

2017 Annual Report



Mirror Lake Watershed Association

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2017 has been a very significant year for the quality of Mirror Lake water. The Association applauds the efforts of the many groups and individuals that worked to make this happen, including our local media that regularly feature news on the lake.

We became increasingly aware of the interconnection between the local lakes, streams, and rivers, and how the quality of water in all of them is affected by decisions made for other reasons such as public safety and road drainage. In retrospect, the most outstanding success of the year was the increased communication among all these groups, including government officials to make sure we protect the jewel of Lake Placid.



Invasive Plants along the Shoreline

Controlling the spread of Purple Loosestrife is critical to protecting vital fish, wildlife, and native plant habitat. Purple Loosestrife grows in a variety of wet habitats, including wet meadows, marshes, river banks, and the edges of ponds and Mirror Lake. MLWA volunteers removed approximately 95 plants from the shore of Mirror Lake this summer. Since roots and seeds hide from us, this is going to be an annual task.



One large Yellow Flag Iris, another invasive plant, was also removed from the shore of Mirror Lake. Staff from Adirondack Park Invasive Plant Program (APIPP), provided the muscle and brains to remove it. Because the plant is pretty, many people have planted them but they overtake native plants and dominate a lake or pond shoreline. For more

information regarding Invasive Plants go to www.adkinvasives.com

Southeast Mirror Lake Drive Drainage

The AuSable River Association's (AsRA) testing of Mirror Lake in 2016 found very high levels of salt in the outflows from the Mirror Lake Drive road drains located between the Town Beach and the Lake Placid Club restaurant. In early summer the Village of Lake Placid dug up the sidewalk and road and installed a drainage system that will take all the road salt from that section of Mirror Lake Drive and transport it to a holding pond away from Mirror Lake.



New sidewalk with drain hidden between the sidewalk and the Lake

Keeping the road salt out of Mirror Lake is imperative for its health. There are draft plans to do a similar project for Main Street, including how to install a drain under the Main Street sidewalk or under the roadway by the sidewalk with minimal impact to businesses. Increased parking may be critical to this project.

Water Testing by Brendan Wiltse, Ph.D., AsRA



Corey Laxson doing winter testing

In the spring of 2017, the Ausable River Association (AsRA) and Adirondack Watershed Institute (AWI) issued a comprehensive report on the water quality of Mirror Lake. The report compiles scientific data on Mirror Lake from a variety of sources and goes back to 1971, providing a deeper history of Mirror Lake water quality. This history, combined with expanded monitoring by AsRA and AWI, revealed trends and issues affecting Mirror Lake that were previously unknown.

One of the more significant findings of the report is the increase in surface water chloride concentrations from 1971 to present. Over that period, chloride increased from 4.4 mg/L to 47.8 mg/L. Additionally, the monitoring work conducted in 2015 and 2016 showed higher concentrations of chloride at the lake bottom, tying the build up of chloride to winter/spring stormwater runoff events. Chloride concentrations at the lake bottom have measured as high as 120 mg/L.

The second issue of concern for Mirror Lake is the apparent lack of spring turnover and low dissolved oxygen concentrations at the bottom of the lake. Spring and fall turnover are important processes for the redistribution of nutrients and oxygen throughout the lake. Most temperate lakes turnover twice a year, in the spring and fall. In the spring of 2017, Mirror Lake did not completely turnover, and it is suspected that this also occurred in the spring of 2015. As a result, chloride concentrations remained high at the bottom of the lake throughout the summer and the bottom waters did not receive an influx of oxygen in the spring. This puts pressure on fish and other organisms that rely on the cool oxygenated waters throughout the summer. In the long-term, it can also lead to increased internal loading of nutrients, resulting in algal blooms. AsRA and AWI have been conducting additional testing this spring and fall to study the cause of the lack of turnover.



Brendan Wiltse sampling water for pollutants

The increased water testing and research being completed by AsRA and AWI have been supported by the Mirror Lake Watershed Association, Town of North Elba, Village of Lake Placid, and IRONMAN Foundation.

CSLAP Water Monitoring by Margaret H. Murphy, Ph.D., certified Fisheries Professional

The Mirror Lake Watershed Association has participated in the Citizens Statewide Lake Assessment Program (CSLAP) since 1998. This volunteer lake monitoring program is run by the NYS Department of Environmental Conservation (DEC) and the NYS Federation of Lake Associations (FOLA). Sampling



Denise Bujold helps Margaret with the water testing

occurred in 2017 from June through September with eight bi-weekly samples collected from the surface water (epilimnion) and just off the bottom (hypolimnion) at the deepest location in the lake (18 meters /60 feet). Samples were collected, processed, and sent to the state certified laboratory (Upstate Freshwater Institute) for analysis of conductivity, pH, color, phosphorus, nitrogen, Chlorophyll A, calcium, and chloride. Field measurements also tested for transparency using a secchi disk, air temperature, and water temperature when samples are collected as well as observations regarding potential algal blooms. Data will be available in early spring 2018, although MLWA is trying to obtain this information sooner

for help in planning for activities in 2018.

