



# Crystal Whitecaps

The Newsletter of the Crystal Lake & Watershed Association  
Vol. 2, No. 1, FALL/WINTER 2005

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## A CELEBRATION OF LAKE ASSOCIATIONS.

The Crystal Lake & Watershed Association (**CLWA**) celebrated its new beginning on Sunday, July 24, 2005, with a special fundraiser at the Crystal Lake Yacht Club. The union of the former Crystal Lake Association (CLA) and the Crystal Lake Watershed Fund (CLWF) was symbolized by a mock "wedding".



Poseidon (President Bob Appleford) blessed the union of "Crystal" (Mike DeVries) and "Shed" (John Stewart), who rose for the occasion from the depths of Crystal Lake.

The gala event included an evening of dinner and dancing with special centerpiece decorations depicting Crystal Lake. The new **CLWA** banner was unveiled. A series of posters described the Crystal Lake Watershed and the activities of the **CLWA** were displayed.

Silent and live auctions featured spirited bidding for items to be enjoyed and treasured. Almost \$40,000 was raised for worthy future projects.

Special thanks are extended to Cochairs Annie DeVries and Jill Green; many diligent volunteers; Vickie Schmucker, our office administrator, for meritorious duty; Board members for their moral support; local businesses for both sponsorships and donations; the donors of auction items; the gourmet dinner by Chef Jim Milliman; and the Crystal Lake Yacht Club for hosting the event.



## **PRESIDENT'S LETTER.**

The **CLWA** has had a very busy year involving the proposed Boat Launch at Railroad Point, the M-22 Project (see separate report), and the Benzie County Master Plan. The most important issue continues to be the proposed Boat Launch. As I previously reported, the Crystal Lake Property Rights Association (CLPRA) filed a lawsuit in Benzie Co. Circuit Court seeking to block the launch site. The CLPRA also was granted intervention in our contested court case with the MDEQ. The Benzie Co. litigation delayed progress in our case for over a year. In the meantime, we had a meeting in November 2004 with representatives of MDNR, MDEQ, and CLPRA at the MDNR offices at Higgins Lake. At that meeting our attorney, Fred Dilley, set forth our position which is not to block the boat launch, but to encourage a substantial reduction in the size of the project. We believe that such a reduction will significantly reduce the negative impact of the boat launch on the Lake, specifically the wetlands, the amount of original and maintenance dredging, shoreline erosion, and adverse effects upon fishing, swimming, and boating in that area of the Lake.

Earlier this year, the Judge in Benzie County case ruled on two key issues against the CLPRA. Although other issues remain to be resolved, MDNR has requested that our case proceed to hearing. The Administrative Law Judge, Richard O. Lacosse, has scheduled a pre-hearing conference by telephone with the attorneys involved in the case for January 11, 2006. Prior to that date, our attorney and the attorneys for MDNR and MDEQ will file pre-hearing statements. Our position continues to be: (1) MDEQ did not properly apply the criteria under the wetlands Protection Act; (2) the permit authorized pollution and impairment of State waters in violation of the Michigan Environmental Protection Act (MEPA); and (3) the action was arbitrary and did not consider other alternatives. Depending upon the results of the pre-hearing conference, the parties may confer to discuss settlement. The Administrative hearing will probably be set within three to six months.

In closing, I wish to thank everyone involved for their time and services which include the Executive Committee, all of the Board members, Committee chairs and members, and last but not least, our Office Administrator, Vickie Schmucker.

Best wishes for the holidays and the New Year.

-- Bob Appleford, **CLWA** President.

## **CLWA MISSION.**

The purpose of the Association (**CLWA**) is to protect and promote the natural qualities of Crystal Lake and its surrounding watershed. The goal of the Association is to preserve for future generations the beauty and recreational resources of Crystal Lake and its Watershed. To these ends, the Association will engage in water-quality monitoring, educational programs, promotion of harmonious land development, and promotion of the safe use of Crystal Lake. It will conduct other such activities as needed to advocate and ensure the continued aesthetic beauty and environmental integrity of the Lake and its watershed.

## **CLWA ORGANIZATION.**

The **CLWA** is comprised of the Executive Committee; four standing Committees: the Water Quality Committee, the Zoning & Land Use Committee, the Education & Communication Committee, and the Financial Development Committee; and *ad hoc* Committees: the Boat Launch Committee, and the M-22 Project Committee. This newsletter contains items describing recent and ongoing activities by these **CLWA** committees.

## CRYSTAL LAKE WATERSHED.



“Perfect sincerity and transparency make a great part of beauty,  
as in dewdrops, lakes, and diamonds.”

- - Henry David Thoreau, from the *Journal* (June 20, 1840).

