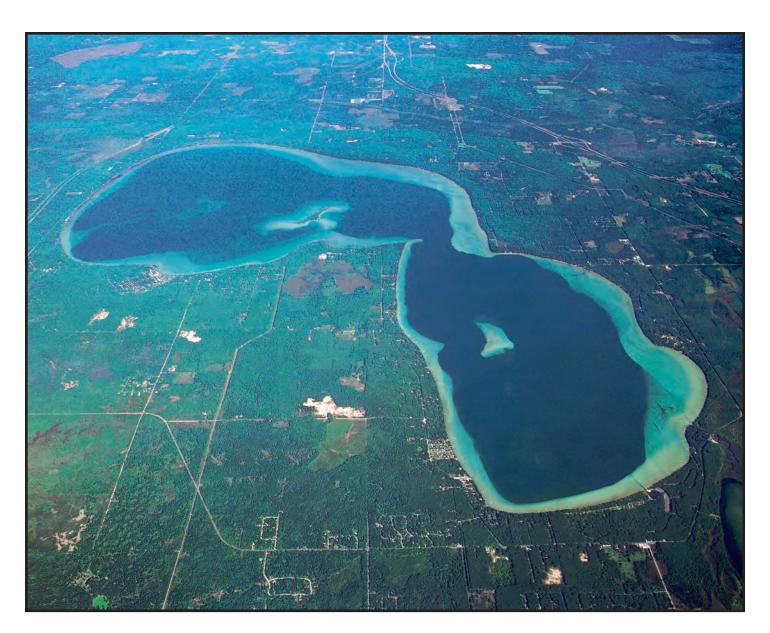
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Higgins Lake, Roscommon County, Michigan Site of Boat Noise Testing Project



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NEWS FLASH - MICHIGAN SUPREME COURT DECISION IN LITTLE V KIN

by Clifford H. Bloom

Just as this issue of the Riparian went to print, the Michigan Supreme Court announced its long awaited decision in Little v Kin. The easement at issue stated "for access to and use of the riparian rights to Pine Lake." The trial court summarily held (as a matter of law and without a trial) that no dock or boat moorage was allowed pursuant to the easement. The Court of Appeals reversed the decision of the trial court and indicated that a trial would have to be held. See 249 Mich App 502 (2002). The Court of Appeals held that where the easement language is ambiguous, extrinsic evidence (i.e., testimony regarding the intent of the original grantor, historical usage at the time the easement was created and other matters outside of the document) could be used to determine the proper scope of easement usage rights. The Court of Appeals also held that even where the easement language is not ambiguous, the courts should still look to both the

language of the easement and the use of easement at the time it was created to determine whether boats and docks are allowed.

The Supreme Court's opinion is one where it is necessary to somewhat read between the lines-it is somewhat unusual. In a short written decision, the Supreme Court upheld the judgment of the Court of Appeals that the case should be remanded to the trial court for a trial, but the Supreme Court emphasized several areas wherein it apparently disagrees with the Court of Appeals. First, the Supreme Court indicated that where easement language is not ambiguous, the language of the easement should be followed and the courts should not look at the usage at the time the easement was created or other matters outside of the easement language. Second, the Supreme Court appears to intimate that absent an express reference in the easement document allowing

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Cover: Picture of Higgins Lake, Roscommon County, Michigan. Picture submitted to *THE MICHIGAN RIPARIAN* by Robert Smith of Aerial Graphics of Grand Rapids.

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The Michigan Riparian magazine adds Contributing Editors to its staff. The new editors and their areas of expertise are listed below:

Dr. Lois Wolfson, Institute of Water Research, Michigan State University. Area of expertise— Aquatic Plants.

Anthony Groves, Progressive AE of Grand Rapids. Tony's area of expertise is Land Use and Water Quality.

Dr. Don Garling, Department of Fisheries and Wildlife, Michigan State University. Area of expertise is Fisheries Management.

Bob Weir, Writer and Communications Consultant, Port Huron, Michigan. Areas of expertise include land use, water resources, and stewardship of those resources.

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BOAT NOISE ABATEMENT PROJECT MOVES FORWARD SOUND GUN DEMONSTRATION SUCCESSFUL AT HIGGINS LAKE TESTS

Contributors: Clark Radcliffe, Professor, Michigan State University; Ken Dennings, President, Higgin's Lake Property Owner's Assoc.; Ned Wickes, Michigan Lake & Streams Associations

On Monday April 21, 2003, initial testing of a prototype motorboat noise measurement device was performed at Higgin's Lake, Michigan. This testing was the result of a one year project at Michigan State University to develop a practical noise measurement system for enforcement of vehicle noise ordinances in Michigan's recreational landscape. Despite an overcast, cold, windy and rainy day, the Roscommon County Sheriff's Department, under the approval of Sheriff Fran Staley and the supervision of Undersheriff Randy Stevenson, aided in the initial testing of a prototype. Also present were Deputy Rob Holliday, Marine Division Deputy David Andre, retired marine patrol officer Robert Boyle, Higgin's Lake Property Owner's Assoc. President Ken Dennings and Ned Wickes representing the Michigan Lake and Streams Associations.

The need to limit unusually loud recreational boats and land vehicles has been long recognized by property owners. Current procedures required of law enforcement officers are complicated, awkward, and unwieldy. Michigan's Marine Safety Act governs law enforcement efforts through both procedures and maximum standards for boat noise. The Act's procedures make noise standards extremely difficult to enforce because they require officers to conduct complex tests easily challenged in court and do not provide for monitoring of vehicle noise during normal usage. Mr. Wickes recognized this problem and acted to find, in his words, a "Solution to Noise Pollution." Through the Michigan Lake and Streams Associations, Ned solicited and coordinated efforts in lake associations across the state that resulted in raising nearly \$35,000 to support the development of a reasonable, enforceable procedure for enforcing motorboat noise standards.

On May 15, 2002, the Michigan Lake and Stream Associations and Michigan State University began a joint project to develop a prototype vehicle noise measurement instrument suitable for law enforcement measurement of inuse vehicle noise. This project was made possible through generous donations from members of the Michigan Lake and Streams Associations across Michigan. Combined with new statutes governing noise, commercial versions of this instrument would allow enforcement of reasonable acoustic noise standards. Reflecting the boom in motorized water recreation, the State of Michigan has over 1 million registered boats, a large majority of these powered. Ten consecutive annual increases are noted. Michigan ranks first nationally in numbers of registrations. There has been a corresponding jump in size, power and speed with ever-higher levels of engine noise.

