



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION



Bureau of Clean Water

Draft 2024 Assessment Methodology

Water Resources Advisory Committee Meeting

November 16th, 2023

Josh Shapiro, Governor

Jessica Shirley, Interim Acting Secretary

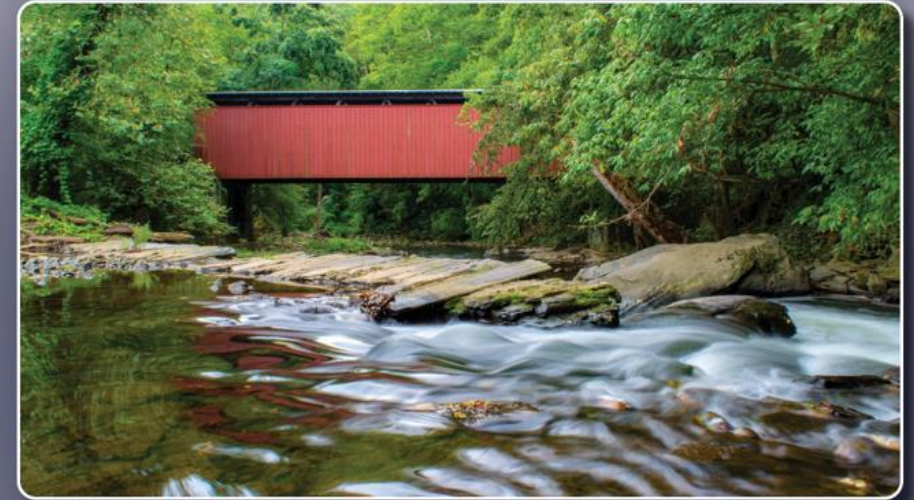
Overview



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DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Office of Water Programs
Bureau of Clean Water