Our secchi depth measurements provide an assessment of how clear the water is. Measurements are made with a black and white disk that is lowered into the water and the average of two measurements recorded: The depth when the disk is no longer visible as it descends and then the depth when the disk becomes visible again on ascent. It is important to be consistent in this measurement, with readings taken without the use of sunglasses. Generally, lake conditions appeared good throughout the sampling and our transparency measurements were fairly typical with early summer readings clearer (7.5 m depth), mid-summer transparency a bit lower (4.0 m depth), and by late summer readings were increasing again (5.75 m depth). For comparison, NYS Department of Health requires at least 1.2 m transparency for swimming. In addition, we did not observe any algal blooms on the lake during our sampling.

The importance of the water monitoring programs cannot be understated. The purpose of volunteers conducting the CSLAP monitoring is to foster more participation and understanding from the local public who can assist NYSDEC with lake management.

Some of our volunteers live on the lake and provide information on daily observations and typically are the first to notice changes. This allows for a faster response to any potential threat, reducing the overall impact.

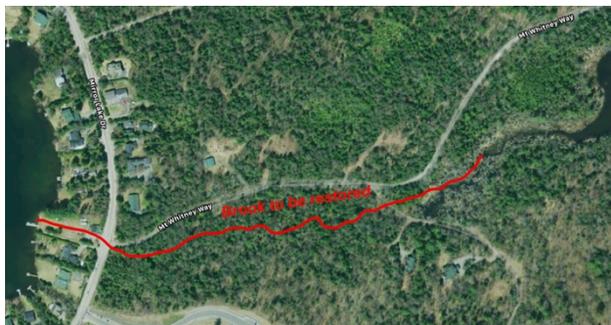
We encourage anyone interested to contact us if you want to become more involved. Gaining a deeper appreciation for the water quality and lake dynamics is important for all of our members. This is our lake and we all depend on it for the recreational and aesthetic opportunities it provides year round. Together we can all make a difference.

No Action Yet for the Mirror Lake Inlet

Larry Straight, Town of North Elba High Superintendent, Jack Favro, Town of North Elba Councilman, and representatives from the US Fish and Wildlife Service (FWS) and AsRA walked through the Echo Pond brook/outlet (near the south side of Mt Whitney Way) in the spring 2016. Kelley Tucker, Executive Director of AsRA, reported on the meeting and initial recommendations from the US Fish and Wildlife Service and AsRA:

“For the natural stream system from Echo Pond to Mirror Lake, AsRA and our partners at the US Fish and Wildlife Service suggested, first, replacing the undersized culvert under Mirror Lake Drive with a system designed to restore the natural pattern, dimension, profile, and roughness of the stream. AsRA has built a successful model for flood-resilient, wildlife-friendly culverts and that design can be copied here.

“Secondly, beyond the intersection of the road, we recommended removing the underground pipe that



carries the stream from the road to Mirror Lake and restoring the stream. Not only would this benefit aquatic organisms, it would increase the overall health of the stream and create a lovely recreational brook side spot along that piece of town land.

“The lynch pin, from AsRA’s point of view, is to ensure the baseline geomorphic parameters for the stream are met; that is, ensuring the

appropriate width, depth, slope, pattern, skew, and bed materials are incorporated into the culvert and stream design. To do that, we would compile a full (level 2) geomorphic survey of the stream. Without these standards met, it is too often the case that the stream cannot self-regulate and thus requires continuing maintenance.

“The stream itself is an ecologically vibrant small system. It is an excellent candidate for a Climate Ready Culvert design and a natural stream restoration that minimizes flooding, increases natural function, and is aesthetically pleasing. The fact that there is a demanding storm water issue to be resolved as well, increases the project's value for the community.” MLWA has urged the Town of North Elba to work with AsRA to make sure restoration of the Echo Pond outlet is ecologically sound and reduces roadside flooding and erosion.”

David Ackerman Honored



It’s easy to forget how much one’s person’s commitment and hard work can accomplish. This is no more evident than with David Ackerman, who was honored as a pioneer and leader in conservation for Lake Placid. Mark Wilson, a MLWA member, gave the following speech at the dedication of the David Harton Ackerman Conference Room in the Mirror Lake Beach House.

“In dedicating the David Harton Ackerman conference room, it would be easy enough to list the organizations David helped found, presided over, or improved in material ways by his participation: Mirror Lake Watershed Association, Shore Owners’ Association, Placid Lake Foundation. It would be equally easy to cite his lasting and ongoing



The Ackerman Dedication Committee

contribution to the environmental health of our community: the Lake Placid/North Elba Watershed Management Plan.

“However accurate these accomplishments are in defining David's contributions, what set David apart was the example he set of patient, long-term civic engagement. David knew what it takes to get things done in local government. His formula worked something like this: 1. Study the problem; 2. Gather the

facts; 3. Make your best argument in the appropriate forum; 4. Make your argument again; 5. And again; 6. And again, until you have worn down all resistance.

