

TLA QUARTERLY  
January 2005

**President's Letter:**

I hope you all had an enjoyable Christmas with family and friends. Your Three Lakes Association board met Monday December 13<sup>th</sup> for the last meeting of 2004. In addition to our usual business, we reflected on goals, issues, and the future direction of our association. Our goals for 2005 are:

- Successfully build a predictive water quality model for Torch Lake and demonstrate the use of the model for our township partners on Nov. 10, 2005 at the Water Studies Institute in Traverse City.
- Continue monitoring the water quality in our lakes and streams through the Cooperative Lake Monitoring Program.
- Follow up the 2004 Shoreline Algal Survey results by identifying suspect nutrient sources and correcting them.
- Continue to build awareness of invasive species by boat-washing and distribution of information.
- Expand the Summer Intern Program to include more students from more schools.
- Increase our membership from 350 to 450+.
- Increase the numbers of volunteers by enabling those interested to contribute their gifts of time.
- Organize an exciting, well-attended, annual meeting Wednesday, July 20.
- Produce two educational events in collaboration with Grass River and Torch Lake Protection Alliance (TLPA).
- Develop a Lake Watch Program in cooperation with the Sheriff's Department and TLPA.
- Arrange another successful fund-raising golf outing at the Hawk's Eye Golf Course, Sunday, June 12.

We evaluated some of the past year's accomplishments and were very pleased with our public relations efforts and the successful education events jointly undertaken with Grass River Natural Area and Torch Lake Protection Alliance. We are very proud of our water quality modeling project and our leadership role in Antrim County United Through Ecology (ACUTE) in an effort to address the TCE plume approaching us from Mancelona. Our primary responsibility remains preservation of water quality in our lakes and streams and we have completed, under our own control and direction, a successful year of weekly monitoring of our three lakes.

More good news, Three Lakes Association finished 2004 in the black! Your continuing support and involvement is deeply appreciated. Have a great winter and we'll see you all next spring.

Dick Garcia

**Torch Lake Water Quality Model Progress:**

(insert tugboat photo) ID(L to R) Doug Endicott, Norton Bretz, Phil von Voigtlander, Bob Anderson.

Torch Lake -- On Wednesday, October 27, 2004, a water quality research team from the Three Lakes Association deployed sediment traps in Torch Lake. "Our work this fall will center on finding out what is happening to the phosphorus that is coming into Torch Lake," said Dean Branson, project team coordinator. "If phosphorus does not settle to the bottom of lakes, it can reduce the clarity of water by promoting algae growth. We believe that there may be some unique processes at work in Torch Lake that are keeping the phosphorus levels low. We need to understand those processes to accurately predict how developments may impact the quality of these lakes – widely recognized as some of the clearest, cleanest fresh water lakes in the world."

Norton Bretz, a project team researcher explained that sediment traps were placed at various levels on the lake with the assistance of the Grand Traverse Bay Watershed Center's "Baykeeper's Tug." The Three Lakes Association is publicizing the location of the traps on its website [www.3lakes.com](http://www.3lakes.com) and at local marinas so that anglers and other lake users can avoid the location. The GPS coordinates are N 44 deg. 57.188-57.194' W 85 deg. 18.083-18.095'. A buoy twelve feet under the surface will mark the traps that are located about 1.5 miles west of DeWitt's Marina, in about 260 feet of water.

**Groundwater Testing:** (insert well drilling photo – ID (L to R Norton Bretz, Dean Branson))

As part our Water Quality Modeling Project, the project team will be testing groundwater entering Torch Lake for flow rate and phosphorus content. This is one of the most poorly documented of the inputs to our lake and possibly one of the important sources of phosphorus – the object of our project. How are we going to do this? As always, we are going to need your help. A team of trained volunteers will install about 20 sample wells a few feet off shore at strategically placed intervals around Torch. To do this we need volunteers to help drive these well points and to collect water samples. We will also be soliciting written permission from a few riparians to access the lake from their property. We will be contacting some of you in the next few months about this opportunity.