The Crystal Lake Watershed is small compared to the Platte River and Betsie River Watersheds to the north and south. Benzonia, Crystal Lake, and Lake townships surround the Lake; and parts of Homestead, Inland, and Weldon townships are drained by Cold Creek, the major tributary. The Villages of Beulah and Benzonia are at the East End of Crystal Lake. The City of Frankfort and the Village of Elberta are near the West End of Crystal Lake, but are actually in the Betsie River Watershed. Alvin and Austin Burt, who first surveyed Crystal Lake in 1838, called it “Cap” Lake (short for “Whitecap”, for its large waves).



The Crystal Lake Watershed covers only 44 square miles and Crystal Lake, 15.4 square miles, making it the 9<sup>th</sup> largest inland Lake in Michigan! [www.clwa.us/GRAPHICS/crystalws082801a.jpg](http://www.clwa.us/GRAPHICS/crystalws082801a.jpg). In 1873, the level of Crystal Lake was lowered dramatically when the Outlet was breached and the Lake dropped some 20 feet! It is still a very deep, cold, hardwater lake with a maximum depth of 165 feet. Each year the Crystal Lake Team Marathon runs around its perimeter. Details about the Crystal Lake Watershed – History, Maps, Facts, and Photos are found at [www.clwa.us/about\\_watershed.htm](http://www.clwa.us/about_watershed.htm).

The Crystal Lake Watershed contains "diverse hydrologically intertwined ecologies and unique environmental niches", i.e. how water moves from place-to-place around our watershed, and what is special about each place. These include: active sand dunes, forested heights, wetlands, tributaries, and the waters of a large deep inland lake connected to Lake Michigan. Crystal Lake, with its immense body of pristine water of exceptional clarity, mixed sandy and rocky nearshore perimeter, sandy shoreline, deep marl bottom, and high-ridged vistas, captivates all who view it. The responsibility of those of us in the present is to respect, maintain, and preserve the character of the Crystal Lake Watershed for the generations that follow us. The unique features of the Crystal Lake Watershed make it alternately very resistant or potentially vulnerable to environmental impacts.

Concerns that affect property owners and visitors include:

- ⊖ Septic Systems & Alternatives.
- ⊖ Lawns, Gardens, Fertilizers, & Pesticides.
- ⊖ Natural Greenbelts, Land Conservancies, & Scenic Vistas.
- ⊖ Boating, Swimming, and Fishing.
- ⊖ Litter, Garbage, & Hazardous Materials.
- ⊖ Planning & Zoning.
- ⊖ Land Use & Water Access.
- ⊖ Construction & Development.
- ⊖ Land Cover, Trees, Vegetation (Viewshed).
- ⊖ Critical Areas - Steep Slopes, Wetlands, Dunes, & Other Habitats.
- ⊖ Erosion & Shoreline Protection.
- ⊖ Soil, Sediment, & Nutrient Runoff.
- ⊖ Aquatic Vegetation, Fish, & Waterfowl.
- ⊖ Algae, Bacteria, & Molds.
- ⊖ Nonindigenous Plants, Animals, & Microorganisms.
- ⊖ Aesthetics & Noise.
- ⊖ Natural, Economic, & Social Challenges

## WATER QUALITY.



The **CLWA** Water Quality Committee has continued its water quality monitoring this past summer. A long-term program of understanding the processes that affect the lake's water quality and its likely development over time is under review. Planning will include discussions with our Science Review Panel. Interacting with these experts with both national and international experience, gives us insight into ideas and practices most appropriate for Crystal Lake. The overall science plan will relate water quality monitoring to both environmental protection and to social and political aspects of watershed planning.

Paul Murphy has accepted a position with the National Park Service at the Big Cypress National Preserve in Florida. Paul has done an outstanding job in monitoring the water quality of the Crystal Lake Watershed since 1994. Pete Brancheau, a local resident and employee of Paul Oliver Memorial Hospital, has come on board to take Paul's place. We also appreciate the assistance of the Marine Patrol of the Benzie County Sheriff's Department in recording Secchi disk readings.



Past measurements have focused on vertical profiles of temperature, dissolved oxygen, and nutrients. Data collected since 1995 are being collated and prepared for publication. The capability of the profiling instrumentation will be upgraded to include sensors (chlorophyll) which will monitor phytoplankton (algae) concentrations throughout the water column over the growing season. Future measurements need to include an expanded biological sampling program. Measurable changes can be monitored in the biological populations of the Lake while any corresponding changes in physical and chemical parameters may be too subtle to detect.

Dave Haynes of the Benzie Co. Marine Patrol.

