Geneva Lake Guardian

GENEVA LAKE ASSOCIATION

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The Association is dedicated to Conservation, Ecological Preservation and Education, and the General Welfare of the Geneva Lake Area.

QUARTERLY NEWSLETTER OF GENEVA LAKE ASSOCIATION, INC. • PROTECTING GENEVA LAKE SINCE 1935

YERKES JOINS SKYNET NETWORK

The Yerkes 41-inch reflector research telescope has recently been added to the SKYNET robotic array network and becomes the largest participant telescope in the program. SKYNET is a distributed network of robotic telescopes controlled by a central server operated by the University of North Carolina at Chapel Hill. In 2006, the first six SKYNET telescopes began operation at CTIO in Chile. Additional telescopes of similar and larger size at other longitudes and in the northern hemisphere have been added. As of Oct. 2010, Yerkes telescope engineering tests were completed and now the Yerkes telescope is ready for routine operation.

Having the Yerkes telescope on SKYNET gives Yerkes scientists and education outreach staff access to the entire robotic telescope network. The initial motivation at Yerkes for doing this had been the educational outreach possibilities; however, research and other University programs are encouraged.

The primary scientific mission of the SKYNET robotic array is to obtain immediate data on gamma-ray bursts (GRBs). But GRBs require only a small fraction of the total observing time. When the array is not imaging GRB afterglows, individual telescopes (including Yerkes) perform scheduled observations of targets of scientific interest for other researchers around the globe. Yerkes Education Outreach observing requests are submitted to a queue through a browser interface that is easy to use. Users track their observations through the web-based interface and download their images.

A large fraction of the observing time is now dedicated to outreach. High schools, universities, and museums across the country are now able to use SKYNET routinely. Yerkes has already trained a number of local Geneva Lake area teachers in use of the network, many of whom are anticipating the use of SKYNET in their classrooms. Some local grant funding for SKYNET and related education outreach programs at Yerkes comes from the (Geneva Lake area) Environmental Education Foundation.

THE IMPORTANCE OF GOOD SHORELINE LAND USE
A CASE FOR SHORELAND PROTECTION.

Lakes do not know if their shorelines are in an unincorporated or incorporate area. Pollution from bad shoreline land use will be detrimental to a lake regardless of where it takes place. Preferably, shoreline use should be regulated uniformly throughout a lake's entire shoreline.

In a perfect world, shoreline use would not be regulated by a "one size fits all" set back distance. Ideally, a series of factors would be considered in establishing land use in the shoreline area. Some of the more important environmental considerations would be; terrestrial and lake shoreline vegetation, shoreline slope and soils, fetch or potential wave heights (open water distance and bottom slope), and the site plan.

However, in the real world such an approach is unlikely, especially on a lake with over 20 miles of shoreline. Thus, the need for good science is important in establishing good policy and legislation for shoreline land use.

Many studies have shown the importance to a lake's water quality of an undisturbed lake shoreline area. A study by the USGS, which included sites on Geneva Lake as well as sites at several other Wisconsin lakes, found that surface water runoff volumes from lawns were 10 or more times higher than from wooded sites. (Hunt et al. 2006). The same study found that both the total volume and the number of runoff events were greater from shoreline lawn sites than from shoreline wooded sites. Nutrient loading to the lake from lawn areas was found to be higher than from the wooded areas, not necessarily because of a greater concentration of nutrients but because of a greater volume of runoff (Hunt et al. 2006), (Graczyk, D.J., et al. 2003).

It has been suggested that runoff is significantly lower on the wooded sites because: (1) the tree canopy intercepts a portion of the precipitation; (2) the uncompacted organic-matter layer at the ground surface reduces rainfall impact and absorbs the rainfall; and (3) increased permeability in the upper soil due to bioturbation. (Hunt et al. 2006)

Total phosphorus concentration in lawn runoff was directly related to the phosphorus concentrations of lawn soils. Dissolved phosphorus concentrations in runoff from fertilized lawns were twice that from unfertilized or non-phosphorus fertilized lawns. (Garn2003). Although this may say more for restricting phosphorus lawn fertilizers, it does confirm the close relationship between what we do in the lakeshore area and lake impacts.

In the Geneva Lake basin, especially in the Fontana end of the lake, groundwater moves toward the lake (Gotkowitz, M., Schoephoester, P., 2006), (Gotkowitz, M., Carter, J., 2009). Groundwater under lawns can have nutrient concentrations 3 to 4 times higher than measured in the groundwater under wooded areas. This was especially the case in flat areas of lawns (Hunt et al. 2006). Lawn areas have a greater effect on shallow groundwater concentrations of nitrogen and phosphorus than undeveloped wooded areas (Graczyk et al 2003). Retaining a native vegetation buffer in the lake shore area can go a long way towards reducing nutrient loading to the lake from groundwater.

