

# Lake Arrowhead News

## September 2014

### The 2014-2015 Board of Directors:

#### President, Roads and Maintenance:

Chris Speen

#### Vice President and Gas wells:

Ron Race Jr.

#### Secretary, Newsletter, and Webmaster:

Mary Davignon

#### Treasurer & Collections, Website support:

Judy Race

#### Parliamentarian, By-laws, Historian, Website: support

Scott Bicknell

#### Parks, Recreation, Lakes, & Safety Support:

Pat Dressel

#### Long Range Planning:

Ed Heitsch

#### Environmental & Zoning:

Dave Ligget

#### Building Control:

Karl McKennon

#### Pool, Long Range Planning Support:

Ron Race

#### Campground:

Marcia Schick:

#### Parks, Recreation, Lakes, Safety:

Connie Stubli

#### Real-estate:

Dana Stubli

#### Roads and Maintenance Support, & Forestry:

Kyle Stubli:

**Email to all board members:** [board@lapoa.com](mailto:board@lapoa.com)

Contact information for individual board members is posted on the mailbox bulletin board and can also be found on our Website: [www.lapoa.com](http://www.lapoa.com).

**Office Manager:** Anita Wheaton

[LAPOAoffice@gmail.com](mailto:LAPOAoffice@gmail.com)

**LAPOA Office:** 231-585-7411

**Office Hours:** The office will be open Monday, Wednesday, and Friday and the 2<sup>nd</sup> and 4<sup>th</sup> Saturday of each month from 1:30- 2:30 PM, Other Saturdays will be by appointment.

**LAPOA**  
**7065 Arrowroot Trail**  
**Gaylord, MI 49735**

**Save a Stamp!** An Association drop box has been installed on the mailbox building for payments and for correspondence to LAPOA.



*Thank you Beautification Committee for helping to make Lake Arrowhead so lovely and inviting!*

### Upcoming Board Meetings and Events:

October 4, 2014 at 9:00a.m, in the office

December 6, 2014 at 9:00 in the office

February 7, 2015 at 9:00 in the office

May 2, 2015 at 9:00 in the office

Annual Membership Meeting: July 4, 2015 at 10:00 at the pavilion.

LAPOA Picnic: July 4, 2015 at 2:00 at the pavilion.

Campground Meeting: May 23, 2015 at 10:00.

### Halloween Fun

Halloween Festivities are set for Saturday, October 11<sup>th</sup> at noon. Children should gather in costume, at the equipment garage for Trick or Treating followed by the LAPOA Halloween Party. Please be in costume and bring a dish to share. Beverages and hot dogs will be provided. Patti Gates (989-370-1599) has graciously agreed to be the organizing force this year. Please contact her for information or to volunteer to help.

### Multi-Use Office Building

The Office Building will now be used for social events that are open to all LAPOA members. This winter, when the evenings begin so early, we plan to have some card/game nights, pot lucks, and soup or chili cook-offs. Regularly check our website, bulletin boards, Facebook, and Nextdoor pages for postings about these and other current LAPOA news. Contact Mary Davignon if you would like to organize some of these events.

There is a lending shelf in the Office Building for members who would like to donate or borrow family-friendly books, puzzles, and games.

## Mooring of Boats at Parks

In order to make it easier for our members to enjoy Buhl Lake, LAPOA members and their guests may temporarily moor non-commercial-use boats at the neighborhood parks for up to 72 hours. Boats must be properly secured (bow and anchored stern) so they do not interfere with other boats or the use of the parks by other members. Boats must also have owner's name and contact information readily visible.

Those who own waterfront property are kindly asked to be good neighbors and leave park moorings to our off-lake members.

**At no time may docks or other structures be constructed on LAPOA common property.**



## Rising Lake Level

The lake level is rising and now that the dredging is complete we really expect it to rise quickly. We are already noticing partially submerged docks. This year when you put away all those docks, beach chairs, and boats, you would be wise to store them high!

