



Est. 1890

NEWSLETTER

We're dedicated to keeping Charleston Lake beautiful in every way !

Winter 2010

Newsletter Co-ordinator: Bill Borger, Box 115, Athens, On, K0E 1B0

E-mail: borgew@ripnet.com Tel: 613-924-2809 • For Membership information Call 613-924-2809

Great News from the Water Quality Report for Charleston Lake

Executive Summary

The following report presents the findings of a water quality survey carried out on Charleston Lake during the summer of the year 2009. The work was undertaken as part of the continuing effort of the Charleston Lake Association (CLA) to document present conditions and to examine any trends in water quality. The survey this year also fulfills a continued commitment by the Charleston Lake Association to the Ministry of Natural Resources to undertake monitoring of the resource since the recent move to manage for a self-sustaining native lake trout population. The year 2009 oxygen and temperature surveys are the second year of effort towards this agreement; the first year when this work was completed was 2007.

The Charleston Lake Environmental Association provided funding for this work. The Ministry of the Environment through the Lake Partner Program (LPP) provided analytical support for total phosphorous analysis for seven different sample locations on the lake that resulted in a cost saving to the overall survey. Ontario Lake Assessments was contracted to undertake the field survey work, complete the surface to bottom oxygen and temperature profiles and report on the findings.

The report presents information, data and discussion on the following parameters: total phosphorous, water clarity (Secchi depths), surface to bottom temperature and oxygen concentrations. The findings are summarized in both tables and graphs for six survey dates and for seven lake sample locations on each date. The parameter results are discussed and compared against values reported in previous years back to the year 2000.

The findings indicate that water quality conditions, as determined by these parameters, continue to improve on Charleston Lake. Water clarity continues to improve, total phosphorous values continue to decline and oxygen concentrations have improved considerably over those reported in 2000 and 2002. Mean water clarity values (Secchi disc depth recordings) for the lake as a whole in 2009 are the clearest recorded for the ten year period of record (2000 to 2009) with a mean of 6.791 metres. The mean total phosphorous value for the lake as a whole in 2009 is the lowest recorded for the ten year period of record (2000 to 2009) with a mean of 10.33 ug/L.

The data indicates that Charleston Lake is becoming less enriched and therefore is gradually shifting in trophic status from a mesotrophic lake to an oligotrophic lake.

Note:

Reg Genge, Ontario Lake Assessments

For the full report see Bill Hallam or Bill Borger

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President's Message

Enjoying a late fall day at the cottage, I am working on my first President's message. I am thinking about how lucky we are to be able to share such a beautiful place as Charleston Lake. The challenge facing all of us is how to keep it as former President Don Curry likes to say: "Beautiful in every way". I don't think anyone of us has all the answers to the difficult issues on the road ahead. Fortunately a few years ago your directors recognized the need for a plan, and ultimately developed the Charleston Lake Management Plan and the Healthy Shoreline Review Binders. These two reports will provide many of the answers to oft asked questions. All lake residents should have a copy of both and should take the opportunity to read them. Please let us know if you need a copy of either document. Your team of directors will be using these reports to guide us in the next few years as to what we need to do to make sure Charleston, for our children and grandchildren, still has the same great qualities that have drawn us to it in the first place.

Priority issues for us remains:

- Protecting water quality

Continue annual water quality analysis (Ontario Lake Assessments report shows Charleston Lake is still in great shape. See a more detailed report in this newsletter). We will follow up on the study of zebra mussels and their relationship to the green filamentous algae we have seen proliferate in the last few years.

- Shorelines

Work towards encouraging and helping residents keep shorelines natural. This has a direct benefit for lake health.

- Fishing Concerns

We have met with MNR biologists to discuss results of studies conducted in 2008. We are considering involving outside agencies to get the answers we need.

- Membership

Declining numbers are a concern. We are implementing measures to deal with the problem. A complimentary newsletter with an explanation of the benefits of being a member will be sent to all non-members this winter.