Runoff from impervious areas into the lakeshore areas can overload the infiltrative capacity of lawns, resulting in more horizontal flow of runoff both on the surface as well as in the shallow layers of the soil. When runoff is added to the lawn areas in the shoreline area from downspouts, driveways and sidewalks, it has been found to move over 25 ft. toward the lake under the lawn. When that runoff moved into the wooded buffer area, the runoff was infiltrated before it traveled the next 25 ft. (Graczyk, and Greb, 2006). This supports the need for large setbacks with native vegetation along the shoreline to increase infiltration of runoff before it enters the lake.

All the studies cited in this paper lean towards two very simple findings: (1) To protect the lake, reduce runoff into the lake and; (2) establish appropriate setback distances and buffers between impervious areas, lawns and lakes to enhance the site's ability to absorb runoff water before it is conveyed to the lake. Reducing impervious areas leads to increased land for infiltration. This reduces water runoff volumes which helps ensure the soil's ability to infiltrate water, resulting in less runoff and less delivery of nutrients to the lake. (Hunt el al 2006).

The above discussion addresses the water quality impacts of shoreline land use. Shorelines are vital areas for a wide range of biological activities that are important for a healthy lake. Birds, mammals, amphibians, reptiles, aquatic invertebrates, fish and plants, all play important roles in a lake's well being and are very dependent upon the shoreline areas of lakes. Changes in land use in the shoreline areas will impact their behavior and sustainability. Clearing shoreline vegetation and pulling woody debris from the shallow water can increase shoreline erosion and results in loss of habitat for many of the shoreline animal and insects. (Engle, S., Pederson Jr. J.L., 1998). Shoreline erosion can result in silts and clays turning the water turbid for long periods of time. Sand and gravel can smother fish nests and bottom dwelling invertebrates. Nutrients carried by the sediment can fuel algal blooms.

The relationship between the shoreline area and a lake is inseparable. What happens in the shoreline area has a direct impact on the lake as a whole. Whether it is aesthetics, water quality, aquatic and terrestrial food chains, system biodiversity or the overall health of lake systems, how we treat our lakeshore areas affects all of these. What we do on the land is reflected in the lake.

Lakes are complex systems. Changes to a lake over time result in a lake's responding to land use differently than it did in the past. Repeating mistakes of the past may have greater impacts now as they compound the problem. – Ted Peters Geneva Lake Environmental Agency

PLEASE NOTE

The annual meeting of the Geneva Lake Association will be held on Saturday, August 6, 2011, at the Big Foot Country Club, Fontana, WI. The meeting begins at 9:30 a.m. We hope you can all attend.

As a reminder, the Centennial Celebration of Horticultural Hall, Lake Geneva, will be held July 31 to August 7. A full week of programs and activities are planned to celebrate 100 years of service to the lakes community. A detailed article about the centennial appeared in the Winter/Spring 2011 newsletter, available on our website.

MEMBERSHIP FORM

All persons interested in the conservation, preservation, environmental education and general welfare in the Geneva Lake Region are invited to become members. The contributions requested from members are as follows:

Regular Membership - Annual Contribution $30.00

Sustaining Membership - All Members who so elect, Annual Contribution $50.00

Contributing Membership - All Members who so elect, Annual Contribution $100.00

Donor Membership - All Members who so elect, Annual Contribution $150.00

Benefactor Membership - All Members who so elect, Annual Contribution $250.00 or more

Commercial Membership - Annual Contribution $60.00
APPLICATION FOR MEMBERSHIP ☐ OR RENEWAL ☐
(Please Print)

Name _____
Home Address _____
_____ Phone _____
Summer Address _____
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Pier #_____ Phone _____
Business or Profession _____
Business Address _____
_____ Phone _____
Send Mail to: _____

☐ Regular ☐ Sustaining ☐ Contributing
☐ Donor ☐ Benefactor ☐ Commercial

All Contributions Are Tax Deductible

Send Membership form to: GENEVA LAKE ASSOCIATION, INC. P.O. Box 412, Lake Geneva, WI 53147

NEW MEMBERS

Since our last newsletter, we have the following new members in the Association:

RESIDENTIAL
Gerhard Weiler **Robert & Nancy Loritz**

COMMERCIAL
Conference Point Conference Center - Williams Bay
Bill's Marine Service - Lake Geneva
Lake Geneva Youth Camp & Conference Center - Lake Geneva
Bergersen Boat Company - Springfield
Lake Geneva Paddle Company - Fontana

Welcome!

