by Greg Stoner, Fisheries Biologist, MDC, Camdenton office began the evening. The zebra mussel is an exotic species that has arrived at the Lake of the Ozarks. An exotic species is an organism that does not naturally belong in a particular ecosystem. In this case, the zebra mussel belongs in the Baltic area of Europe! That’s where its home is. That’s where it is a natural part of its ecosystem. Exotic species tend to unbalance every ecosystem in which they can live. Zebra mussels, in particular, reproduce at very high levels, their larvae are very spiny and our North American fish can’t really eat them. So many of them grow that not only do they encrust over and clog up pipes and any hard surface, they also eat up all the food for our native mussels. Zebra mussels were first found in the Lake of the Ozarks in June of 2006 on an aluminum chair that had fallen in the Lake the year before.

Zebra mussels came to North America from Eurasia in oceanic tankers. These tankers would fill their ballast tanks with lake water from their home ports, sail out to sea, cross the Atlantic Ocean, and then make their way to the Great Lakes. Once they reach port in the Great Lakes, these tankers then empty their ballast tanks into the freshwater of that port, along with the multitude of organisms that were in that ballast water. Once the zebra mussel established itself in the Great Lakes, they spread out from there via every mode of river and lake traffic and use, but mainly by recreational boaters. And, since the Lake of the Ozarks is not connected to barge or other commercial boat traffic, recreational boaters are the ones who have brought the zebra mussel to the Lake.

The first zebra mussel was found in the US in 1988. By 2000, boats that were infested with the zebra mussel were being intercepted by agencies and marinas here at the Lake of the Ozarks. In 2006 a small population of them was found in South Buck Creek near the 8 mile marker. Zebra mussels are now well established from South Buck Creek to the dam and up the lower half of the Gravois arm. In 2006, the MO Dept. of Conservation (MDC) contracted with divers to look around. Zebra mussels were found at Public Beach #2, not in either Niangua river, nor at Ha Ha Tonka. There are some below Bagnell Dam, in the Osage River. People must remember that the zebra mussel adults attach and stay in one place and the larvae float with the current and cannot go anywhere on their own that the current doesn't take them. At the Lake of the Ozarks, so far these mussels are only around the larger marinas near the Bagnell Dam end of the lake. The Lake of the Ozarks is really a drowned river system and still has a current that flows from Truman Dam to Bagnell Dam. Likewise, the rivers that flow into the lake have a current flowing towards the lake. The zebra mussel cannot spread against the current by itself. Boaters must be made aware of sensible boating and fishing habits that can help to slow down further spread of the zebra mussel within the Lake of the Ozarks, such as, don't fill your live well with water from an infested part of the Lake and then empty that live well water into an uninfested part of the Lake. Larvae are going to be in the infested water and we don't want to empty the infested water into water that doesn't have any larvae yet. In 2007, zebra mussels were found in Lake Taneycomo and Bull Shoals.

The zebra mussels environmental requirements (what it needs to be able to live in an ecosystem) are very similar to those of our own native mussels. They require a fairly neutral pH of water, not too acidic and not too basic; they do need hard water so their shells have plenty of calcium to grow and our water is very hard because of the Ozarks' limestone bedrock; they need fresh water, ocean water kills them; they need 1-4 months per year of temperatures greater than 54°F, we have 7-8 months like that; and their dissolved oxygen needs fit our lake and streams oxygen levels. One way in particular to tell a zebra mussel from a native mussel is that most of our native mussels are pretty flat but the zebra mussel is "D" shaped with a flat bottom and rounded top. Another way that zebra mussels are different from our native mussels is that our native mussels do not attach to surfaces. Instead, native mussels burrow into the bottom of the lake or stream and feed from there. Zebra mussels do attach to a hard surface. When the larvae floating in the water reach a certain point in growth and development, they firmly attach to any hard surface on which they may land, and that attaching leads to several of the problems associated with zebra mussels. Not only do the mussels grow thickly over surfaces,

clogging water pipes and interfering with the functioning of many motors and structures, those attachment threads (called byssal threads) secrete a little bit of acid which, when multiplied by the multitude of zebra mussels, adds up to a significant amount of acid on bridge pilings, piers, docks, pipes, etc. and does cause corrosion on infrastructure.