For those considering any kind of construction near the shoreline you may need a permit, not only from the municipality but also from the Cataraqui Region Conservation Authority. The pamphlet "Working Near Water" is enclosed for your information.

Rest assured that your association and directors work very hard to keep Charleston Lake the great place that it is. Your ideas and recommendations in this regard are most welcome and appreciated.

I would like to take this opportunity to extend to all a healthy, happy and prosperous New Year.

Bill Hallam

Many Thanks

Don Curry has retired as president of the Charleston Lake Association, a position he has held since 2000. For all those years he has worked on our behalf to, as he loved to say "keep Charleston Lake beautiful in every way".

During the last nine years much has been accomplished:

- Lakeshore handbooks have been completed and distributed to all property owners. The Charleston Lake Plan was completed and distributed to all cottages, other stake holders and members.
- The pavilion at the county park was completed.
- Youth programs have been reintroduced; The Regatta, Swimming Lessons and Youth Camp.
- Water Quality Studies have been continued and expanded.

All of these and others have led to the CLA being awarded the **Green Cottager Group Award** for 2009 by Cottage life magazine.

Don would rush to explain that this was not all his doing, and he would of course be right. He had the support of a dedicated group of directors, past and present who, contributed to make all of these things possible.

However, nothing happens without good leadership. That is what Don has provided for so long, and it is for that we thank him so sincerely.

There is no better evidence of that than to look at the strength and depth of the board of directors he has left to carry on, led by our new president Bill Hallam whose remarks you will see elsewhere in this letter.

Lake Trout Interim Report for Charlston Lake

In 2008, the ministry of Natural Resources began a long term program to monitor the health of Ontario's lakes. The program will allow the ministry to better understand the current state of fish and other aquatic resources, identify stresses on these resources, and report on changes over time.

The program is called broad-scale fisheries monitoring and is occurring across Ontario each year beginning mid-May to September. Teams of biologists and technicians from Science and Information Branch and district offices in northwest, northeast, and southern Ontario will take part in these lake surveys. The surveys are intended to verify the abundance and health of fish in lakes larger than 20 hectares across a zone. The surveys are designed to monitor all species in the lake and are not intended to target individual sport fish species. Surveyed lakes will be randomly chosen. Half the lakes selected will be monitored once every five years (referred to as fixed sites) and the rest will be re-selected every monitoring cycle (variable sites). Charlston Lake is a fixed lake. The plan is to survey all of Ontario in five years. 2009 was the second year of a five-year cycle to collect information under this program.

On some sample lakes, gill nets will be set overnight and lifted in the morning. The fisheries assessment includes two different forms of netting: one uses small mesh gill nets while the other is large mesh gill nets. The reason for two different gear types is that small mesh results are used as measures of biodiversity (how many species exist) while the large mesh results are used to measure certain indices of sport fish (i.e. average sizes, relative abundance, etc). A variety of information will be recorded from the fish caught: sex, age, length, weight, and general health. Nets will be marked with floats with a label affixed with contact information for the local MNR office. Please do not lift or otherwise interfere with floats if they are observed on one of the lakes being sampled.

Technicians will take samples of the water, lake temperatures, check for invasive species, and collect samples of fish for contaminant analysis. In addition, there will be aerial surveys throughout the summer and into the winter to estimate the number of anglers using these lakes.

The broad-scale monitoring program is necessary to guide fisheries management in the future. It will provide MNR biologists with better information on a larger scale that has been used in the past. Regular reports will be available to the public on the status of the fisheries once the data has been analyzed. For more information, visit ontario.ca/fishing.

2008 Monitoring Highlights

Across Ontario 189 lakes were monitored - 55 in the south, 54 in the northeast, and 80 in the northwest. Charlston Lake was sampled in 2008. Fish were sampled to estimate abundance and describe such characteristics as length and weight. Fish were also tested for contaminants. The results of the testing provided information for 65 new lakes for the 2009/10 *Guide to Eating Ontario Sport Fish*.