Responsibility toward these issues has been shown by the boating industry's advances in more efficient fuel consumption, reduction in air and water pollution and, especially, quieter operation in newer models. Concern is not with a majority of responsible operators in legally muffled boats, but with those few, in flagrant violation of State noise statutes. Law officers are frustrated by poorly drafted laws, ineffective equipment and enforcement procedures. It has been nearly impossible to obtain evidence to sustain a court conviction for a boat noise violation.

A SOLUTION TO NOISE POLLUTION

Michigan Lake and Streat Associations and Michigan State University have formed a Partnership designed to deal with problems of illegal motorboat noise. Dr. Clark Radcliffe, College of Engineering, Michigan State University, is directing the design and construction of a prototype for an entirely new and innovative sound measurement device that will meet the needs of marine law enforcement. It will be reasonably priced, compact, and simple to operate and measure sound emission levels of, and distance to, suspect



watercraft under all conditions. The resulting data, recorded by the measuring device, can be presented as reliable evidence in a court of law.

Dr. Clark Radcliffe, Engineering Professor, MSU & Sean Vidanage, Grad Student, Assistant of Dr. Radcliffe.

Envisioned are reasonable, enforceable standards for recreational powerboat use on Michigan's inland waterways. Law enforcement officers of the Michigan Department of Natural Resources Law Enforcement Division and county sheriff departments will conduct on-water tests of the measuring instrument to validate criteria established by Michigan State University. As the new device, in conjunction with improved State enforcement statutes, comes on line, records of citations and convictions shall be maintained and evaluated.

Provisions of the Michigan Safety Act (PA 303), Sec. 114 Noise Level Limitations are based on Society of Automotive Engineers (SAE) standards of 1991, modified in 1994. The Michigan Safety Act (Act 303) in present form

contains the reasonable and welcome admonition:

"a person shall not operate a motorboat on the waters of the State in a manner that disturbs the peace of others."

The statute provides some guidance on these reasonable noise levels

"a person shall not operate a motorboat on the waters of this State unless the motorboat is equipped and maintained with an effective muffler or underwater exhaust system that does not produce sound levels in excess of 90 dB(A) when subjected to a stationary sound level test as prescribed by SAE J2005 or a sound level in excess of 75 dB(A) when subjected to a shoreline sound level measurement procedure as described by SAE J1970."

The testing procedures given in SAE J2005 and J1970 are both impractical and nearly impossible to enforce in practice. These procedures, even in the hands of trained, experienced officers do not provide representative, repeatable, easily conducted measurements of vehicle operating sound.

Reasonable enforcement of reasonable standards requires new noise test procedures for Michigan based on a new noise test instrument building on industrial standards for noise source measurement. A comparison of current Michigan standards with other standards shows the Michigan J2005 and J1970 standards are incompatible with other state's J34 in-use limitations. To reasonably limit boat noise and provide measures consistent for those used for other vehicles, Michigan should adopt a variation of the SAE J34 standard used in other states.

Michigan's current 3 ft. J2005 standard for boats is very different to noise standards under the 25 meter SAE J34 Test Standards used by other states boats as well as cars and trucks. (Spherical Noise Propagation, 6 dB/distance doubling)

	SAE J2005 (3 ft)	SAE J34 (25 m)
Coast Guard - Full Power (J34, 86 dB at 25 m)	115 dB	86 dB
Some States - Full Power (J34, 80 dB at 25 m)	109 dB	80 dB
EPA - Full Power (J34, 75 dB at 25 m)	104 dB	75 dB
Towed PWC - No Power (J34, 70 dB at 25 m)	99 dB	70 dB
Current MI Statutes - Idle (J2005, 90 dB at 3 ft)	90 dB	61 dB

A BETTER INDUSTRY-STANDARD NOISE TEST: SAE STANDARD J34

SAE J34: Noise measurement is taken off a boat at a distance of 25 m with wide-open throttle (the near maximum noise of the boat). The Coast Guard recommends 86 decibels (dBA), which most states have adopted as law. Some states have adopted lower levels of 82 dBA (Pennsylvania) to 80 dBA (Washington) for new boats. The EPA recommends a level of 75 dBA.^{1,2} Even this low level is achievable with modern personal watercraft.³ This accepted standard is not a part of Michigan Law – it should be.

This standard provides for a boat to go past a noise meter at high speed at a specified distance. Twenty states currently use this standard.⁴ This kind of noise measurement procedure is in common use by boat and vehicle manufacturers to evaluate the real noise emission characteristics for their boat/ vehicle designs. In fact, there is a wide range of reference data available for road vehicle noise that can be employed in the development work for measurement of boat noise. When combined with compensation for noise spectral content and distance, a noise measurement standard for realistically operating boats can provide realistic data for boat noise regulation. For law enforcement purposes, the difficulty is the requirement that boats pass the sound-measuring instrument at exactly 25 meters.

THE MICHIGAN VEHICLE NOISE INSTRUMENT

To allow effective enforcement of a reasonable version of the SAE J34 noise standard, law enforcement officers need the ability to monitor boat noise levels at varying distances with a simple hand-held instrument. The noise levels characterized by the standard may be reasonable but the current precise distance of 25 meters requires unreasonable cooperation by potential violators. Law enforcement officers should receive a measurement citing the sound level of a boat (or other vehicle) both at the current distance and a computation of the equivalent vehicle noise level at 25 meters.

Michigan State University researchers have met four technical challenges to develop the new measurement instrument.

- a) Vehicle Sound Level Measurement in the Operating Environment
- b) Distance Measurement to the Vehicle
- c) Computation of Equivalent Noise at 25 meters, and
- d) Functional Integration into a Single Instrument

(continued on page 10)

^{1&}quot;Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety." EPA 550/9-74-004, U.S. EPA, Washington, D.C. 1974

²The Personal Watercraft Industry Association (http://www.pwia.org/factsabout.html).
³http://www.surfpulse.com/pwc-sound.shtml

⁴Three Lakes Association Newsletter, Aug. 1993

The prototype instrument is under outdoor testing both on dry land and under actual boating law enforcement conditions.

Projected noise measurement from a vehicle requires an accurate microphone system able to distinguish that vehicle's noise from background noise sources in the operational environment. Accurate measurement of vehicle noise is particularly challenging at increasing distances from the vehicle because vehicle noise decreases proportionally to the distance to the source. Research at Michigan State has demonstrated that "shotgun" microphones can provide the 15-20 dB directional discrimination needed to discriminate between noise sources and reduce the distance effect. Even with this directional discrimination, a successful microphone amplifier circuit must work with extremely small signals and provide the 50 dB (200:1) of noise signal discrimination that the project needs for success. The current microphone signal measurement circuit incorporates a) a shotgun microphone, b) high discrimination amplifier, and c) sound level conversion to "dB" level.

