

Glen Lake Association Alligator & Inspiration

Glen Lake: Yesterday, Today and Tomorrow

A Message from Our President

Andy DuPont

Sixteen years ago, in October of 1994, Olivia and I purchased our property on Big Fisher Lake and solidified our commitment to this beautiful area we now call home. We joined the Glen Lake Association (GLA) shortly thereafter, feeling then, as we do now, that as owners we had a responsibility to support our lake association and its efforts to protect, preserve and continually improve the Glen Lake/Crystal River watershed. I now have the honor and privilege of serving as your president and opportunity to build upon the solid foundation set by my predecessors.

John Rockwood worked tireless hours over the past two years as he guided our 12-member board. Those of you who were able to attend the Annual Meeting witnessed firsthand the fruits of John's leadership in the quality and professionalism of the work presented. I intend to build on the excellent foundation he and other past presidents have laid. My first priority is to insure that our 14 committees and more than 60 volunteers have the resources they need to maintain and improve the beauty and quality of the area. These volunteers truly are the heart of the Association. I am also working with our staff members, Rob Karner (lake biologist), and Sallyanne Morris (office administrator/boat wash "captain") who are both committed to the GLA ideals.

We intend to extend our excellent results in the area of invasive species and maintain the progress we have made towards merganser (swimmer's itch) reduction.

The summer of 2010 is now behind us, and what a summer it was! We had a perfect balance of sunshine and rain, and warmer temperatures that

lured us out into the lakes and streams. September brought much cooler weather, and quite a few windy days that made for rough waters and difficult boating.

We now look forward to the amazing colors of fall while life slows down around the lakes and the area is naturally restored from all the recent activity.

In October we will also see improvements to the channel at the narrows between the Glen Lakes, and the channel between Big Fisher and Big Glen as both will be dredged. A Michigan Waterways Grant was awarded for each dredge, covering almost



Andy and his wife, Olivia

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The Glen Lake Association, Inc. is a non-profit organization dedicated to the protection, preservation and continued improvement of the beautiful Glen Lake area.

Fall 2010

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President's Message, cont'd...

half of the direct costs. Glen Arbor and Empire Townships, and the Fisher Lake riparians cover the remaining. Another Michigan grant was awarded to the Association to support and expand our ongoing water quality monitoring efforts. The \$14,000 grant will be combined with \$10,000 from the Association to fund efforts in sampling and testing in core water quality parameters and to monitor levels of several

key pathogens.

Enjoy reading the excellent articles in this newsletter, and check out our website at glenlakeassociation.org to keep up to date on all our activities until our next newsletter in the winter.

Have a great autumn,
Andy

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Special Giving Opportunity

During the last week of July, Jesse Karner, son of Rob and Barb Karner, had a motorcycle accident near his home in Eugene Oregon (Rob is our staff Watershed Biologist). Jesse has been a temporary employee of GLA and now lives in Oregon. Prior to the accident, Jesse was unemployed and without medical insurance. His injuries included a fractured neck, collar bone, and shoulder. Miraculously, his life was spared and he should heal and have full recovery over the coming year.



spend five days in the hospital. His total medical costs will exceed \$80,000. For a 28 year old young man, this is a daunting position to be in. If you would like to make a charitable contribution to help him reduce or eliminate his medical bills, please send a check to Glen Lake Church and mark your check "Jesse Karner".

Please mail your check to:
Deacon's Fund, Glen Lake Church, 4902 West MaFarlane Road, Glen Arbor, MI 49636

Thankfully, a benefit pancake breakfast on Jesse's behalf has already been held at the Glen Lake Church and \$7,500

However, he had to be airlifted to the hospital, undergo spine surgery, and

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Glen Lake Association - MDNRE Water Quality Monitoring Grant Recipient

The Glen Lake Association earlier this year applied for and this month received a grant of \$14,344 from the Department of natural Resources & Environment as part of their Clean Michigan Initiative-Clean Water Fund. The GLA was "commended for its efforts to protect and enhance Michigan's water quality."