Water temperatures, oxygen levels, and clarity were recorded, and samples from about 225 lakes were sent to the Ministry of Environment for water quality analysis. Invasive species were found in a number of new lakes.

Aerial surveys were used to estimate summer fishing pressure by counting boats on 80 lakes in the northwest and 26 lakes in the south.

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While the Association makes every effort to ensure the accuracy of information contained in this newsletter, it cannot accept responsibility for errors and omissions. Readers are urged to obtain professional advice before acting on the basis of the material contained in this newsletter.

This newsletter is published regularly by the Charlston Lake Association for its members and those persons interested in Charlston Lake. Comments and/or submissions are welcome and should be forwarded to The Secretary, Charlston Lake Association, P.O. Box 609, Athens, ON, K0E 1B0

Newsletter Co-ordinator:
President : Bill Borger
Phone Cottage-613-924-2809

E-mail: borgerw@ripnet.com

For Membership Information
Call 613-924-2809

Lake Trout Interim Report for Charlston Lake cont'd

Summary of Results for Broad-scale monitoring on Charleston Lake 2008

The following information is a summary of the draft results of the broad-scale Fisheries Monitoring program, which took place on Charleston Lake in July 2008.

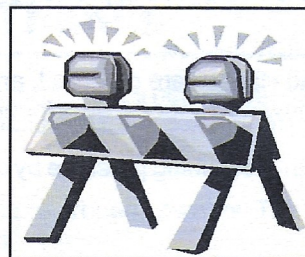
As previously described, crews of technicians and biologists collected and recorded a variety of information from the fish caught during the netting surveys, including fish species, sex, age, length, weight, and general health. This will be used to determine sport fish abundance, life history characteristics of key species, and the diversity of the fish community. Some fish were also sampled to assess contaminant levels. Detailed analysis will be completed on a fisheries management zone basis, following completion of the five year cycle, at which time you can receive a copy of the final report.

There has been concern expressed by local anglers that lake trout from Charleston Lake appear smaller in size and that there may be a problem with the forage base. A comparison of the lengths and weights of the lake trout caught from Lake Rousseau which is a productive lake trout lake in the Muskoka lakes with a very good forage base was completed with the lake trout caught in Charleston Lake using the same broad-scale netting program. The result was that the lines and points for fish lengths and weights are very similar for both lakes indication that the fish were in good condition in both lakes.

The last lake trout egg collection was conducted this spring as agreed to be MNR and the Charleston Lake Association. This is following the MNR lake trout policy after an extensive review of the lake trout data in southern Ontario to not stock lake trout lakes where there is a native reproducing population since it can be harmful to the native population. A total of 85000 eggs were collected which should meet the goal of stocking 5000 yearlings into Charleston Lake in 2011. Monitoring of Charleston Lake will continue in the future by MNR, consisting of SLIN's and broad-scale netting programs and creel surveys.

Thank you again for your help and cooperation in monitoring our fish populations and the health of our lakes. If you have any further questions, please don't hesitate to contact Anne Bendig, biologist at MNR at 613-258-8303

**PLEASE
ERECT
PROPER
WARNING
SIGNS**



If you create open water
on the ice this winter,
REMEMBER...
you could be held responsible!

1000 Islands Watershed Land Trust

A generation ago, people around the lakes and rivers of cottage country were just beginning to feel the push and pull of the wave of development pressures on their summer retreats. As we turned the corner into the 21st Century, ripples turned to serious waves. A generation ago, we still believed governments could buffer us from that pressure. But we know now they couldn't, and still cannot.

It was a generation ago that across Ontario, people in many communities began to get serious about the conservation of our ever-shrinking natural spaces. Many of the land trusts and conservation groups were born then, and worked collectively with governments to create the legislation and tax laws that we see as favourable to private landowners. The idea was to let private landowners - if they wished - take up the protection of natural spaces and ecosystems that government, budgets slashed, could not.

