



## WATERSHED NEWS

### Letter from the President

While old man winter has not yet decided to make an appearance here at Upper Herring Lake, the calendar does say the end of the year is once again fast approaching. I hope everyone has had a very prosperous year.

The Watershed Management Plan is nearing completion (*see accompanying article*) and this is very exciting news. Once it is finalized and approved, we will have a solid understanding of the issues facing us in our work of preserving the quality of our watershed. Along with identifying the issues facing us, the plan will prioritize the issues and assign action plans to address them. A lot of work has gone into developing this plan and my thanks to all the members of the steering committee for the work they have put into it. Also, thank you to everyone who took the time to fill out a questionnaire. Your input has been very helpful in developing the plan. While the completion of the plan is a big milestone, it must be remembered, this is only the beginning of the work ahead of us. The biggest part of the work will come in achieving the goals put forth in the plan.

I am sure that everyone noticed the bright green "scum" that built up near the inlet this summer. Thanks to Dave Long we have an answer to what this was. Please see the article in this newsletter.

This year ends my time as president. I am happy to have served in this capacity and would encourage anyone to be willing to become an officer. The time commitment is not that great. At this year's annual meeting we will be electing new officers to two year terms. If you would be willing to serve, please contact one of the officers and throw your hat into the ring.

Sincerely,

Don Smeltzer

### In This Issue

*Herring Lakes Watershed  
Protection Plan Update*

*Lake Water Clarity*

*DNR Fish Survey*

*Save the Date*

*Exotic Plant Watch*

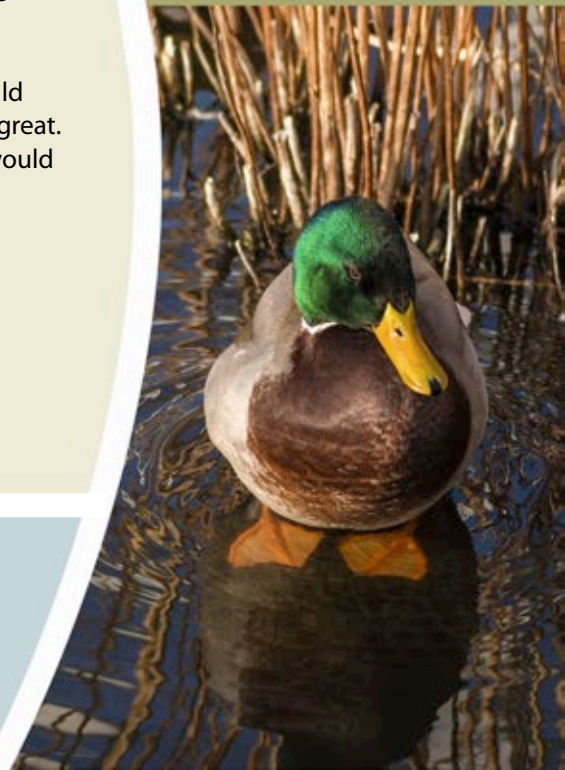
*Membership*

*What You Can Do  
to Help the Lake*

### UHLA Officers:

**President:** *Don Smeltzer* • **Vice President:** *Dave Long*

**Treasurer:** *Bill Henning* • **Secretary:** *Ann Henning*



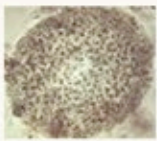
## Herring Lakes Watershed Protection Plan Update

The Herring Lakes Watershed Steering Committee has been working with the Benzie Conservation district for the past two year to complete comprehensive research on the watershed and to write a Watershed Management Plan (WMP). The WMP will help protect our valuable water quality of the Herring Lakes. Hundreds of water quality samples were taken, an inventory of the aquatic plants and algae was developed, and an evaluation of the shoreline was completed for both Upper Herring and Lower Herring Lakes. The Plan will be submitted to the DNR in December and then to the EPA. It is hoped we will have an approved plan by the summer.

