



# Crystal Whitecaps

The Newsletter of the Crystal Lake & Watershed Association

Vol. 3, No. 1, FALL/WINTER 2006

## PRESIDENT'S LETTER

2006 has been a very busy and productive year for **CLWA**. We have followed through with our commitment to proactively oppose any activity that will have a negative impact upon Crystal Lake. First and foremost, we went to trial against MDNR and MDEQ to prevent construction of the proposed boat launch, which was designed too large, and failed to protect existing wetlands adjoining the lake and the lake itself. The trial will be completed in January. Second, we commenced suit against MDOT to require correct procedures to be used during the M-22 project last year. We negotiated a successful settlement and MDOT has already taken remedial action with more to follow.

The most important thank you is to all of those members who stepped up in our time of need and contributed funds to fight the legal battles that we believe are critical to the future of our Watershed. The expense of the extended boat launch litigation has nearly doubled the estimate of \$50,000.

I want to thank our committee chairs, committee members, and other volunteers for their outstanding efforts this year. We have also formed new subcommittees for swimmer's itch and the proposed Benzie Corridor, addressed in this Newsletter. I also want to thank our former Office Administrator, Vickie Schmuker, who has moved to Dallas to pursue her accounting career, and Karen Dennis, who has done an excellent job as our new Office Administrator.

Bob Appleford, President

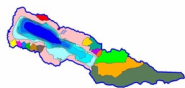


*Grace Becker and Avery Miles enjoy Crystal Lake.*

## CLWA ANNUAL MEETING

The **CLWA** Annual Meeting of July 22, 2006 included a short business meeting with committee updates on several issues. New Board members were elected: Peggy Burns-Deloria, Susan Kirkpatrick-Thompson, and Keith Schneider; reelected were: Chuck Clarke, Jim Laarman, Jay Pettitt, and Sue Teteak. Officers reelected: Bob Appleford, President; Allan Appelhof, Vice President; Sue Teteak, Secretary; and Bob Schmidt, Treasurer. 2006 Crystal Circle Awardees: Carl & Betsy Anderson; Douglas & Patricia Bard; Stacy & Carol Daniels; and Elmer Gilbert & Lois Verbrugge. Speakers: Arin Early of MSU Groundwater Stewardship Program, and Dr. Stacy L. Daniels of **CLWA**.

***“Protecting the integrity of Crystal Lake, Benzie County, now and for the future.”***



## PROPOSED MDNR BOAT LAUNCH

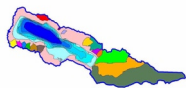
On May 25, 2004, the Michigan Department of Environmental Quality (MDEQ) granted a permit to the Michigan Department of Natural Resources (MDNR) to construct a public boat launch on Crystal Lake at Railroad Point. Many individuals and groups expressed concerns about excessive size, scope and inadequate design. **CLWA** petitioned MDEQ to reconsider its permit for several reasons: (1) criteria under the Wetland Protection Act were not properly applied; (2) pollution, impairment, and destruction of State waters were authorized in violation of MEPA; and (3) the action was arbitrary and MDNR did not consider other alternatives. The administrative hearing (trial) before Judge Dennis Mack was projected to last two weeks. It began in September, continued, on and off, for over three weeks, and is expected to end Jan. 11 or 12. All testimony has been completed except for rebuttal witnesses for **CLWA**. An administrative hearing is always an uphill battle, but our attorney, Fred Dilley, our expert witnesses, Ron Renner, and Bob Appleford, all agree our case has gone very well.

The factual and legal issues are numerous and complex: (1) failure to consider feasible and prudent alternatives for location, size, and configuration; (2) incorrect computation of dredge and fill; (3) adverse wetlands impact, both at the launch site and at wetland areas; (4) adverse water quality impact by drainage directly into Crystal Lake; (5) safety concerns at swimming areas of adjoining properties; (6) inaccuracies in MDEQ field notes and reports; and (7) uncertain status and development of the Outlet mitigation site. MDNR and MDEQ did not produce any surprise testimony, but did admit that the launch ramp area (70 feet by 80 feet) was doubled because of the steep slope and the distance from the parking area to the launch area which impacts the time needed for boaters to get off the Lake during storms. MDNR thus doubled impact of the launches on the site and the wetlands because of the physical limitations of the site. The Judge will review the record and his decision will be reviewed by the Director of MDEQ. We do not know when to expect a final opinion. If the Railroad Point site is rejected, could MDNR reconsider the Outlet site? Every expert has testified it is unsuitable for numerous reasons. **CLWA** feels certain that MDNR will not reconsider it.