Remarkably, in this very region, we still have a very high percentage of natural spaces: nearly 40% forested and almost 30% in lakes, streams and wetlands. Most of the remainder of Southern Ontario has a fraction of our natural wealth. In fact, it's generally held that this region is the very best opportunity in the province – and most of eastern Canada – to complete any meaningful conservation strategy. There are many "species at risk" here - and that's a good thing, because you can't have species without the habitat to support them - and we do, where other regions have lost habitat and species. Because five forest regions meet here, our species diversity is extraordinarily high. Because there are large blocks of land with natural areas largely intact, compared to other parts of the province with fragmented and developed land, conservation here is actually possible.

Around Charleston Lake, nature has a richness of plant and animal species that is the envy of most of the rest of the province. And fortunately, landowners around the Queen's University Biology Station at Lake Opinicon, around Frontenac Provincial Park, and a few other places between the St. Lawrence and Gananoque River can feel equal pride.

This note is simply to provoke thought, in the minds of people who are fortunate to own significant large properties around the lake, and region. There are available - and only if it is of interest - all manner of tools and incentives to let you participate and take leadership in helping all of us find ways to keep our landscape not just green, but richly alive. If you're intrigued, please give me a call at 613-924-2809 or visit www.tiwl.ca for more information.

Membership is \$40.00

Bill Borger

CLA Director / 1000 Islands Watershed Land Trust Director

Special thanks to the following who make things happen on Charleston Lake

1. Rob Gibson, Gary Bellisle, Wade McBride, Cody Johnston and Matt Rollich for placing and removing over 70 shoal markers from the lake and thereby keeping all the boaters safe. This can be a cold and miserable task as it is done in early spring and late fall.

2. A special thanks to our past CLA/CLEA president, Don Curry, as Athens Township Councillor, making sure that the Official Plan for both townships that border Charleston Lake are the same. The Official Plan for the Township of Athens state "In recognition of the importance of Charleston Lake, the Charleston Lake Association, in association with the Charleston Lake Environmental Association, have prepared the first ever Charleston Lake Plan, which documents a commitment to preserving Charleston Lake for generations to come. This Official Plan recognizes that the Charleston Lake Management Plan is a critical component towards maintaining this valuable natural resource. This Plan also acknowledges that there is a shared interest between the Township of Athens and the TLTI in protecting Charleston Lake as an important natural and cultural resource."

3. A special thanks to retiring Executive Director (chair and one of the founders) of WRAFT Waterfront Ratepayers After Fair Taxation Inc., Bob Tapp, who handed over the reins to Terry Rees. CLA has been a member since it started in 2004. The purpose of WRAFT was to have a fairer assessment for cottage owners. Much work has been done by WRAFT since 2004 but with few results. MPAC's next assessment is in 2012 but with no government at all levels not interested in making changes the status quo will remain.

4. Thanks to all those who participated in "Club 100". Mayor John Connelly, on Thanksgiving weekend, made the draw and the following "Club 100" participants were the winners;