Accurate measurement of distance between the instrument and the vehicle sound source is needed. The Michigan State University system uses a laser rangefinder with computer interface. This handheld device reliably measures distances to vehicle noise sources over hundreds of feet to an accuracy of 0.1 foot. The device used in the current prototype is manufactured for surveying applications and uses the speed of light to measure distances. A short pulse of invisible, infrared laser light travels about 1 foot every billionth of a second. An accurate clock measures the time required for a pulse of laser light to travel from the rangefinder, to an object, and return. The rangefinder's measurement is then transferred to microcomputer for distance compensation of the measured vehicle sound.

Computation of J34 equivalent noise within a portable instrument requires communication of input noise and distance measurements, mathematical computation, and display of results. The MSU project uses a compact "microcontroller" circuit to conserve space in the instrument prototype. The microcontroller uses novel interfaces to receive both sound and distance measurements. The software developed performs complicated, non-linear, floating-point mathematics using limited integer arithmetic. The current software is designed to convert sound levels between 50 dB and 105 dB at the instrument over distances from 18 feet to at least 300 feet. The software displays sound level at the instrument, distance to the source and SAE standard equivalent noise level.

The microphone, micro-controller and laser rangefinder are packaged and integrated for use. Current work at Michigan State University is testing the instrument under field conditions. The MSU team completed packaging in March 2003 and performed initial calibration testing in a large 20 ft x 20 ft x 20 ft anechoic acoustic testing facility operated

in the Communication Arts Building at Michigan State University. On Monday, April 21, 2003, these laboratory tests were followed by testing of the prototype vehicle noise measurement device at Higgin's Lake, Michigan. These tests measured the noise of a Roscommon County Sheriff's Department airboat at various distances. Tests of the instrument confirmed its ability to accurately measure boat noise. Additional testing during the 2003 summer season will further investigate the instrument's performance.

TESTS OF "NOISE GUN," HIGGINS LAKE, MICHIGAN

Encouraging initial tests of the Michigan State University prototype sound measurement device held April 21, 2003 were followed by extended trials on June 14. A large group of participants included Dr. Clark Radcliffe, Professor of Engineering and graduate student Sean Vidanage, Ned Wickes, MSU/Michigan Lake & Stream Associations Boat Noise Project Coordinator, law officials and an important support corps from the Higgins Lake Property Owners Association and the Higgins Lake Foundation. The owner/ operator of a powerful motorboat used in the tests was Kevin Elliott of Higgins Lake. The objective was to demonstrate the accuracy and repeatability of the device and to give law enforcement officers a first opportunity for hands-on use.

The noise gun is user-friendly. All functions recording sound and distance from a suspect boat are automated. It compensates for environmental conditions: ambient (background) noise from nearby watercraft, wind, reflective surfaces (docks, etc.). Officers only need to point the device at a target boat for a sound level recording which can be used as evidence in a court of law. Thus, problems of current enforcement, which require cooperation of the suspect boater under complex, controlled test conditions, are simplified. As the noise gun's trigger is depressed a uni-directional microphone, sensitive to only narrow beam of sound and a laser rangefinder are integrated to provide a continuous reading of noise and distance to target boat.

The test runs revealed that the target boat's bearing is important. The Elliott boat was equipped with a "captain's choice," an option to run the engine with or without a muffler. Unmuffled boat noise increased from about 90 decibels at closest passage to about 97 decibels as the boat was going away. The test demonstrated effectiveness of the measurements over a wide range of distances with accuracies of better than 3 decibels.

Roscommon County Sheriff Francis Staley, and Antrim County Sheriff Terry Johnson each operated the noise gun which they found very workable and were able to make repeat measurements of the test boat's noise, an essential for successful wide usage. The test demonstrated the need for measurements at distances over 300 feet.

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The test boat provided a consistent level of noise from which to gain a baseline for development of the prototype device. It passed at a speed of approximately 40 mph at various distances from the recording/observation pontoon boat owned and operated by Ken Dennings, President, Higgins Lake Property Owners Association. Data recorded by MSU investigators is summarized as follows:

23 Noise Gun Measurements, Higgins Lake, Michigan June 14, 2003

14-Jun-03 Test Condition	Number of Tests	Average Reading	Gun Repeatability	Minimum Distance	Maximum Distance
Max (45 Deg) No Silencer	10	96.5 dB	+/- 2.1 dB	64 Ft	366 Ft
"Broadside" No Silencer	6	89.4 dB	+/- 0.7 dB	172 Ft	235 Ft
"Broadside" with Silencer	7	79.7 dB	+/- 2.9 dB	124 Ft	300 Ft

In summary the day of testing was very successful. Lessons learned will help further refine the current prototype in preparation for commercial production. Future plans include a final test series in Northwest Michigan. State legislators and additional county sheriffs will be invited.

We are close to seeing this projects' founder and coordinator, Higgins Lake's Ned Wickes' hopes fulfilled: equipment and procedures to enforce motorboat noise violations that help preserve the quality of life on Michigan's inland waters.

Special thanks for help in on-lake tests to:

- Randall Stevenson, Undersheriff, Roscommon County
- Bob Boyle, Marine Patrol Supervisor, Roscommon County Sheriff Department
- Mike Mol, MDNR Law enforcement Division (retired)
- Bill Case, Executive Director, Higgins Lake Property Owners Association
- Stan Cook, Higgins Lake Property Owners Assn., test course patrol boat
- Herb Weatherly, Gerrish Township Trustee, Higgins Lake Property Owners Assn.
- Wayne Hall, Higgins Lake Property Owners Assn., patrol boat

WHAT'S NEXT?

Facilitating use of the noise measurement instrument by law enforcement officers to enforce environmental noise standards will require the additional efforts of many people. The real-world testing of the hand-held instrument and calibration to in-use boats in the field will continue. The standard for a legally enforceable measurement procedure must be developed with the cooperation of law enforcement professionals - hopefully based on the J34 standard. The ability to use these standard procedures to measure noise levels reliably must be demonstrated. Citizens, manufacturers and operators must agree to a reasonable maximum noise level measured by the new procedure. Finally, members of the legislature must help put the new methods, procedures and levels into Michigan statutes. It's a challenging process but ultimately will improve our environment for everyone using Michigan waterways.

