

Deep Creek Lake

Watershed Management Plan

Water Quality Subcommittee – Meeting Minutes

Date: Tuesday, 12/17/13
Time: 9:00 – 11:00 AM
Location: University of Maryland Extension Service Office
1916 Maryland Highway, Suite A
Mountain Lake Park, MD 21550

Members in Attendance:

Steve Green
John Forman
Pete Versteegen
Chuck Hoffeditz
Steve Wilson
Willie Lantz
Ken Fisher
Christine Conn
Erin McLaughlin
Sherm Garrison
Bruce Michael

Agenda Items and Decisions:

- 1. Chairperson designation:** Willie Lantz
- 2. Review of ground rules:** The subcommittee reviewed the Steering Committee ground rules and accepted them without modification.
- 3. Public engagement:** Members of the public are invited to participate freely during the entire meeting. However, if too many public members become involved and the efficiency of the subcommittee is impacted, the chairperson, at his discretion, may decide to reserve public comments for the last 10 minutes of the meeting. Some subcommittee members expressed a desire to advertise the meetings through The Republican newspaper or the radio. Discussion on this was deferred to another time.
- 4. Review of purpose and products of the WQ subcommittee:** The subcommittee reviewed the guidance document provided by the Steering Committee. Members recommended that all subcommittees should share their work to eliminate redundancies and to complement and collaborate on each other's efforts. This will

occur through subcommittee report-outs at each Steering Committee meeting and posting of agendas, meeting minutes and materials on the website.

Problem Statements: The Water Quality problem statement was modified to:

“There is concern that water quality in the lake may worsen. Specific sources of concerns include septic systems, sewage spills, stormwater runoff from multiple sources, geese, gasoline engines, lawn management, agriculture, and acid mine drainage.”

The subcommittee will review the remaining two problem statements at the next meeting.

5. **Meeting Schedule:** Meetings will be held before the steering committee meetings. Preferences are the 2nd Wednesday of each month from 9:00 – 11:30. Christine Conn will coordinate with other subcommittees to ensure there is no overlap.
6. **Presentation “Overview of Deep Creek Lake Water Quality”, Sherm Garrison, Resource Assessment Service, MDNR:** Sherm Garrison provided an overview of monitoring efforts in the Deep Creek Lake Watershed and described the current water quality condition of the lake. The PowerPoint presentation will be posted on-line. The following topics were discussed during the presentation:
 - The 2009-2014 monitoring program will terminate in June and a comprehensive report will be published. The objectives of the monitoring program were defined by the Maryland Park Service (MPS) to meet lake management objectives. MPS also paid for the monitoring program. Future monitoring programs need to be guided by specific objectives which could be tied into the goals of the watershed management plan.
 - Sites are monitored monthly from May to September. A fall sample is collected in November (before the lake freezes). A winter sample is collected through the ice at two sites sometime between December and February.
 - On the Sampling Stations map (Figure 1), red dots indicate sites where DNR samples the vertical profile and collects water quality samples at the surface and bottom. The vertical profile data are collected at specific depths through the water column using a sonde that measures temperature, dissolved oxygen, conductivity, and pH. The water quality samples are analyzed for chlorophyll-a, total suspended sediments, and nutrients.
 - Blue dots signify sites where only the vertical profile information is collected (no water quality parameters are collected).
 - Nine embayment (tributary/cove) stations are sampled.
 - There were two USGS stream gauges at DCL. One of the USGS sites, Poland Run, was discontinued last year since high lake water levels frequently backed up to

the gauge (causing false readings). USGS no longer monitors the Cherry Creek gauge, however, DNR has taken this over. The Cherry Creek gauge data have been collected since 1978.