Benthic organisms contain information about the condition of lake bottom sediments. Has the "hardening" of the shoreline (calcification) around the lake modified the supply of sediment to the lake? Past efforts on delineating the coverage of rooted aquatic vegetation will be continued and expanded. How much of the nutrient input to the lake goes into rooted plants? What have zebra mussels done to the distribution of phytoplankton? Has the lake become susceptible to blue-green algae that float on the surface and which are not grazed by zebra mussels? We plan to develop programs that continue to involve more participation by local lake residents and volunteers. With the large pool of knowledgeable and enthusiastic people around the shore, who care greatly for the Lake, we hope to develop an efficient, cost-effective, program using trained volunteers and professionals.

A note on foam: Several residents have observed foam (suds) on Crystal Lake. This is a common occurrence on northern Michigan lakes. In autumn, there is a general die-back and decomposition of aquatic plants which release natural oils (surfactants) that can produce a conspicuous, but temporary foam. The turbulence and wave action at the beach introduces air into the water resulting in the formation of bubbles. Natural foam occurrences along the beach coincide with onshore winds. Windrows of foam often can be found along a shoreline and streaks of foam may form on open waters. See more at [www.greatlakesdirectory.org/zarticles/012903\\_great\\_lakes1.htm](http://www.greatlakesdirectory.org/zarticles/012903_great_lakes1.htm).



## **LAND USE & DEVELOPMENT.**

### **CRYSTAL LAKE OVERLAY DISTRICT.**

The Crystal Lake Overlay District (CLOD) is a geographical area subject to special zoning regulations transcending typical political boundaries. The CLOD is described in Article XXIV of the Benzie Co. Zoning Ordinance <http://www.clwa.us/PDF/CLWFCrystalLakeOverlayDist.pdf>. It includes planning and zoning provisions for appropriate land use, and design regulations to protect and manage the valuable natural resources of the most of the Crystal Lake Watershed (\*). The protection of the Crystal Lake Watershed is deemed a public purpose to preserve important environmental, historical, residential, recreational, cultural, scenic, and economic attributes of the region. Zoning within the CLOD is more restrictive than conventional county-wide zoning. It is enforced in association with other ordinances governing land use, road building, residential and commercial construction, onsite wastewater treatment systems, and vegetative buffer. Specific design requirements target stormwater runoff, erosion and sedimentation, water quality, nutrient influxes, water temperatures, fish and wildlife habitat, and aesthetic and scenic values. Design requirements apply to all new development and changes to existing buildings regarding setbacks, vegetative buffer, development on steep slopes and along ridge lines, private roads,

(\*) Portions of five townships within the Crystal Lake Watershed are subject to County-wide zoning; Lake Township (including portions of both Crystal and Platte Lakes) has separate zoning. Current reassessments of County and Township ordinances are in process to realign the boundary of the CLOD with that of the Crystal Lake Watershed (now different) and to codify other beneficial changes.

### **SEPTIC SYSTEMS & ALTERNATIVE TREATMENT UNITS.**

In 1989, Benzie County was one of the first counties in the U.S. to adopt a precedent-setting ordinance requiring upgrades to all onsite wastewater treatment systems (septic tanks with drain fields, or holding tanks with periodic pumping) prior to any property sale. Priority was placed on upgrading failed or poorly operating systems near water bodies. Alternative Treatments Units (ATU's) using "innovative" or "advanced" technologies provide a higher degree of treatment to protect water quality of lakes and groundwater. Holding tanks must be pumped periodically and the contents properly disposed of in approved treatment facilities. Benzie and Leelanau Counties adopted new standards for ATU's to be constructed on properties having soils that do not "perc" (partially treated wastewater does not drain properly through soil). [www.clwa.us/zoning\\_landuse.htm#Regulations](http://www.clwa.us/zoning_landuse.htm#Regulations).

The Benzie-Leelanau District Health Department has permitted 35 upgrades of non-conforming septic systems in the Crystal Lake area this past year. As of September 30, 2005, nearly 92% of all septic systems in the Crystal Lake area have been upgraded/constructed to meet the current Benzie County Environmental Health Regulation. There have been a total of 704 new or upgraded systems on Crystal Lake since implementation of the ordinance.

The Betsie Lake Utility Authority (BLUA) in Frankfort has completed construction of the septic tank/holding tank wastewater treatment addition. This facility began accepting waste in the Fall of 2004, and is receiving approximately 50% (four million gallons) of septic/holding tank wastes. State law mandates that all septic tank/holding tank wastes be delivered to a treatment plant within 15 radial miles beginning October 2005, expanding to 25 radial miles by October 2010, meaning virtually all waste in Benzie County will be transported to the BLUA facility. If you have questions, contact the Benzie-Leelanau District Health Department at 231/882-4409.