Our grant proposal titled "Glen Lake Association Critical Contaminant Monitoring Project" will fund a 2 year effort to monitor suspected areas of nutrient and pathogen contamination within Big and Little Glen, Big Fisher, and Hatlem Creek. Should high concentrations of nutrients or pathogens be confirmed in a particular location, the GLA can later focus to advocate for correction of any problems.

Rob Karner, our Watershed Biologist, will lead this effort and direct two paid interns to collect data in locations where environmental stressor entry points are suspected. Nutrient and

pathogen samples will be evaluated at a local environmental lab. In addition the "health index" of our test locations will be monitored using our Hydorlab® tester to compare with our historical data. Plankton collections will also be conducted and analyzed for species diversity over the 2 year period. A decrease in animal and plant plankton diversity has been suspected over the past few years, a possible negative trend. This could signal that adverse conditions are developing.

The grant monitoring activity may start this fall but will be in full swing beginning next spring. If residents are "out and about" they may encounter Rob and his interns going about the business of performing their "grant collections" as well as Rob's regular testing activities. Greet them and wish them well in their tasks to protect our "treasured resource"



Karner's Korner

New News from Our Watershed Biologist

Seasonal Change in Our Watershed

As fall and winter approach, what changes can we expect in our watershed from a human, hydrological, biological, and chemical perspective? Many of our members will be overwintering in a warm climate but they may wonder about what's going on with their lake in the colder months of the year.

The human element is obvious – multitudes of visitors migrate south and permanent residents brace for winter. Long days of summer give way to long nights with fewer house lights along the shore. Jet skis give way to snowmobiles; pontoon boats with families give way to more fishing boats in the fall. The hum of summer boat and road traffic gives way to more solitude and quietness. The strain of heavy summer septic use gives way to a septic system that can rebound and take a rest. The smell of garden flowers in bloom give way to leaves that fall and transform into humus as they decompose and return nutrients to the forest floor. The volume of boat wash activity on Little Glen's access reduces to just a few boats that will use the honor system for keeping invasive species out of our lakes.

The hydrological perspective of our watershed as we change seasons includes more water being allowed to flow over the dam to reduce our lake level in the winter, thus reducing shoreline erosion from wind and ice. Evaporation will become less of a factor (though still significant) as the water cools and ice forms and seals the surface from the air. Snow pack building up on the surface of the ice allows less light to penetrate the water column. The once well-lit water column becomes much more dim. This is the time many plants, both microscopic and macroscopic die, sink to the bottom, and decompose.

Chemically, the watershed will show increased oxygen levels in the upper part of the water column in the fall but ice formation in the winter will reduce

it by cutting off the interaction of the surface water and the air. As the oxygen at the bottom of the lake is used up by bacteria during the decomposition of organic matter, the deep water will stay anoxic until the ice melts in the spring. The phosphorus that has bonded with the sediment during the non-winter months will become free from the sediment and will then be available to plants in the spring for our annual spring blooms of algae and aquatic plants. As they grow and reproduce, the oxygen-deprived water at the bottom will become oxygenated again and provide a better environment for our lake trout population to find refuge. Regarding the pH of the lakes, as spring approaches with the melting ice and snow pack, the lakes get a jolt of acidity from the acid snow and the spring rains. This shock usually has minimal impact on the biota but is a phenomenon that I observe when testing with the hydrolab each year.