- Monitoring results show that anoxic (low to zero oxygen) zones do form at the bottom of the lake (below the thermocline) during some months in both the summer and winter seasons.
- No zooplankton samples are routinely collected.
- Lake conductivity is increasing and has doubled since the 1970's. The increase has been much more rapid in the last 10 years. This is correlated to the increase in urbanization that results in more road salt and fertilizer application and more residential septic systems installed.
- There are no observable major fluctuations in the embayment sites that would identify a major concern. While some differences do occur statistically, there are no consistent trends. No work is being done close to the shoreline.
- Question: The problem areas seem to be the southern coves. Why? Sherm Garrison responded that these areas are shallow. These areas are easily mixed (by wind), but warm quickly. The shallow coves are more nutrient enriched because they are receiving stream water richer in nutrients and sediments. As a result, greater production occurs – meaning more algal blooms and SAV growth. The coves are a very different environment than the lake and are best seen as a transitional zone between an open lake environment and a stream system.
- Question: Have any tests been run to detect sewage? Sherm Garrison answered that DNR does not test for septage because it is an expensive process. He did say that plumbers use a less expensive fluorescent dye to trace leaks. He also said that nitrogen will flow through fully functioning septic systems, however, phosphorous is usually trapped. Christine Conn responded that this question might be answered better by the Health Department.
- DCL meets its water quality criteria (defined under the federal Clean Water Act) and is not listed as impaired.

Information Requests:

1. Determine if water quality monitoring is conducted below the dam at the power plant to determine what is being released into the Youghiogheny River. DNR will contact Versar (does WQ monitoring for DNR's Power Plant Research Program) and the power plant to check on data availability.
2. Get monitoring program information and data from Garrett County Health Department and MDE
3. Generate a list of who is monitoring the lake water quality and what information is being collected
4. Provide DNR trend data to subcommittee in a summarized form that provides readily interpretable information, such as charts and graphs.

5. DNR will develop an interactive mapping tool to provide information on monitoring locations and other important watershed based data.
6. DNR will report on how the issues of erosion and sediments are being covered/addressed by other subcommittees.
7. In 1993, the EPA study rated the lake as mesotrophic. Is it still mesotrophic?
8. Would like to see some trend data or data summaries. DNR will work with the subcommittee to find the best way to present this information
9. A few shallow water samples have been taken. DNR will take a look at these samples and evaluate water quality parameters.
10. DNR will look into techniques to use tracer analysis to identify the source of nitrogen in the lake. Particularly, if the nitrogen can be traced back to a sewage source. DNR will also check with the Health Department to see if they deploy tracer studies to detect sewage leakage.

Next Meeting

The Subcommittee will continue discussion on problem statements and goals. Another presentation will be provided by DNR. It is recommended that the next presentation address SAVs.



Deep Creek Lake – Water Monitoring Program

Sampling stations, Deep Creek Lake Water Monitoring Program, 2013-2014

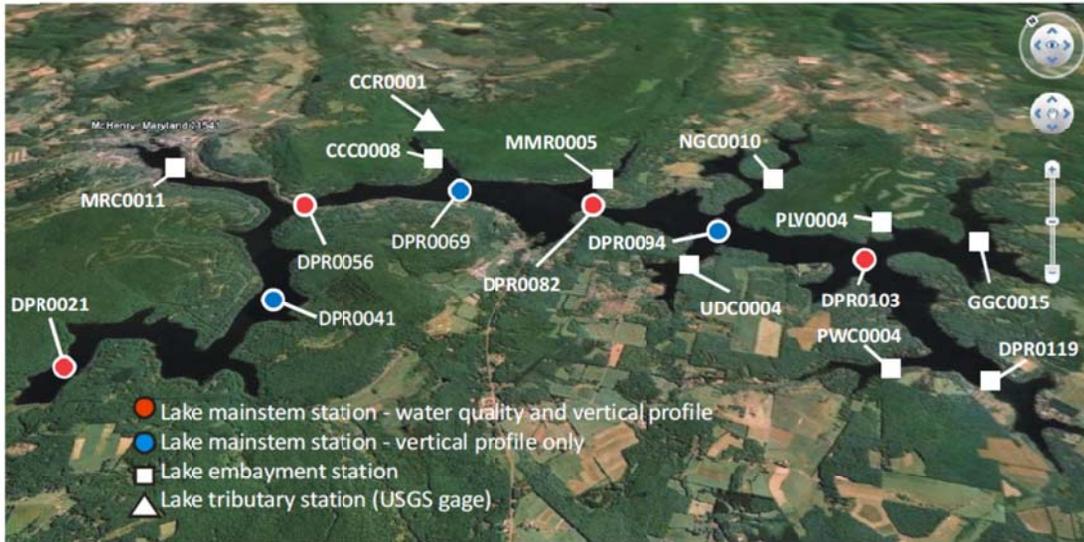


Figure 1: Location of MDNR water quality monitoring sites (Excerpt from 12/17/13 DNR Water Quality presentation)