

## FROM THE DIRECTOR—2008 YEAR END REPORT

**Wow, It was a dizzying first year as Director of the LMEC!** I've presented local issues at state legislative group meetings; touched (Ick!) and tried to identify all kinds of weird things; "camped out" twice on plywood bunk beds so I could learn that macro-invertebrates simply means bugs and critters; and found out there is a little known local community at Lake Max made up of winter loving outdoor folks with a strange fascination for ice fishing, ice sailing, and get this, ice painting—brrrr!

That doesn't begin to explain how exciting, sometimes frustrating, but always interesting working for the LMEC has been. Without the assistance of all of the volunteers serving on the Council and Board, the Culver Citizen's willingness to help us report on environmental activities around the watershed, the many visits and phone calls from all of you - with possible invasive species sightings and, well, just a wide range of questions and input - our year would not have been as successful as it was.

Successes included breaking a record for attendance at our lakeshore landscaping seminar with 42 people showing up to learn about glacial stone work, planting projects, and ideas to keep the geese to a minimum. For the first time we put our newsletters out at a couple of spots around town to try to extend our educational outreach program and were very pleased that we had a hard time keeping them in stock. The glacial stone and dry creek project reported on at the Bremner home resulted in three contractors who'd seen the article coming into the office and asking the LMEC to visit their construction sites and provide input on the best way to handle storm water run-off. Many of you who refaced your old seawalls with glacial stone last year were excited to see natural vegetation returning on its own! Thanks to the generous award given by the Ralph C. Vonnegut, Jr. family and the Marshall County Community Foundation we were able to fully fund two professional hydrilla searches this year and to our great relief there were no signs found at the five high-traffic sites! The volunteer monitoring and inspection program that was started, again fully supported by the Vonnegut/MCCF fund, was a strong success on two of its three fronts and the concept is going to be the center of discussion at a November legislative meeting in Indianapolis with the idea of doing a similar program state-wide. With donor support, the LMEC was able to contribute matching funds to the Town of Culver for a storm water and sewer system study under the direction of the Office of Community and Rural Affairs that should provide ideas for improving both systems as town funding allows. Two Culver Academy student projects were completed successfully and if I could only keep up with all of their ideas we could triple that next year. And another very exciting project collaboration we hope is just beginning; the maiden voyage of Purdue Professor Cary Troy's Autonomous Underwater Vehicle took place in the lake this fall.

While reluctant to call out specific low points on the environmental front; the LMEC would like to remind everyone that the health and beauty of Lake Maxinkuckee was likely the main reason that Native Americans gathered here; that the town was established on its shores, that the Culver Academy was founded on the northeastern lakeside; and that the first "vacationers" came to play and build summer cottages at the water's edge. Certainly today, it is still one of the main reasons that the Culver community is such a wonderful place to live, visit, and work in. We hope that you will work with us to protect this valuable natural resource for generations to come.

The LMEF/LMEC family wishes your family the best this holiday season!

Respectfully,

**Kathy Clark, Executive Director, LMEC**

## The Yellow Submarine!

The Autonomous Underwater Vehicle (AUV) shown at the right is the property of Purdue University Professor Cary Troy. On its maiden launch October 2nd and its first "unmanned" one hour voyage October 27th Prof. Troy was very nervous and very excited. The remote controlled submersible has been some four years in the making and cost approximately \$80,000 to build to the exact specifications required. Test prototypes have been used by the US Navy in operations such as mine detections.



(See AUV continued on Page 3)

## Kline Wetland & Conservation Area Update

The LMEC again wants to thank all of you who made it your mission over the summer and fall to repair and clean-up the Kline Conservation area. For the most part, the control structure was left alone except for a recent incident of someone plugging up the control structure with plywood. The DNR and LMEC will continue to work to find a way to prevent such destructive behavior and hope that all of you will continue to stop by for a sight seeing break while on your walks and bike rides around the lake. On one such trip made at the end of October I found the Sand crane pictured below. He was so intent on fishing that he let me hang out and take some great shots. Of course the one I took when he actually caught a fish - got away from me. Isn't that always the way?

On a more serious note; there are concerns that the Kline, the largest wetland constructed by the LMEC and the first man-made wetland in Indiana, may be nearing its functional capacity to act as a removal and/or containment system for nutrients and sediments heading into the lake.