Biologically, the fall and winter months are the time when fish become more dormant and their metabolism slows down and they lose their appetite. (Sorry fishermen). Most of the other animals that live in the water of our lakes are cold-blooded – frogs, toads, salamanders, turtles, and snakes. They basically hibernate in the soft sediments or wet areas along the shore waiting for the warmth of spring to revive them. Winter is often the time when snails and clams die in great numbers and the surviving individuals set the stage for egg laying in the spring. Fall is the time when we get rare sightings of migrating birds. Bonaparte Gulls will frequent the east shore of Big Glen near Brooks Road, and it is not uncommon to see 50-100 Tundra Swans visit us for a few days just north of the narrows on the west shore of Big Glen. Some migrating Bald Eagles will pass by Inspiration Point in search of food such as lake trout but our resident Bald Eagles will stay in the area throughout the fall and winter keeping a watchful eye around the open water near the narrows for mallards – one

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Karner's Korner, continued

of their favorite foods. River Otter will be found harvesting the vast numbers of Emerald Shiners in Brooks Lake in the late fall and will feed on them throughout the winter in Hatlem Creek. In the Crystal River, fall is the time for the salmon and steelhead to swim up the stream providing abundant dining for the Otter.

Fall and winter definitely bring significant change to the watershed, but all the dynamic processes that go on throughout the year are part of the necessary ingredients keeping Glen Lake in balance.



Stewardship Checklist

*Action Checklist for Landscaping, Lawncare, and Stormwater Run-off
(pages 4-5 of your Stewardship Handbook)*

1. Preserve a 20-35 foot natural green buffer of native shrubs, trees, natural grasses, and groundcover around wetlands, creeks, river and lake. Ideally it should cover 75% of your shoreline or river frontage. A shoreline vegetation strip will: help filter nutrients, toxic substances and other pollutants, hold the soil in place preventing shoreline erosion, and reduce nutrient pollution by drawing up the by-products of septic system wastes.
2. Use a setback of at least 100 feet back from the shore or river for structures.
3. Use native species grasses, plants, shrubs and trees with deep roots near water line.
4. Preserve natural cover and forest stands.
5. Choose grass species appropriate to northern Michigan, which do not need fertilizers and irrigation.
6. Consider groundcover instead of lawn.
7. Pump nutrient-rich lake or river water to irrigate. Nutrients in the lake or river can be utilized by grass, shrubs, trees and plants reducing nutrient concentrations in the lake or river. A good weekly watering can promote deeper root growth and healthier grass than daily, light watering.
8. Use seeping hoses for watering lawns and flowerbeds.
9. Avoid over watering by using a rainfall gauge with your sprinkler.
10. Keep any compost piles of leaves, clippings and other organic waste 250 feet away from the water.
11. Select a lawn care company that will customize its service to be lake/river friendly.
12. Cut lawn with sharpened mower blades set to a height of 2 1/2 to 3 1/2 inches which will foster phosphate and nitrate uptake and water retention. The taller the grass shoots, the deeper the grass roots. A dull blade will tear the blades of grass, leaving wounds that provide sites for disease infection.
13. Mulch grass clippings back into the lawn using a mulching lawnmower. Leave grass clippings on the ground to provide an excellent source of nutrients. Clippings, which contain mostly water degrade quickly and recycle their nutrients to the soil. When returning clippings to the lawn, overall nitrogen applied can be reduced by approximately 1 pound of Nitrogen per thousand square feet. Mulching can also be done by cutting the lawn twice.
14. Compost leaves and other yard trimmings as the compost will gradually release nutrients to your lawn and plants. Leaves can be composted directly into the lawn by using a mulching lawnmower or making a couple of passes with the mower over the leaves so that they will be broken down into smaller pieces.
15. If you feel you must use fertilizer, determine the exact amount of fertilizer your lawn and plants need. Do a soil test through the MSU Plant and Soil Nutrient Laboratory with a soil test kit from MSU Extension office for approximately \$10. ***Do not use fertilizer containing Phosphorus within 500 feet of our lakes, streams or river as stipulated in a recently adopted ordinance by Glen Arbor Township which will go into effect Nov. 1, 2010.***

Stewardship Awards for 2010

The Glen Lake Association at their Annual Meeting in August recognized two homeowners, a landscape restoration business, and a public school group and their advisor. The hope is that through these awards, ecologically sensitive development along lake, river and stream shores will become an ever growing trend. The future health of the region's lakes and rivers and streams depends on it.