## MDOT M-22 SETTLEMENT

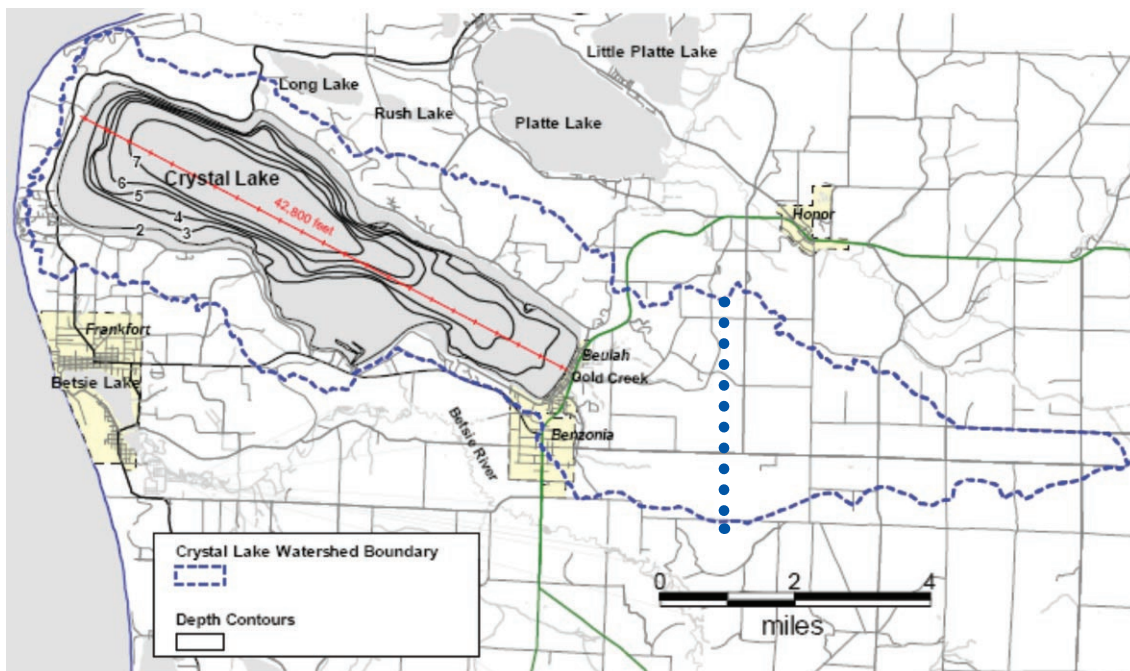
**CLWA** objected to several construction procedures taken by MDOT in connection with the M-22 reconstruction project (Pilgrim Highway and Crystal Drive) in the summer of 2005; including use of phosphate fertilizers, exposure of steep slopes, failure to clean five culverts, and failure to adequately contain sediment in runoff flowing directly into Crystal Lake. MDOT agreed not to use phosphate fertilizer, but refused to take other corrective measures. **CLWA** then commenced suit in Benzie County Circuit Court in April 2006, alleging that MDOT violated the Michigan Soil Erosion and Sedimentation Control Act ("SESCA") and the Michigan Environmental Protection Act ("MEPA"). At the urging of Judge Batzer, the parties agreed on the terms of a Consent Judgment. MDOT has complied with several corrective measures, including cleaning five culverts in May 2006.

Our expert determined that MDOT did an effective job in cleaning the culverts and no sediment left the roadside ditches and entered Crystal Lake. Our expert recommended, and MDOT agreed, that further actions are required to remediate the inadequate storage of runoff and the inadequate removal of sediment. **CLWA** and MDOT will conduct an inspection of the roadside ditches spring 2007. Pursuant to the terms of the Settlement Agreement we propose to make such an inspection an annual event for a five- to seven-year period. If we cannot agree with MDOT on remedial measures and believe the existing conditions at any future time are negatively impacting the water quality of Crystal Lake, we will take the matter before Judge Batzer.



## CRYSTAL LAKE OVERLAY DISTRICT

The Crystal Lake Overlay District (CLOD) ordinance, adopted by Benzie Co., November 1, 1994, provides certain protective measures for the entire shoreline of Crystal Lake. This unique ordinance places reasonable restrictions on steep slope development and establishes standards for soil erosion control and vegetative management around the shoreline. The CLOD is now bounded by Eldridge Road (dotted line). And does not yet coincide exactly with the Crystal Lake Watershed (dashed line).



Depth Contours: 1 = 0'; 2 = 15'; 3 = 30'; 4 = 60'; 5 = 90'; 6 = 120'; 7 = 150'.

Recently, one of our sister organizations the Platte Lake Improvement Association, has been instrumental in the adoption by Lake Township of a similar overlay district ordinance for the northern half of Platte Lake. Interest in overlay districts as a way to protect the quality and character of other lakes within Benzie County continues to grow. Local residents around Turtle Lake and the Herring Lakes are actively studying the potential benefits.