## M-22 PROJECT.



In early July 2005, the Michigan Department of Transportation (MDOT) began a major project to resurface M-22 (Crystal Drive) running from the CSA along the NW shore of Crystal Lake to Hurdman's Bay. The project included relocation of utilities, tree removal, and installation of ditches, drains, and culverts. The project was outlined in a series of informational meetings with local riparians in 2004. While some modifications were made to accommodate individual concerns, many residents were concerned about traffic and parking safety; alteration of the natural landscape; and installation of the ditches, drains, and culverts that impact upon water quality.

New drainage ditches and covered drains were created to control problems of surface ponding of water on the roadway. Removal of vegetation was necessary to construct new drains and to relocate utilities. Unfortunately, some untreated stormwater does not percolate into the soil within the drains and is now discharged through several under-the-road culverts directly into Crystal Lake! The fill dirt placed above the drains is less porous than the original beach sand, and the fill gravel applied along the right-of-way was unwashed (fine clay sediment was not removed prior to use). Rain water and snow melt should perk into the ground where soils and plantings retard flow and reduce transport of nutrients and other contaminants in the groundwater traveling toward Crystal Lake.

At issue is the potential for damage to the pristine water quality of Crystal Lake from direct discharge of silt-laden water containing plant nutrients. This concern was voiced by CLWA President Bob Appleford and local residents when Channel 7&4 TV news toured the construction site in late July. On Friday, July 29, an open meeting was held at Chimney Corners to allow residents and MDOT officials to discuss issues. Project management apparently followed certain "standard guidelines" that are decidedly not applicable for road construction near sensitive water bodies like Crystal Lake. These guidelines need to be flexible and allow modifications in situations where lakes and streams are threatened. MDOT had originally intended to apply phosphate fertilizer during reseeding of the new ditches, but abandoned this option when told that this would lead to runoff and enrichment of Crystal Lake – a practice that lake dwellers have been told to avoid for the past twenty years! MDOT also revealed that they did not intend to use native vegetation for reseeding, but appeared receptive to the use of native plants for soil stabilization. State Senator Michelle McManus, who visited with **CLWA** representatives and concerned citizens on August 1, contacted MDEQ requesting assistance in achieving better collection and filtration of road runoff before entering the Lake.



On August 19, a major rain event occurred where the north shore area received nearly four inches of rain. Pictures (above) taken by a concerned resident show the flooding along the road and the spewing of silt-laden water directly into Crystal Lake along with the resultant plume spreading out like a fire hydrant into the nearshore water. This event confirmed that the design and operation of the culverts were inadequate to handle stormwater runoff and Crystal Lake is not adequately protected.



The **CLWA** seeks to discover if there are preferred techniques to control water runoff in the vicinity of water bodies like Crystal Lake. The **CLWA** retained legal counsel and services of environmental consultants to study the facts and determine suitable remedial actions. A letter was sent by **CLWA** to MDEQ and MDOT requesting that the culverts be immediately sealed until resolution of design discrepancies. A meeting was then held with MDOT, the major contractor, and the DEQ to review these discrepancies. MDOT agreed to make some changes. **CLWA** consultants reviewed construction plans and toured the area, during construction while focusing on the operation of five culverts that could potentially discharge rainwater runoff directly into Crystal Lake. They prepared a list of observations and recommendations for protecting against erosion by altering the design of the rainwater collection and flow control measures. On October 26<sup>th</sup>, two **CLWA** Board members, legal counsel, and consultants met with MDOT to present our findings and requests for remedial action. The position of the **CLWA** is that the existing condition of two culverts violate the State Soil and Sedimentation Act standards. If so, that would be a *per se* violation of the Michigan Environmental Protection Act. The next step in another conference with MDOT. If a remedy is not reached, the **CLWA** will then confer with counsel to discuss the pros and cons of commencing litigation. Updates will be posted at [www.clwa.us/zoning\\_landuse.htm#M-22](http://www.clwa.us/zoning_landuse.htm#M-22).

"Often an inquisitive eye may detect the shores of a primitive lake in the low horizon hills, and no subsequent elevation of the plain have been necessary to conceal their history. But it is easiest, as they who work on the highways know, to find the hollows by the puddles after a shower."

-- Thoreau, Walden, Chapter IX: The Ponds.

The following notice was sent to **CLWA** by MDOT for review. Affected riparian owners were mailed copies by their resp. townships upon request by MDOT before our suggestions were considered.