A lakeside well will not be a safety risk or disturb your beach. A 1/4" plastic tube will be put down 4 to 20 feet deep depending on the specific site. This will require a small tripod (see the photo of our trial well in front of one TLA volunteer's home in Eastport a week ago) and several hours of volunteer time. A small coil of plastic tubing will be exposed and connected to a buried well point. We will take samples of the water from the tube and measure the pressure and the resistance to flow in the tube. This will allow us to estimate the quality and quantity of groundwater flowing in your area. From all the wells combined, we can estimate the total for Torch Lake. We want to be able to collect groundwater samples monthly from early spring to late fall, so we will bury the tube and mark it with a colored string so we can find it again. After we are all done for the year we will cut the tube off and plug it a foot or so below the ground level. Your beach will end up virtually undisturbed.

We will be choosing candidate well sites this winter and will contact some of you about participating in this work. We hope you can help us with this important measurement.

Please contact Dean Branson at 544-2700 or Norton Bretz at 599-2729 if you are willing to have a groundwater monitoring well on your property or are able to help collect samples from around the lake.

### **Recent Torch Lake Data:**

Sediment cores taken from the bottom of Torch at the depth of 260 feet consistently contain about 300 parts per million (ppm) of phosphorus from the top 5cm down to 35cm. The phosphorus concentration of 300 ppm is 100,000 times more concentrated in the sediment than in the lake water that normally contains between 1-3 parts per billion (ppb). This indicates that the bottom has been a giant phosphorus sink for several centuries.

The latest vertical profile taken Dec. 29 using our new Hydrolab instrument and the Grand Traverse Watershed Center's Baykeeper's Tug Boat indicates high levels of oxygen (11-12ppm) down to 300 feet. This data demonstrates one reason why Torch Lake has so little algal growth in most of the lake basin; high oxygen levels near the sediment keep phosphorus locked in the sediment and away from algae that need it for growth. The less algae growth, the greater the water clarity.

### **CSI – Bellaire:**

(insert kayaks photo) ID (L to R) Brianne Lunn, Sarah Conkle, Jocelyn Menestrina 'CSI' stands for Cladophora Status Index, a measure of shoreline algae growth that has become very familiar to three Bellaire High School seniors participating in the Three Lakes Association Community Service Program. Sarah Conkle, Brianne Lunn, and Jocelyn Menestrina spent their Tuesday mornings kayaking around the 62 miles of shoreline on Lake Bellaire, Clam Lake, and Torch Lake looking for the green algae called Cladophora.

When asked why they were on the lake by 8am every Tuesday for the entire summer looking for green slime, Jocelyn replied, "Algae growth means that nutrients are entering the lake and our job was to locate, map, collect, and analyze samples of algae." "Algae can be a good tool for determining water quality and we're interested in keeping our water clean." Brianne added. Sarah said, "I want to know how to preserve the high water quality of our lakes and I also wanted to give something back to the community."

The last algae survey done in 1998 located 217 patches of Cladophora on Torch Lake alone. This survey found 45 significant areas of shoreline algae growth on Torch, 11 on Clam, and 15 on Bellaire. Responding to the question of what this information is used for, Norton Bretz, Three Lakes member and project advisor replied, "We try to identify the sources of the nutrients entering the lakes and when human activity might be involved we share that information with property owners in an attempt to correct the source."

When asked where the nutrients that cause algae growth come from, Tim Hannert, Executive Director of Three Lakes and project advisor replied, "One third of the nutrients

are carried in by wind and rain, one third carried in by streams, rivers, and springs, and one third caused by human activities like failing septic systems, runoff from lawns and golf courses, and lack of shoreline greenbelts. It's the last third that we can help with by properly maintaining or repairing our septic systems, planting a shoreline greenbelt, and using zero phosphorus fertilizer on lawns and golf courses."