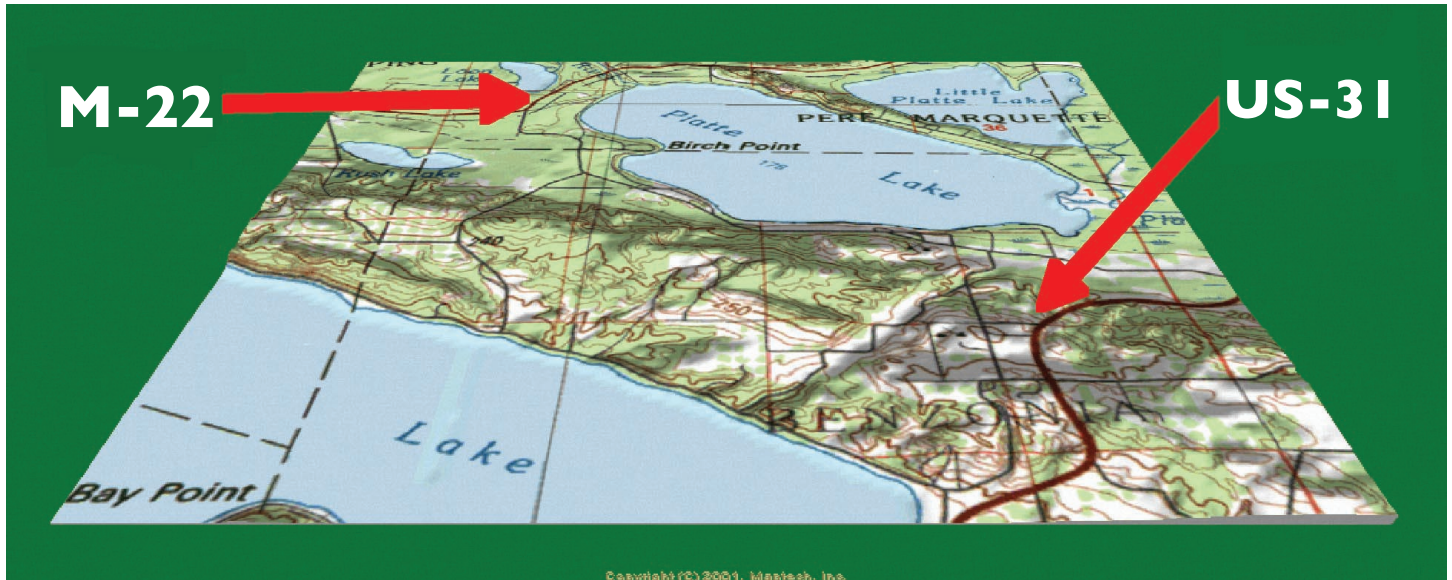
Significantly, the Benzie County Planning Commission has recognized the value of such protective overlay districts. They are seen as a way to implement a key component of the Benzie County Master plan that recognizes the intrinsic value of the inland waters of Benzie County. The draft of a general "Waterbodies Overlay District" ordinance has been prepared that is intended to apply to all of the inland waters of Benzie County that are not already protected by local overlay districts, such as the CLOD. An ad hoc committee is being formed to obtain broad public input and prepare a final draft for public hearing and adoption. **CLWA** board members have provided valuable input. There may be opportunity to extract content from the first draft to improve the current CLOD.

In reality, county ordinances can neither contradict nor diminish underlying state and federal law. They can, however, raise the standards and are most effective if they are clearly enforceable. At issue are the standards for the management of the factors that can affect water quality and lake character: Ideally, this "Waterbodies" ordinance, when adopted, will provide a set of standards that will provide additional long-term protective benefits for all of our lakes and rivers. The **CLWA** is pleased to be participating in this project.

## BENZIE CORRIDOR / SCENIC RIDGE



The Benzie Corridor / Scenic Ridge was proposed as part of the original enabling legislation that created the Sleeping Bear Dunes National Lakeshore (SBDNL) in 1970. It was left unaffected by a 1982 re-legislation, although the Glen Lake Corridor was removed. As proposed, it would be a “parkway” connecting M-22 and US-31 over 6.5 – 8 miles along the high ridge (Crystal Highlands) dividing the Crystal Lake Watershed from the Platte River Watershed (Map). The Benzie Corridor impacts the viewsheds of both Crystal Lake and Platte Lake. Approximately 1,200 Acres, or 7% of the land area (18,281 A) of the Crystal Lake Watershed that is subject to the zoning restrictions of the Crystal Lake Overlay District. As of late 2006, the SBDNL has acquired ~10% of the proposed route.



The 2002 General Management Plan / Environmental Impact Statement (GMP/EIS) described four alternatives: complete elimination; continued acquisition, with zoning as “backcountry” with or without construction of hiking and/or bicycling tracks; or acquisition, with construction of a scenic road complete with scenic overlooks, parking areas and access roads along the ridge. Balancing wilderness protection with public access contrasts closures of existing roads vs. opening of new roads. It also contrasts acquisition by SBDNL, with some coordinated “protection” of land use, vs. piecemeal development by private owners. Continued inclusion of the Benzie Corridor as a separate management “unit”, however, creates uncertainties unless choices among alternatives are resolved!

