# Maryland Department of Natural Resources
## *Summer 2018 Update concerning Deep Creek Lake*

### Hydrilla Treatment and Monitoring

The fifth consecutive year of hydrilla treatment using the herbicide Flouridone (trade name Sonar) is currently underway. Fourteen zones around the lake are scheduled to be treated four separate times throughout the summer months (June-September) with the herbicide. The scheduled treatment dates include:

- Monday, June 4
- Tuesday, June 26
- Tuesday, July 24
- Tuesday, Aug. 21

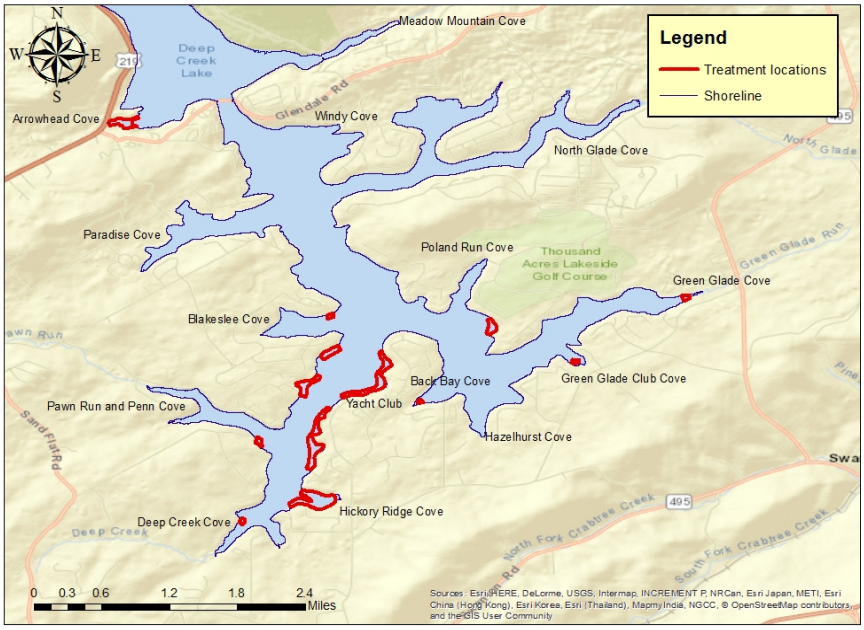
The above dates are always subject to change due to weather conditions and other unforeseen circumstances.

Close up picture of the leaves of hydrilla plant; this SAV looks similar to a native plant (Elodea species) found in the lake but the leaves of hydrilla have visible serrations or 'teeth' as seen in left picture. Right picture shows a hydrilla fragment for size reference

Scientists will be in the water throughout the summer months monitoring the efficacy of the treatment. As always, boaters are asked to stay at least 100 feet away from a vessel displaying a diver down buoy (red and white buoy). This protects the safety of the divers in the water.

Scientists will continue to monitor treatment locations as well as look for any new beds of hydrilla throughout the lake during the summer months. Hydrilla is one of many aquatic invasive species that threatens the ecology of the lake and highlights the need for boat owners to exercise good stewardship practices and properly clean and disinfect their boats, trailers, and any gear before launching and after leaving any water body.

2018 Hydrilla Treatment Locations




Pictured Left: Map showing the 2018 hydrilla herbicide treatment locations. Areas include all locations where hydrilla has been found in Deep Creek Lake