Participants in testing decibel measuring instrument at South Higgins Lake State Park, June 14, 2003



L to R: Randall Stevenson, Undersheriff, Roscommon County; Mike Mol, Retired MDNR law officer; Terry Johnson, Sheriff, Antrim County; Ken Dennings, President, Higgins Lake Property Owners Association; Dr. Clark Radcliffe, Professor of Engineering, Michigan State University; Ned Wickes, Project Coordinator; Francis Staley, Sheriff, Roscommon County; Sean Vidanage, MSU graduate student assistant to Dr. Radcliffe



Francis Staley, Sheriff, Roscommon County, with decibel meter



Terry Johnson, Sheriff, Antrim County, with decibel meter.





Attorney Writes

By Clifford H. Bloom Law, Weathers & Richardson, P.C.

Bridgewater Place, 333 Bridge Street, N.W., Suite 800, Grand Rapids, Michigan 49504-5360

ON WATER—DOES ANYTHING GO?

I am frequently asked whether anything can be done to protect annoyed riparian property owners from pesky bass tournaments on their lake, the anchoring of boats by partying strangers for long periods of time just off shore (socalled "party barges") and other nuisances which occur on the surface of the water. The answer is—probably.

Theoretically, a riparian property owner can file a civil lawsuit against anyone who creates a nuisance or unsafe condition. Such private civil lawsuits are rarely practical for many reasons, however, when nuisances on the surface of the water are involved. First, such lawsuits tend to be expensive and absent highly unusual circumstances, win, lose or draw, each party pays their own attorney fees. Second, such lawsuits can take anywhere from 8 months to 2 years (or more) to work their way through the court system. Third, it is often difficult to identify who to sue—unless you know the name and address of the troublemaker(s), no lawsuit can be filed. Fourth, there really is no penalty to the other side even if you win the case—at best, the court will normally only enter an order prohibiting the conduct in the future. Finally, many judges are reluctant to issue that type of court order due to the difficulty of enforcement and the somewhat vague nature of such an order. Such judicial reluctance to issue injunctions will likely be reinforced by the recent Michigan Court of Appeals case of Higgins Lake Property Owners Assoc. v Gerrish Twp, 255 Mich App 83 (2003).

The better solution is to have the local municipality (city, village or township) enact a police power (non-zoning) ordinance to regulate the nuisance behavior. The advantages of having a local ordinance include relatively easy enforcement by the municipality via civil infraction tickets, the normal respect courts give to municipal ordinances and the fact that the cost of enforcement would be borne by the municipality and not by the individual riparian property owner.

Can a municipality regulate what occurs on the surface of an inland lake in Michigan? In most cases, yes. See *Square Lake Hills Condominium Ass'n v Bloomfield Twp*, 437 Mich 310 (1991), and the various municipal enabling acts for ordinances. Nevertheless, it should be kept in mind that there are a few subject matter areas where municipalities are likely precluded from regulating on-lake activities—

these are situations where Michigan laws either expressly preclude local regulation or give state agencies such pervasive regulatory authority in a particular area that local municipal regulation is precluded or "preempted."

What are some of the topic areas which can probably be regulated by local ordinance? By ordinance, municipalities can regulate special events involving lakes such as bass tournaments, boat parades and boat races. Such ordinances could include prior permit requirements, limitations upon hours and similar restrictions. Municipalities can also adopt general noise ordinances (except as to stock boat engines), litter regulations and disorderly conduct ordinances which can also be enforced on lakes. Theoretically, a municipality could even adopt an ordinance regulating "party barges," including how long they can be parked in one spot.

Can municipalities impose speed limits, no wake zones and similar restrictions on inland lakes? There is no clear answer. State officials have argued that the process which the Michigan Department of Natural Resources uses to approve special watercraft rules for inland lakes (found in what was formerly called the Marine Safety Act) "preempts" local ordinances from dealing with the same topics. However, the Michigan Supreme Court cases of Burt Township v DNR, 459 Mich 659 (1999), Square Lake Hills Condominium Ass'n v Bloomfield Twp, above, and Miller v Fabius Twp Bd., 366 Mich 250 (1962) imply that municipalities might be able to adopt such ordinances without utilizing the special watercraft rules procedures through the DNR. Until the Michigan appellate courts address this issue, the outcome will remain uncertain.

Can local municipalities regulate the drawing of water out of inland lakes and streams for consumptive purposes such as watering lawns and golf courses and for bottled water? Until and unless the state of Michigan adopts comprehensive rules which could preclude such local ordinances, the answer is probably yes. However, the drawing of water for agricultural purposes might be protected against local regulation by the Michigan Right to Farm Act (MCLA 286.471 et seq.)

If there are problems with the utilization of houseboats on an inland lake, can a local municipality regulate such use? Probably, although Michigan law is silent regarding the issue.

As always, riparians must constantly be on guard to thwart attempts by the Michigan Legislature to take away local control with new legislation aimed at full or partial preemption of a topic area (i.e., enacting state laws which would prohibit or severely limit a local municipality from regulating a particular area, even if the municipality had such regulatory authority in the past). Some of the activities listed above which municipalities can regulate now could be off limits to local government regulation in the future if special interests get their way with the Michigan Legislature. This is not idle speculation—special interest groups have convinced the Legislature in the past to preclude or severely limit local government regulation in the following areas:

- Wetlands protection
- · Oil and gas wells
- Telecommunication towers
- Mobile home parks
- Landfills
- Prisons
- · Huge industrial livestock facilities
- · Building codes

Unfortunately, when the Legislature takes away local control in a particular area, state agencies often prove themselves lax in their regulatory efforts of that area, and in some cases, there is no state regulation or enforcement whatsoever.

Amicus Curiae Briefs

Over the years, Michigan Lake & Stream Associations, Inc. ("ML&SA") has filed several amicus curiae briefs with the Michigan appellate courts (i.e., the Michigan Court of Appeals and the Michigan Supreme Court). What is an amicus curiae brief? It is a brief filed by someone who is not a party to the lawsuit, but which supports the position of one of the parties in the litigation. A brief is a legal document submitted to a court that advocates a particular position or positions. Normally, a brief contains both factual and legal arguments. "Amicus curiae" can be roughly translated as "friend of the court." Theoretically, amicus curiae briefs assist the appellate court in making a final decision.