Several the interesting results have been learned from the data we collected. The lakes have excellent water quality for recreational use. E.coli bacteria, which are indicators of pollution, are very low, averaging 1 or less. There is some concern on the number of bacteria coming out of the Herring swamp. It is occasionally well over the level for safe full body contact of 300 cfu/100ml, but these high levels do not persist into the lake. We learned from DNA testing that most of the E. coli is from wildlife, only minimal E. coli is coming from cattle and none from humans. One of the biggest threats to the lake is from nutrients, phosphorus and nitrogen. This is causing excess growth of algae and plants in Upper Herring Lake and starting to impact Lower Herring Lake. Much of the phosphorus nutrient appears to be coming from groundwater (springs) into the lakes and nitrogen is coming from Herring Creek.

For many years we have had a ring of aquatic plants around Upper Herring Lake. The ring of plants needs to be monitored to see if it is increasing. This is a difficult task and takes a substantial effort. The good news is we have not found any invasive aquatic plants such as Eurasian Milfoil. Over the past several years we have seen more noticeable algae suspended in the water. This year the algae was identified as Anacystis, a Blue-green algae. They do not form colonies but the cells aggregate together in irregular clumps, within a slimy matrix. You can see these aggregates clumps suspended in the water and may appear dark green, to yellow or brown .

**Anacystis- a blue-green algae**



100X

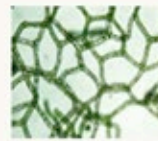


100X

**Hydrodictyon, green algae (Water Net)**



30X



small sampe 1X

We believe the excess nitrogen in the water and the warm temperatures are part of the cause of the growth of Anacystis. We had another algae bloom late in the summer. Residents along the south west shore near the Herring Creek inlet observed a large mass of bright green floating algae. This was a green algae with the common name "Water Net", the scientific name is Hydrodictyon. You can see why it received it's common name. This was the first year we have seen the "Water Net" in a large mass. This was observed in early late August when the water was warm. We believe it was again due to excess nutrient and warm water.

It appears the high populations of Anacystis has depressed the diversity of other algae and zooplankton (little animals the fish eat). Lower Herring had a much greater diversity of algae and zooplankton with much less Anacystis. The high concentrations of Anacystis could be a threat to the lake and we must do additional research to determine why it is growing in such a large population. We plan to obtain some help from a specialist at Michigan State University next year.

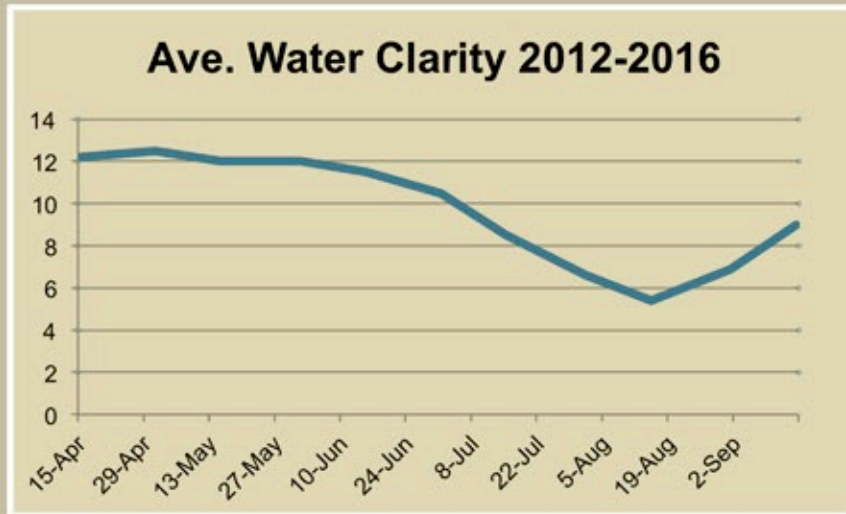
Monitoring the water quality, phosphorus, nitrogen, dissolved oxygen and bacteria (E.coli) are the best approach to understanding the threats to our water quality. Through the monthly sampling for the Watershed Management Plan study we have learned gained significant learning on the water quality issues for the lake. If we have the funds we will be sampling the lake more often during 2017 than we did prior to the WMP. We must work with specialists from Michigan State to better understand the nutrient and algae issues we have identified.