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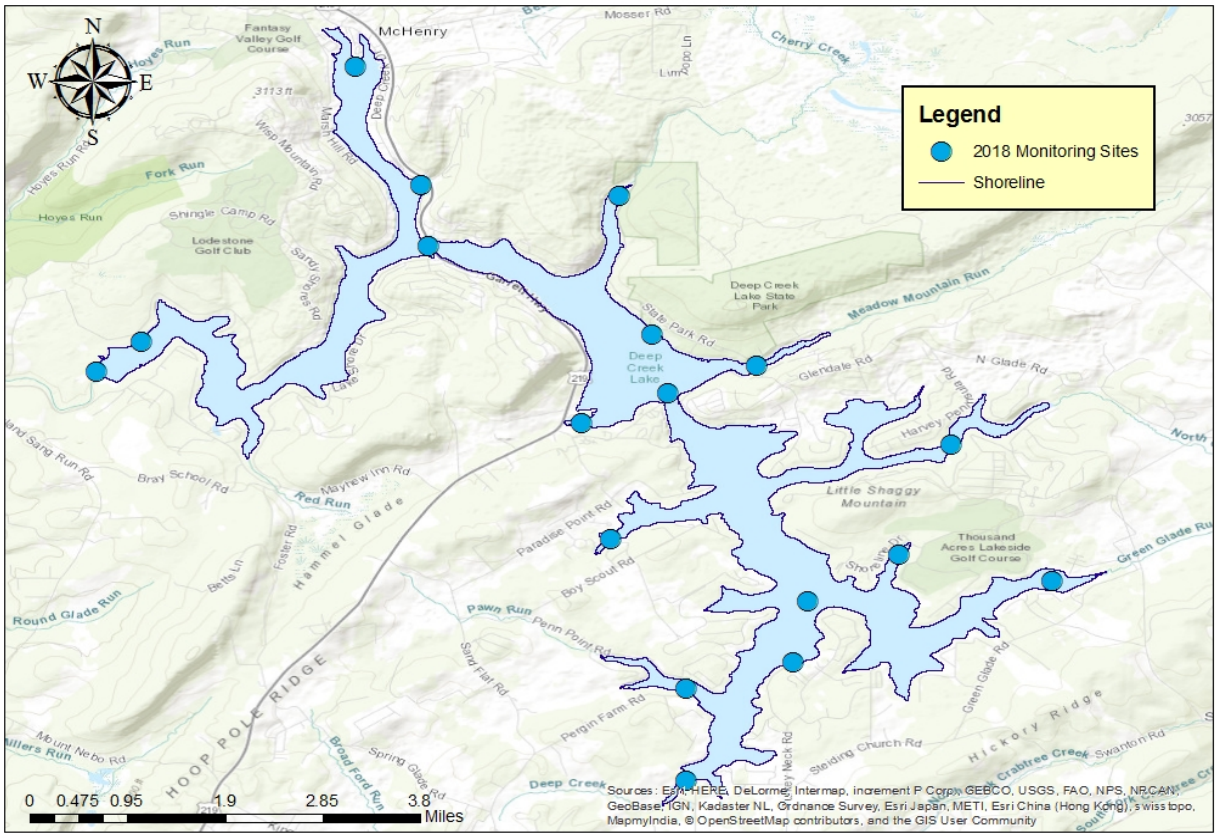
**Zebra Mussel Monitoring**

Zebra mussel clinging to SAV plant

Beginning the spring of 2018, the Department of Natural Resources began implementing a pilot Zebra Mussel (*Dreissena polymorpha*) Detection Monitoring Plan. The plan is jointly funded by the department, Deep Creek Lake Watershed Foundation, and Brookfield Renewable (owner of the Deep Creek Lake dam). The pilot plan recognizes the persistent threat of zebra mussel introductions into Deep Creek Lake and builds on the department's larger invasive species education and prevention effort. The monitoring plan has two primary components, the first component is a *water quality monitoring effort* to determine if Deep Creek Lake has suitable habitat for zebra mussels. The second component focuses on *visual surveys* to look for the presence/absence of zebra mussels at select sites throughout the lake. The below map shows the monitoring locations (both visual and water quality related) throughout Deep Creek Lake. The 2018 effort is the first year of a potential 3-year project dependent on future funding availability whose results will not only determine if Deep Creek Lake has suitable habitat for zebra mussels but if any mussels are present in the lake.