ML&SA filed an amicus curiae brief in the leading case of *Hess v West Bloomfield Twp*, 439 Mich 550 (1992), a case in which the Michigan Supreme Court upheld anti-funneling/anti-keyholing zoning regulations. Recently, ML&SA filed amicus curiae briefs in

HOUSE BILL 4141 WOULD KEEP PUBLIC ACCESS SITES OPEN FOR USE BY THE PUBLIC

House bill 4141 is a bill to amend 1994 PA 451, entitled, "Natural Resource and environmental protection act."

THE PEOPLE OF THE STATE OF MICHIGAN ENACT: Sec. 301a.

- (1) A person shall not use a dedicated public access site except as provided in this section. Unless the dedication recorded with the register of deed specifically provides for other uses, a dedication for public access includes only the right of ingress and egress and does not include use of the public access for any of the following:
 - a. Boat hoists.
- b. Construction of docks unless the purpose of the dock is to aid in the public access and the construction of the dock is authorized by the owner of the riparian land on which the public access is located.
 - c. Picnicking, sunbathing, or lounging.
- (2) If a dock is located at a dedicated public access site, the owner of the riparian land on which the public access site is located shall place a sign at the dedicated public access site that describes the allowable uses of the public access and describes the activities that are prohibited at the public access site.
- (3) A person shall not moor a vessel overnight on bottomland directly offshore from a dedicated public access site.
- (4) A person who violates this section is guilty of a misdemeanor punishable by a fine of not more than \$500.00 for each day of violation. A peace officer may issue an appearance ticket as described and authorized by sections 9c to 9g of chapter IV of the code of criminal procedure, 1927 PA 175, MCL 764.0c to 764.9g, to a person who is in violation of this section.
- (5) As used in this section, "dedicated public access" means public access to an inland lake or stream dedicated for use by the public by a written instrument recorded with the register of deeds.

Attorney Writes - Amicus Curiae Briefs

(continued from page 12)

two lake access easement cases—*Little v Kin*, 249 Mich App 502 (2002) (pending in the Michigan Supreme Court) and *Dyball v Lennox* (Court of Appeals Case No. 241296) (pending in the Michigan Court of Appeals).

How does ML&SA decide if it will file an amicus curiae brief? There are two major factors. First, ML&SA scrutinizes whether the case could potentially have a state-wide impact upon riparian issues and related law. The second factor is more practical—it depends upon ML&SA's available funds at the time.

If a riparian property owner or lake association is involved in a case which is about to be appealed to the Michigan Court of Appeals or the Supreme Court and desires to have ML&SA consider filing an amicus curiae brief in support of their position, ML&SA should be contacted as soon as possible. There are strict filing deadlines for all briefs and ML&SA will not be able to consider filing an amicus brief unless it is contacted early enough in the appellate process.

Even if a riparian or lake association engaged in litigation does not pursue an appeal or ML&SA is unable to file an amicus brief in a particular case, it is always helpful for ML&SA to receive copies of any written opinions (or transcripts of a court's oral opinion) by Michigan trial courts involving riparian issues. Accordingly, if you have a copy of any such document, please forward it to Don Winne at ML&SA.

TOM JERDON EXPRESSES HIS POINT OF VIEW ON HB 4141 TO CONGRESSMAN NEAL NITZ, DISTRICT 78, BERRIEN & CASS COUNTIES

Dear Neal:

As you may know, we are a 53 year old lake real estate firm serving over 75 lakes in Southwest Michigan. I have personally designed and developed several lake projects and have specialized in marketing and selling both lakefront and lake access properties. Obviously, we encourage housing and growth in the lake real estate market as it financially benefits this firm.

However, even though I am a developer and broker, I am in support of HB # 4141, because the environmental integrity of Michigan's inland lakes are at a real risk. Being that inland lakes have only a finite area of water surface, the unregulated and wholesale activities currently taking place at thousands of access sites, is overtaxing our lakes. I support HB # 4141 even though I might financially benefit from expansion of these public sites. The small inland lakes cannot support the massive influx of watercraft and the unsanitary conditions that I have witnessed personally.

Furthermore, local municipalities can do little to regulate, control or provide sanitary conditions at these sites. Some of the public users, who have no personal investment in the lake, use the lake as a public toilet and discard personal rubbish on the upland area. I have personally removed beer cans, trash, and used diapers from public sites on lakes in your district.

HB #4141's time has come because of the continued expansion of environmentally unsound activities found at these sites. Unfortunately, it is so out of control, that legislation is now the only alternative.

Another problem is that dependent upon a given municipality, some lake access sites are promoted as "beach parks" and "marinas" including boat docking, while other municipalities attempt to discourage these activities. Some lakes are located in several municipalities so the activities on the various sites vary according to the municipality it is located within. For example, Diamond Lake is located in four townships, while Magician and Indian lakes are located in two each.

As a real estate broker, we must rely on the whims of local municipal boards to determine what can and cannot happen at access sites.

I hope that since you sit on the Conservation and Outdoor Recreation Committee, that you will support HB # 4141. Thank you for considering my thoughts and I will look forward to seeing you in the district soon.

Sincerely, Thomas F. Jerdon JERDON REAL ESTATE, INC

The Michigan Riparian 13 AUGUST 2003

News & Activities of Lake Associations Around the State

Selected and edited from reports in recent lake association newsletters to provide an exchange of information and ideas

Portage Base Whitewood Owners Association

Livingston & Washtenaw Counties John Hale, President

Fertilizer, Phosphorus & Our Waterways

By Phil Paye, Herb newsletter 2003

Hamburg Township is taking a major step in the direction of protecting our lakes, streams, and rivers. The Township is in the process of considering a fertilizer ordinance that, if followed by our residents, will help limit weed and algae growth in our waterways. A similar ordinance in Minnesota resulted in a 26% reduction in phosphorous.

The purpose of the ordinance is to limit the amount of phosphorous applied to the lawns in Hamburg Township. Phosphorous has been targeted by the Michigan Department of Environmental Quality (MDEO) as an element responsible for producing algae blooms and weed growth in waterways. Phosphorous can even reach the lakes and streams from lawns not close to waterways through runoff into drains that empty into overflow collection basins.

The proposed ordinance limits the number of fertilizer applications to four times per year, restricts the use of fertilizer within ten feet of the waters edge, and requires the licensing of commercial applicators. The fertilizer ordinance also explains what the large numbers on a bag of fertilizer represent. For example, a bag of fertilizer with the numbers 25-0-4 means the composition is 25% nitrogen, 0% phosphorous, and 4% potassium. If used according to the directions on the bag this, by ordinance, would be a preferred fertilizer. Most fertilizers with high nitrogen (27 or higher) and low phosphorous (3 or less) would be acceptable. A bag with 16-10-4 would contain 16% nitrogen, 10% phosphorous, 4% potassium, and would be prohibited in Hamburg Township.