If you would like to know if your property was an algae growth site, call the TLA office at 231-533-4852, or visit our website. The entire report of the algal survey is available at the Three Lakes Association office, 106 Depot St. Bellaire, MI, or online at the TLA website, [www.3lakes.com](http://www.3lakes.com)

### **Treasury Department:**

As treasurer of TLA and a member of the Water Quality grant project, thank you all for the Dole Challenge Grant donations that allowed us to purchase the high-tech scientific instrument called the Hydrolab "Quanta", which we are using to make depth profiles of water quality data in Torch Lake. We raised \$7,200 in this effort so we will have a little extra to support some of the other grant activities. Your contributions will allow us to do more extensive groundwater sampling (see the appeal in this newsletter) and more stream monitoring than we had originally planned.

TLA has wrapped up this year "in the black", that is, our income from dues and donations were approximately equal to what we spent. This helps make up for last year when we spent about \$4,400 more than we took in. So financially, we are moving in the right direction. We did this despite a number of unexpected expenses such as the above-mentioned sampling equipment and other expenses associated with the DEQ grant. For example the DEQ required us to submit a three-year audit one year ahead of schedule. To slightly confuse the issue our finances have been buffeted by the grant, which requires us to pay expenses to our subcontractor, GLEC (Great Lakes Environmental Center) before being reimbursed by the state at the end of each quarter. We have enough savings to ride out this kind of temporary loan, but it causes us all some anxiety because our monthly balance sheet looks very uneven. Our expenditures (and receipts) this year, including the DEQ grant, were at an all time high of approximately \$58,000. We realized enough income from our golf outing to help support an educational coordinator (with Grass River and Torch Lake Protection Alliance), and we received contributions from the townships around our lakes to support our DEQ grant totaling over \$12,000 - only part of which was spent or expensed in 2004. In addition, our membership has remained virtually constant at about 330. Our members have, on average, graciously contributed more than in past years. We have had a very good year both technically and financially, and we are looking forward to an even better year in 2005. Thank you again!

Finally, we would like you to be aware of the possibility of tax-free gifts or bequests to our endowment fund, Three Lakes Watershed Conservation Fund administered by the Great Lakes Regional Community Foundation (GTRCF). This endowment fund helps us each year through its well managed growth, and the more we can put in, the less dependent we will be on yearly dues. This year we took out \$2,000, or approximately 5% of the value of the fund. With the stock market growth last year the value of the fund increased substantially. Please look at the GTRCF website [www.gtrcf.org](http://www.gtrcf.org) or call at 231-

935-4066 for more information about bequests (technically called “to devise” under Michigan law). Gifts or bequests can be made in cash, securities, charitable trusts, real estate or tangible property. There is a section in the website which gives suggestions for wording for your bequest. If you would like more information about this approach to giving you can also call Norton Bretz at 599-2927

Norton Bretz

**Three Lakes Association Watershed Conservation Fund:**

Although planning for giving and tax saving for 2004 is over, it is in order to begin to think about 2005. There are two very tax advantaged ways that you can help TLA to be financially sustainable in the future by helping it to build its endowment.

First is a gift to the Grand Traverse Regional Community Foundation (GTRCF) to add to the TLA Watershed Conservation Fund. For a couple, up to \$400, and for a single person, up to \$200, given in this way is very tax advantaged in that one half of the gift is a direct reduction (not a deduction in computing taxable income) from Michigan Income Tax. Further, the gift is deductible for federal income taxes. Thus assuming a 25 % tax rate, a \$400 gift saves \$200 in state tax and \$50 in federal tax (25% of the \$400 less 25% of a \$200 lower deduction for state tax). Thus, adding \$400 to the TLA Endowment Fund costs you only \$150, a real bargain. Perhaps, even a better bargain than those after Christmas sales!

In order for this to benefit your 2005 tax situation, your check must be made payable to the Grand Traverse Regional Community Foundation (GTRCF) and sent there with a notation that it is for the TLA Endowment Fund.