Zebra mussels come in male and female and broadcast their sperm and eggs into the water where fertilization takes place. The fertilized eggs grow into larvae and the larvae float in the water, drifting with the currents until, after one month, they attach to a hard surface and grow into adults. They do attach permanently, but, if they are knocked off their growing surface, they can right themselves and attach to any other hard surface on which they may eventually land. Zebra mussels have a 3-9 year life span and they can start to reproduce within one year.

The economic impact of zebra mussels can be very large and significant. First, zebra mussels feed by filtering small particles and organisms out of the water. They have two siphons, an in and an out. So water is continually pumped into the mussel where the particles are removed and then the filtered water is pumped out of the mussel. Large numbers of zebra mussels can significantly increase the water clarity, which at first doesn't sound so bad. But the material that was making the water less clear to begin with was the food at the base of the food web. This is the food that the little organisms eat, who will later become food for fish. So, increased clarity of water means less food for young fish and it means increased growth of bottom rooting plants, further changing and destabilizing the established ecosystem of the Lake. Some ducks will eat zebra mussels and flocks have even been known to change their migration patterns once they know where some zebra mussels are.

Native mussels have been in trouble in Missouri for a while, anyway, mostly because of habitat destruction, including gravel production, and over harvesting. Zebra mussels have been known to grow right on top of native mussels, effectively starving the native mussel, even when simply growing near the mussels. There come to be so many zebra mussels, they eat much of the food of the native mussels and there isn't enough food for all of the mussels. In this competition between species for food and space, native mussels lose out.

Some of the recreational impacts of zebra mussel infestation include increased maintenance costs for all aspects of lake living and lake use. Zebra mussel larvae can get pulled up and grow inside of engine hatches, and the larvae will go through most screens on water intake pipes, allowing the zebra mussel to grow inside the pipes, eventually clogging them since the mussels can grow in large masses. Zebra mussel shells can be sharp and be a hazard to waders. Not only do they have a very bad smell when they die, but when they die, they use up a lot of oxygen in the rotting process and this loss of oxygen in the water can and does result in fish kills. And, there is a bioaccumulation issue with eating fish that eat the zebra mussel. Most of our lakes and streams are on warning lists for pregnant women, lactating mothers, young children and older people because of mercury contamination. Mercury is a potent neurotoxin (it's very poisonous to our nervous system, including our brains), and mercury is everywhere, really, because

mercury is a by product air pollutant of burning coal to generate electricity. The power plants put the mercury in the air through their exhaust gases and the mercury floats in the air currents for a while and eventually falls to the surface of Earth, often in rain. Lakes and streams have this mercury in them and at that level, the mercury amounts are very small indeed. The problem occurs because the zebra mussels are filter feeders and filter everything out of the water and thus get mercury in their bodies, which at first is just a small amount. But, as the zebra mussel lives and eats, mercury accumulates and builds up in their body tissues. Then, when a fish eats the mussel, the fish gets that accumulated amount of mercury in their body and as the fish eats more zebra mussels, the mercury amounts build up in the fishes body. Then, when a person eats the fish, the person is now ingesting all that accumulated mercury that had built up in the fish's body. That's why the government health agencies recommend that our sensitive populations of people (i.e. pregnant women, etc.) limit their intake of fish to one serving per week and that's what bioaccumulation does to our food supply. Bioaccumulation is one reason why even small amounts of certain pollutants in our environment can lead to problems down the road for human beings. Blue cats, also known as white cats, a variety of catfish, are a popular fish to eat and blue cats are known to eat zebra mussels.