Platte Lake Improvement Association

Benzie County Wilfred Swiecki, President

Status of the March 10, 2000 Settlement Agreement

The implementation of the March 10, 2000 Settlement Agreement with the DNR continues to progress smoothly and has been the focus of a large share of our effort over the past year. We continue to have bi-weekly phone conferences and/or face to face meetings with Gary Whelan, DNR, Dr. Raymond Canale, Implementation coordinator and myself, Wilfred Swiecki, PLIA. In addition, we have also had bi-weekly laboratory meetings and/or phone conferences with the Central Michigan University (CMU) laboratory personnel, Virginia Estabrook and Dr. Scott McNaught, Gary Whelan, DNR, Dr. Raymond Canale and Wilfred Swiecki, PLIA. These meetings enhance communication and understanding, serve as a forum for problem solving and track open issues whether with the Settlement Agreement, Laboratory Sample analysis, data analysis and/or water sample collection and processing. Each meeting has a formal Agenda, published minutes and related Action Items with assigned responsibility.

- Hatchery Compliance: The hatchery was in compliance with the details of the Settlement Agreement in 2002 (Fall salmon run, Antibiotic reporting, total yearly phosphorus discharge, etc.) except for the three month 75 lb P cumulative discharge limit for August - 29.94 lb P, September -21.03 lb P and October – 29.69 lb P for a total of 80.65 lb P for the three month period. This level violated the 75 lb P standard by 5.65 lb P. Rounded down per the agreement, this was a 5 lb P violation and at \$500/lb P amounted to a \$2,500 fine. This was added to the \$4,000 in fines the DNR paid last year for a total of \$6,500 in the watershed improvement account to be used for mutually agreed upon watershed improvement projects per the Settlement Agreement.
- Hatchery Renovation Status: The \$6.5 million hatchery renovation is underway and nearly on schedule. It is estimated that the actual construction phase will be completed in December, 2003 and no later than

the first quarter 2004 barring anything unforeseen. We have been receiving daily updates along with minutes of construction project meetings, etc. Gary Whelan is pleased with the progress to date.

Pentwater Lake Association

Oceana County Jim Macgregor, President

Michigan Fish & How to Catch 'em! Yellow Perch

Second in a series about Michigan fish and fishing

Yellow Perch are perhaps the most frequently caught sport fish in Michigan. They are found throughout the state, there is no closed season or size limit, and they are very tasty. Perch are school-running fish, and you should drift or troll and try various places and depths of water until you begin to catch them. Many anglers say you should fish from 20 to 50 feet deep to take the bigger perch, and your hook should be held only a foot or so off bottom.

Spring and fall, perch favor shallow water (4 to 8 feet deep) and will bite all day long. During the rest of the year they are found in deeper water and bite best in morning and evening. They do not normally feed at night. In the Great Lakes, perch fishing will vary from around breakwater piers, canals and cuts to depths of 45 to 50 feet. Average depths will be 15 to 25 feet over rocky or rubble bottom.

Preferred tackle includes a sinker placed on the bottom end of the line and two hooks just above, spaced about 18 inches apart. Two to 10-pound test monofilament is standard, and hooks should be No. 6 to No. 8. Minnows 1 to 3 inches long and very small crayfish (or pieces of crayfish tail) are preferred bait, but worms, night crawlers, grasshoppers, crickets and wigglers are also good at times.

Perch do not normally take flies or artificial lures, although small spinners are sometimes attached ahead of natural bait to attract these fish. Long lines on cane poles are often awkward for deeper water, so spinning gear may be preferred. If you don't catch any fish in 10 to 15 minutes, move. If catching only small perch, move or fish deeper. Perch can be very delicate biters, so watch closely, set the hook firmly, and keep a steady pressure on the line as you pull them in. Worthwhile keepers average 7 to 10 inches in length. Jumbos, common in the Great Lakes will run from 12 to 15 inches.

Glen Lake Association Leelanau County Stanton R. Cook, President Aquatic Plant Study Complete: News is Good!

Sarah Litch, Water Quality Committee

The Glen Lake Association at their January Board meeting heard a report given by Sarah Cook, Chris Steckler, and Ambrose Lessard about their work with the Aquatic Plant Study of Little Glen Lake. The study, which is now complete, was a cooperative effort among the Glen Lake Association, the Michigan Lake and Stream Association and Howard Wandell of Michigan State University. Biology teachers Karen Richard, from Glen Lake Schools, and Bruce Hood and Joe Blondia from The Leelanau School, along with twentyeight of their students, spent five days on Little Glen Lake using a double-sided rake to take 178 samples from the lake. The students and their teachers identified each plant, determined the density of each species of plant in the lake and later dried, pressed, and mounted a sample of each species.

The news is good! There is a good balance of aquatic plants in Little Glen Lake and no exotic species, such as Eurasian milfoil, were found. There were ten plant species found considered to be beneficial to the lake. These were: Fern pondweed, Flat stemmed pondweed, Waterweed, Large-leaf pondweed, Wild celery, Bushy pondweed, Bulrushes, Stonewart, Variable pondweed, and Thin-leaf pondweed. Three aquatic plants found that are generally considered neutrally beneficial were: Clasping-leaf pondweed, Bladderwort, and Water marigold. Aquatic plants found that can be a nuisance were: Sago pondweed, Native milfoil, and Curlyleaf pondweed. None of the aquatic plants, including those that can be a nuisance, were found in lake wide densities to be of concern.

Gull Lake Quality OrganizationBarry & Kalamazoo Counties
Dr. John Luchinger, President

Zebra Mussel Research at KBS

A research team at MSU's Kellogg Biological station (KBS) and the Dept. of Fisheries and Wildlife has been working on the ecological effects of zebra mussel invasions of our local lakes since 1998. This research is focused on the interactions between the mussels and microscopic algae (Phytoplankton) that float in the water and form the basis of food chains leading to fishes. In several inland lakes, including Gull, a noxious blue-green algae called Microcystis may have become more abundant after the arrival of zebra mussels.

During the summers of 2000 and 2001, the team performed experiments in Gull Lake using giant polyethylene tubes containing mussels from the lake stocked to varying densities. The tubes were suspended on a raft in Gull Lake along the KBS shoreline. The purpose of these experiments was to monitor the responses of water quality, algae and microscopic animals (zooplankton) to the mussels.