Water Quality Assessment Methodology for Surface Waters
2023



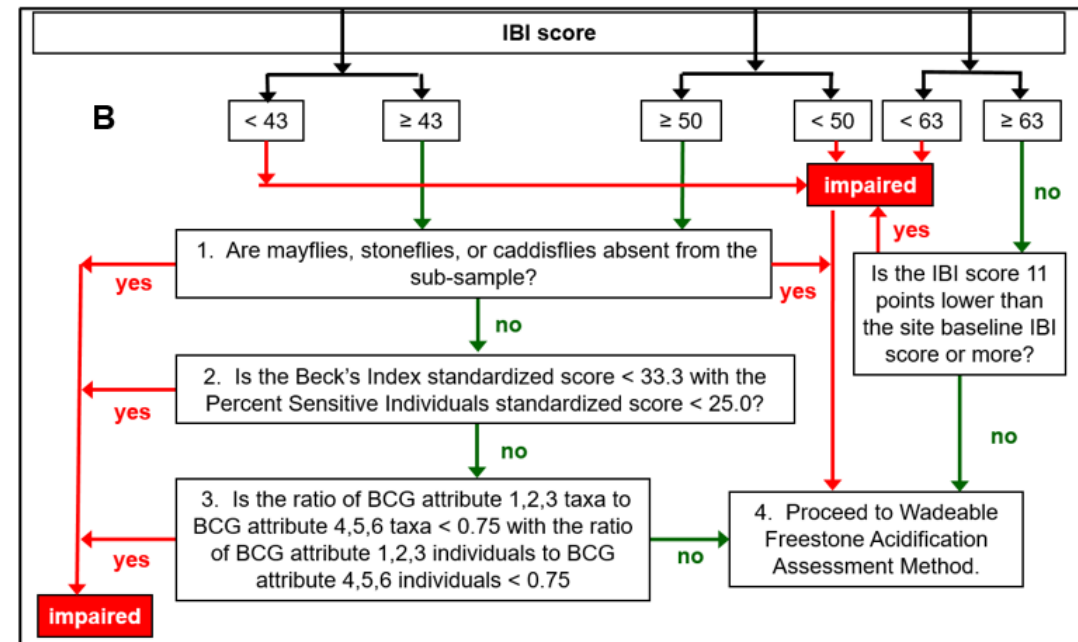
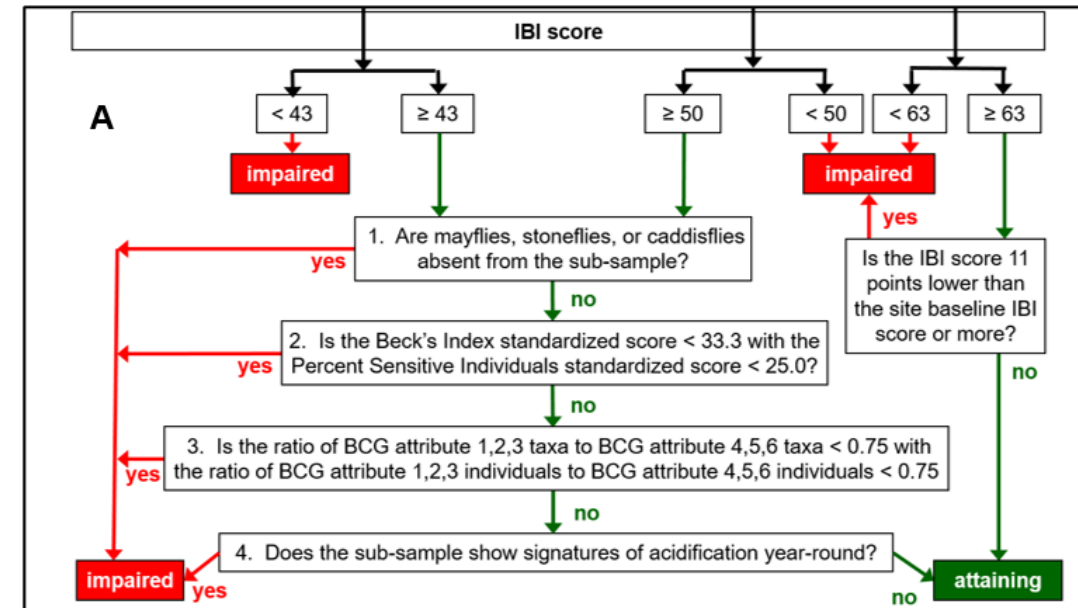
- **New Assessment Methods**
 - Wadeable Freestone Acidification Assessment Method
 - Physicochemical Potable Water Supply Assessment Method
 - Bacteriological Source Method
- **Updated Assessment Methods**
 - General Source and Cause Method
 - Eutrophication Cause Method
- **Assessment Book Reorganization**
 - Chapter organization
 - Lake Assessment Method inclusion

Timeline

- **Public Participation (tentative dates)**
 - Begins November 26th, 2023
 - 45-day comment period
 - Ends January 9th, 2023
- **Finalization**
 - Comments will be reviewed, and edits will be made for finalization
 - Final documents will be posted to DEP's website around March/April 2024

Wadeable Freestone Acidification Assessment Method

- New method
- Applies to small (<25 mi²) freestone streams
- Creates new biological assessment thresholds for fish and macroinvertebrates
- Uses water quality data to accurately assign sources of acidification (i.e., Acid Mine Drainage versus Atmospheric Deposition)
- Incorporates into existing biological assessment methods