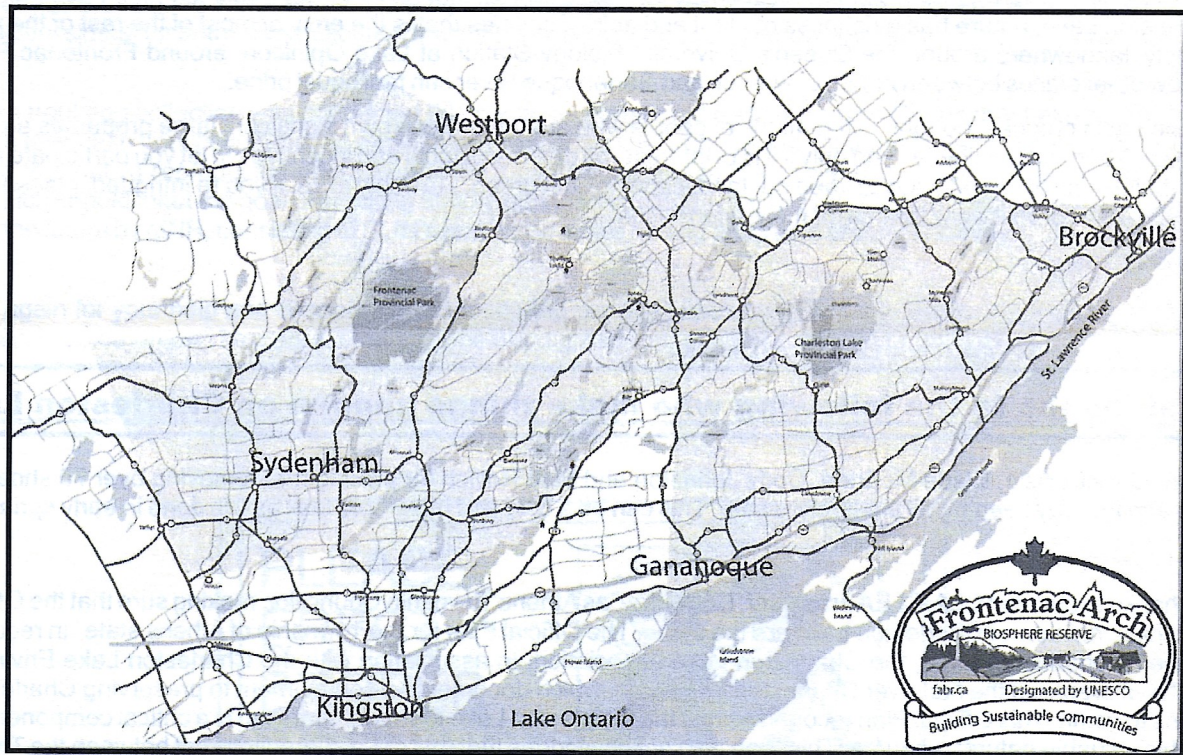
1. Betty & Louisa Vinton, 88 Washington St. Rocky Hill, N.J. - kayak
 2. Borden Purcell, 903 Stone Fence Lane, Athens - La-z-boy chair
 3. Bob & Anne Lighthart, 678 Derbyshire Pt. Lane, Athens - Adirondack chair
 4. Doug Hale, 1180 Turnberry Ct. Lake Geneva, WI - Hummingbird carving
- Watch for the 2010 "Club 100" newsletter in the Spring.*

Frontenac Biosphere Reserve

CLA/CLEA is one of the founding members of the Frontenac Arch Biosphere Reserve which was formed in 2002 as the 13th Biosphere Reserve in Canada and the third in Ontario . On Jan.15,2010 the Frontenac Arch Biosphere Reserve became the 9th National Geographic Society's Geotourism Charter worldwide and the third in Canada after the city of Montreal and Waterton Lakes/Glacier National Parks in Alberta. Our lake, Charleston Lake is the largest lake in this 2,700 square kilometer area and is located approx. right in the middle of the Reserve. This area is the junction of 5 eco-regions creating the highest biodiversity in Canada. Being a member of CLA/CLEA and living or using the lake becomes quite a responsibility which the CLA directors are well aware of and therefore we need your support.

The latest proposal by the Partners of the Frontenac Arch Biosphere is exploring if a Biosphere Sustainability Centre is a possibility? At the present an ad hoc committee from the Biosphere, Parks Canada, the Thousand Islands Playhouse and the Barbara Heck Foundation and with the cooperation from the Town of Gananoque are studying this idea. More information can be found on the Biosphere's web site.

For more information, visit the website at: www.fabr.ca



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CLA
P. O. Box 609
Athens, ON K0E 1B0

Smallmouth Bass Study on Charleston Lake

For fish, bigger doesn't always mean healthier

Female smallmouth bass tend to prefer bigger male mates, but bigger doesn't necessarily mean healthier. That's the finding of a new study in the latest issue of *Physiological and Biochemical Zoology* that investigates why females choose the mates they do.

Sexual selection theory asserts that a female should choose to mate with a male that offers a benefit to her or her offspring. If the benefit is genetic, females should be drawn to indicators that a male might pass good genes to offspring. But in species where males help care for babies, a female might also look for a mate that has the good health and energy to be a good parent.