Many commenters through the years have addressed the pros and cons of acquisitions by the SBDNL. The ongoing process includes public meetings, newsletters, and requests for public comments. Comments by **CLWA** on the Modifications to the General Management Plan/Wilderness Study (GMP/WS) outlined in Newsletter 2 - May 2006 (SBDNL) recommended reassessment of the Benzie Corridor and reestablishment of the Sleeping Bear Dunes National Lakeshore (SBDNL) Advisory Commission. Additional refinement of the GMP/WS is described in Newsletter 3 – October 2006 <http://www.nps.gov/slbe/parkmgmt/gmphone.htm> The Benzie Corridor still remains a component of several Alternative Management Concepts in which the NPS either ceases to purchase lands, or continues to purchase lands for the development of a scenic road or a scenic trail. The lands under consideration are not currently designated as “Wilderness”, which has specific limitations on use. The next step is to consider the latest comments and to develop alternatives through Spring/Summer of 2007, eventually leading to a Draft GMP/WS/EIS by Fall 2007/Spring 2008, revision and preparation of the final plan by Fall 2008, and implementation by winter 2008. Should the **CLWA** choose “park” or “private”? [For earlier details, see CF Vol 2(1), Fall/Winter 2005].



## THE CRYSTAL LAKE WATERSHED: CONCERNS & ACTIONS

Management of the unique environment of the Crystal Lake Watershed is important for three reasons: (1) to determine what we know about our Watershed from the past, (2) to plan to use our Watershed in an environmentally sustainable manner today, and (3) to implement projects to protect our Watershed for the future. The Concerns and Actions are modified from a list summarized at the 2006 Annual Meeting. They are grouped according to three committees [Water Quality (**WQ**); Land Use & Development (**LUD**); Education & Communications (**EC**)]. These items have been/will be addressed in issues of Crystal Whitecaps. Please contact the **CLWA** with your comments and suggestions.

#	CONCERNS	ACTIONS	CLWA
1	Scenic Vistas – the Viewshed	Take proactive approach to the proposed Benzie Corridor (SBDNL)	EC
2	Land Cover, Trees, & Vegetation Preservation	Monitor future development	EC
3	Boating, Swimming, & Fishing	Provide advice on boat safety, swimmers' itch, fish advisories	EC
4	Lawns, Gardens, & Greenbelts	Encourage individual projects	EC
5	Land Conservancy	Partner with Trapp Farm Nature Preserve, RR Point Natural Area, and Zetterburg Preserve (Pt. Betsie)	EC
6	Aesthetics & Noise Control	Assess traffic, light pollution, airport	EC
7	Natural, Economic, & Social Challenges	Distribute information on global warming, climate change, etc.	EC
8	Litter, Trash, Garbage, & Hazardous Materials	Promote collection, recycling, and proper disposal	EC
9	Land Use	Support Crystal Lake Overlay District & Waterbodies Overlay District.	LUD
10	Planning & Zoning	Support enforceable zoning ordinances	LUD
11	Water Access	Promote environmental aspects at access points and boat launches	LUD
12	Construction & Development	Maintain awareness of road construction and land development activities	LUD
13	Critical Slopes, Wetlands, Dunes	Promote sustainable resources	LUD
14	Septic Systems	Support existing health ordinance	LUD
15	Water Quality	Monitor waters of Crystal Lake Watershed	WQ
16	Soil, Sediment, & Nutrients	Control runoff of ground & surface waters	WQ
17	Erosion & Shoreline Protection	Continue monitoring of lake level & dam	WQ
18	Atmospheric Deposition & Ozone	Comment on regional concerns	WQ
19	Algae, Bacteria, & Mold	Monitor surface waters	WQ
20	Aquatic Vegetation, Fish, & Waterfowl	Preserve habitat, species & diversity	WQ
21	Nonindigenous (Exotic) Plants & Animals	Monitor Zebra Mussels, Eurasian Watermilfoil, etc.	WQ

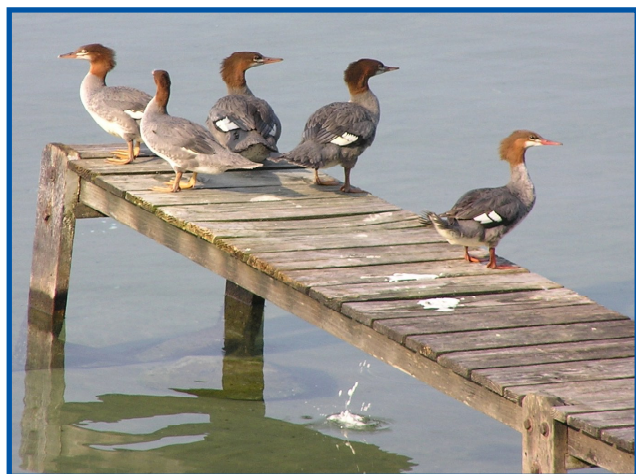


## SWIMMER'S ITCH

Swimmer's itch is a skin condition that humans can get after swimming, wading, playing, or working in the water. Formally known as "cercarial dermatitis", it has been a problem in freshwater lakes for decades, and exists worldwide in freshwater and marine settings. Concern for swimmer's itch is rising and its incidence may be increasing. Tiny schistosomes (cercariae; "sur-care-ee-ay") are released into water by bottom-living snails which then infect sitting or swimming ducks. Duck feces released back into the water repeats the life cycle by reinfesting snails. Ducks and snails are not bothered, but humans, not being part of the normal life cycle, become inadvertent targets. The cercariae penetrate human skin and then die realizing the human is not a duck. The resulting inflammatory reaction, distinguished by large red papules and itching, is quite different from poison ivy, heat rashes, or insect bites.