Potable Water Supply Assessment Method

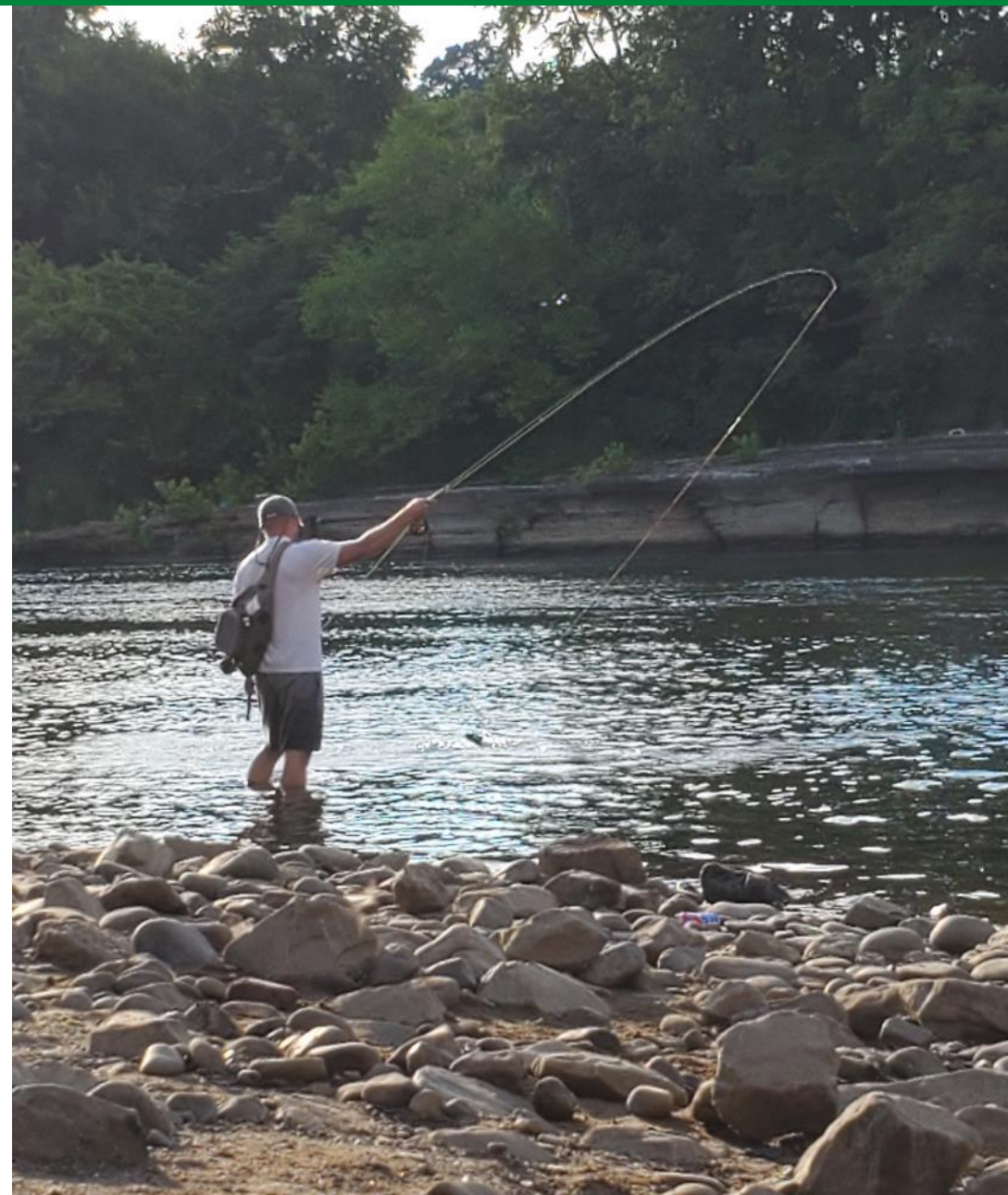
- New method
- Details how DEP makes assessment decisions for the Potable Water Supply Use

Chemical Name	Duration	Location of Application
Chloride	Instantaneous maximum	Point of Withdraw
Color	Instantaneous maximum	Statewide
Fluoride	Daily Avg	Statewide
Iron, Dissolved	Instantaneous maximum	Statewide
Manganese, Total	Instantaneous maximum	Statewide
Nitrite plus Nitrate, as Nitrogen	Instantaneous maximum	Point of Withdraw
Sulfate	Instantaneous maximum	Statewide
Total Dissolved Solids ¹	Monthly average	Point of Withdraw
Total Dissolved Solids ¹	Instantaneous maximum	Point of Withdraw

¹ The total dissolved solids criterion has both a monthly average and instantaneous maximum component.

