

Crystal Shorelines

The newsletter of the Crystal Lake Watershed Fund

UPDATE #17

SPRING/SUMMER 2004

DNR GETS PERMIT TO BUILD NEW BOAT LAUNCH

On May 21, 2004 the Michigan Department of Environmental Quality (DEQ), issued a construction permit to the DNR for the proposed public boat ramp between now and December 31, 2005.

This permit is for the original design configuration without any modifications as our combined Lakeshore groups had petitioned for. Our combined efforts suggested a scaled down version, not so many cars, steps and the like.

There are other specific points of concern regarding storm water runoff, waste water discharges, cost of operation and maintenance.

Our group is now considering possible courses of action which may be possible—we will advise new developments.



ANNUAL MEETING

The Annual Meeting of the Crystal Lake Watershed Fund, Inc. will be held on July 23, 2004 at the CSA. The featured speaker will be **DR. ELIZABETH ROGERS-HILL**, of the Crystal Lake Association, on the subject of lake ecology.

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DEEP WATER MONITORING CONTINUES

The 2004 sampling of the central basin of the lake began in March of this year. Paul Murphy collected the temperature and oxygen profiles shown below on the 18th of March. The temperature at the surface is close to freezing but increases slightly with depth. The oxygen is relatively uniform with a small depression in the bottom few feet. This latter feature was also seen in our 1997 March profile.

By April 23rd the lake had warmed above 4° Centigrade (the temperature of maximum density) and the stratification was starting to form. The lower oxygens near the bottom were gone due to the overturning of the lake as the water warmed. Mid-May shows the water to be warmer at all depths, indicating the wind had been able to mix water downward since the April measurements and the bottom had warmed to about 5.5° Centigrade. This regular progression of the oxygen values and temperatures is part of the typical annual cycle that we have seen in our data for the past 11 years.

Our monitoring program is designed to resolve the features of the annual cycle in order to enable comparison of different years for trends and variations. Since most of the variations in temperature and oxygen content are associated with this annual cycle, a sampling program which does not clearly resolve that cycle, cannot be relied upon to unambiguously detect much smaller trends and low frequency (decadal) oscillations.

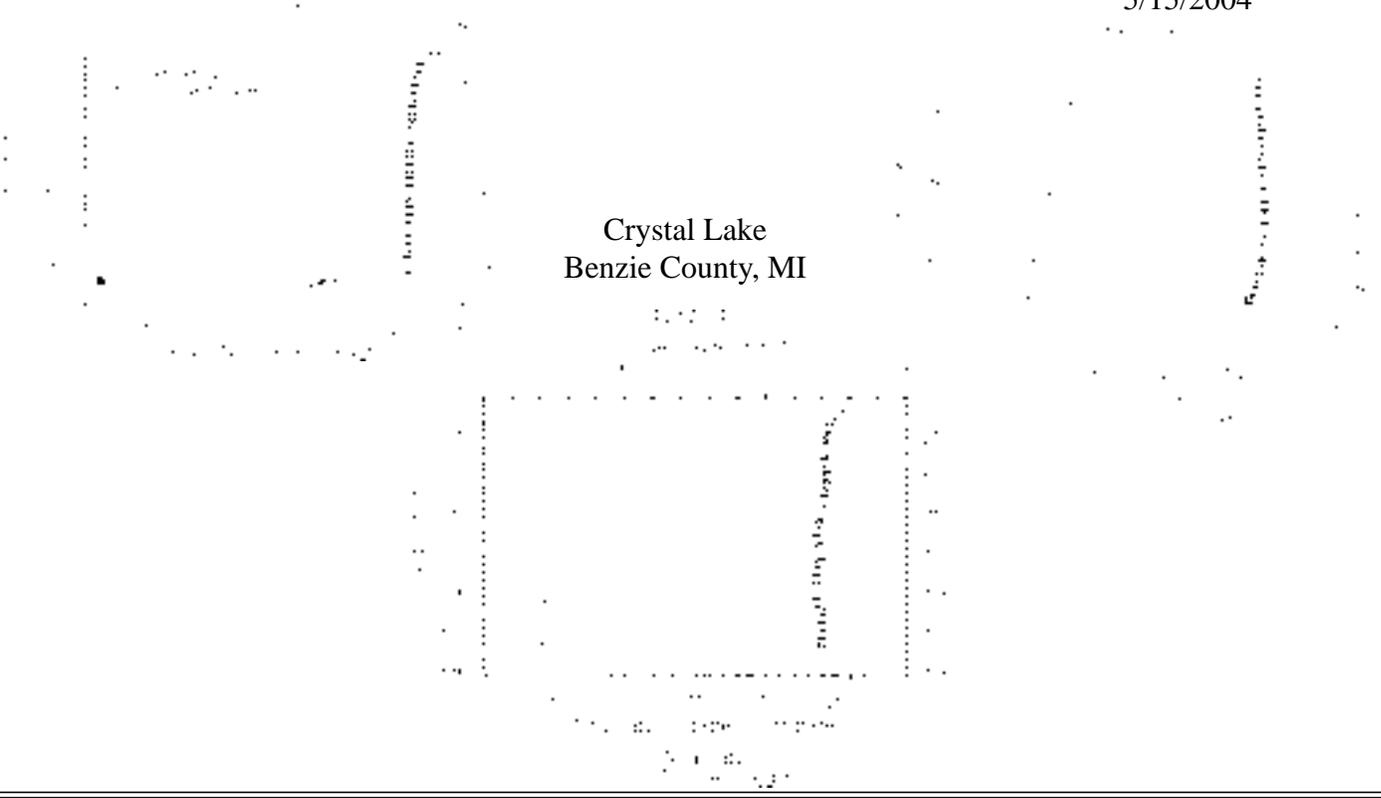
The sampling is scheduled to continue, on a monthly basis, until late October or November. We will keep you up to date on our results.