## Ready or not, here it comes!

Yes, winter is right around the corner and now is the time to prepare for it. Sadly, last winter, a house and a pole barn in Lake Arrowhead collapsed because they could not withstand their snow loads. Fortunately, neither building was occupied. Please make sure you monitor your roof's snow load. Did you know that often insurance does not cover building collapses due to heavy snow build up? Keeping roofs clear of excessive snow is considered to be normal maintenance by many insurers.



*"Of all the paths you take in life, make sure a few of them are dirt."*

*John Muir*

## Parking:

Vehicles left on roads interfere with the plowing and grading of our roads and pose a safety hazard. Please abide by the Association's prohibition against parking on the roads and make sure your guests know where to park. Steep, slippery, drive-ways are always a challenge. Vehicles may be parked along the fence at the main park until the snow gets too deep. A limited amount of short term winter parking is available by the Office and in the mailbox area for cars and trailers.

## Outgoing Board Members

-Our members will never know all the labor that was done on our behalf by our outgoing board members. Our sincere thanks go to Dave Cunningham, Mike Gascoyne, Dick Miller, and Anita Wheaton for their dedication and hard work. It is people like you who help to make this a great community! Although Anita has passed her Park duties on to a new board member, she is not going away. Thankfully, Anita is still working hard as our Office Manager to assist us with everything from renting mailboxes to accepting our dues.





## The Pool

-It's hard to believe that summer is over. Your pool is now closed and winterized until next year. It was so nice to see how much activity the pool had this past summer. So often the pool deck was packed with folks enjoying the sunshine while many others were frolicking in the crystal clear 82 degree water. Kids, Parents, and Grandparents, all having such an awesome time.

-I want to thank our Pool Management team of Judy Race and Victoria Becroft for another wonderfully fantastic job. I received so many words of thanks from our residents again this summer. All the thanks go to these ladies.

-The year was pretty uneventful with no vandalism and just the same couple of kids that needed some more guidance and stern reminder of what conduct is not acceptable. The removal of a few trees last fall had a significant positive impact on pool maintenance.

-Looking forward to visiting with you at the bimonthly Board Meetings through the fall and winter, and certainly at your pool next summer.

Ron Race, Pool Chairman



## Real Estate

Lake Arrowhead owns several nice lots that would be ideal sites for a cottage, home, or pole barn. Look under "Real Estate" on our website for lot addresses and contact information. Please be sure to tell your friends and family about these available lots. Prices are reasonable and negotiable!

## Building Projects

Before beginning any construction projects in Lake Arrowhead, be sure to obtain permits from LAPOA and from Otsego County.



## PARKS, RECREATION, LAKE AND SAFETY

We want to extend a huge thank you to Anita Wheaton (former chairperson of Parks, Recreation, Lakes and Safety) and her husband Nels, for all of their labor and heart that they gave to this committee.

The Pavilion project is now complete. New posts were installed by Fango (aka Jeff Kennedy), Chuck O'Connell, Dave Cunningham, & Nels. Posts have recently been sealed with a protector by Alice Kennedy, Nels and Anita. The Pavilion is all that remains of the former lodge. It is a historic structure to our community, well worth preserving, and is a lovely spot for a picnic or two.

Earlier this year the Board approved a new dock for the swimming area. The new dock was installed after the dredging in the swimming area was completed. Soon it will be removed for the winter.

The Board also approved the purchase of a new Boating Rules sign to follow the State of Michigan's revised Boating Rules. The new sign is now in place and is a good reminder for all boaters. There have been several changes in the Boating Rules so please become familiar with them. These can also be found on the LAPOA website.

**WARNING TO ICE FISHERMEN AND SNOWMOBILERS:** Now that the lake has been dredged, please be extra careful and watch out for the springs that are again appearing. Ice may be very soft and thin in spots, especially along the east side of the lake.