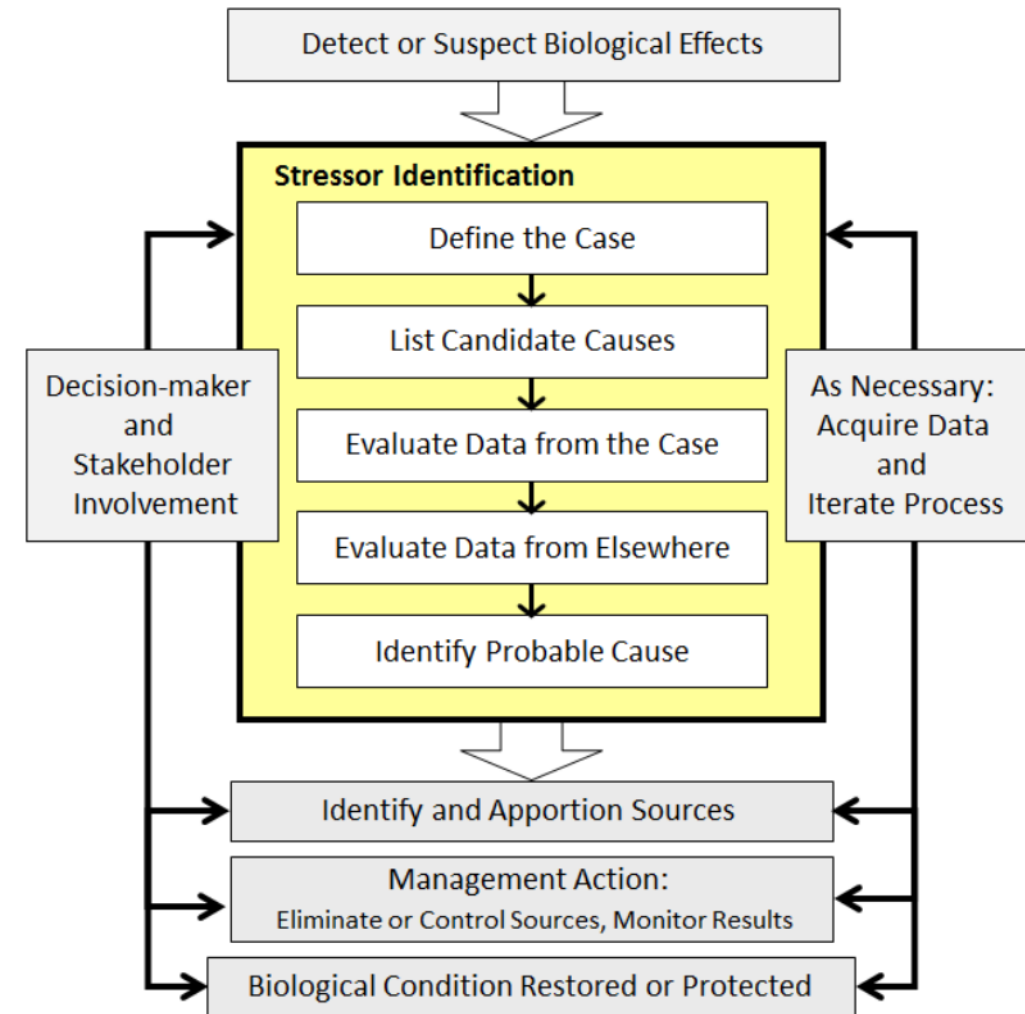
Bacteriological Source Method

- New method
- Developed to test samples for the presence of host-specific intestinal bacteria using qPCR laboratory methods
- Will reduce the number of “source unknown” impairments associated with recreation assessments