Some industrial impacts of zebra mussels include the clogging of water intake pipes. Zebra mussels can clog any size pipe because their larvae can go through the screens at the intake end of the pipe and then attach inside the pipe and grow. In the Great Lakes area, this alone easily costs over \$100 million a year to simply control, not eliminate, just control. The larvae attach to commercial fishing equipment and can affect any structure to which they attach because of the acid secreted by the attachment threads. These fibers can corrode steel and concrete.

As far as control and management goes, once the zebra mussels have established themselves, there is not much one can do. Chemically speaking, there are molluscicides (poisonous to mollusks, of which clams and mussels are a part, as well as crayfish and snails), nontoxic coatings which suffocate, and CO<sub>2</sub> injection, but these are all too widespread in effect and affect too many other organisms that we don't want to harm. Physically speaking, there is manual removal, flushing, and screens, none of which are effective in such an open system like the Lake of the Ozarks. There is only one documented event where zebra mussels were eradicated from a body of water. This was a 12 acre rock quarry in Virginia, completely closed off from all other water. In this case, the lake was treated with potash, which is toxic to all mollusks. This was a three week treatment over 614 acre-feet of water and cost \$400,000. In contrast, the Lake of the Ozarks is an open body of water and so has lots of fresh water flowing in and out continually, encompasses over 55,000 acres, and has over 2 million acre-feet of water and would cost over \$1.2 billion to treat, if you could even treat it. Research is on-going for something to effectively deal with an infestation. Perhaps the future will bring a genetically engineered organism, like a bacterium, that specifically targets the zebra mussel. **For now, we must rely on people doing the right thing.**

### **A Boater's Guide to Preventing the Spread of the Zebra Mussel**

- Remove plants and mud, or any kind of debris, from your boat trailer and from your boat when leaving any waterway
- Drain all water from the bilge, live wells, transom wells, and motor
- Rinse the boat and trailer with hot water (at least 104°F)
- Concentrate on any and every part of the boat that can hold water, even small puddles left after draining or places inside the motor housing
- Allow the boat to dry for at least 5 days (in a perfect world – this one is hard for some fishermen, so at least wash down thoroughly with hot water)
- **Do not transfer bait bucket contents from one lake to another** or even from an infected part of the Lake to an uninfected part of the Lake.

A question was asked if the area marinas have any kind of program to educate the boating public about zebra mussels? Not per se, but the marinas do watch the boats coming in from other places and marinas do have posters and other educational materials available and on display.

**If anyone finds a zebra mussel**, please call Greg Stoner, MDC, at 573 346 2210, ext 235. People living up river (the Lake does have a current) and going down to an infested area do run the risk of transferring the zebra mussels up the Lake where they aren't yet. Awareness can help slow the spread. Any boat from another body of water needs to be gone over and aired out – freezing temperatures will also kill the zebra mussel.

## Cove Testing

**Scott Robinett – Cove Testing program.** Next on the agenda was a presentation by Scott Robinett of the Missouri Dept. of Natural Resources (MDNR) and head of the Lake of the Ozarks *E coli* Cooperative Study begun last year. This is a 5-year study of the entire Lake of the Ozarks to test the coves for the presence of a class of bacteria known as *E coli*. Last year, 120 sites were sampled starting at Bagnell Dam and working up river to about the 8 mile marker. Working together, LOWA and MDNR were able to effectively triple the number of samples taken, and worked together like a well-oiled machine. LOWA volunteers were trained in the proper collection methods, went out at the same time on the same day and collected the samples from the coves. They then brought their samples to centralized locations at prearranged times to meet a courier who took the samples to the lab facility in the state park where Scott Robinett ran the required tests on all the samples, collected the data, and analyzed the results. Results of all of last year's testing can be found on the LOWA website at [www.soslowa.org](http://www.soslowa.org); just click on cove testing where you'll find an interactive map of all the results from all the sites sampled. **The *E coli* Cove Testing program is looking for a new set of volunteers.** These volunteers would need to be able to go out on the lake, collect samples once a month and take the samples to a collection location. Teams of three seem to work very efficiently with one person to collect the sample, one person to label the bottle, and one person to drive the boat.