Winter is fast approaching and the parks will soon be sleeping. Stay tuned for further news for the 2015 spring/summer Parks and Lake Season!

Pat Dressel and Connie Stubli

## Financial Report

**Billing:** On Sept 1, 2014, the 2<sup>nd</sup> installment of the Lake Improvement Special Assessment bill was sent out. Remember that we must receive payment by Nov 1<sup>st</sup> to avoid a late fee.

**Collections:** Thank you to the 80+% of LAPOA Members that pay their assessments on time! Unfortunately not all LAPOA Members do. As of August 31, 2014, \$164,899 is still past due. We have court dates in October for several small claims filings against LAPOA members who have not paid their LAPOA assessments. We will continue each month to file additional small claims.

**Budget:** We are just over half way through our 2014-2015 fiscal year budget and are on track to stay within budget in most areas. One area that is currently over budget is the dumpster costs. We are currently re-negotiating our contract with Waste Management, but dumping costs are rising so the cost will continue to increase. With the recycle collection site conveniently located on Hayes Tower, we can all help to cut costs by recycling.

Judy Race, Treasurer



*Testing out the new equipment.*

## Campground

The Campground has a new chairperson. Thank you to Marcia Schick, a new board member for taking on this leadership role. Eva and Dale Davidson are still the Campground Managers.

-This year new playground equipment, mulch, campfire rings, and fencing, were all installed at the campground. Most were paid for by your generous deposit bottle and donations. Thank you!

-Additional information about camping at Lake Arrowhead (including photos & lease agreement) can be found on our website under "Amenities".



*Thank you to all who served us so well at our annual meeting and picnic!*

## Communications

-The primary method for communicating with our members is via the internet. Be sure to browse [www.LAPOA.com](http://www.LAPOA.com) and see all that our website has to offer. It is kept current with an abundance of information and many handy quick-links. For instance, did you know that if you have a smart phone you always have a map of Lake Arrowhead? You can find it on our Real Estate page!

**Newsletters** are published in September, March, and June, and are posted to the LAPOA website. Only the June newsletter is mailed to members. In order to keep you informed of LAPOA and local news of interest; between newsletters information is posted to our **Nextdoor** and **Facebook** pages. Space restrictions allow a very limited amount of information to be posted on the bulletin boards at the mailboxes. We would like all of our members to access current LAPOA news by joining Facebook or Nextdoor, the LAPOA-only social network site.

If you are not computer savvy, consider taking the **free computer classes** that are available through the Otsego County Library and the Otsego County Commission on Aging. Both also provide free computer use. Links are on our website. Please let your family members know!!

-Sixty minutes of **free internet access** is available at our pavilion and in some of the large areas of Buhl Lake complements of The Waters Inn. Additional internet time can be purchased for a small fee.

Mary Davignon,  
Secretary and Communications



## Lake Improvement Project

-The dredging portion of the project is finally done. The guys from Michigan Hydraulic Dredging will be working to break down and clean up the pipes over the next couple of weeks. The dredge will be pulled out of the water week of October 6<sup>th</sup>. This same week, they will install an orange fence around the containment area. Please stay out of this area as it can be very dangerous. Prior to dredging we installed several “Danger” or “Keep Out” signs (by volunteers) only to have them ruined by those driving them over with dirt bikes, etc. Now, we need to get new signs and install them with more of the orange fencing. This is not going to be done on a volunteer basis, and will come out of the budget. This is mandatory to keep our community safe. Again, please do not attempt to go in or around the containment area, it is very dangerous, and please spread the word. Sometime next year when the containment area has dried out, the final leg of the project will commence. The area will be filled in and seeded, bringing the total project to a close. Following is the final dredging report from our Project Manager Geological Engineer Jeff Anagnostou.

-Phragmites- The invasive Phragmites growing in various parts of our lake has been treated. Good news is we don't have a lot. The invasive unwanted plant can and will take over our shoreline. To eradicate this plant will take several treatments. We are committed to protecting our lake, we will continue to monitor the situation and treat them as needed in the future.