(See Kline continued)



## IRA Charitable Gift Provision is Back

*Reprinted in part from the Kosciusko County Community Foundation's Catalyst Newsletter By Brenda Rigdon*

The United States Congress has finally restored the ability of Americans over the age of 70 1/2 to make gifts to their favorite charities from their IRA accounts without having to count that distribution as taxable income. The extension lasts through December of 2009.

There are a few things donors and non-profits should know regarding this legislation. Here are some things to consider:

- ◆ This legislation allows donors over age 70 1/2 to make gifts directly to charitable organizations without counting them as part of their adjusted gross income, and, without paying taxes on them. Gifts to charity do count toward minimum required distributions.
- ◆ Indiana residents should be especially happy, because making a charitable donation through an IRA allows Indiana taxpayers to exclude the amount from their state income and consequently from any state income taxes! (Indiana is one of 6 states that do not allow itemized tax deductions for charitable donations).
- ◆ You should give now. Only contributions made between Jan. 1, 2008 and Dec. 31, 2009 are eligible for this enhanced tax benefit.
- ◆ Heed the age requirement. Only donors 70 1/2 or older *at the time the gift is made* are allowed to utilize this provision.
- ◆ The donor's total combined IRA contributions to charity cannot exceed \$100,00 in any one year.
- ◆ The charitable contribution from an IRA MUST go directly to a public charity. If your IRA administrator makes the check payable to you, you will not get the favorable tax treatment intended by this law.
- ◆ These gifts can only be made from IRA accounts. Other pension plans, like 401(k) or 403 (b) plans are not eligible.
- ◆ In order to benefit from the tax-free treatment, you as the donor, must obtain written substantiation of each IRA contribution from each charity that receives the gifts.
- ◆ You cannot receive any goods or services in return for charitable IRA contributions in order to qualify for tax-free treatment. Ineligible benefits include auctions, raffle tickets, fund-raising dinners, etc.

Before you make an IRA gift, you should let the Lake Maxinkuckee Environmental Council know your plans. In most cases, your IRA administrator will send your donation to us in the form of a check without including your name! If you have not let the LMEC know your gift is coming, we won't have any way to acknowledge your generous gift, and you must have that written substantiation from us to receive the tax free treatment! You can also instruct your IRA plan administrator to include your name and contact information with the contribution check, to ensure proper gift receipting.

*This article is intended to provide general information and is not a substitute for professional counsel. Please contact your tax or legal advisor for professional guidance.*

## IDNR Director Rob Carter makes a return visit to Lake Maxinkuckee

This September Director Carter made a stop at Lake Max while on a whirlwind tour of several parks, rivers, and lakes cared for by him and his staff. We were able to arrange a boat trip around the lake to view not only LMEC projects but to see the Culver Academies new floating dock system.

Councilman Dan Baughman explained his diving experience with Aquatic Control looking for hydrilla this season. Everyone was happy to learn that no plants were found this year!

LMEC Advisor Jack Cunningham reviewed concerns about excess churning of the lake bottom that takes place along a couple areas of shoreline. The DNR has a 200' from shore rule that allows for buoy placement to prevent fast moving boats, skiing, wakeboarding, etc. running between the buoy and shore. The problem is that some spots have less than five feet of water depth out beyond the 200' mark, some as far out as 350'. When fast traffic passes over these shallow areas the bottom sediment is "churned up" resulting in a re-suspension of nutrients and sediment that inhibits vegetation growth and lowers the water's oxygen content.

After discussion that day and further talks with DNR Department Directors; the LMEC will be watching legislative action that is currently underway involving "eco zones" at two Indiana lakes. If their attempts at allowing for the establishment of these zero to no wake areas is successful the LMEC will consider applying for a test project here at Lake Maxinkuckee.

*A heartfelt thank you to Richard Ford for arranging this tour and hosting lunch at his lake home.*

## Missed the Mark on the Website

One of the first goals for 2008 was to update the LMEC website and I sadly fell very short of this goal. As you are all aware time can get away from you very quickly when you're having fun. If any of you out there are skilled at crafting websites and would consider donating your time to upgrade and update ours please contact the office at LMEC@culcom.net or by phone at 574/842-3686. Any teachers out there—maybe you have a communications class that would take us on as a project?

Second, while we are not considering eliminating our "paper" newsletters we want to explore sending them out on-line as well. If you would be interested in receiving them in this format please send us your preferred email address and, as soon as our e-list is compiled, we'll keep you posted! This effort will also include notification of local, state, or federal meetings that might be of interest to you on the environmental front. Move into the future with us! As one of our Board members recently said "I think we can assume that e-mail is here to stay", did I get that right Litt?