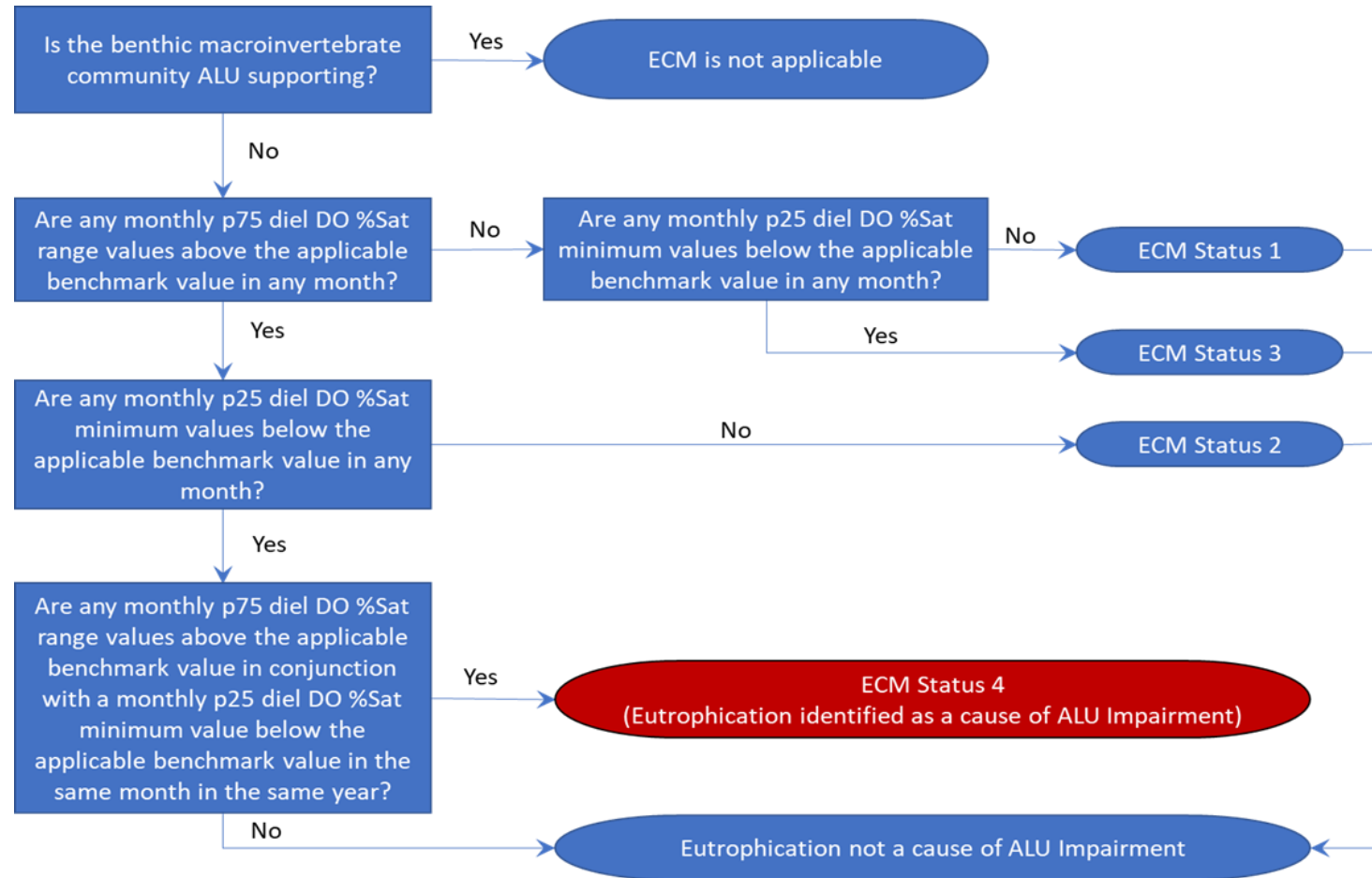
General Source and Cause Method

- Updated method
- Common source and cause descriptions were added
- EPA's stressor identification tool was adopted to allow DEP to identify the most likely sources and causes of impairments, even when numeric criteria do not currently exist in PA's Water Quality Standards