Karen Richard, a Glen Lake School biology teacher and Advisor to the Glen Lake School Envirothons received a Lake-Friendly Stewardship Award in the



Lake-Friendly Protection Category. We commend Karen and her Envirothons for their support in protecting the water quality of our watershed and the beautiful natural shoreline of Glen Lake. Their projects on Hatlem Creek, the Aquatic Plant Study, and the Coltsfoot Identification and Control efforts have contributed significantly to the awareness and education of the residents and the ongoing efforts for the protection and environmental integrity of the Glen-Lake Crystal River Watershed.



Jody Marquis received a Lake-Friendly Stewardship Award in the Lakescaping Category. We commend her for her 12 years of tremendous vision, planning, and implementation in the restoration of more than 700 feet

along the wetlands of the eastern shoreline of Big Glen Lake and the protection of the monkey flower. In doing so she has made great progress in protecting the water quality of our watershed and preserving a

significant portion of the beautiful natural shoreline of Glen Lake as well as the preservation of the protected monkey flower. Jody has contributed significantly to the restoration, beautification and environmental integrity of the Glen-Lake Crystal River Watershed.

Brendan Burrows and Ann Derrick received a Lake-Friendly Stewardship Award in the Lakescaping Category. We commend them for their



completely naturalized shoreline which does a great deal to protect the shoreline's environmental integrity and beauty in a way that can potentially improve water quality and enhance the nature of the Glen Lake-Crystal River Watershed.

Jack Otto received a Lake-Friendly Stewardship Award in the Lakescaping Category. We commend Jack for a lakescaped shorefront that does a great deal to protect the shoreline's environmental integrity in a way that can potentially improve water quality and enhance the nature of the shoreline while providing recreational and view opportunities.



Applications for next years awards will be accepted until July 25, 2012 from any homeowner, contractor, lake association member, local government unit, developer, or other interested party. Neighbors, nonprofits and local units of government may know of some projects that merit recognition, and may nominate them for the award. An application can be downloaded from the Glen Lake Association Website or from Sarah Litch 231-334-3612. The stewardship committee, a subcommittee of the Water Quality Committee is made up of our Lake Biologist, two members of the Glen Lake Association Board, and a member of the Water Quality Committee.

Protecting Our Beautiful Environment

Securing the future of Glen Lake's natural beauty

The Glen Lake Association is a non-profit organization dedicated to the protection, preservation and continued improvement of the beautiful Glen Lake area and its watershed.

The goal of the Glen Lake Association Development Committee is to provide long term financial stability for the Association in order to preserve this fragile natural resource for generations to come and support its award winning watershed protection programs.

Ways to support the Glen Lake Association

Contributions can be made to the:

GENERAL FUND

Contributions to this fund are used for general operating expenses such as: water quality testing, boat wash operations and staffing, swimmers' itch control, office expenses, etc.

GLEN LAKE WATERSHED PROTECTION FUND

This fund was established for non-recurring expenses of the Glen Lake Association (GLA) such as: scientific testing for invasive species control and unforeseen watershed protection issues.

All monies borrowed from this fund for current needs are to be repaid to the fund in a timely manner depending on the amount.

A portion of the annual earnings on this fund balance is available for GLA general expenses.

Contributions to the Watershed Protection Fund must be clearly so designated by the donor.

Memorials and Honorariums are placed in this fund unless otherwise specifically noted.

GLEN LAKE ASSOCIATION ENDOWMENT FUND

This is a permanent endowment fund. You can support the work of the GLA by making a contribution to the *Grand Traverse Regional Community Foundation For The Benefit Of The Glen Lake Association*. The fund is managed by professional investment advisors employed or hired by the GTRCF. The Community Foundation pools funds for higher rates of return at

lower fees with annual audits by Certified Public Accountants. The goal is to reach a principal balance of two million dollars in the Endowment Fund. A portion of the earnings on this fund is available for general operations of the GLA and the balance of earnings is a permanent, un-spendable amount that is invested and will grow and provide future benefit to the GLA.