*E coli* are often chosen as the organisms to look for because *E coli* are "indicator bacteria". That means the presence of *E coli* indicates the probable presence of other pathogenic, or disease-causing, organisms, such as salmonella, shigella, and hepatitis, and *E coli* are much easier to test for than other pathogens. For years, the standard organisms used as indicator bacteria were the fecal coliform bacteria, but now that *E coli* are easier to test for, they are the preferred indicator bacteria. There are many different strains of *E coli*, and *E coli* 0157:H7 is one strain that we often hear about in connection with contaminated food, and is one of the strains that makes people very sick and sometimes kills them. Since Lake of the Ozarks is considered a whole body contact body of water, the maximum level of *E coli* contamination is 126 cfu/100 mL.

MDNR has records on *E coli* testing at the Lake of the Ozarks going back to 1953 and, since 2003, DNR has been monitoring public beaches 2 times a week. Last year, in the cove testing program, there were 9 teams and a courier, 230 man hours plus were spent with at least 100 boat hours clocked, 28 coves were sampled with 119 sites from Bagnell Dam to the toll bridge. Some 396 samples were collected and only one sample lost. Of the samples collected and tested, only 8 samples showed up over the standard of 126 cfu/100 mL. The fact that LOWA could provide volunteers to do the collecting and couriating made it possible for Scott Robinett to process many more samples than he ordinarily would have, making for a more thorough study. A new MDNR Fact Sheet and data from the study are available on the web at <http://www.dnr.gov/pubs/pub>.

The purpose of the cove testing project is to characterize *E coli* concentration in the coves of the Lake of the Ozarks. Sampling occurs over 6 months of the year, about 30 coves per year are sampled, 3-7 samples per cove are taken, and the 5-year project will eventually test all the way up to Truman Dam, having started at Bagnell Dam. Two coves are getting repeated this year because of high *E coli* readings last year. MDNR provides supplies and locations, LOWA teams collect samples at the same time, and a courier takes the samples to the lab where the samples are then tested in a timely manner. For 2008, 29 coves will be sampled with 108 sites from the toll bridge to mile marker 29.5 and the Grand Glaize arm. There will be 3-4 pick up sites. **We need 6 or more new teams.** There will be a half-day training session, time and place to be announced. The lab site will be at the state park warehouse. The collection days are set to be sampling after the three main summer holidays and are: May 27 (the Tuesday after Memorial Day); Monday, June 16; July 7 (the Monday after the 4); Monday, August 4; September 2 (the Tuesday after Labor Day); and Monday, October 6. A time committal of about 2 hours on the water on a morning, once a month for 6 months is what last year's volunteers reported they needed. All the results from the cove testing project can be viewed at the LOWA website, [www.soslowa.org](http://www.soslowa.org).

just click on cove testing where you'll find an interactive map of all the results from all the sites sampled. **The *E coli* Cove Testing program is looking for a new set of volunteers.** These volunteers would need to be able to go out on the lake, collect samples once a month and take the samples to a collection location. Teams of three seem to work very efficiently with one person to collect the sample, one person to label the bottle, and one person to drive the boat.

*E coli* are often chosen as the organisms to look for because *E coli* are "indicator bacteria". That means the presence of *E coli* indicates the probable presence of other pathogenic, or disease-causing, organisms, such as salmonella, shigella, and hepatitis, and *E coli* are much easier to test for than other pathogens. For years, the standard organisms used as indicator bacteria were the fecal coliform bacteria, but now that *E coli* are easier to test for, they are the preferred indicator bacteria. There are many different strains of *E coli*, and *E coli* 0157:H7 is one strain that we often hear about in connection with contaminated food, and is one of the strains that makes people very sick and sometimes kills them. Since Lake of the Ozarks is considered a whole body contact body of water, the maximum level of *E coli* contamination is 126 cfu/100 mL.