The Herring Lake Watershed Steering Committee (UHL Assoc, LHL Assoc, & Benzie Conservation District) will work to finalize the action plans once the DNR approves our plan. We will develop plans to sample the Upper Herring Lake as often as our budget will allow and work with the DNR and Michigan State University to further understand what is needed to manage and maintain our lake and watershed. We will be developing educational opportunities through the Conservation District to help riparian owners manage their shoreline for protection of the lake.



## Lake Water Clarity

For the past 5 years we have been taking readings of the water clarity in the lake using a Secchi disk. The results of these readings are shown in the attached graph. While there is some variation in the clarity on a given date from year to year, the numbers are quite consistent and the pattern of lower clarity in the summer is constant. The reason for the drop off in the summer is due to increased algae growth as the water warms (*see accompanying article on the algae in the lake*).



## DNR Fish Survey

The DNR has released its completed report on the results of the fish survey that was done in 2015. The complete report goes into a lot of detail on the topography of the lake, dwelling density, history of the DNR studies on the lake, and specific information on the type and numbers of fish netting in the most recent survey. The conclusion --reached by the DNR is Upper Herring Lake has a healthy fish population and the game fish species such as Northern Pike, Largemouth Bass, and Smallmouth Bass do not require any direct management. While the presence of Walleye from non stocking years indicated some natural reproduction, their conclusion was discontinuation of stocking would lead to low levels of the Walleye and not provide enough population desired for sport fishing.

The report does contain a wealth of interesting information. If you would like to receive a copy of the complete report, just contact Bill Henning at 231-352-8146 and he can easily get you an electronic or hard copy of the report.

**Save** | JUNE |  
**THE DATE** | 10 |  
| 2017 |

Please mark your calendars now. The UHLA annual meeting will be June 10, 2017 at 10:00 at the Blaine Christian Church. We will be electing new officers at this meeting so please make every effort to attend.

## Exotic Plant Watch

Once again this summer, the lake was surveyed for invasive aquatic plants. Results of this survey did not show any non-native plants growing in the lake. It must be remembered this survey is not completely comprehensive, but we do try to get representative samples from all areas of the lake.

While we do have several areas of dense milfoil growth, we did not find any of the invasive Eurasian milfoil, which is a very good sign. Lower Herring Lake has seen this invasive spreading and is looking into how to best deal with this threat. With its presence in Lower Herring Lake, it is likely it will find its way upstream to us if they are not successful in limiting its spread. We will continue to monitor closely for this invasive. Attached are pictures of both the native northern milfoil and the Eurasian invasive. While they look quite a bit alike, there are distinct differences. If you see any milfoil you think is the invasive variety, please contact Bill Henning or Dave Long. If they cannot positively identify it, there are contacts we have through the CLMP that we can send a sample to for positive identification.

Eurasian Water-milfoil:



Northern Water-milfoil:



As we mentioned in last year's newsletter, there was a very small patch of phragmites found along the shoreline just south of the boat launch. The seed pods from this patch were cut late last fall and this fall, the area was treated to kill the existing plants. We will continue to monitor this situation closely to keep it from spreading. It is certainly a case of an ounce of prevention is worth a pound of cure.

## Membership

We are happy to say our membership is up for this year, having grown to 37 from 33 last year and 31 the previous year. While the increase is very good to see, we can do better. There are still many landowners around and near the lake who are not members. We are making efforts to reach these people to let them know we are here and the work we are doing. You can help by telling your neighbors about us and encourage them to join. Only by working together can we assure the water quality we currently enjoy will still be here for future generations. If anyone is interested in joining, they can contact any of the officers for a membership form.

## What You Can Do to Help the Lake

1. Encourage your neighbors to join the UHLA!
2. Keep grass clipping and leaves out of the lake, especially in the fall
3. Don't use any fertilizer containing phosphorous and limit use of any fertilizer. Remember, organic fertilizer such as mulch and manure contains phosphorus.
4. Properly maintain your septic and holding tanks
5. Maintain a belt of natural vegetation at the shoreline. The wider the belt, the better.







**“Water is the softest thing,  
yet it can penetrate mountains  
and earth. This shows clearly  
the principle of softness  
overcoming hardness.”**

~Lao Tzu