Contributions must be clearly designated for Glen Lake Association Endowment Fund. Michigan residents receive an income tax credit up to \$400 when gifts are directed to the *Community Foundation for the benefit of the Glen Lake Association*.

PLANNED GIVING

As part of our Endowment program, we are encouraging GLA members and supporters to include the GLA in their estate plan. Your planned gift with those of others will enable the GLA to continue its efforts to protect, preserve and improve the Glen Lake Watershed.

Planned giving can take many different forms, but the goal is to provide for the long term financial stability of the GLA. This is an opportunity to leave the legacy of clear water for your children and grandchildren.

A variety of giving options are available to help you make a positive impact:

Bequests can be made by preparing a new will or by adding a codicil to your current will or trust. A bequest can stipulate a dollar amount or percentage of an estate be directed to either of the above funds in your will or trust. Most bequests provide estate tax savings.

Another way to recognize Glen Lake Association is through retirement plans such as IRA's, Keoghs, 401(k) plans, and profit sharing plans. By selecting one of the above funds as a beneficiary of the retirement plan, there could be potential income and estate tax savings.

Gift annuities are another method to support GLA. To create a gift annuity a donor may give

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Protecting Our Beautiful Environment

Securing the future of Glen Lake's natural beauty, continued

cash, stocks, bonds or other securities to the Grand Traverse Regional Community Foundation for the benefit of the Glen Lake Association today, and then receive fixed income payments for life. Charitable gift annuity rates are determined by your age. Some of the benefits of a gift annuity are :

- You have a guaranteed income for life, based on a competitive rate of return.
- A federal income tax deduction is available for a portion of your gift.
- Part of each payment is free of federal income tax.
- There is the possible capital gains tax and estate tax savings.

All legal documents should be prepared by an attorney and reviewed by your accountant.

GLEN LAKE LEGENDS

Individuals who include any of the Glen Lake Association funds in their estate plan will be known as Glen Lake Association “Legends” and will be listed annually in the GLA Newsletter and in the Membership directory.

Please contact a Development Committee member of the Glen Lake Association (231-334-7645) or the Grand Traverse Regional Community Foundation (231-935-4066) with any questions.

www.glenlakeassociation.org

Highlights of the GLA Annual Meeting are now posted on the website. Included are:

2009-2010 GLA Annual Meeting Presentation

Glen Lake/Crystal River Watershed Hydrology Report

Glen Lake/Crystal River Watershed Presentation

2010 GLA Stewardship and Shoreline Survey Presentation

2009-2010 GLA Annual Committee Reports

Please pass the word to your friends and family about the availability of these reports and let them enjoy this wealth of information too!

Treasurer's Report

GLEN LAKE ASSOCIATION, INC				
EIGHT MONTHS ENDED AUGUST 31,				
		2010	2009	
REVENUES				
	MEMBERSHIP	\$66,846	\$65,074	
	GRANTS & FOUNDATIONS	10,693	10,923	
	INTEREST	348	567	
	OTHER	<u>230</u>	<u>255</u>	
	TOTAL REVENUES	\$78,117	\$76,819	
EXPENSES				
	WATER QUALITY	\$42,191	\$46,941	
	WATER LEVEL	7,753	4,952	
	MEMBER COMMUNICATION	8,815	8,269	
	SUPPORT SERVICES	<u>14,092</u>	<u>12,944</u>	
	TOTAL EXPENSES	\$72,851	\$73,106	
EXCESS OF REVENUES OVER EXPENSES		\$5,266	\$3,713	



From the Water Level Committee

About ten to fifteen Riparians on the eastern side of Big Glen Lake have been suffering beach erosion over the past ten years or so and have requested the Glen Lake Association Water level Committee (WLC) to consider decreasing the maximum lake level target by about two (2) inches as a relief measure.