#### **NOTICE TO M-22 PROPERTY OWNERS IN LAKE AND CRYSTAL LAKE TOWNSHIPS (11/08/05).**

"In the summer of 2005, the Michigan Department of Transportation (MDOT) completed a road construction project on M-22, between South Shore Road and Crystal Drive in Lake and Crystal Lake Townships, to preserve and extend the life of the pavement. MDOT's engineers have indicated that the ditches and drains that were installed are to keep water from ponding on the road and creating a hazard to motorists. Vegetation was established and stone "rip-rap" used at specific locations to help clean sediment from roadway runoff before it enters Crystal Lake."

"Please be advised that when work is complete, it will comply with Federal and State regulations regarding storm water discharge and soil erosion. Because the law requires MDOT to comply with these regulations on their highway, and failure to comply is punishable by fines and/or prison, they will continue to monitor this location. Any action by adjacent property owners that causes soil erosion, sedimentation, and/or storm water runoff control measures to cease to function or alters their function (such as filling ditches, paving over drains or removing stone "rip-rap") will need to be immediately corrected. MDOT will require the property owner responsible for such action to perform the work or to reimburse them for all the costs of correction. Legal action may be taken against the property owner for non-compliance; therefore your cooperation is needed."

"Michigan laws require persons who wish to use MDOT's property, or "right-of-way", for anything other than normal vehicular or pedestrian travel to obtain a permit. This includes construction, excavation or filling which disturbs the vegetation, rocks, soil or elevation of the land next to the highway. Permission must also be obtained to occupy the highway right-of-way with any permanent or temporary structures, including driveways, fences, landscaping items, or underground pipes. If a person does not receive a permit from MDOT to use or occupy its right-of-way, its use or occupancy may be extinguished or removed by MDOT and appropriate legal action may follow. The application form is entitled "Individual Application and Permit" (Form 2205) and is available from MDOT's Traverse City Transportation Service Center (TSC) at 2084 US-31 South, Suite B, Traverse City, MI, 49684, or by calling (231) 941-1986."

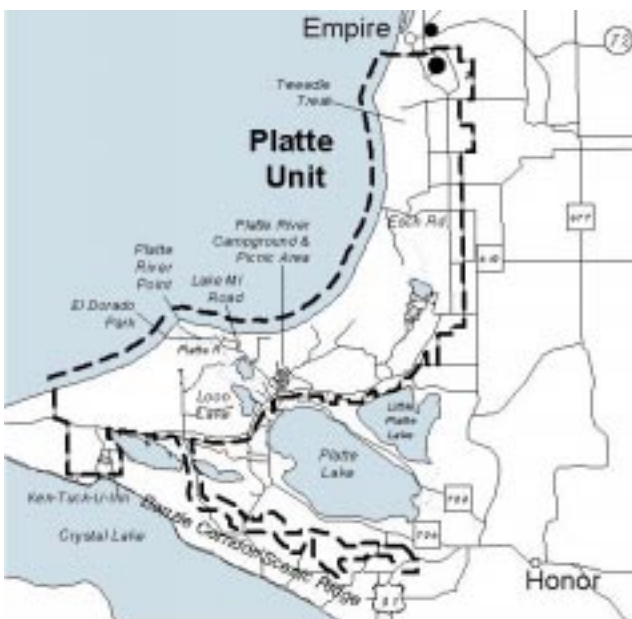
"Thank you, in advance, for helping to keep M-22 safe and Crystal Lake clean!"

## BENZIE CORRIDOR (SCENIC RIDGE).



The Benzie Corridor Scenic Ridge project was proposed as part of the original Sleeping Bear Dunes National Lakeshore to connect M-22 and US31 along the high ridge dividing the Crystal Lake Watershed from the Platte River Watershed. This project has considerable future consequence to the Crystal Lake Watershed. This route lies within the Crystal Lake Overlay District which is subject to specific zoning restrictions [www.clwa.us/zoning\\_landuse.htm#SustainableDevelopment](http://www.clwa.us/zoning_landuse.htm#SustainableDevelopment). The proposed 6.5 – 8 mile scenic road corridor running through the Crystal Highlands in Benzie County was left unaffected by the 1982 relegislation of the Sleeping Bear Dunes National Lakeshore (PL 97-361)(\*), although a similar scenic corridor near Glen Lake in Leelanau Co. was legislatively removed.

A feasibility study at that time by an *ad hoc* committee of the Benzie County Commissioners established that there would be no serious environmental side effects from the road, (other than impacting the viewshed of Crystal Lake), but that it would be very costly (\$18.7 million), and based on current park visitation rates the road was not necessary. Finally, in August of 1983 the Benzie County Commissioners met and voted to reverse their earlier support for the park road. Later that year Congressman Vander Jagt introduced H.R. 4242 to delete the Benzie Corridor from the lakeshore. “I’d say it’s dead as a doornail,” one of the Congressman’s aides told the press. “If the local people don’t want it, forget it.” Nonetheless no bill to officially remove the Benzie Corridor from the lakeshore was ever approved. Two decades later it remains part of the Sleeping Bear park plan.