Proposed Zebra Mussel Monitoring Locations 2018




Map showing all zebra mussel monitoring locations (water quality and visual surveys)

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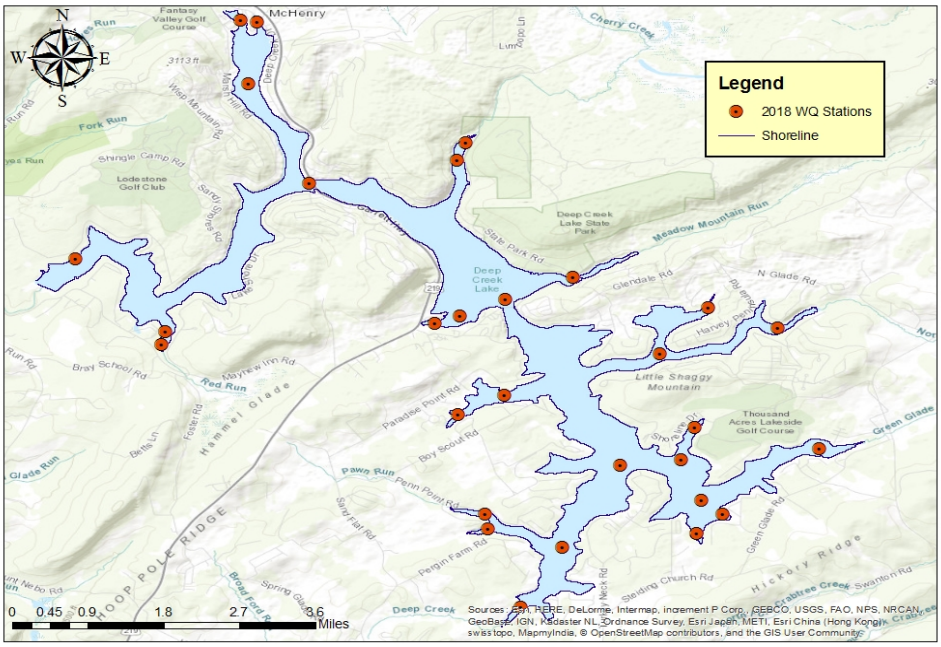
**Submerged Aquatic Vegetation (SAV) Monitoring**
Beginning the end of August, scientists will begin the annual SAV monitoring which includes two primary efforts: the annual SAV underwater transect survey (done at a total of eight sites around the lake), and the annual SAV shoreline survey whereby the entire 68 mile shoreline of the lake is surveyed. Both efforts are aimed at providing baseline SAV data capable of detecting changes in the plant community over time. The transect monitoring, which is done by divers in the water (pictured right) is scheduled for the end of August with the shoreline survey to follow in September.

Diver in the water conducting SAV monitoring

**Lake and Tributary Water Quality Monitoring**
Beginning in July 2018, the department used results of the spatially intensive pilot nearshore monitoring conducted over the last two years to identify long-term, nearshore monitoring locations around the lake (see map). These locations focus efforts in the shallower coves and nearshore environments whereas the 2009-2016 data focused more on the mainstem and deeper water sections of the lake. At these long-term nearshore locations, water quality is collected using a multi-parameter meter as well as whole water samples sent to a lab for analysis to determine sediment and nutrient concentrations. In addition to the monthly water sampling, scientists are deploying continuous water quality meters in many of these same coves over the spring, summer and fall months to try and understand how water quality at these sites might vary daily and seasonally due to natural and human related activities like increased boat traffic in the summer months.

