

Lake Monticello Water Quality Monitoring & Lake Health SOP Overview

- Purpose: Establish a structured framework for monitoring and protecting lake health
- Formalize water quality monitoring, analysis, and response procedures
- Enable early identification of elevated risk conditions
- Improve coordination across operations, maintenance, communications, and IT
- Support long-term lake health management for recreation and community use

Why This SOP Matters

- Maintaining a healthy recreational lake requires consistent monitoring
- Scientific assessment is needed to understand trends and risks
- Clear communication keeps the community informed
- The SOP establishes a proactive and transparent lake health program

Lake Health Management Framework

- Monitor – routine sampling, vertical profiling, and laboratory analysis
- Assess – technical evaluation of results and trend identification
- Respond – defined trigger thresholds and operational response actions
- Communicate – community advisories and lake health status updates
- Supporting appendices provide detailed procedures and investment options

Lake Health Tutorial (Community Resource)

- Educational resource explaining how lake ecosystems function
- Draws on guidance from Virginia Department of Health and Virginia DEQ
- Explains the science behind lake monitoring and risk detection
- Supports understanding of the Water Quality SOP
- Helps residents understand how to maintain a healthy recreational lake

Near-Term Implementation Priorities (2026)

- Finalize the 2026 monitoring schedule and institutionalize annual promulgation
- Complete technical review of SOP procedures with operations teams
- Integrate SOP into LMOA Policy Manual
- Procure ammonia sensor to enhance vertical profiling capability (key indicator)
- Continue expert monitoring support and Phycotech cyanobacteria analysis
- Publish tutorial and develop lake health advisory signage

Long-Term Program Development

- Develop centralized lake health data management system
- Consolidate vertical profiling, sampling, and laboratory data
- Create relational database that simplifies lake health trend monitoring
- Enable early detection of elevated threat conditions
- Periodically review lake health investment opportunities (APPENDIX B)

FLOC Recommendations to the Board– March 2026

- Designate LMOA staff member who is responsible for lake health.
- Direct staff to finalize water quality testing schedule to implement it as soon as practicable.
- Fund additional testing equipment and laboratory testing services required for this program.
- Obtain/maintain expertise necessary to review, analyze, and report on test results and lake health trends. FLOC recommends utilizing an outside expert consultant to accomplish this requirement.
- Direct responsible staff member to report periodically to the Board of Directors on testing results and trends and on any actions taken as a result thereof.