“At the base of it all, of course, was David’s appreciation of the fact that the health of our lakes, ponds, and rivers are of paramount importance to the vitality of our community. Not merely a beautiful backdrop and a refreshing plunge, they provide the water we drink, the reason tourists flock to our region, and the disproportionate property tax base that support our schools and maintain municipal services. David understood that the waterways that define the Village Lake Placid and Town of North Elba are not a special interest. They are our common interest.”

Garbage Removal from the Lake

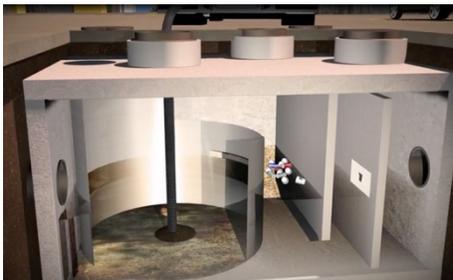
The image to the right of the garbage on the grass was the collection from approximately a 2-week duration ending 9/15/2017. Members of this Association scour Mirror Lake weekly throughout the summer to remove garbage from the shore line to an approximate depth of 3 feet. The amount of garbage is small compared to the annual Lake Placid Village clean-up performed by hundreds of volunteers each spring. This is a small amount of trash considering the thousands of people using the lake in a 2-week period of warm weather.



Two weeks of garbage accumulation

Hydrodynamic Separator Units

The image below illustrates a unit being vacuumed out. The first chamber collects road dirt and the second chamber collects floaters. Five of these units were installed along the north west side of Mirror Lake approximately ten years ago and are cleaned by the Village of Lake Placid twice a year. These units remove the dirt, sand, floaters, and sinkers from the water coming off the road and before it enters Mirror Lake. The first unit is at Mid Park and the last is just before Harbor Lane on Mirror Lake Drive. There is still dirt sediment building up in the lake at some of the outflows and MLWA is monitoring the functionality of these units.



Monofilament Recycling Bin



Photo by Don Polunci © 2012

Three monofilament line receptors where anglers can deposit their broken monofilament lines were donated to MLWA. Monofilament lines are dangerous to waterfowl in Mirror Lake. We are very appreciative of those that sponsored this project. Members of the MLWA installed these containers at common fishing areas on Mirror Lake.



New Boat Wash Station

Lake Placid now has a **Boat Wash Station**, located next to the Placid Lake DEC launch (along the south side of the LP Water pumping Station). It is available for everyone, free of charge, 7 days a week, from Memorial Day to Labor Day thanks to the **Lake Placid Shore Owners Association (LPSOA)**, which applied for and was awarded a \$193,000 New York state grant in 2016. The Boat Wash is staffed, so just pull up and watch your boat's exterior and bilge get cleaned by 140-plus-degree water. In fewer than ten



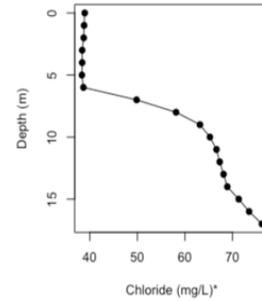
Boat wash station

minutes you can help keep the waters of Lake Placid and Mirror Lake safe. All the Iron Man boats were washed here before being put into Mirror Lake. It's a great way to get your boat washed, and help fight the spread of aquatic invasive species.

Looking Ahead to 2018 – Ever Vigilant

The Threat: **176,000 tons (352,000,000 pounds) of road salt** are spread on paved roads in the Adirondack Park each year.¹

“The streams, rivers, and lakes in the Ausable watershed are freshwater ecosystems that naturally contain very low amounts of sodium and chloride. The application of road salt, primarily sodium chloride, to roads during winter results in a significant amount of this pollutant entering our local waterways. Some of our waterbodies, such as **Mirror Lake** and the **Cascade Lakes**, have chloride levels many times greater than that of lakes not impacted by road salt.



Chloride in Mirror Lake 9/2017

Water quality is being monitored intensively on a network of 15 streams in the Adirondack Park representing a broad range of road salt application rates. The data is being used to develop relationships between road salt application rate and water quality response that managers can then use to help choose and justify alternative road salt application rates to meet water quality objectives.”² This is a measureable threat to the quality of water in Mirror Lake! Please work with us in our effort to reduce road salt.

The Association (MLWA) is also updating its watershed management plan and developing a monitoring program to assess plant and animal life in the lake.

We welcome and appreciate your financial support so we can continue to contribute to the water testing program in Mirror lake. The MLW Association has no overhead. All the money donated to MLW goes directly into water testing or raising public awareness. Approximately 565 volunteer hours are contributed annually. About 93% of our funds goes to water testing with 7% to printing, stamps, awards and registrations.

Please donate by going to our web site www.mirrorlake.net and use the tab “Donate” or send a check to: Mirror Lake Watershed Association PO Box 1300, Lake Placid, New York 12946.



Yoga on the lake

We thank you very much.

MLW Association:

Bill Billerman-Chair, Mark Wilcox-Treasurer, Shawn Ayers, Denise Bujold, Ray Curran, Nev Dunn, Georgia Jones, Larry Master, Margaret Murphy

¹ <https://adkaction.org/roadsalt>

² <https://www.ausableriver.org/threats/road-salt>