This work also included monitoring water quality and algae in local lakes, including Gull and Gun lakes, as well as mid-summer surveys of lakes throughout Michigan's lower peninsula.

Analysis of the data from Gull Lake indicates that zebra mussels are associated with increased Microcystis, but this association is evident only in low phosphorus lakes such as Gull Lake. The mechanism by which mussels might promote Microcystis remains unknown but the leading hypothesis is that they feed selectively on the rest of the algae, leaving the unpalatable Microcystis to flourish because of reduced competition for nutrients. Microcystis is less palatable because it forms large colonies and can contain toxins.

This research on zebra mussels has been supported by the National Sea Grant and the Kalamazoo Community Foundation. The team is led by two MSU professors, Dr. Orlando Sarnelle and Dr. Stephen Hamilton. For more information on zebra mussels in Michigan as well as links to other web pages on zebra mussels, see the Michigan Sea Grant: http://www.msue.msu.edu/seagrant/sgezmans.html

Hamilton Lakes Chain (Mary, Louise & Hamilton)

Dickinson County Bill Van Wolvelaere, President

As explained in our early December correspondence with you, the Lake Association has looked into the different options available to combat Eurasian Milfoil. We have been attending different workshops, consulting with DEQ and with our parent organization, the Michigan Lake and Stream Association. We are now working with a certified marine biochemist from Mequon, Wisconsin. Brian Suffern of Professional Lake and Pond Management has 18+ years of experience to his credit.

In a late fall assessment of our lakes, Suffern has identified six areas on Lake Mary that are infested with Eurasian Milfoil. It would be in our best interest to remove the Milfoil from these areas before it spreads to other portions of our lakes.

Your lake association believes the remedy of choice to combat our problem is treatment with herbicides. This requires a state permit and a professional applicator. It also requires permission from individual riparians in the areas to be treated up to 100 feet on either side of the treated areas. It is important to note that this treatment has been used and has been successful in other lakes with no harmful effects. Precautions are important, but if followed, weeds will be the victim.

Missaukee Lakes Association Missaukee County Richard A. Morrow, President

Milfoil infestations on nearby lakes have made them virtually impassable to boats in many areas, and have severely fouled beaches. In each of the past two years we have acted to eradicate localized infestations of this noxious weed and keep it from spreading to affect the whole lake. There's more of it there, and this Spring, we will act again to eradicate it. New infestations happen as people move boats with bits of the weed on them from lake to lake. A widespread infestation would cost local taxpayers millions to control.

Last summer, we worked with state and local authorities to avert a dredging plan at the west end of the lake that we believe could have damaged Missaukee

(continued on page 16)

Lake even more than the north side dredging of years ago. Articles in this newsletter give more details on that.

Other water quality threats require the active participation of everyone who uses the lake. Be sure boats are clean and free of bits of milfoil or zebra mussels before putting them in the water. Keep lawn fertilizer at least 50 feet from the water's edge, and don't let any fertilizer runoff flow into the lake.

Big Pine Island Lake Association Kent County

Scot Marks, President

2003 Goose Round-up

Annette Beatty

We will be participating in the goose round-up this year, if we have more resident geese than last year (26) and the program is continued by the state. I will contact the DNR soon to get the application, which must be returned by Memorial Day. The goose round-up usually takes place the third week of June.

The night before the round-up we construct the pen where the geese will be held until crated. The cages are also checked for repair, placed on the transport trailer, and prepared with a layer of straw. The morning of the round-up we usually take to the water by 7 a.m. One person in a speedboat will locate the geese, who are usually lounging on someone's lawn. People herd the birds into the water and then a group of 5-7 boats (pontoon, fishing, and speed) are used to herd the geese across the lake to the pen. This is the part that takes patience, as you want to keep the birds moving while not scattering the flock. They are herded into the pen and then transferred to cages for transport. The pen is then taken down and the area is cleaned up. Chris Nikodemski and I will then transport the birds to a site specified by the DNR. On return from transporting the geese the cages are cleaned and stored with the pen materials for use the following year.

I will be contacting the people who have participated in the past or expressed interest in participating. If you have not participated in the past but wish to do so now please contact me at 691-8155.

Key Points to Remember (taken from Goose-Human Conflicts/DNR Wildlife div.)

• Do not feed the geese – Not only is it not part of a balanced diet, but

- frequent handouts only attract more geese and reduces their fear of us.
- A lush toe tickling lawn right down to the waters edge acts as a major goose attractant. Shoreline buffers of taller vegetation will discourage geese from visiting your lawn.
- Head them off before they land on your property – dogs are great deterrents, as are cracker shells, big scary decoys, streamers and reflective tape.
- It is not open season on geese they are federally protected by the Migratory Bird Treaty Act and they can be legally hunted; however it is illegal to throw firecrackers at them or chase them with any motorized device on land or water.

Crystal Lake Watershed FundBenzie County

R. William Decker, President

Zoning Regulations Enforcement

There has not been much progress in this area. Examples include a continuation of clear cutting and lack of meaningful erosion control. Little interest seems to be shown by local residents in insisting that their elected officials are there to enforce the code instead of looking the other way and granting of variances.

A large challenge to the lake is the increasing development in the surrounding hills. Ruinous reduction of the forest from added roofs, roads, erosion and driveways has already started. Remedial plans have been mentioned and formulated but little or no progress is visible. Plans that depend on a long time period such as five, ten, or twenty years will be far to late. Once the hills are urbanized the damage is done and cannot be undone.

Benzie County has completed a new Open Space and Natural Resources Protection Plan and has begun the rewriting of its Zoning Ordinances. Among the sections to be rewritten include: Administration, Site Plan, Definitions, and Environmental Provisions. The Overlay District Ordinance that addresses area in the Crystal Lake watershed is not expected to be substantially modified. There will be a discussion on higher versus lower density throughout all the ordinances. We would like to see lower density, i.e., larger lot size per house, in the second and third

tiers of the hills around Crystal Lake. This we believe would promote better quality of the water that flows on and through the ground and into Crystal Lake. It would also lessen the apparent continual clear cutting of trees in the hills that has been occurring. Getting a lot density change to a lower level, however, may be very difficult due to property owner expectations. We will be involved in this process and urge you to take an interest in it. Notices of public hearings will be published in the local newspaper. The zoning rewrite process is scheduled to be completed by late summer 2003. Please make your interest clear to your local zoning officials, i.e., enforcement is the only way to secure the desired benefits of any new code.