Researchers Kyle Hanson of the U.S. Fish and Wildlife Service and Steven Cooke from Carleton University wanted to investigate the parental care side of sexual selection using smallmouth bass. Smallmouth bass are a good species to study because male bass are the sole parental caregivers. Female smallmouth choose a male to mate with, lay eggs in his nest, and then swim away leaving the male to care for the eggs for up to one month. During that time, the fathers don't forage for food, so they need to depend on stored energy reserves to patrol the nest. Those that run out of stored energy abandon their nests, leaving the eggs to be eaten by predators.

It would make sense then that a female should look for clues that her mate has lots of stored energy. "Previous research has shown that females prefer bigger males," Hanson said. "It was thought that larger males would have more energy at the start of parenting and that's why the females preferred them."

Hanson and Cooke's research in Charleston Lake in Ontario, Canada confirmed that females prefer larger, stouter males. They found the larger males tended to have more eggs in their nests, an indication that larger males attract more females to lay eggs. But the researchers were surprised to find that bigger didn't mean better, in terms of nutritional health and energy. Blood tests looking for mineral content and indicators of energy like lipids, cholesterol and protein showed that larger fish were in no better condition than smaller fish.

"Females choose males according to body shape, but body shape didn't relate to nutritional condition based on blood biochemistry," Hanson said. "Bigger doesn't mean healthier." So if a big body doesn't indicate good health, why do females still prefer them? That's unclear, Hanson says. Perhaps a larger body indicates an older male who has experience raising young and might be better at it. Or perhaps selection for big bodies has little to do with parenting. Big bodies could be an indicator of good genes, and that's all females are looking for.

What is clear, Hanson says, is that nutrition and energy don't drive female preferences for big bodies, as had long been assumed. This finding underscores just how complex the study of mate selection can be.

Kyle C. Hanson and Steven J. Cooke, "Why Does Size Matter? A Test of the Benefits of Female Mate Choice in a Teleost Fish Based on Morphological and Physiological Indicators of Male Quality." *Physiological and Biochemical Zoology* 82:6 (November/December 2009).

Kevin Steacy

Chicago University Press

Ice Conditions on Charleston Lake

Discussed ice conditions with Murray Hall from Fortis Property who control water levels on the lakes including Charleston Lake. It's a tricky Science to control water levels especially with our changing climate. For example, on January 25/10 we had over 3" of rain in one day which brought the level of the lake up by a foot. One log was removed dropping the water level by over a foot inside of 3 weeks. The result has been many cracks, plenty of water along the shoreline and many pressure bumps along with open water in places. Please be careful if you plan to be on the lake.

Bill

Historical Charleston Lake

Peter J. Clarke from Williamston, Michigan, who is a collector of vintage postcards, e-mailed CLA a photo of a historical cottage on Charleston Lake from the 1800's and asked if we could identify it and the island. Do you know the name of the cottage and island? We will print the answer in our CLA Summer newsletter.



Reminders

CLA/CLEA 120th. Annual General Meeting will be held as always on the second Saturday in July which this year is on the 10th. The meeting will take place at 9:30 am in the hall of Holy Trinity Oak Leaf Church on Lower Oak Leaf Rd. Our guest will be Dr. Gary Bell from the Nature Conservancy Canada.

Your membership can be paid for by the discount in participating in the Charleston Lake Association Group Insurance program as over 300 members are already doing. Members report that they are more pleased with the substantial reduction in the amount of their annual insurance costs. Please contact Roger Kelsey Insurance Brokers Inc. at 613-924-9135.

Please don't forget to renew your 2010 CLA membership

Yes!

I / We wish to help keep
Charleston Lake Beautiful
and Healthy

Enclosed is my / our donation of:
\$25 ___ \$50 ___ \$75 ___
\$100 ___ Other \$ ___

Make cheques payable to C.L.E.A.

Mail to:
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K0E 1B0