## 2008 Fundraising Efforts Continue

Many of you reading this newsletter may have recently received a letter from the LMEC 2008 Fundraising Chair Cheryl Benedict asking for your financial support for the many educational, scientific, and long-range environmental maintenance projects that the LMEC conducts each year. Since 1983 the Lake Maxinkuckee Environmental Council has spearheaded efforts to oversee and maintain the health of both Lake Maxinkuckee and its watershed. Both our Fund Board of Directors and our Projects Council Members are made up of local community volunteers who devote many hours each year to maintaining the lake's water quality! According to recent research information from the Indiana Department of Environmental Management Lake Maxinkuckee is one of Indiana's most pristine lakes. Without supporting donations from friends like you we would never have been able to sustain our efforts over these many years. Just a \$10 donation can help cover the cost of something like this newsletter. If you enjoy reading them or find them just a little bit fun or interesting please send your donation to LMEC, P.O. Box 187, Culver, IN, 46511. The LMEC is a certified not-for-profit corporation and, if you provide your name and address with your donation, we will send you a thank-you letter that will serve as your IRS tax deduction receipt. Thank you in advance for considering us in your annual gift giving program!

### AUV (Continued from Page 1—Parts of this article first appeared in *The Culver Citizen*)

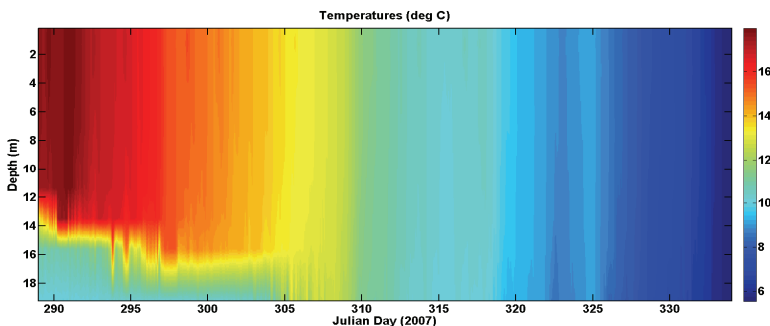
Besides Troy, who is an Assistant Professor of Civil engineering in Purdue's Hydraulics and Hydrology Group, the only other entity using a commercial model AUV is the United States Geological Survey in Illinois. Prof. Troy's long-range project is based at Lake Michigan, but rough waters there led to his move to Lake Max for equipment and computer modeling testing.

In the fall of 2007 Council member Gary Shaffer assisted Professor Troy and his interns in placing a thermister line in the lake; that's a buoy with air temperature sensors on top and a line into the water with 20 thermisters—which measure water temperature—spaced several feet apart and taking temperature readings every ten seconds. A similar experiment is being conducted this fall/winter and includes a weather station placed at the edge of the lake that will record wind speeds and air temperatures to coordinate with the water temperature data. Below is a one dimensional graph developed with last season's readings that actually shows what is know as "the Fall flip", that day when the water temperature—from top to bottom—is the same. Cold water is heavier than warm water so as temperatures begin to equal out there is actually a "turnover" action that takes place. That minute, or day, is shown by the yellow band on the graph below. Professor Troy is working on developing a three dimensional computer model as his experiments progress.

LMEC Council Chair Allen Chesser agrees with Troy as to the plethora of useful information the AUV will likely supply all parties involved. "This provides information to us on water temperature changes during the four seasons," explains Chesser. "This will also provide us with information on water movement from the lower part of the lake as it moves to the surface. The Environmental Council has been concerned about oxygen levels and dissolved phosphates in the lake for some time. Professor Troy is working to help us understand water movements underneath Lake Maxinkuckee so we can better understand deposits at the bottom, and our future concerns."

One facet of this study that is of major interest to the LMEC involves what happens when the "Fall Flip" occurs. Is that turnover action from bottom to top actually redistributing phosphorus deposits we assume are collecting on the lake bottom? We know that, even with the Wilson, Curtiss, and Kline wetlands that we built to "slow" the phosphorus loading from some sources, phosphorus is still entering the lake. Along with the work we hope to continue with Professor Troy; the LMEC Board is considering engaging JF New, a premier ecological consulting company, to take multiple core samplings of the lake bottom. These samples would then be sent to the laboratory of Professor Bill Jones at Indiana University for chemical and gas testing. Correlating this data to Professor Troy's thermocline studies would provide determinates that could influence future project efforts of the LMEC.