Such a change would reduce the working range of the lake level from five (5) to three (3) inches. This 40% reduction in operating range would affect the WLC's ability to manage Glen Lake(s) level and

the Crystal River flow - both of which must be done per order of the 13th District Court.

The critical lake level point is on June 1st when the WLC believes it must "pond" enough water to survive the summer droughts that usually occur. The lake level on that date is the normal high for the year. A two (2) inch lake level reduction would impact that date.

The WLC has studied the potential impact of a two (2) inch lake level reduction on June 1st and summarized this work on the three charts below.

Chart I compares the historic averages with the daily targets and the legal minimum and maximums for the entire year.

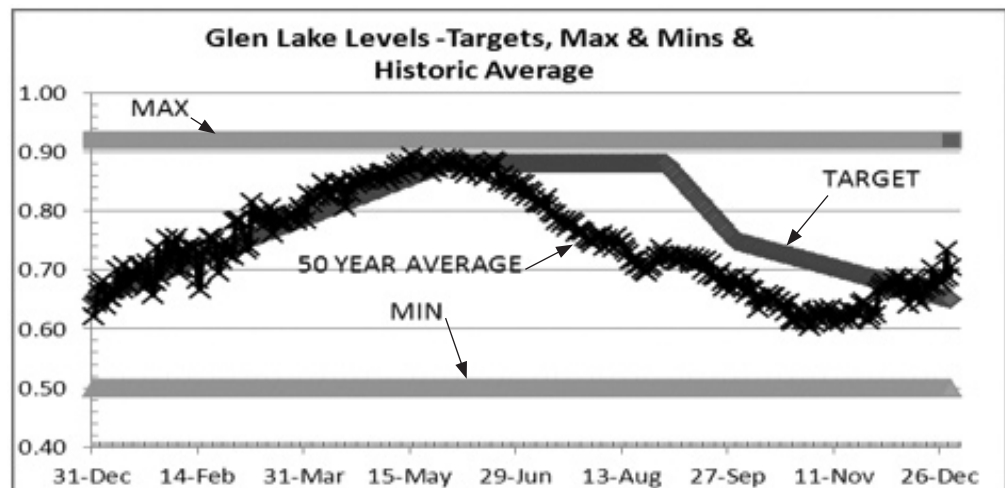
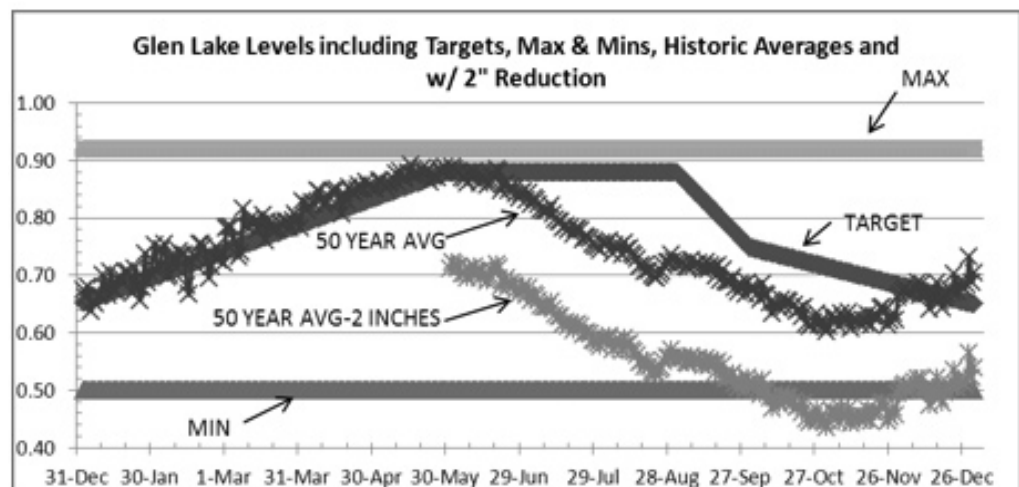