Another way to help build the TLA endowment is by having the GTRCF write a ‘life income agreement’ with you designating the TLA Fund as the ultimate beneficiary. Many people think this type of arrangement is only for millionaires. Actually, these charitable agreements can be written for amounts as small as \$10,000. They can serve to defer for years capital gains taxes on appreciated securities which you might wish to sell, can result in a large contribution deduction on your federal income taxes, and can result in partially exempt annual income to you of 8% or 9% on the principal donated, depending upon your age at the time of the donation.

Further, the principal will go to TLA upon your death, even if during your life you required medical or nursing home care that exhausted your assets so that there was nothing left to be distributed from your assets by a bequest at the time of your death. This aspect of it alone makes life income gifts something to be seriously considered by many people with rather limited assets as well as wealthy individuals. The exact calculations of income to be received and tax deductions depend upon your age and the value of the assets donated. GTRCF will be happy to work with you if you wish to consider a Charitable Gift Annuity to benefit the Three Lakes Association Watershed Conservation Fund. Call the GTRCF at 231-935-4066 for more information

Stan Dole, CPA and TLA Life Member

**“Lend One: Bring One” - Volunteer Opportunities:**

Perhaps the only drawback to having a membership of 350 spread out over a large geographical area is the fact that it is hard to get acquainted and to involve so many people in our activities. In order to address that, and the need for more help with various activities, the Board has decided to launch a "Lend One; Bring One" campaign. We are challenging each of us, board members included, to lend a hand doing one thing for TLA that we haven't done before, and to bring one new person along to an event, perhaps something that we ourselves haven't been to either.

The "one thing" you do does not have to be huge, and certainly not expensive. For example, if you can drive, offer to run an errand to collect paper products for the annual meeting. If you like to cook, offer to make an appetizer for one of our joint educational events planned with the Grass River and Torch Lake Protection Alliance. Does your boat need washing to remove aquatic invasive species? Bring it to one of our boat washing sites and get it done while assisting us with educating others about the advantages of doing this. Photographers and writers for publicity are always welcome. So are chaperones for the high school interns as they work on water quality this summer. You don't have to be a professional biologist, engineer, or scientist of any kind in order to be helpful and to have a good time. As evidence of this, board member Dorothy Clore admits to being excused from completing high school biology drawings (unrecognizable) and a good deal of lab work in chemistry after she managed to set her manual on fire. We still welcome her participation; we just don't ask her to draw anything and won't let her near anything flammable.

So, secure in the knowledge that every single member has something to contribute, we are offering this challenge. Project leaders will provide the Board with a list of volunteer needs, job descriptions and estimated time needed to fulfill each task. Members willing to accept this challenge need to send Dorothy a postcard (PO Box 474, Alden, 49612) or phone her at (231-331-6587) or email (via the TLA address) with your name, suggested talent, and email or phone # where/when you can be reached as of May 2005, and Dorothy will be in touch. If you are willing to take this challenge but aren't sure what you have to offer, just contact Dorothy and the two of you can figure it out. All that's required is that each of us step up to the proverbial plate and say, "Yes, I'd like to help."

This summer we are looking forward to seeing new people at our events - please be sure to introduce your guest to a board member. And at the 2005 annual meeting we look forward to recognizing those of us who took the challenge - who lent a hand at something new and with the other "hand" brought a new person along to one of our activities. We look forward to your enthusiastic participation and the success of our many projects/events.

Dorothy Clore, TLA Board Member

## **Groundwater Contamination Spreading – What’s Being Done?**

At its monthly meeting in November, the Antrim County United Through Ecology (ACUTE) member organizations were informed by the MI Department of Environmental Quality (MDEQ) and its environmental expert contractor MACTEC that forty to fifty-four new residential wells could be affected by the trichloroethylene (TCE) groundwater contamination plume.