The SBDNL General Management Plan / Environmental Impact Statement of 2002 described four alternatives [planning.nps.gov/document/ACF1CA.pdf](http://planning.nps.gov/document/ACF1CA.pdf). These ranged from complete elimination from the SBDNL boundary; to acquisition of properties as they become available from willing sellers, with zoning as “backcountry” with or without construction of hiking and/or bicycling tracks; to acquisition, with construction of a scenic road along the ridge, complete with scenic overlooks, parking areas and access roads. The Strategic Plan for SBDNL 10/0105 – 09/30/2008 [www.nps.gov/slbe/slbestpl.pdf](http://www.nps.gov/slbe/slbestpl.pdf), states: “Interest remains high in Benzie County in the status of the proposed 8 mile Crystal Ridge Scenic Drive and the general flow of visitors through the roads now maintained by the counties.”

### The “Benzie Corridor”.

“It is the mission of the National Park Service to preserve the outstanding natural features along 65 miles of Lake Michigan shoreline, in order to perpetuate the natural setting for the benefit and enjoyment of the public, and to protect the natural and historic features from development and inappropriate uses that would destroy their natural scenic, historic, and recreational value.”

The Benzie Corridor impacts the viewsheds of both Crystal Lake and Platte Lakes. As of late 2005, the SBDNL continues to acquire properties and consider alternatives for their use. See Comments on Draft Management Plan / EIS (Aug. 31, 2002) <http://www.clwa.us/PDF/CLWFSBDNLPlansScanned.pdf>. (\*) See Relegislating the Lakeshore [www.cr.nps.gov/history/online\\_books/slbe/adhi\\_4f.htm](http://www.cr.nps.gov/history/online_books/slbe/adhi_4f.htm).



## EDUCATION & COMMUNICATIONS.



### **Crystal Lake "Walkabout".**

The **Crystal Lake "Walkabout"** is an educational program to teach students, property owners, and visitors about the Crystal Lake Watershed. It focuses on hydrology - how water moves about the Watershed. It also addresses current concerns about water quality, ecology, land use, zoning, septic tanks, green belts, sustainable development, and watershed management. The "hands-on" approach to public education involves observational monitoring and environmental exploring. Participants "walk about" Interpretive Sites in the Watershed: the Lake, and its tributaries, wetlands, dunes, and high ridges, as environmental professionals describe features and conduct activities. Three events were held in 2005: Spring (6th grade), Summer (Public), and Fall (8th grade).

The **"Walkabout"** held on October 14, 2005, was attended by 216 students from the 8<sup>th</sup> grade classes of Benzie Central Middle Schools and Frankfort-Elberta Schools. Since 1994, the **"Walkabout"** has been presented to over 2,200 students, residents, and visitors to the Crystal Lake Watershed. It became a biennial event in 2002 to accommodate all 6<sup>th</sup> and 8<sup>th</sup> grade students in Benzie County. The Sites visited this Fall: Crystal Lake at CSA (water quality), Point Betsie (dune ecology), the Betsie Valley Trail (wetlands), and USCG - Station Frankfort (Great Lakes). Since 1997, the **"Walkabout"** has been presented to 2,200 students, residents, and visitors. Cosponsors of the Fall **"Walkabout"** with the **CLWA** included the MSUE Michigan Groundwater Stewardship Program; and the Sleeping Bear Dunes National Lakeshore (\*).



Each participant receives a commemorative **"Walkabout"** T-shirt with a full-color GIS map of the Crystal Lake Watershed. The **"Walkabout"** Interpretive Manual is both "An Educational Primer for Students" and "A Reference Handbook for Property Owners and Visitors". It contains maps, facts, descriptions of nine interpretive sites, a chronology of events in the history of the Crystal Lake Watershed, and a list of concerns for the owners of Lake and Watershed property. ( **"Walkabout"** T-shirts and watershed maps, and the Interpretive Manual are available from the **CLWA**. The Interpretive Manual is also available online at [PDF/CLWAWalkManual05SpringXX.pdf](#).

### Ted Meier and Benzie Central students at Point Betsie.

Other thanks are due to the dedicated teachers from Benzie Central Schools and Frankfort-Elberta Area Schools, who include the concepts of watershed interpretation and management into their curriculums, and provide moral support, chaperons, bus transportation, and esp. all the students who assemble the Interpretive Manual, and actively participate making the **"Walkabout"** worthwhile.