MDNR has records on *E coli* testing at the Lake of the Ozarks going back to 1953 and, since 2003, DNR has been monitoring public beaches 2 times a week. Last year, in the cove testing program, there were 9 teams and a courier, 230 man hours plus were spent with at least 100 boat hours clocked, 28 coves were sampled with 119 sites from Bagnell Dam to the toll bridge. Some 396 samples were collected and only one sample lost. Of the samples collected and tested, only 8 samples showed up over the standard of 126 cfu/100 mL. The fact that LOWA could provide volunteers to do the collecting and couriating made it possible for Scott Robinett to process many more samples than he ordinarily would have, making for a more thorough study. A new MDNR Fact Sheet and data from the study are available on the web at <http://www.dnr.gov/pubs/pub>.

The purpose of the cove testing project is to characterize *E coli* concentration in the coves of the Lake of the Ozarks. Sampling occurs over 6 months of the year, about

30 coves per year are sampled, 3-7 samples per cove are taken, and the 5-year project will eventually test all the way up to Truman Dam, having started at Bagnell Dam. Two coves are getting repeated this year because of high *E coli* readings last year. MDNR provides supplies and locations, LOWA teams collect samples at the same time, and a courier takes the samples to the lab where the samples are then tested in a timely manner. For 2008, 29 coves will be sampled with 108 sites from the toll bridge to mile marker 29.5 and the Grand Glaize arm. There will be 3-4 pick up sites. **We need 6 or more new teams.** There will be a half-day training session, time and place to be announced. The lab site will be at the state park warehouse. The collection days are set to be sampling after the three main summer holidays and are: May 27 (the Tuesday after Memorial Day); Monday, June 16; July 7 (the Monday after the 4); Monday, August 4; September 2 (the Tuesday after Labor Day); and Monday, October 6. A time committal of about 2 hours on the water on a morning, once a month for 6 months is what last year's volunteers reported they needed. All the results from the cove testing project can be viewed at the LOWA website, [www.soslowa.org](http://www.soslowa.org).

## Urban Construction

**Bryan Vance and Urban Construction** – Bryan Vance, of AmerenUE, announced that LOWA and Ameren are going to partner up on presenting 2 half day workshops about soil erosion and urban construction practices for the Lake of the Ozarks builders and landscapers. This year these workshops will focus on sediment and erosion control practices around the Lake and the Lake's watershed. Ameren's new licensing brings with it requirements to provide these sorts of workshops. LOWA will host the workshops with Ameren. These workshops will focus on a more environmentally friendly approach to keep our landscape more pleasing while protecting our water quality. These workshops will help builders learn more about what the industry calls best management practices. Attendance is voluntary, but hopefully, these workshops will provide attendees with new information and information they may not know yet. Several aspects of the construction industry require their professionals to earn continuing education hours to maintain their certifications. These workshops should be appropriate for many of those, as well. A question was asked if self-employed individuals associated with the construction or landscaping trades were welcome at these workshops and the answer was yes.

**Sediment is Missouri's #1 pollutant in storm water runoff.** Certain pollutants, like heavy metals and pesticides, bind to sediment and pollute the water. When the sediment washes into the lake, that pollution is washed into the lake also. Much of the sediment is clay and much clay does not settle out of the water very quickly, leaving the water that the fish are swimming through and putting through their gills, cloudy with the clay that has the pollutants bound to it. *E coli* also get washed into the water.

## Discussions By Element Chairs & Webmaster

**Jerry Walker – LOWA Webmaster** Jerry brought the web page up on the big screen and described the many features of the LOWA website, the multitude of information available on the site, links to LOWA's many programs, links to LOWA's committees, a membership link, archives of past notes of meetings, **the Lake area's only boating weather forecast**, and on and on. Everyone is strongly urged to go to LOWA's website at [www.sos.lowa.org](http://www.sos.lowa.org) and spend some time reading and looking and exploring the many interactive features.