There are two approaches to reduce the problem: (1) Break the life cycle in a lake by controlling ducks and/or snails. Some lake associations have tried duck control, but success is difficult because the major species, the common merganser (the saw-bill duck, the Benzie County namesake), is swift and wily, has large broods, and returns to the same lake year after year, or (2) Use caution when and where entering the lake, and take preventive actions.

A recent study (at Douglas Lake by **CLWA** member and resident Dr. Lois M. Verbrugge) showed that being in shallow water in the early morning during onshore winds increases exposure, which is not age or gender specific. Children often get swimmer's itch because they are in shallow water for many hours, where cercariae are most dense. Application of lotions, insect repellents, or rubbing alcohol, and showering after use, are partial remedies. **CLWA** has established a new committee to review incidence at Crystal Lake and elsewhere, and to assess prevention and control programs at other lakes.

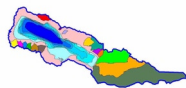


*Le Canard aux bec Scies (Mergus merganser)*

## BENZIE COUNTY OZONE NONATTAINMENT

Benzie County was identified by the U.S. EPA as an ozone (O<sub>3</sub>) nonattainment area according to the Clean Air Act. The 8-hour level had occasionally exceeded the national ambient air quality standard (NAAQS) of 80 parts per billion. Ozone is a photochemical oxidant and a major component of smog. In the upper atmosphere, it shields the earth from harmful UV rays from the sun, but high levels at ground level are of health and environmental concern. In the past, Benzie County has occasionally been the recipient of air pollution in the prevailing winds blowing over large cities in the central U.S.

The U.S. EPA announced on Nov. 27, 2006, that upon review of data for 2003-2005, 11 Michigan counties (including Benzie) are now meeting the standard and proposed to approve a request by MDEQ to redesignate these counties to attainment status. [www.michigan.gov/deq/0,1607,7-135--156949--,00.html](http://www.michigan.gov/deq/0,1607,7-135--156949--,00.html) EPA also proposed to approve a state plan to maintain the standard through 2018 and to approve motor vehicle emissions budgets. Stacy Daniels, and Aubrey Parker, a student at Kalamazoo College, have reviewed data from the ozone monitoring station in Beulah for the **CLWA**. EPA's action will be open for public comment sometime in December for a 30-day period.



## CRYSTAL LAKE “WALKABOUT”

The concept of the “**Walkabout**” is borrowed from the Australian Aborigines, who would take leave from their responsibilities of daily living to “walk about” their environment and renew their fundamental spiritual associations. The naturalists, Henry David Thoreau and John Muir, might have used the same approach sauntering about their environments. A modern-day context is applied in this innovative educational program to instill and nurture, in young people and adults, a sense of awareness of their watershed environment through an interactive program of science education involving “hands-on” observational monitoring and environmental exploring.

The **Crystal Lake “Walkabout”** is directed at students, property owners, and visitors of the Crystal Lake Watershed. Participants “walk about” Interpretive Sites that are integral parts of the Crystal Lake Watershed. The program focuses on hydrology - how water moves about the Watershed. It also addresses water quality, ecology, land use, zoning, septic tanks, green belts, sustainable development, and watershed management. Since 1994, the “**Walkabout**” has been presented to 3,000 participants. In 2002, it became a biennial event available to all 6th and 8th grade students in Benzie County. There is also a special program in mid-summer open to the public.

The **CLWA** cosponsored the **Crystal Lake “Walkabout”** (Fall 2006) on Thursday, May 24, 2006 for 130 students from the 8th grade science classes of Benzie Central Schools. The Sites visited this Spring were Crystal Lake at the CSA beach (water quality), Point Betsie (the lighthouse), and the U.S. Coast Guard - Station Frankfort (boat safety & seamanship). Volunteer environmental professionals described environmental features of each Site and conducted group activities.

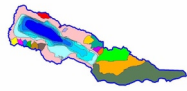
Each participant received a “Walkabout” T-shirt with a colorful map of the Crystal Lake Watershed, and the “**Walkabout**” Interpretive Manual [www.clwa.us/educ\\_comm.htm#EDUCATION](http://www.clwa.us/educ_comm.htm#EDUCATION), which is both An Educational Primer for Students, and A Reference Handbook for Property Owners and Visitors. It contains maps and facts, descriptions of nine interpretive sites, a chronology of historical events in the Crystal Lake Watershed, and a list of concerns of property owners and visitors (\*).

