

## Shenandoah River Algae Action Plan

The following is a summary of future actions agreed upon by VADEQ and EPA in April 2016 to help address algal issues in the Shenandoah River and Commonwealth-wide:

### Field Estimation Methodology Development:

- VADEQ will develop a quantifiable, repeatable state-wide field estimation methodology for evaluating the impacts of algal growth in Virginia's free-flowing waters.
- The Virginia-specific field estimation method will utilize as a foundation the EPA-funded Interstate Commission on the Potomac River Basin 2015 report, *Methods for Estimating Filamentous Algae Cover in Streams and Rivers of the Shenandoah River Basin*, and consider discussions during the Algae Summit<sup>1</sup>.
- The method will be validated by the Commonwealth within the next nine months in anticipation for its inclusion in VADEQ's future annual monitoring plans. VADEQ will have discussions with EPA and interested stakeholders to help with developing the final field estimation methodology.

### Development of Impairment Thresholds:

- Concurrent to Shenandoah River algal monitoring, VADEQ plans to develop an impairment threshold for algal impacts to the recreation use in discussion with EPA, other Region III states and interested stakeholders.
- Depending on available resources, user surveys could be a key tool to establish defensible thresholds of what constitutes impairment, in line with the Interstate Commission on the Potomac River Basin report recommendations, as well as discussions during the Algae Summit<sup>1</sup>.
- VADEQ will have discussions with EPA and interested stakeholders for any comment on the algae impairment thresholds.
- Proposed impairment thresholds will be included with VADEQ's *Draft 2018 Water Quality Assessment Guidance Manual* (anticipated in spring 2017).

### Integrated Report Assessment of Shenandoah River Segments:

- Over the next two years, VADEQ plans to begin algal monitoring with a focus on the Shenandoah River to validate the algal field estimation method. Monitoring will begin during the 2016 recreation (summer) season and continue into 2017 with a priority given to the five Shenandoah River segments moved to category 3C in Virginia's 2014 Integrated Report.
- Other portions of the Shenandoah River will be monitored for algal impacts using the validated methodology as VADEQ's resources allow, with monitoring updates provided in Virginia's biannual Integrated Reports, beginning with the 2018 Integrated Report. VADEQ is committed to evaluating the algal impacts to other priority sections of the Shenandoah River as quickly as possible and plans to update a timeline with planned monitoring activities in each biannual Integrated Report.
- Additional EPA grant funding is not a condition for moving forward with this monitoring and assessment process. However, it is acknowledged that resource constraints on Virginia's monitoring budget will impact the pace and scope of future activities.

- Virginia's *Draft 2018 Water Quality Assessment Guidance Manual* will include the identified impairment thresholds. It will also allow for VADEQ's use of citizen monitoring group data for recreation use attainment determinations, provided the group has developed a VADEQ approved Quality Assurance Project Plan and are determined to be a Level III data provider.
- EPA acknowledges VADEQ's desire for two years of monitoring data for making a recreational use attainment decision due to algal growth, and encourages early action should one year of data alone provide compelling information.
- Both VADEQ and EPA see the value in reporting results of VADEQ's 2016 and 2017 sampling efforts in Virginia's 2018 Integrated Report, even if the data are insufficient for a use attainment decision.
- Since VADEQ's current Integrated Report data submission deadlines may not allow a use attainment decision based on only one year of monitoring results, VADEQ will provide flexibility with assessing the Shenandoah River. More specifically:
  - VADEQ may opt to make a recreation use assessment using only the 2016 data set if the results are compelling.
  - VADEQ may consider a supplement to the 2016 Integrated Report with an off cycle 2017 update, or
  - VADEQ may allow for Shenandoah River algae-related data collected in 2017 to be used for 2018 Integrated Report decisions.

<sup>1</sup> A Region 3 EPA-States Algae Summit was held on April 27-28, 2016, consisting of an initial information exchange.