**Lake Safety - The Designated Captain on Board program** will be distributed at events around the lake; the major launch being **Sat, May 3** during the Spring Harbor Hop. Lake safety was the top concern of the Lake area citizens back in the spring of 2006, when LOWA was first forming and conducting its surveys, and, from that energy, arose the Designated Captain on Board program. When an individual registers, they will receive a decal for their boat and a special keychain which will be the sober captain's ticket for free non-alcoholic beverages at participating Lake restaurants and bars.

**Waste Water – Harrell Dryden** will be getting LOWA's **Pump Out program** off the ground with a kick off demonstration/educational pump out at B & P Hickory Pit and Barbeque on **Saturday, April 26<sup>th</sup>, 2008 from 2-4 pm**. With the demonstration, LOWA hopes to increase awareness among people about the need to have one's septic tank pumped out on a regular basis, and how this can help to maintain and improve the water quality at the Lake of the Ozarks. LOWA also hopes to increase awareness about its Pump Out Program. People who sign up will receive a discount from the pump company, a discount from LOWA, and a discount for having attended a demonstration similar to the one on the 26<sup>th</sup>. The pump company has agreed to offer a standard pump out for \$100, LOWA is offering another \$25 discount, and attendance at a demonstration will be another \$10, shaving the total price for the customer to \$65 for a pump out. A substantial savings, and one, LOWA hopes, even at \$75, will entice many people to sign up for a pump out. This is the price for what is called a standard pump out. If the company has to search for the tank opening or runs into other snags, the price may vary. The pump out company will do all the billing. The April 26<sup>th</sup> demonstration will be at B & P Hickory Pit and Barbeque. LOWA will pay for LUNCH and program begins at 11:00am to 12:30 pm. B & P Barbeque can be found near Laurie, on F road, across from an Ace Hardware store. Bob Broz and Boots Niccoli will be running the presentation. LOWA still needs other locations for more pump out demonstrations, where lots of people can congregate to watch and learn about pump outs. An indoor location is needed along with the out door pump out site for part of the demonstration presentation. If anyone has such a location or has an idea about a suitable location, please contact LOWA!

LOWA is also finalizing its Pump Out brochure to be available to anyone and everyone interested. This brochure provides a map of the Lake of the Ozarks showing

where all the Marinas and RV parks that offer pump out/dump stations are located around the Lake, and listing them.

**LOWA needs a few good people to help at the Dogwood Festival booth** for just a few hours each on **Sat, April 19<sup>th</sup>**. Please call Caroline Toole at 573 347 2543, or sign up on the LOWA website at [www.soslowa.org](http://www.soslowa.org). Thank you!

### **The MO Stream Team**

**The MO Stream Team program** also monitors for zebra mussels. The procedure is relatively easy. Tie a cement block to a rope and tie the rope to a spot on the shore. Throw the cement block in the river where the water will wash over and through the cement block. Check the block periodically. Zebra mussels will collect inside the holes of a cement block. If you find any, you can contact Greg Stoner, MDC office Camdenton, at 573 346 2210 ext 235.

**Shoreline Clean-Up** Ginny and Jim Stroger **Sat April 5**. Come help LOWA clean up a section of shoreline near Sunrise Beach Condominiums! Around 8:30 am at the Shawnee Bend public ramp off TT, we will be gathering to pitch in with many other groups around the Lake of the Ozarks to clean up debris floating and washed up on the shores. Debris can be a boating hazard, is unsightly, can be unhygienic, and can be a source of water pollution. Please sign up on the LOWA website at [www.soslowa.org](http://www.soslowa.org) or call Caroline Toole at 573 347 2543 if you think you can help out. Thanks!

**Recycling** Linda Kimrey is writing a grant to provide the Lake area with 2 sites, one at the Gravois Elem School and at Hurricane Deck Elem, where people can bring their recyclables. Dates will be announced. Recycle Trailers will be manned.