We sincerely appreciate the dedicated teachers of Frankfort/Elberta and Benzie Central Schools who supported the “Walkabout” and most importantly their students. Special thanks also to the Site Interpreters: Doug Gibson, Lake Ann Elementary School; Barbara Graves, Benzie Conservation District; Valerie Bartell, MSU Groundwater Stewardship Program; Amy Ferris, Friends of Point Betsie Lighthouse; Marie Scott, Sleeping Bear Dunes National Lakeshore; Chief Cook and the crew, USCG – Station Frankfort; and Bob Schmidt, Jim Laarman, and Judy Webber.

The **CLWA** cosponsored the **Crystal Lake “Walkabout”** (Summer 2006) on Tuesday, July 25, 2006 to 35 participants. The summer program was open to the general public and included three interpretive sites: Crystal Lake Yacht Club (groundwater quality); Point Betsie (dune ecology); and Betsie Valley Trail (river wetlands and Great Lakes). Thanks to Arin Early, Amy Ferris, and Jim Laarman, who acted as Site Interpreters.

(\*) New additions to the “**Walkabout**” Interpretive Manual include: the origin of “walkabout”, translations of “walkabout” into 17 languages, and a parable on “sauntering”, by John Muir, ca 1911.

Additional “**Walkabout**” T-shirts, Watershed maps, and Interpretive Manuals are available from the **CLWA**. Spring (8th grade), Summer (public), and Fall (8th grade) events are planned for 2007.



Students from Frankfort/Elberta Schools learn about boating safety from the Crew of USCG – Station Frankfort during the Fall 2006 **“Walkabout”**.



Students from Benzie Central Schools learn about the history of Point Betsie from Amy Ferris, Friends of Point Betsie Lighthouse, during the Fall 2006 **“Walkabout”**.





## GEOGRAPHIC INFORMATION SYSTEM

A Geographical Information System (GIS) is a useful technique for analyzing watershed data and constructing maps and charts. Thanks to a generous monetary grant, and another grant from ESRI of software, the **CLWA** is now developing its own GIS capabilities to evaluate environmental issues facing our Watershed. The familiar GIS map of the Crystal Lake Watershed shows the shape of the Watershed, and points of interest. It appears on the front of the “Walkabout” T-shirt.

GIS can also be used to support the development of facts about our Watershed that can be easily explainable to our membership. For example, did you know that Crystal Lake is truly about “half way from here to there”? The “center” of Crystal Lake (44° 39’ 33” N Lat., 086° 09’ 23” W Long.) is about ½ way between the Equator and the North Pole, and about ¼ of the way around the world from the Prime Meridian. A line running across Crystal Lake from the SE to the NE shores is equidistant (about 244 miles both ways as the crow flies) between the northwestern-most part of the Upper Peninsula of MI (Goebic Co.) and the southeastern most-part of the Lower Peninsula (Monroe Co.) (Crystal Lake is also close to halfway between the N & S, and the E & W borders of MI as well.

## MISCELLANEOUS NOTES

Karen Dennis is welcomed as the new Office Administrator for the **CLWA**. She and her husband, Les, have been married for 20 years. They have three children, Matthew, who lives and works in Traverse City, Calvin, who is working on a degree in Law Enforcement at NMC, and Dayanara, a sixth grader at Platte River School. Karen and Les love living and raising their family because of the beauty and opportunities in the local area. Les is an avid fishermen and hunter, and these passions of nature are passed on to their children. The Dennis’ feel blessed to live around Crystal Lake and the many other surrounding lakes that have created memories that the family will surely treasure.

Vickie Schmucker, the former Office Administrator for the **CLWA**, is now working for KPMG, LLP, a large CPA firm in Dallas, TX, that provides audit, tax, and advisory services to a broad range of clients. The **CLWA** wishes her well on her new endeavors.

Kyle Axtell will be taking a lead role in providing water quality monitoring services to the **CLWA** replacing Paul Murphy. Kyle is the Environmental Outreach Coordinator for the Benzie Conservation District where he promotes the use of greenbelts (natural vegetative buffers) along waterways. Kyle has also participated in the Crystal Lake “**Walkabout**” as a Site Interpreter.

Researchers, educators and resource managers from eight states and Ontario attended the Great Lakes Dunes Conference Oct. 2-3 at NW Michigan College. They discussed Great Lakes sand dunes needs, began development of a basinwide strategy for environmentally responsible dunes management and considered forming a Great Lakes Sand Dunes Ecosystem Coalition. Stacy Daniels presented a poster on “Dunes, Wetlands, Streams, & Lakes – Environmental Interpretive Sites within the Crystal Lake Watershed”. It included a series of high-resolution aerial photographs of the Lake Michigan coastline from the Benzie/Manistee County line to the SBDNL. These photographs will be posted for viewing at a later date at [www.CLWA.us](http://www.CLWA.us)

The level of Crystal Lake is maintained by a control dam at Outlet Creek. It varies from a summer high level of 600.25 ft (5/1-10/30) (to facilitate boating) to a low level of 599.75 ft (11/1-4/30) to reduce shoreline erosion). Weekly readings are taken by the Benzie County Drain Commission.