Chris Speen  
President, LAPOA



Pipes coming in



Shoreline near Pavilion: July 9, 2014



Launching the dredge



Goodbye muck!



Spoils area. Ready for silt.



Spoils area: Sept. 16, 2014

**Applied Geotechnical Services, Inc.**  
15798 Riverside  
Livonia, Michigan 48154  
Tel: (734) 679-0379

## **Project Memorandum**

**To: Mr. Chris Speen, President - LAPOA**  
**From: Jeff Anagnostou, P.E., C.P.G.**  
**Date: 9/23/14**  
**Re: Lake Arrowhead Strategic Dredging Progress Summary Report**  
**- AGS Project No. 14-1041**

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Applied Geotechnical Services, Inc. (AGS) met with yourself and Mr. Bill Crist of Michigan Hydraulic Dredging (MHD) on September 20, 2014 to discuss the completion of the Lake Arrowhead dredging operations. This Project Memorandum presents a summary of the dredging operations.

### **LAKE CHARACTERISTICS:**

Lake Arrowhead (also known as Buhl Lake) is a natural, approximately 95 acre lake. Lake Arrowhead is classified as a seepage lake (also known as closed basin lake or kettle hole lake) with no surface tributaries or outlets. The lake is recharged by precipitation falling near the lake and draining into it, and by seepage from the shallow, unconfined aquifer that is in hydraulic connection to surface water. Lake Arrowhead is uniquely susceptible to declining water levels during dry periods due to its location within the extreme northeast portion of the Manistee River watershed. A groundwater and surface water divide exists approximately 1½ miles east of Lake Arrowhead. The generalized direction of groundwater flow within the site area is towards the west-southwest direction. Published hydrogeologic information indicates that prior to dredging, the hydraulic gradient on the downstream side of Lake Arrowhead (flowing towards Pencil Lake) was about 5 to 6 times that of the hydraulic gradient upstream of the lake (i.e., flowing into Lake Arrowhead).

### **DREDGING OPERATIONS:**

The dredging operations began during the week of July 7, 2014. We understand MHD completed the dredging operations on September 22, 2014. The last area dredged included the boat launch area. MHD is currently removing the piping and plans to remove the barge from the site on approximately October 6, 2014.

We understand the contract between MHD and the Lake Arrowhead Property Owners Association (LAPOA) includes dredging a total volume of 55,000 cubic yards of sediment from the lake. Confirmation of the dredge volume was verified by various methods. Prior to the start of the dredging operations, the sediment disposal basin was surveyed by Brand Land Surveying of Gaylord, Michigan. Brand Land Surveying determined the sediment basin, filled to the top of the bank possessed a volume of 63,000 cyd. An approximately 6 to

**Lake Arrowhead Hydrogeologic Strategic Dredging Progress Summary Report**  
**AGS Project No. 14-10410**  
**September 23, 2014**

10-foot tall berm was constructed around the disposal basin giving the basin additional storage volume. During our September 20, 2014 site visit, we observed the disposal basin area was nearly full. In addition, MHD pumping records indicate an average of 160 cyd of sediment was pumped per hour of dredging. The total dredging hours was approximately 350 hours, indicating a total of approximately 56,000 cyd of sediment was removed from the lake. Therefore, we believe MHD has fulfilled the contract with respect to sediment removal volume.

During the dredging operations, approximately 3,200 gallons per minute (gpm) (428 cubic feet per minute (cft/m) of water was pumped from the lake. Therefore, a total of approximately 67 million gallons (9 million cft) of water was pumped from the lake. Given the surface area of the lake is approximately 95 acres, and considering an average depth of the lake of 7 feet, the total water contained in the lake is estimated to be approximately 217 million gallons (30 million cft). Accordingly, approximately  $\frac{1}{3}$  of the total lake volume was pumped from the lake during the dredging operations. In a closed system, this pumping volume would result in a decline of the lake level of approximately 2 feet.