(\*) Special thanks to Doug Gibson, Becky Gray, Jim Laarman, Lisa Gruber, Mike and Sarah Litch, Keith Schneider, Jim Dulzo, Liz Leavens, Amy Kinney, Toby Tull, Arin Early, Judy Cunningham, Jim Buzzell, Bob Schmidt, Dottie and Ted Meier, Marie Scott, Susan Kirkpatrick-Thompson, Lou Cennane, Charles Kehr, Doug Leavell & Crew of USGS - Station Frankfort, and Tom Kelly & Crew of the Inland Seas, for serving as Site Interpreters for the Spring, Summer, and/or Fall 2005 events.



## **FINANCIAL DEVELOPMENT.**

The **CLWA** has a constituency of 1,200 members that impacts issues of critical importance to the Crystal Lake Watershed. The Financial Development Committee develops all appeals for funding:

- ω Membership and dues for general operation.
- ω Donations.
- ω Fund-raising for major projects: the 2020 Vision & Endowment Funds.
- ω Contributions for nonspecific projects.
- ω Matching funds for grant requests.
- ω Planned-giving opportunities.
- ω Development of new financial sources.

Annual income is used to defray operating costs and partially fund stewardship projects, scientific studies, and educational programs. Dues are only \$35 per year. Gifts to the 2020 Vision Fund and the Endowment Fund are used for specific projects. Recognitions of our most generous contributors, thank-you notes, receipts, and reminders are sent by the Membership sub-committee that maintains all records of giving from all sources. We sincerely thank all members and donors for their generous support. It is you who help us make a difference. Crystal Lake is in good hands.

Membership in the **CLWA** offers you a channel for your ideas and concerns, plus an active voice in the protection of Crystal Lake. Membership also includes the following benefits:

- ω White Caps, The CLWA Newsletter.
- ω The Annual Membership Directory.
- ω Progress reports on lake activities and issues of concern.
- ω The Michigan Riparian magazine (free subscription, if desired).
- ω Participation through voting power.

## **ANNUAL MEETING.**

The first annual meeting of the new Crystal Lake & Watershed Association (**CLWA**) was held Saturday, July 23, 2005, at the CSA Meeting Hall, 2128 Pilgrim Highway (M-22). A short business meeting and election of officers and new Board members was followed by presentations of Crystal Circle Awards. A short talk with questions and answers was given on boating safety by Dave Haynes of the Marine Patrol (Benzie County Sheriff's Department).

**[www.CLWA.us](http://www.CLWA.us)**

The new **CLWA** Website continues to expand. It contains the history of the Crystal Lake Watershed; many maps, facts and figures about the Crystal Lake Watershed; descriptions of the **CLWA**; committee activities; photographs of our Watershed; a calendar of events; publications and other references; and links to other websites. Please visit **[www.CLWA.us](http://www.CLWA.us)** and give us your comments.



## **PERSONALS.**

The **CLWA** would like to sincerely thank the following individuals for special contributions:

Tom Bolen and Gene Booher for providing boats for lake sampling.

Dave Haynes & the Marine Patrol (Benzie Co. Sheriff's Dept.) for recording Secchi disk readings.

Eleanor Comings and Peter Ellsworth who have completed their terms on the **CLWA** Board.

Jim Buzzell and Steve Shreiner, who are new members on the **CLWA** Board.

The CLWA team members, who placed fourth in their age class in the 2005 Crystal Lake Team Marathon with a time of 3:04.7 hours!

The Crystal Circle Award honors those who have contributed most generously of their time, talents and/or financial support in an outstanding way that has made a difference in the well-being of Crystal Lake. The 2005 awardees of the Crystal Circle Award for generous donations/meritorious service are: A. Y. and Jackie Bingham, Theodore and Suzanne Bosler, Thomas and Susan Cobb, William and Charlotta Decker, Wallace W. and Ann Edwards, Clifford and Mary Dee Graves, William W. and Dorothy Houghton, and Janet and the late Willard Webb III.

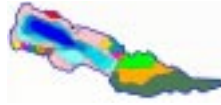
Other notes of appreciation appear in related articles.