– Dr. Tom Osborn

Crystal Lake
3/18/2004

Crystal Lake
Benzie County, MI
5/15/2004

Crystal Lake
Benzie County, MI



Crystal Lake Watershed Map of Crystal Lake

Copies of this multicolored map (suitable for framing) are available for \$2.00 each.

Please contact Paul Murphy at 882-5149 if you would like one.

Biomonitoring of the Cold Creek Watershed

The "Biomonitoring of Cold Creek", the major subwatershed for Crystal Lake and the source of about 1/3 of the total nutrients flowing into Crystal Lake, was the subject of a volunteer monitoring study conducted by CLWF and funded by MDEQ from 2001-3. The study was directed by Stacy Daniels with the assistance of Paul Murphy. Biomonitoring is a means for assessing the health of bottom-dwelling organisms (benthic macroinvertebrates) that are affected by physical conditions, such as temperature, stream habitat, availability of food, etc., and chemical conditions, such as pH and dissolved oxygen, nutrients, etc. Numbers of biological species and their relative diversity are determined and the results are used for watershed management. Results of the CLWF study indicate that cold Creek is "alive and well." The final 40-page report (plus appendices) will be described at the CLWF Annual Meeting and posted at the CLWF website www.CLWF.org.

Presentations

Paul Murphy and Stacy Daniels presented a display on the CLWF project, "Biomonitoring of the Cold Creek Watershed", at the Annual Meeting of the Michigan Lake and Streams Association this Spring. The Crystal Lake "Walkabout" was the subject of a talk at the Lake Michigan- State of the Lake '03 Conference in Muskegon last October. The "Walkabout" will also be described in a paper to the Water Environment Federation Watershed Conference in Dearborn in July. **DR. STACYDANIELS OF THE CLWF WILL BE THE FEATURED SPEAKER AT THE CSA ANNUAL MEETING ON JULY 31, 2004**, on The Crystal Lake "Walkabout".

Bay Point is Now Railroad Point!

The CLWF initiated a project in 1999 to modify local map names contained in the Geographic Names Information System (GNIS), a national database managed by the U.S. Geological Survey (USGC). The CLWF is pleased to announce that the former "Bay Point" (on the southeast shore of Crystal Lake) is now officially recognized as "Railroad Point".

Crystal Lake "Walkabout"

The Crystal Lake "Walkabout" is an interactive "hands-on" program of science education involving ob-

servational monitoring and environmental exploring developed by the CLWF with support of other local groups. Yearly events now include 400 students from the 8th grade classes in Benzie County (Fall) and the 6th grade classes (Spring). A summer event open to the general public is tentatively scheduled for **TUESDAY, AUGUST 3, 2004**. Call the CLWF for details at 882-5149.

CLWF "Watershedwear"

Thanks to Mary Pray, the very attractive line of CLWF "Watershedwear" has been expanded. Items include: T-shirts, hats, tote bags, etc. They display the distinctive wave crest of the CLWF. They are available through members of the CLWF or the CSA Art Fair. A special thanks to Jonathon Clark of the L'Chayim Delicatessen for continued promotion of our "Watershedwear" at his establishment availability of the colorful Crystal Lake "Walkabout" T-shirts as well.