As part of an ongoing response to public health concerns surrounding the six-mile plume, which originates at the DURA Automotive plant in Mancelona and extends to the Cedar River near the Shanty Creek Resort, the MDEQ initiated an 18-month field investigation in May 2003. . At an ACUTE-facilitated public information meeting held on October 20, 2004 MDEQ’s Program Manager, Bob Wagner indicated that the TCE plume was approximately 1.25 miles wide at its leading edge, is discharging into the Cedar River, and is affecting about 10 trillion gallons of groundwater. Since the discovery of the TCE and Tar Lake plumes the Environmental Protection Agency (EPA) and MDEQ have invested over \$18 million to protect public health and the environment by installing a public drinking water system for residence in the affected area. Additionally, DURA Automotive voluntarily invested hundreds of thousands of dollars in the initial investigation of the TCE plume in the 1990’s.

Since its first formal monthly meeting in March 2003, ACUTE has received quarterly progress reports regarding the investigation from MDEQ and MACTEC. According to MDEQ, the plume has spread about 30 to 40 feet over the past two years, a much slower rate than originally anticipated. The original 18-month study has now become a 30-month study, due to the discovery of additional “hot spots” of TCE in high concentrations and the complexities posed by the sheer volume of groundwater and geology.

As MDEQ/MACTEC’s 30-month field investigation has progressed, the ACUTE community stakeholder coalition has been actively investigating and evaluating candidate remediation technologies and strategies. At ACUTE’s August 2004 monthly meeting, Dr. Wei-xian Zhang (Lehigh University) and Dr. Mike Dybas (Michigan State University) presented to ACUTE and MDEQ, promising remediation technologies that may be employed to effectively address the TCE plume. A project proposed to evaluate these technologies (bioremediation and nano scale metallic iron) was subsequently submitted to the MDEQ and DURA for their consideration.

Northwest Michigan Community Health Agency (NWMCHA) will coordinate a special residential well water study as a result of recent findings of TCE in DEQ’s soil core samples near the outer boundary of the plume. Approximately 40 owners of homes located in an area northeast of the five-corners intersection and an additional 14 owners of homes near the intersection of Johnson and Kresnak Roads will receive a letter from NWMCHA requesting authorization to collect a well water sample. MDEQ and NWMCHA expect to receive analytical results about 4 to 6 weeks from the time samples are collected, starting about the first of December. For further information regarding residential well testing in this area, please contact Chuck Edwards of NWMCHA at (231) 533-8670, or log onto the MSU Technical Outreach Services for Communities

(TOSC) website at [www.tosc.msu.edu/mancelona/Nov2004Update.shtml](http://www.tosc.msu.edu/mancelona/Nov2004Update.shtml). It is anticipated that an overall summary of findings from these well tests will be presented at the next public forum meeting, tentatively scheduled for May 5, 2005. In the interim more information about the status of DEQ's field investigation, evaluations of remediation technologies, and the residential well water investigation can be obtained from the TOSC website.

MDEQ also informed ACUTE that its groundwater contamination team will drill at least six new test wells in order to complete their investigation of the plume, and that their study would not likely be completed until the fall of 2005. The total cost of the study is now estimated to be approximately 2 million dollars. Findings and recommendations concerning remediation of the plume will be discussed at an ACUTE-facilitated public forum meeting about a year from now...by December 2005. Given the promise of the innovative methods for plume clean up (potentially faster and cheaper) ACUTE is encouraging DEQ to give them full consideration.

### **Summer Interns:**

(insert photos)

The Bellaire and Elk Rapids High School Summer Interns presented their reports to their respective school boards in November. The Bellaire team reported on the Shoreline Algae Survey for Lake Bellaire, Clam Lake, and Torch Lake and the Elk Rapids team presented their report on the Torch Lake Water Quality Model progress. Each intern contributed over 60 hours to the projects and received .5 hours credit for independent study from the school. At the conclusion of their presentations Three Lakes presented each intern with \$200 scholarships. Our township partners designated this \$1,000 in matching funds for the support of our interns.