## **PRESENTATIONS & PUBLICATIONS.**

1. Crystal Whitecaps, The Newsletter of the Crystal Lake & Watershed Association, Vol. 1, No. 1, Fall/Winter 2004, 8pp + 4 pp insert map; Ibid., Vol. 1, No. 2, Spring/Summer 2005, 4pp. CLWA, PO Box 89, Beulah, MI 49617. [www.clwa.us/references.htm#Whitecaps](http://www.clwa.us/references.htm#Whitecaps)
2. Daniels, Stacy L., The Crystal Lake Watershed - The Value of Having a Lake Association?!", Michigan Lake & Stream Associations, 41st Annual Conference, Boyne Falls, MI, April 23, 2005. [www.clwa.us/PDF/CLWAML&SA2005041705X.pdf](http://www.clwa.us/PDF/CLWAML&SA2005041705X.pdf)
3. Daniels, Stacy L., Crystal Lake & Watershed Association – A “New” Organization!, The Michigan Riparian 40(1), 5-6 (Feb. 2005). [www.clwa.us/PDF/CLWA\\_MIRiparian\\_Art05a.pdf](http://www.clwa.us/PDF/CLWA_MIRiparian_Art05a.pdf)

**2006 CALENDAR.** (Please check at [www.CLWA.us](http://www.CLWA.us) for final dates & times.)

April	Michigan Lake & Stream Association Annual Conference.
May	Crystal Lake <b>"Walkabout"</b> - 6th grades (Benzie Central & Frankfort/Elberta Schools).
July	Beulah Art Fair - Beulah Park.
July	CLWA Annual Meeting.
July	Congregational Summer Assembly Arts & Crafts Fair.
August	Crystal Lake <b>"Walkabout"</b> - Open to the general public.
October	Crystal Lake <b>"Walkabout"</b> - 8th grades (Benzie Central & Frankfort/Elberta Schools).



## CLWA BOARD (\*)

### Alan Appelhof, Vice President.

Alan Appelhof's family ties to Crystal Lake go back to the early 1900's when his grandfather owned property on the north shore. Alan's father built a log cabin on his father's property in 1936 and it became the family's summer home and his parent's retirement home. In 1976, after a 20-year career as a naval aviator, Alan, joined by his wife, Joanne, and daughter, "retired" to Crystal Lake. He has been a leader in the community, having served as president of the local Kiwanis Club, the Benzie Board of Realtors and the Crystal Lake Watershed Fund. Alan's motto is: "Happiness is multiplied by being shared." He believes it is our duty to preserve the beauty and quality of Crystal Lake for future generations.

### Board of Directors

#### Officers

##### President

Bob W. Appleford

##### Vice President

Alan Appelhof

##### Secretary

Sue Teteak

##### Treasurer

Bob Schmidt

#### Members at Large

Ken Baker

Ted Bosler

Jim Buzzell

Chuck Clarke

Stacy L. Daniels

Cliff Graves

Elizabeth Hill

Amy Kinney

Jim Laarman

Tom Osborn

Jay Pettitt

Steve Shreiner

Kathryn Simpson

Virginia Sorenson

Toby Tull

### Stacy Daniels, Board Member, Education & Communications Co-Chair.

Stacy is a "townie" and a "lakie". His father was the Superintendent of Frankfort Public Schools, and the original family cottage was built on Crystal Lake in 1935. He received his PhD in chemical engineering from the University of Michigan in 1967. He and his wife Carol have one daughter, Julie (Mrs. Tom Cavanaugh). Their three grandsons, Tommy, Drew, and Brock, are the 4th generation to dip their toes into Crystal Lake. Stacy worked at Dow Chemical for 30 years in a variety of environmental positions, and is now Director of Research for Quality Air of Midland, Inc., an indoor air quality firm. He has been a volunteer observer, participant, and director of environmental studies in the Crystal Lake Watershed since the 1960's. He is a past member of the North Shore Property Owners Association, the Crystal Lake Clean Water Committee, and the Crystal Lake Watershed Fund. He has coordinated the Crystal Lake "Walkabout" since 1993.

### Kathryn Simpson, Board Member, Financial Development.

Kathryn's paternal grandparents began summering at the Lake in 1916 and bought a sparse cabin with no indoor plumbing or kitchen on Standish Road in 1918. She and her husband, Howard, built their "dome" cottage in 1968. After graduation from Bradley University, she worked as a commercial designer and layout artist, and served on the Boards of Directors of Bennett Publishing Co and CABCO, Inc. She has been active with the Girl Scouts of America, YWCA, St. Philomena Catholic Church, and the Junior League of Peoria, IL. She has been exceptionally active in the Boy Scouts of America where she received the Silver Beaver Award and serves on the National Council. She was treasurer and financial development chair for the former CLA. She continues her interests in membership and funding with the **CLWA**. Kathryn's compelling reason to help **CLWA** is to keep the Lake as it is or better, for her five children and grandchildren.

(\*) Other Board Members will continue to be introduced in future newsletters.

Please feel free to contact the **CLWA** with your concerns and comments.

#### Ex-Officio

Bill Decker

Ron Renner

### **Crystal Lake & Watershed Association**

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