We intend to list all new members of the GLA in our newsletter. Membership automatically includes listing in the annual Directory issued in June each year.

2011 Directory of Members

While this quarterly newsletter is being distributed to members, the Geneva Lake Association is in the final process of publishing and printing the 2011 Directory of Members. A significant amount of time and effort by the Association's Directors and the Administrative Director has been put into the final editing of this year's directory. We respectfully solicit the assistance of our members in helping the Association maintain the accuracy and integrity of our association's directory, and ask that members advise the association if they discover any deletions or errors.

The designation of pier numbers, as listed in the directory, was originated by the Association. Pier numbers serve to indicate to the Water Safety Patrol, Lake Police, and all emergency services the exact locations of lake related incidents. They are also convenient reference points for visitors as they tour the lake. We ask all members to clearly mark their piers with these numbers.

The Geneva Lake Association asks that all members who receive this quarterly newsletter take a few moments to ensure that their annual membership dues have been paid. As we informed all recipients of our newsletter several times during the past year, *the 2011 Directory will be mailed only to members who are current on their contribution*. Your continued support of the GLA is deeply appreciated.

KISHWAUKETOE CONSERVATION EASEMENT

After over a year of negotiations with the Village of Williams Bay Village Board and Plan Commission, the Geneva Lake Conservancy and the Village recently came to an agreement on a Conservation Easement for the Kishwauketoe Nature Conservancy property. This easement covers most of the 231 acres within the conservancy and protects the property from having small parcels sold to developers and or structures built on the property. If the Village were to decide to sell the Kishwauketoe property, under this agreement, the only way it could be sold is if the interested party would purchase the entire 231 acres. Also, there are restrictions included that would require a new owner to maintain the close to four miles of public trails and to adhere to the best practices of the Wisconsin Department of Natural Resources in protecting wetlands and prairies, as well as many other issues. In the more than twelve months of negotiations, many issues were addressed that helped guarantee a variety of public uses as well as continued quality management of the property.

This action does not only protect the Village of Williams Bay and this very special property but is a very positive, proactive move, setting an example for the entire Geneva Lake area community. It is proof that a small community can take major steps in protecting the Geneva Lake watershed for generations to enjoy.

- Harold Friestad, Chairman, Kishwauketoe Conservancy

PIER REGISTRATION

The Chairmen of the Wisconsin Assembly and the Senate Natural Resources Committee have introduced companion legislation to extend the registration deadline for exempt (or "grandfathered") piers in favor of a simpler and more comprehensive version of Wisconsin's pier law. Representative Jeff Mursau (R-Crivitz) and Senator Neal Kedzie (R-Elkhorn) believe significant changes are necessary to allay confusion and to clarify some complications that exist as the law is presently written. An extension of the registration deadline is needed in order to perfect the needed changes. The relevant extension bills are: Assembly Bill #17 and Senate Bill #59.

The Pier Protection law was enacted in 2008. One component of the law requires a pier owner to register their pier with the DNR in order to be considered exempt from any regulation, so long as their pier meets a specific standard size. Pier owners were granted a three-year window of time in order to register, but many owners were either unaware of, or unsure about, the requirements. According to Senator Kedzie, the DNR received only a few hundred registration requests statewide over the past few years. Senator Kedzie is quoted in the Beacon newspaper issue of April22nd: "Obviously, there are more piers in Wisconsin than that, which tells me the registration requirement isn't working." He went on to say "Now that the April 1 deadline has come and gone, we need to extend it in order to allow more time for us to examine the law, make commonsense changes where necessary, and ensure (that) pier owners are not tripped up by this requirement."

In 2008, the GLA wrote an article in their summer newsletter about the pier law, and the understanding at the time was as long as the pier was placed prior to February 6, 2004, was not changed, was less than 10 feet wide, and did not have a platform over 300 square feet, there was no requirement to register. *It appears now that the tenor of the law is that everyone has to register their pier, regardless of the size.* The GLA received a number of phone calls prior to April 1 from both members and non-members asking for clarification and/or information, all voicing their frustration and confusion. One member called to say that he applied for a grandfather exemption to the DNR, and was told to contact the county, who told him they "weren't issuing any 'grandfather' permits."

Some people have raised the concern that this registration is a form of governmental regulation. Senator Kedzie believes the provision regarding required registration needs to be addressed in the overall revised pier registration legislation being proposed, but for now, an extension is necessary and appropriate. Kedzie said, "Requiring a pier owner to inform the DNR that their pier is exempt is completely backwards, especially when the registration form is six pages long." The GLA has asked Senator Kedzie to speak on this topic at our annual meeting on August 6, 2011, at Big Foot Country Club. Senator Kedzie can be contacted at www.senatorkedzie.com.

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