## Board of Directors

### Officers

President:

Bob Appleford

Vice President:

Alan Appelhof

Secretary:

Sue Teteak

Treasurer:

Bob Schmidt

### Members at Large

Ken Baker

Peggy Burns- Deloria

Jim Buzzell

Chuck Clarke

Stacy L. Daniels

Cliff Graves

Elizabeth Hill

Susan Kirkpatrick-Thompson

Jim Laarman

Tom Osborn

Jay Pettitt

Keith Schneider

Kathryn Simpson

Toby Tull

### Ex-Officio

Bill Decker

Ron Renner

## CLWA BOARD (\*)

### Ken Baker (07), Board Member

The Ken Baker family first arrived at the Summer Assembly in 1954, and has happily returned every summer for 52 years. Ken and his wife, Vivian, lived in the infamous CSA "Lodge", and for a number of summers in borrowed housing in various states of repair, before buying two lots and constructing a log cabin. The activities of their two sons on the beach and in the inviting water of Crystal Lake led to Ken's interest in water quality and the long-term factors impacting private and public uses of the Lake. Together with Bill Decker and Stacy Daniels, Ken was a member of the Ad Hoc Committee, the Crystal Lake Clean Water Committee, and The Crystal Lake Watershed Fund, who developed a truly enviable long time record of the water quality parameters of Crystal Lake. Various lake groups came and went as various special interests appeared and disappeared. The Crystal Lake Association and the Crystal Lake Watershed Fund were two groups that coexisted for some ten years. They complemented one another in some respects, but overlapped with differences of opinion. Public opinion urged the two competing groups to merge. The question was, "How do we do it?" In 2004, three volunteers from each organization met and became known as the "Committee of Six", including Ken Baker, who agreed to be the Chair. Common ground was quickly found. Position statements were formulated and presented to the respective Boards of Directors. The proposed merger was voted almost unanimously by both organizations. The Crystal Lake & Watershed Association was formed and now represents all the residents and property owners in the Watershed. Ken was the guiding light in the CLWF/CLA merger. It behooves all of us to follow his lead and to remain alert and involved.

### Elizabeth Hill (07), Board Member, Water Quality Committee

Elizabeth has Lake Michigan and Crystal Lake in her veins. Her mother's family came to the CSA from St. Louis in the 1920s. She spent childhood summers in Douglas, and then Michabou Shores, when her parents built a small cottage in 1960. Her early years near these beautiful lakes motivated and inspired her pursuit of a PhD in biology, with a focus on freshwater ecology, at Washington University in St. Louis. She took graduate field courses in Limnology and Phytoplankton Ecology at the UM Biological Station. Her career began at TVA investigating environmental effects on aquatic invertebrates. She retired from NASA, Huntsville, AL, where she studied the ecology of closed water reclamation systems for the Space Station and managed a technology transfer outreach program in LA. She married Dr. Phil Hill in 2000, and became a year-round resident on the south shore. She has served as secretary of the former CLA. She is perennially encouraging lakeside residents to be responsible lake stewards by maintaining fertilizer-free buffer zones with native vegetation. Her all consuming interest is the dyeing of yarns and weaving them into functional and artistic textiles.

### Jay Pettitt, Board Member

Jay's mother always told him that his first dip in Crystal Lake was when he was just six months old - some 80 years ago. Jay's father was born and raised in Benzonia, so it was a natural to return to Crystal Lake. He has not missed a summer since except for two during World War II. After military service, he married his high school sweetheart, attended the University of Michigan, and managed the Cherry Hut all in the same year. When he first brought his wife to Crystal Lake, her comment was "We are going to return here!" After a successful career as chief architect at a large architectural and engineering firm, four children, and 40 years later, they moved to a retirement home on the north shore of Crystal Lake. Jay and his wife were soon active in the North Shore Property Owners Association, and he was very instrumental in the successful merger of that organization and the CLA. Being exposed to Crystal Lake over a long period of time, Jay has seen many changes in new development, invasive species, inshore water quality, and lake bottom. Jay believes good zoning is an important factor. He worked closely with Don Swartz, the former Zoning Administrator, to develop the present ordinance including the very dynamic and ever-evolving Crystal Lake Overlay District. Enforcement of the rules and regulations is one of the most critical efforts to put forth in maintaining the quality of Crystal Lake for our grandchildren and their grand children.

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



## CLWA MEMBERSHIP

It still is not too late to pay your **CLWA** dues for 2006. You can use the convenient response envelopes or the form at [www.CLWA.us](http://www.CLWA.us). Please include your name, address, and phone numbers for summer and winter addresses. Please send \$35 (or more) to PO 89, Beulah, MI 49617.