2018 DNR Water Quality Monitoring Locations




Map showing 2018 lake water quality monitoring locations

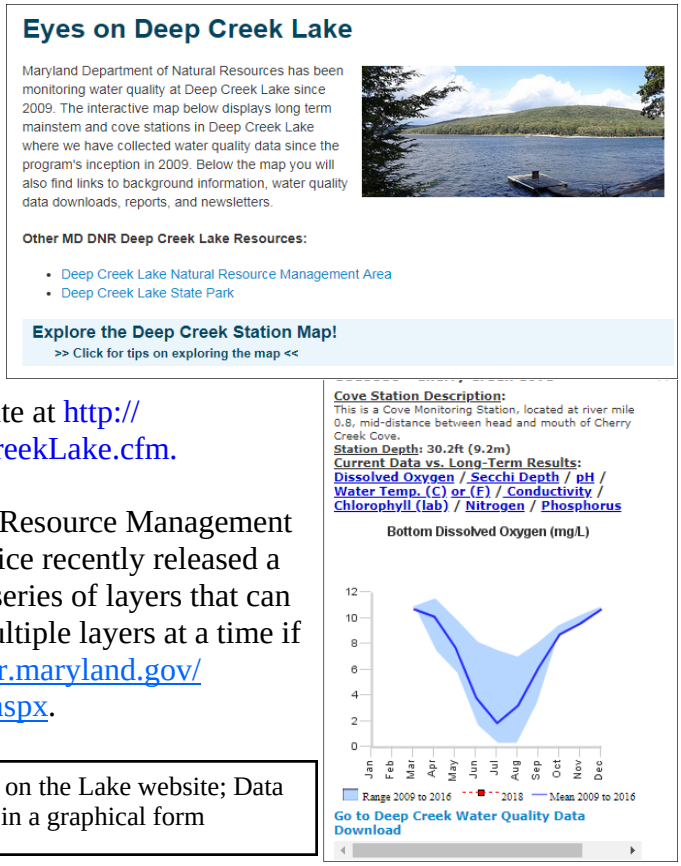
**Tributary Monitoring**

The department continues to partner with U.S. Geological Survey (USGS) to monitor stream flow and discharge at three tributaries or streams feeding into Deep Creek Lake. USGS maintains the stream gage locations at Arrowhead Run, North Glade Run and Cherry Creek, which provides continuous velocity and discharge data for each stream. The department collects baseline water quality data once a month at each gage site so as to determine the concentration and thus total load of sediments, nutrients and water volume carried by that stream into the lake. The USGS gage data is available real-time at:

Cherry Creek https://waterdata.usgs.gov/usa/nwis/uv?03075905
North Glade Run https://waterdata.usgs.gov/nwis/uv?site_no=03075825
Arrowhead Run https://waterdata.usgs.gov/nwis/uv?site_no=03075850

**"Eyes on the Lake" Website; Lake Management releases Interactive Map**

In May 2018, the Department of Natural Resources unveiled a new website that highlights some of the scientific data the department has been collecting at Deep Creek Lake. The focus of the website is on displaying the water quality data that has been collected at Deep Creek Lake since 2009. In addition to displaying the data in an interactive map that allows graphs to be displayed, it is home to the comprehensive 2009-2016 water quality report for Deep Creek Lake as well as the annual submerged aquatic vegetation reports. One can also download available data from 2009-2016 on the website at http://eyesonthebay.dnr.maryland.gov/dcl/DeepCreekLake.cfm.




Additionally, the Deep Creek Lake Natural Resource Management Area (DCL NRMA) Lake Management Office recently released a new online map. The map is made up of a series of layers that can be turned on or off, so that you can view multiple layers at a time if desired. The map can be found at: http://dnr.maryland.gov/publiclands/Pages/western/deepcreeknrma.aspx.

Pictured above and right: images from the new Eyes on the Lake website; Data can also be downloaded in addition to being viewed in a graphical form

**Contact Information**: For more information concerning the Department of Natural Resources related monitoring activities contact Julie Bortz via email at Julie.bortz@maryland.gov or by phone at 301-387-4112.

***Additional information about the monitoring programs mentioned here, along with background information and study findings, can be found on the Eyes on the Lake webpage http://eyesonthebay.dnr.maryland.gov/dcl/DeepCreekLake.cfm ***