Photo 1 (3 girls, 2 guys) Identification: (L to R) Norton Bretz, Jocelyn Menestrina, Sarah Conkle, Brianne Lunn, Tim Hannert.

Photo 2 (1 girl 3 guys) Identification: (L to R) Norton Bretz, Kennan Bailey, Tim Hannert, Anah Ash, Dean Branson.

### **Sheriff's Lake Watch Program:**

Antrim County Sheriff Terry Johnson, along with Marine Officer Tim Tilley, are developing plans to institute a 'Lake Watch Program' throughout the Chain of Lakes for the 2005 boating season. This program will be modeled on the successful, proven, program in use in Clare County for several years. The overall goal of the program is to increase boating safety, courtesy, and compliance with applicable Michigan Marine Laws. Officer Tilley and Sheriff Johnson will travel down to Clare County in early January to meet with officials to learn more about specific training requirements and operational details. Three Lakes Association is cooperating with Torch Lake Protection Alliance on this project.

Features of the program include:

1. The training will be offered to interested and committed lakefront property owners

throughout the Chain of Lakes. During the summer of 2005 the program will likely target a representative sampling from each of the major lakes.

2. Training will be conducted by the Antrim County Sheriff's Department and is expected to take between 8 and 20 hours.
3. Training will include details of marine safety, marine law, enforcement guidelines, courtesy, and procedures for handling problems or complaints.
4. Those who successfully complete the training will be 'certified' in some way as knowledgeable aids to the Sheriff's Marine patrol.
5. These 'LakeWatchers' will be considered especially credible when complaints arise necessitating contact of the Sheriff's dispatch.
6. Lake Watchers will be expected to help neighbors understand marine law and other issues when situations arise causing concern over safety or the legalities of boating activities.
7. Sheriff's Marine patrol will be able to be more responsive to issues raised as a result of LakeWatcher concerns.

#### Current Status:

The Sheriff has asked for a representative from each lake to be part of a 'training development group' to meet in late January and flesh out the details of the training and implementation. Ray Ludwa is our contact for this work and will continue to work closely with the Sheriff. More information will be shared with our membership as it becomes available.

#### **Membership Drive:**

The response to the annual membership renewal appeal letter has been very good. As of January 4, 2005 we had received 125 renewals and two new life members bringing our total 2005 membership to 159. Last year at this time we had 46 renewals. We are well on our way to this year's membership goal of 450. There is a membership form included with this newsletter to use for encouraging friends or neighbors to become members of TLA.

#### **Note:**

Please look at the mailing label on this newsletter to see if you have renewed your membership for 2005. If the year current is highlighted we would like you to renew your 2005 dues soon to ensure the continued delivery of this newsletter. If we don't hear from you by March 1, 2005 you will not receive the next quarterly newsletter. This rather draconian outcome is part of our efforts to contain our cost of printing and mailing.

#### **TLA Website:**

Our completely redesigned and innovative website is fully operational. Please take a look at [www.3lakes.com](http://www.3lakes.com) We will be adding more technical water quality information as the predictive water quality model for Torch Lake is built. If you have photos you are willing to share send them to me on a CD in the largest file size possible and we'll find a place for them on the website.

**Executive Director's Corner**

TLA has just completed a phenomenal year. We achieved more scientifically and financially than I thought possible. Thanks go to the many volunteers who enabled us to meet or exceed all but one of our goals for 2004. Our membership goal of 400 was not met and we see that as one of our great challenges for 2005. We have a tremendous momentum now and with your support we will accomplish our 2005 goals. Please help us assure the success of TLA by encouraging friends and neighbors to become members and share the benefits as well as the costs of our programs. I am anticipating an exciting year ahead as we continue to provide leadership to preserve, protect, and improve the environmental quality of the Chain of Lakes Watershed for all generations.

I wish you all the best for the New Year.

Tim Hannert