**CLWA** sends out only two annual appeals: one for annual dues in January; the second for funds for the 2020 Vision Fund in November. (A special mailing in August is sent only to those who have not paid current dues.) Persons wishing to prepay dues for the coming year may do so at the end of the year by indicating on the response form that it is to be credited to the next calendar year. If dues have not been paid for the current year, the amount sent will be credited accordingly.

**CLWA** also invites you to contribute to its Endowment Fund at any time. This is a gift that keeps on giving. Unless specified otherwise by the donor, all memorial and honorarium gifts are placed in the Endowment Fund. We celebrate our past achievements, but must continue to plan for the future.

**CLWA** could not exist without the financial support of our many members and friends. By your generosity, we continue to work to keep Crystal Lake safe and clear. We will maintain our protection of this pristine jewel of the north. Thanks to all past members of the Crystal Lake Association and past donors to the Crystal Lake Watershed Fund for your financial support. Membership in the new Crystal Lake & Watershed Association (**CLWA**) offers you a channel for your ideas and concerns, and an active voice in the protection of the Crystal Lake Watershed.

Membership includes:

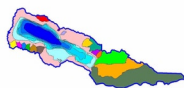
- “Crystal Whitecaps”, The CLWA Newsletter (published biannually).
- The Annual Membership Directory.
- Progress reports on Crystal Lake Watershed activities and issues of concern.
- The Michigan Riparian magazine (free subscription, if desired).
- Participation through voting power.

## THE CRYSTAL LAKE & WATERSHED ASSOCIATION

The **CLWA** is a nonprofit 501(c)(3) organization with over 1,200 members that support a comprehensive program of activities affecting students, riparian owners, and visitors in the Crystal Lake Watershed. The **CLWA** encourages members to contact local and state government on local issues of critical importance to the sustainable development of the Crystal Lake Watershed. **CLWA** membership dues start at only \$35 per year. Gifts to the 2020 Vision Fund are used for stewardship projects, scientific studies, and educational programs; and to the Endowment Fund for future needs.

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 Development & Financial Development Committee; and ad hoc Committees: the Boat Launch Committee, and the M-22 Resurfacing Committee. New Committees (& Membership): Long-Range Planning, Benzie Corridor, and Swimmer’s Itch. This newsletter contains items describing recent and ongoing activities by these **CLWA** committees.

Would you like to participate on a **CLWA** Committee? Please contact the **CLWA**!



## CLWA MISSION

“The purpose of the **CLWA** is to protect and promote the natural qualities of Crystal Lake (Benzie Co., MI) and its surrounding Watershed. The goal of the **CLWA** is to preserve for future generations the beauty and recreational resources of Crystal Lake and its Watershed. To these ends, the **CLWA** 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** Bylaws)

## 2007 CALENDAR.

Apr 20-22	46th Annual Michigan Lake & Stream Associations Conference.
May xx	Crystal Lake <b>“Walkabout”</b> - 6th grades (Benzie Central & Frankfort/Elberta Schools).
Jun 16	11th Spring Craft Fair - Frankfort
Jul 4	Parades and fireworks – Beulah and Frankfort
Jul 14	Beulah Art Fair
Jul 21	Elberta Art & Crafts Fair
Jul 21	Port City Run
Jul 25	Congregational Summer Assembly Arts & Crafts Fair.
Jul 28	<b>CLWA</b> Annual Meeting.
Jul xx	Crystal Lake <b>“Walkabout”</b> - Open to the general public
Aug 11	Crystal Lake Team Marathon
Aug 18	31st Frankfort Art Fair
Oct xx	Crystal Lake <b>“Walkabout”</b> - 8th grades (Benzie Central & Frankfort/Elberta Schools).

Please check [www.CLWA.us](http://www.CLWA.us), and [www.benzie.org](http://www.benzie.org) and [www.frankfort-elberta.com](http://www.frankfort-elberta.com) for the most current dates and times of local events.

**“Above the North: Aerial Photography of Northern Michigan”**, a new book by Marge Beaver, is a spectacular collection of 150 aerial photographs of Michigan, from Ludington to Mackinac, including images of Crystal Lake. For copies: [www.photography-plus.com/books.htm](http://www.photography-plus.com/books.htm) or UM Press (\$45).

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

The **CLWA** Website contains the history of the Crystal Lake Watershed, many maps, facts and figures, descriptions of the **CLWA**, activities by our Water Quality, Education & Communications, Zoning & Land Use, and Financial Development Committees, photographs, calendar, past newsletters, publications and references, and links to other websites. Please visit and comment.

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

**Crystal Lake & Watershed Association**  
P.O. Box 89, Beulah, MI 49617  
Tel 231/882-4001 Fax 231/882-7810  
[www.CLWA.us](http://www.CLWA.us) [info@CLWA.us](mailto:info@CLWA.us)