Elk-Skegemog Lakes AssociationAntrim, Grand Traverse, Kalkaska County Al Wagner, President

With the elections over, we are beginning to hear disclaimers from our new state administration, stating that because of the economic slowdown and resulting money shortages at both the state and federal level, we should not expect any extra help from them on matters of conservation and other environmental concerns. No surprise there! But this problem lets us know that we should begin working as individuals and in small groups to protect our natural resources. In other words, *if we don't do it, no one will*.

It is up to each of us to landscape our shoreline in the best possible manner, respecting the 50 foot setback for construction and the requirement for 'natural' landscaping in the 30 feet along the shore. We must help and advise each other on lake etiquette to include keeping leaves, grass clippings and most importantly soap and gasoline, out of the lakes. In short, no dumping or washing or spilling. Be careful!

We must assist law enforcement agencies by reporting boat violations for sound, speed and other careless behavior on ESLA waters. Our sheriffs' departments from all three counties have encouraged us to call with our problems.

Noise pollution at night, on land, is a problem when some people get to an over exuberant, celebratory condition!! Many riparians have complained of light pollution, too many, too bright of lights left on all night. Again, ask your neighbors to be good citizens (and riparians), and considerate of others. Most people want to do so.

For help with any of these problems, call your ESLA director and zone captain. We can assist with planting advice and tips on good manners. But we must count on each other to be good citizens, confronting these problems and contacting law enforcement people when necessary.

Crystal Lake - Benzie County

Information below is excerpted from the <u>Crystal Lake Handbook</u>. Editor, Betsy Youngblood, Crystal Lake Association.

What can be done to maintain user-friendly beaches that are also resistant to erosion? Typically, the three choices are sand fill, rock revetments (armoring layers of rock parallel to the shoreline to protect soils from erosion), and bulkheads (retaining walls). The Land and Water Management Division of the Michigan Department of Environmental Quality (MDEQ) regulates all activities

on "bottom lands," including those just listed, by issuing permits. "Bottom land" is defined in the Natural Resources and Environmental Protection Act (1994 PA 451) to mean, "the land area of an inland lake or stream that lies below the ordinary high-water mark and that may or may not be covered by water."

Sand Fill

The application of sand fill is an option available to riparians. Although sand fill does not control against erosion, it acts as a buffer to protect the original beach from further erosion. It also has the desirability of improving the recreational enjoyment of the beach. If your beach site is not already sandy, it is most likely that sand fill will erode over time and deposit itself on your neighbor's beach downwind or disappear into deeper water. Therefore, periodic maintenance with this approach is required.

Protecting against erosion

The ideal erosion-resistant shoreline is an undisturbed, naturally vegetated, gradually sloping, rock-filled beach. Waves break at significant distance from shore where most of their energy is expended in the surf zone before ever reaching a sturdy, rocky beach made even more durable by the root systems of native plants. A perfect example of this type of shoreline can be found at the county-owned Railroad Point Natural Area of Crystal Lake, off of Mollineaux Road. Such shorelines present a natural, simple beauty.

Retaining Wall

The last line of defense against erosion is the bulkhead (retaining wall). Bulkheads should be considered only where there is an abrupt and significant rise from the water to the dry land. The disadvantages of bulkheads are several: shoreline habitat is degraded; bulkheads are not esthetically attractive; wave energy is reflected, causing bottom scouring and erosion beyond the end points of the bulkhead; and, being the rigid structures that they are, bulkheads usually succumb to the perpetual forces of nature over time, their useful lives ending in eventual massive failure due to ice or a storm event.

What Is Water?

by Bob Weir

"This article was originally published in Water: Our Life and Heritage, a publication of Detroit Newspapers in Education for Michigan classrooms."

What is water? And how important is it? More important than gas for the car, your favorite television program, or your grade on the next exam? Long before there were cars and petroleum, long before electricity was harnessed for home appliances, and long before schools were built, people understood the importance of water.

It was—and is—one of the four basic elements on our planet: earth, water, wind and fire. Without these elements, life on our planet does not—and cannot—exist, at least not for very long. All animals and plants drink water—and it is the only liquid these life forms consume.

Water Properties

Pure water is colorless, odorless and tasteless. Scientests call it the "universal solvent" because it dissolves more substances than any other liquid. Wherever water goes, it carries valuable chemicals, minerals, and nutrients.

Water has a high specific heat index, which means it absorbs heat before it gets hot. This makes water a good substance for use in radiators and in nature helps regulate temperature changes from one season to another.

Water has a very high surface tension, which means it easily joins with other water molecules to form drops rather than spread out in a thin film.

Pure water has a neutral pH level, which means it is neither acidic nor basic. Humans and most plants, animals, and fish prefer water with neutral pH, but very little natural water has that level of purity.

Water is a good conductor of electricity, but the amount of conductance depends on the purity of the water. Salty water is a better conductor than pure, distilled water.

The Water in You

Up to 60% of your body is water. Blood is 82% water. Your lungs are nearly 90% water. And if someone says you've got "water on the brain," take it as a compliment. The brain is composed of 70% water.

Because the water in our bodies has a high specific heat index (ability to absorb heat), you adjust to sudden changes in temperatures.

Because of water's surface tension, it transports chemicals, minerals, and nutrients throughout your body. Carbohydrates and protein—your body's food—are metabolized and carried in the bloodstream. Likewise, water helps move waste material out of your body.

Because of water's ability to conduct electricity, messages that originate in your brain are transmitted to the appropriate nerves and muscles to help you run, walk, talk, listen, write, learn, and all the other functions of your body.

The World's Water

About 70% of the Earth's surface is covered with water or ice. But water also exists in the air as humidity and in the ground as groundwater

Less than one percent of the Earth's water is drinkable. The rest is either frozen or too salty for human consumption.

If you imagine all the water on Earth–326 million cubic miles–to be equal to the volume of a one-gallon (128 ounces) container:

- Oceans would equal 124.16 ounces (97%)
- Glaciers/icecaps would equal 2.75 ounces (2.15%)
- Groundwater would equal .78 ounces (.61%)
- Lakes would equal .31 ounces (.24%)
- Humidity would equal a drop (.001%)
- Rivers would equal 1/10 of a drop (.0001%)

Water in the Great Lakes is a mere drop in the bucket compared to all the water on Earth. Yet the Great Lakes contain 20% of all the fresh drinking water in the world.



3% All Others Combined - 97% Oceans

All the lakes in the world would equal 8 drops of water from the gallon on this scale.

The Great Lakes would be 2 of the 8 drops.