#### **GROUNDWATER OBSERVATION WELL READINGS**

As shown on the following table, the groundwater levels within Groundwater Observation Wells OW-1, OW-3, and OW-4 have risen approximately 0.2 feet since the start of the dredging operations. However, the groundwater level within OW-2 has remained constant. We note OW-2 is located on the south side of the LAPOA pavilion along the eastern shoreline of the lake. OW-2 is up-gradient with respect to the lake. OW-1 is located near the mailbox area, up-gradient from the lake. OW-3 and OW-4 are situated side-gradient and down-gradient with respect to the lake, respectively.

Groundwater Level Readings					
Well No.	OW-1	OW-2	OW-3	OW-4	
T.O.C. Elev. (ft)	1298.50	1282.68	1302.3	1309.80	
G.S. Elev. (ft)	1295.45	1279.58	1299.0	1307.00	
6/30/12 GW Elev. (ft)	1264.7	1261.7	1262.6	1256.2	
7/20/12 GW Elev. (ft)	1264.4	1261.7	1262.6	1256.1	
8/14/12 GW Elev. (ft)	1264.5	1261.2	1262.1	1255.3	
5/24/14 GW Elev. (ft)	1266.4	1262.9	1264.2	1257.7	
7/03/14 GW Elev. (ft)	1266.9	1263.2	1264.5	1258.2	
9/20/14 GW Elev. (ft)	1267.1	1263.2	1264.7	1258.4	
Note: Depth measured from T.O.C. (top of casing)					

## **DREDGING EFFECTIVENESS:**

The objective of the strategic lake dredging operations was to remove muck from the bottom of the lake within the spring areas where the most effective groundwater recharge to the lake would be expected to occur.

Previous hydrogeologic investigations performed at the site indicated dredging of the muck sediments from the lake bottom within the spring areas underlying the east side of the lake would promote increased groundwater recharge into the lake. The muck sediments appear to have impacted the lake level by acting as a relatively impermeable liner impeding the flow of groundwater into the lake.

We believe several conditions can be considered to evaluate whether the dredging operations have been effective in promoting higher groundwater flow rates into the lake. These include, a decrease in the difference between the elevation of the groundwater level in Observation Well OW-2 and the adjacent lake level, a noticeable inflow of relatively colder water at the springs during the summer months and a delay in the freezing of the lake surface during the winter months.

We understand that as of September 20, 2014, the lake level has risen approximately 0.5 feet since the start of the dredging operations. As previously discussed, the groundwater level within the observation wells has generally risen by 0.2 feet since the start of dredging. However, the groundwater level within OW-2, adjacent to the eastern shoreline of the lake, has not risen. Therefore, it appears the difference in elevation between the groundwater level in OW-2 and the lake has decreased by 0.5 feet.

During dredging, MHD reported inflow of relatively colder water was encountered as indicated by “sweating” of the discharge pipe and subsequent water temperature readings. We also understand an Association member has reported encountering pockets of colder water while scuba diving within the eastern portion of the lake.

We anticipate the lake level will continue to rise following completion of the dredging operations. We would also anticipate the difference in elevation between the groundwater level in OW-2 and the lake level will continue to decrease and that delays in freezing of the lake surface within the spring areas will be observed this winter.

## **MDEQ PERMIT PROVISIONS**

The strategic lake dredging operations appear to have been performed in accordance with the permit provisions. In addition, the dredge disposal basin appears to be functioning properly at this time.

In order to complete the permit requirements, it will be necessary to cover, grade, and seed the disposal area. This will require a significant delay time to allow the muck to dewater and solidify. Once this is completed, a short letter report must be submitted to the MDEQ certifying dredging operations have been completed in compliance with the permit provisions.



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**September 23, 2014**

We hope this information is sufficient for your present needs. Thank you for your use of our services.