**Lake District Plan** committee is writing the watershed management plan for the Lake area. This document is called the Lake District Plan 4 County Alliance. A grant to provide working capital for this process (\$15,000) has been applied for.

## Round Table Discussion

### Concerned Citizens of Camden and Miller County—Quarry Issue

Ted Windels and Mike Atkisson spoke on behalf of this citizens group trying to fight a proposed quarry operation that threatens the operations of an area waste water treatment plant, and thus jeopardizes the water quality of the Lake of the Ozarks. In 1984 citizens of Osage Beach and Lake Ozark established the only municipal waste water septic treatment system at the Lake of the Ozarks. Today, still the only municipal waste water septic treatment system at the Lake of the Ozarks, this system carries 1.8 million gallons of effluent per day through 1100 lift stations. Magruder Limestone has applied for, and received from the Missouri Dept. of Natural Resources (MDNR), permission to operate a 200-acre rock quarry, including blasting. The first 10 acres of this quarry sit right on top of the two forced mains for the waste water treatment plant, and the proposed quarry abuts the plant on two sides. This waste water septic treatment plant also has two large tanks sunk in the ground and neither they nor the plant were designed to withstand earthquakes. Blasting will produce vibrations through the earth that are very similar to earthquakes at the plant because the plant is very close to the proposed quarry. All that is required to have an application approved by the MDNR is to pay the fee and complete the application form. Magruder Limestone made no attempt to notify adjacent land owners or the sewer plant and they published official notice in newspapers on the other side of the county so that affected land owners would have little chance of seeing the notice. This proposed quarry is located in Miller County which has no planning and zoning regulations. Concerned citizens found out about this proposed quarry barely in time, with only a week to file for a public hearing. The request for a hearing went to the Lake Reclamation Commission which granted the citizens group permission to proceed with a formal hearing. By now, realizing the potential for disaster if blasting cracked one of the waste water system's pipes or disrupted proper functioning of the plant itself, the cities of Osage Beach and Lake Ozark joined forces with the citizen's group and provided a lawyer for the hearing. Now, Concerned Citizens of Camden and Miller County are garnering as much public support as possible. **We need a massive public outcry of protest over this proposed rock quarry that threatens the water quality of our own Lake of the Ozarks.** Call your legislators, call the Governor, email everyone you can think of, speak out with your opinion about this proposed quarry! We are talking about a 100-year permit for a 200-acre rock quarry right next to the only municipal water treatment plant in the Lake area. Picture if one of those lifts gets blocked and overflows. The Lake of the Ozarks is down hill from each of those 1100 lifts. Picture if something happens to the plant and the treatment plant itself has to shut down and one by one those lifts overflow. Think about the effect on each and every one of those Lake area businesses that now has to shut their doors because they cannot flush a toilet. Think about each and everyone of those Lake area residences where the toilets no longer flush. What will be the effect of blasting on those buried sewer lines under pressure? What if some of them crack and start to leak? How would we know? They are underground and

would potentially be leaking untreated sewage into the watershed of the Lake of the Ozarks. The rocks and soils of the Ozarks region are notoriously poor filters. Spilled items generally have an easy travel to an aquifer or body of water on the surface, like the Lake of the Ozarks. Missouri mining regulations state that if operations threaten the health or livelihood of individuals, then the state can step in. This quarry operation has the potential to affect the livelihood of everyone living or working at the Lake – no septic – no flush – no work. The formal hearings will be March 25<sup>th</sup> and 26<sup>th</sup> at two locations to be announced. Please voice your opinion.

### **Future Meetings**

LOWA's next Public meeting with Guest speakers will be on April 21, 6:30 at Old Kinderhook.

LOWA's next Public working committee meeting will be on March 18, 5:30 at Central Bank Lower Level, Laurie Branch. The public is welcome and encouraged to join us..

These minutes respectfully submitted by C. King Toole and approved by Donna Swall