*While some funding for LMEC projects comes from various competitive grant sources; the majority of our support is from you, our donors. As we near the end of this year's fundraising cycle we encourage anyone with specific interest in either the Purdue thermocline research or the phosphorus core sampling project to contact our office if you would care to make a direct donation in support of either project for 2009.*



### Kline (continued from page 1)

The LMEF Board of Directors has agreed to engage the firm of JF New to document the current functionality/quality of this DNR owned wetland. Both a ORAM "rapid assessment" of the wetland and an ecological community mapping project will be done this fall/winter and a FQA, or floristic quality assessment, will be conducted in the spring of 2009. As noted earlier, if you wish to donate specifically to this project please contact our office.



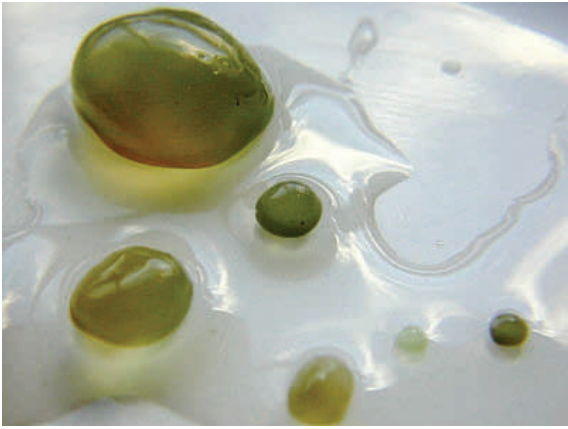
Top photo shows the autonomous underwater vehicle, the second of two developed by YSI of Yellow Springs, Ohio. Sensors on the AUV measure for turbidity, temperature, and pH, as well as the presence of chlorophyll, oxygen, and algae in the water. There's even the possibility, down the road, of mapping the topography of the lake bottom, allowing the LMEC to update bathymetric maps last created in 1964 by the state DNR. The AUV's batteries last 8 to 12 hours and take 5 hours to recharge. Those guiding the project can map a path for the device on a computer to navigate underwater and also control it from a handheld device, using a "wi-fi" like system. Should it get "lost" or stuck, it contains an emergency "pinger" to help operators locate it.

Bottom photo: Prof. Troy, seated, looks on as LMEC Council Chair Allen Chesser shakes hands with Purdue doctoral candidate Sultan Ahmed and YSI Corp. employee Darryl Slocum. Leaning over is doctoral candidate John Newton. And yes, they all acted like excited 10 year olds with a new toy!

## Icky, Green, Slimy, Squooshy Things Found in Lake Maxinkuckee!

Relax, DNR says Interesting but Harmless

An alert friend working on taking out his docks noticed that the lake bottom was covered with the things pictured below and, as a good friend should, came screaming into the LMEC office! No, seriously, he just strolled in and I had to make him take a bottle home and get us some samples. As luck would have it Jim Ray, Director of the Indiana Department of Natural Resources, Fish & Wildlife LARE Division happened to call the office on another matter so I (actually screaming and crying) calmly described what was found. He immediately recognized the little grape like slimy things as a Spherical Algae that is a genus of Blue-Green Algae (Oh NOoooo!) but he calmed me down and explained that these are protein filled little things that sometimes appear in the fall, are sometimes used as a fertilizer because of their ability to fix nitrogen, and (gulp!) some forms are considered a delicacy in parts of Asia. *If you'd consider this (euhhww) don't, there are conflicting reports about some varieties'*



Nostoc is a very simple alga. The ones we found were slightly smaller than grape size. The gelatinous bodies shown at left consist of numerous internal filaments called trichomes encapsulated within a sheath or skin.

More information can be found at the following web links: <http://microbewiki.kenyon.edu/index.php/Nostoc> or <http://en.wikipedia.org/wiki/Nostoc> and <http://www.microscopy-uk.org.uk/mag/artoct01/pjnostoc.html>

### Lake Maxinkuckee Environmental Council Members

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Dave Blalock  
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Dan Osborn  
Bill Rhodes  
Gary Shaffer  
Dr. John Bernero  
Tammy Shaffer  
Dan Baughman

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