M22 Road Improvements

The MDOT has held a public meeting for May 25, 2004, to provide details on proposed road improvements to State Route M22 from the CSA (south) to Crystal Drive (north). The proposed improvements may involve tree removal, drainage ditch installations, and removal of private encroachments in the right-of-way.

Keyhole Development

Pressures for development of the steep slopes around Crystal Lake is increasing, with the potential for "keyhole development", which is regulated by state law and by the Crystal Lake Overlay District.

The CLWF Science Review Panel

The **CLWF** Science Review Panel (SRP) is proactive in developing consensus viewpoints by reviewing environmental issues of particular local interest and by providing scientifically sound recommendations where appropriate to the public. This involves continued review of CLWF sponsored studies, and assessment of studies conducted by other responsible organizations that have demonstrated performance in related areas. It is comprised of a cross-section of knowledgeable individuals who have contributed significantly to past studies of Crystal Lake and who have been involved in various environmental activities positively affecting the Crystal Lake Watershed. It includes the directors of all major water quality studies conducted on Crystal Lake since 1969.

Cochairs:

Dr. Stacy L. Daniels, Director of Research, Quality Air of Midland, Inc. and Adjunct Professor of Environmental Engineering, The University of Michigan;
Dr. Tom Osborn, Professor of Earth & Planetary Sciences, The John Hopkins University.

External Reviewer:

Dr. Alfred M. Beeton, Former Chief Scientist of NOAA.

Members:

Dr. John Gannon, University of Michigan, Director of the 1969 Study;
Fred Tannis, Environmental Research Institute of Michigan, Director of the 1978 Study;
John R. Gehring, Benzie Central High School, Director of the 1987 and 1989 Studies;
Heather Rigney, Grand Traverse Regional Land Conservancy;
Jack Randall, Interlochen Arts Academy;
Tom Rohrer, Chief, Surface Water Quality Division, MI DEQ;
Bill Crawford, Benzie/Leelanau District Health Department;
Dr. Eckhardt Dersch, Department of Resource Development, Michigan State University;
Dr. John C. Walton, Department of Civil Engineering, University of Texas at El Paso;
Dr. Richard Whitman, Biological Resources Division, USGS;
Andy Norman, MSU Extension Service;
Dr. Harry Blecker, Crystal Lake Association;
Douglas Gibson, Crystal Lake Elementary School;
Paul Murphy, CLWF Executive Coordinator;
Dr. A. Scott McNaught, Biology Department, Central Michigan University;
Dr. Donald Gatz, Former Chief, Air Quality & Chemistry Branch, Atmospheric Environment Section, Illinois Water Survey.
Dr. Wally Fusilier, Water Quality Investigators.
Dr. Elizabeth B. Rogers, Former TVA & NASA aquatic ecologist.

The collective expertise of the SRP bears directly on the scientific components of several environmental issues having current or potential future impact on the Crystal Lake Watershed. The SRP is proactive in developing consensus viewpoints by reviewing environmental issues of particular local interest and by providing scientifically sound recommendations where appropriate to the public. This involves continued review of CLWF sponsored studies, and assessment of studies conducted by other responsible organizations that have demonstrated performance in related areas.

Description of Who We Are, Who We Were, and Who We Are Not

The former Clean Water Committee of Crystal Lake (now merged in the **CLWF**) was instrumental in supporting the Benzie County Public Health Department in developing a model ordinance to ensure that septic tanks in proximity to Crystal Lake and other water bodies in Benzie County comply with the latest standards in design and performance. The **CLWF** is also continuing to work with the Grand Traverse Regional Land Conservancy to limit phosphorus and sediment inputs from Cold Creek into Crystal Lake.

The former Friends of Crystal Lake (now merged in the **CLWF**) was supportive of efforts by Township and County zoning boards to work with local land owners and builders to promote reasonable and consistent land use regulations which ensure that future development is sustainable and compatible with the desirable environmental qualities unique to the Crystal Lake Watershed. The **CLWF** operates independent of the Crystal Lake Association.

PLEASE SUPPORT YOUR CLWF

We do not invest a great deal of copy space for fund raising appeals in support of the CLWF. Most of our financial contributions are provided directly from individual active supporters. The contributions which you so generously provide are applied directly to our local efforts within the Crystal Lake Watershed. We are a non-profit organization comprised mostly of unpaid volunteers. We sincerely believe that you, our readers and supporters, are most interested in learning about our programs. Some specific items that need financial support are: lab tests, equipment repair, legal counsel, boat expense, and Walkabout items. Please feel free to offer any comments or suggestions.

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