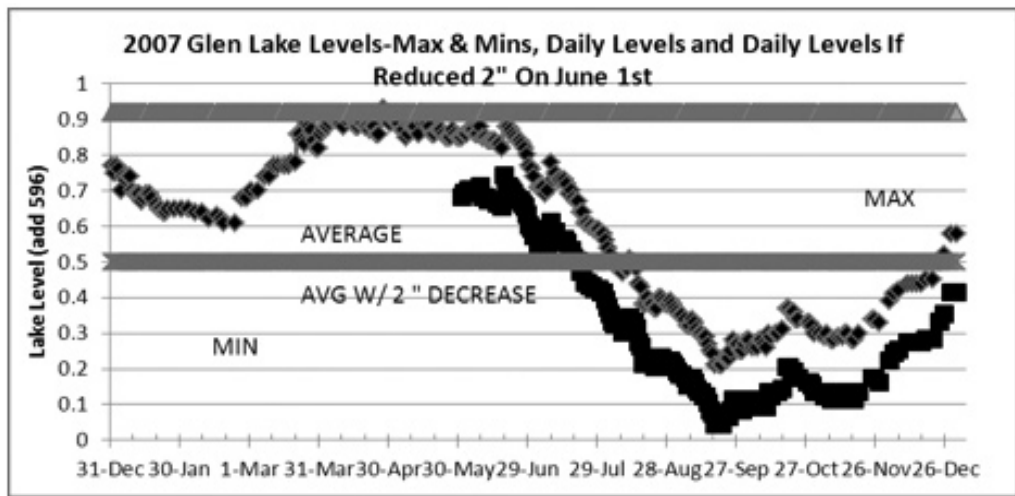
Chart II shows the same chart for the summer months with the historic averages if decreased by 2 inches effective June 1st.



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Water Level, continued

Chart III shows the lake level record for 2007 (drought year) and what would have happened if the lake level was decreased by 2 inches on June 1st.



Several observations are noted:

- Chart 1 shows that the lake level targets during the first half of the year are slightly lower than the historic average (53 years). While the targeted lake levels during the second half of the year are higher than the historic averages, note that the lake level during this period is usually governed by the rain fall as evident by the record. The targets set for this period are only to facilitate management of the river flow.
- A two (2) inch decrease in lake levels from the historic averages would probably impact the lake level as indicated on Chart 2 above. Somewhere around late July based on the historical record, lake usage would be impacted and the water discharged to the Crystal River reduced from its 31 CFS nominal minimum rate if the historic average lake level on June 1st was reduced 2 inches. This would probably not occur if the June 1st lake level was as targeted.
- Chart 3 paints a much darker picture. Even though the lake level was essentially on target on June 1st, 2007, the severe drought conditions decreased the Glen Lake level to a possibly record low of 596.2 feet in mid-September. Had the lake level started out two (2) inches lower on June 1st:

- The lowest level would have been ~596.05 feet and
- The lake and river usage would have been impacted as early as June 29th instead of about a month later.
- Chart 3 underlines the observation noted during the 2010 Annual Meeting that adequate rain fall during the spring does not assure adequate rain fall during the summer. The reverse is also true. We cannot plan ahead based on rain accumulation during the spring.
- Finally, the current program that was placed in operation in mid-June 2007 will tend to mitigate the very high lake levels observed in the past. While WLC cannot predict when heavy rains will occur, the WLC intends to:
 - Avoid excessively high lake levels observed in the past by keeping the lake level close to the daily targets as described above and,
 - Respond quickly to precipitation events by increasing the Crystal River flow to the maximum possible rate if necessary.



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Fall 2010

GLEN LAKE ASSOCIATION 2010-2011

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