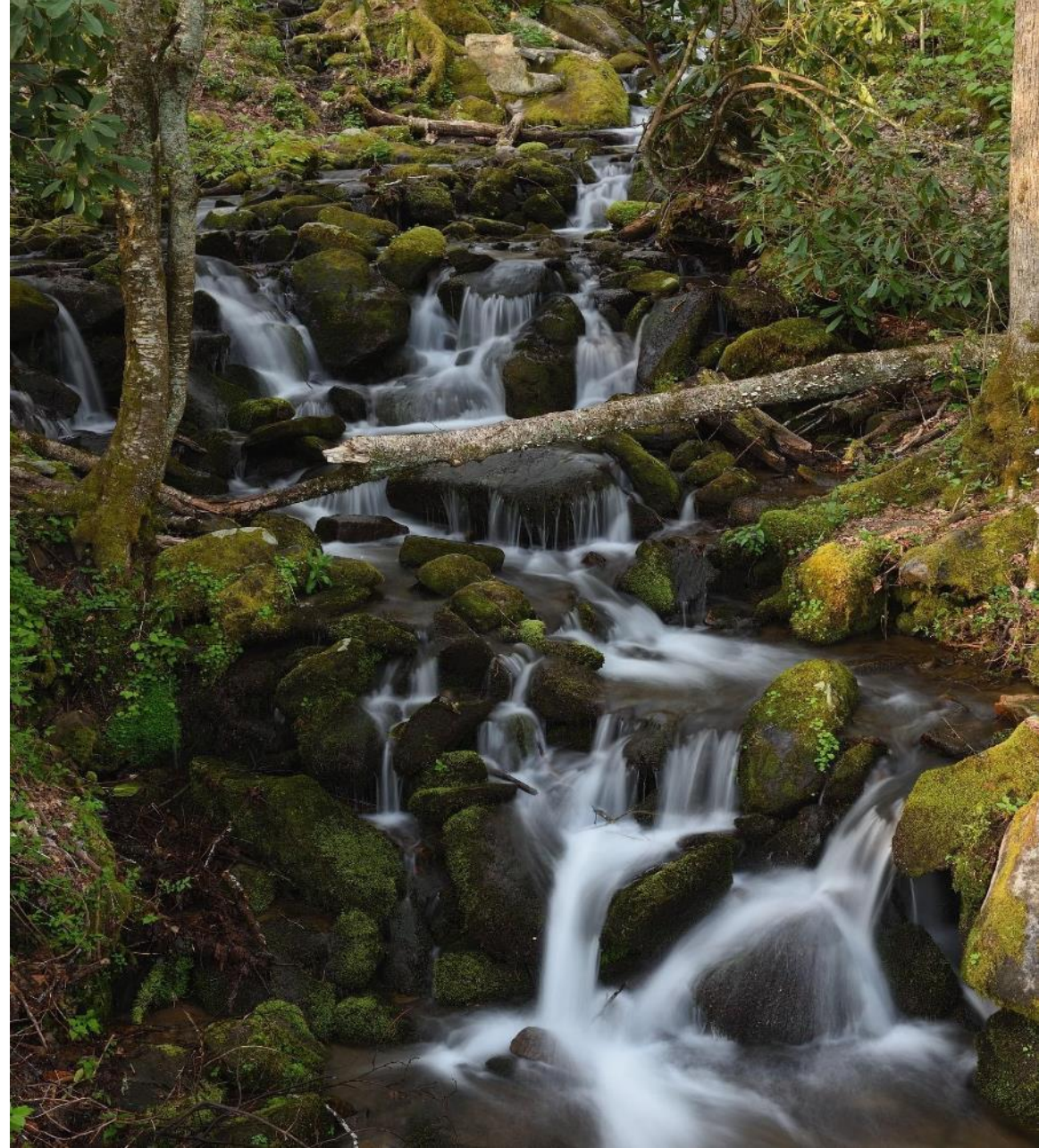
Eutrophication Cause Method

- Updated method
- Expands the applicability of the method from 50 mi² drainage area to a 500 mi² drainage area
- Applies a new schema for making eutrophication cause decisions when Aquatic Life Use impairment exists



Assessment Book Reorganization

- The Assessment Book has been reorganized so that methods are now located in chapters specific to the protected uses they were developed to assess
- For example, the Physical Habitat Assessment Method was placed into Chapter 2, titled Aquatic Life Assessment Methods



Assessment Book Reorganization

- The reorganization has also provided an opportunity to incorporate existing lake assessment methods
- The following are lake assessment methods were moved to the Assessment Book
 - Lake Trophic State Assessment Method
 - Lake Physicochemical Assessment Method
 - Lake Biological Assessment Method,
 - Lake Aquatic Macrophyte Assessment Method
 - Secchi Depth Assessment Method

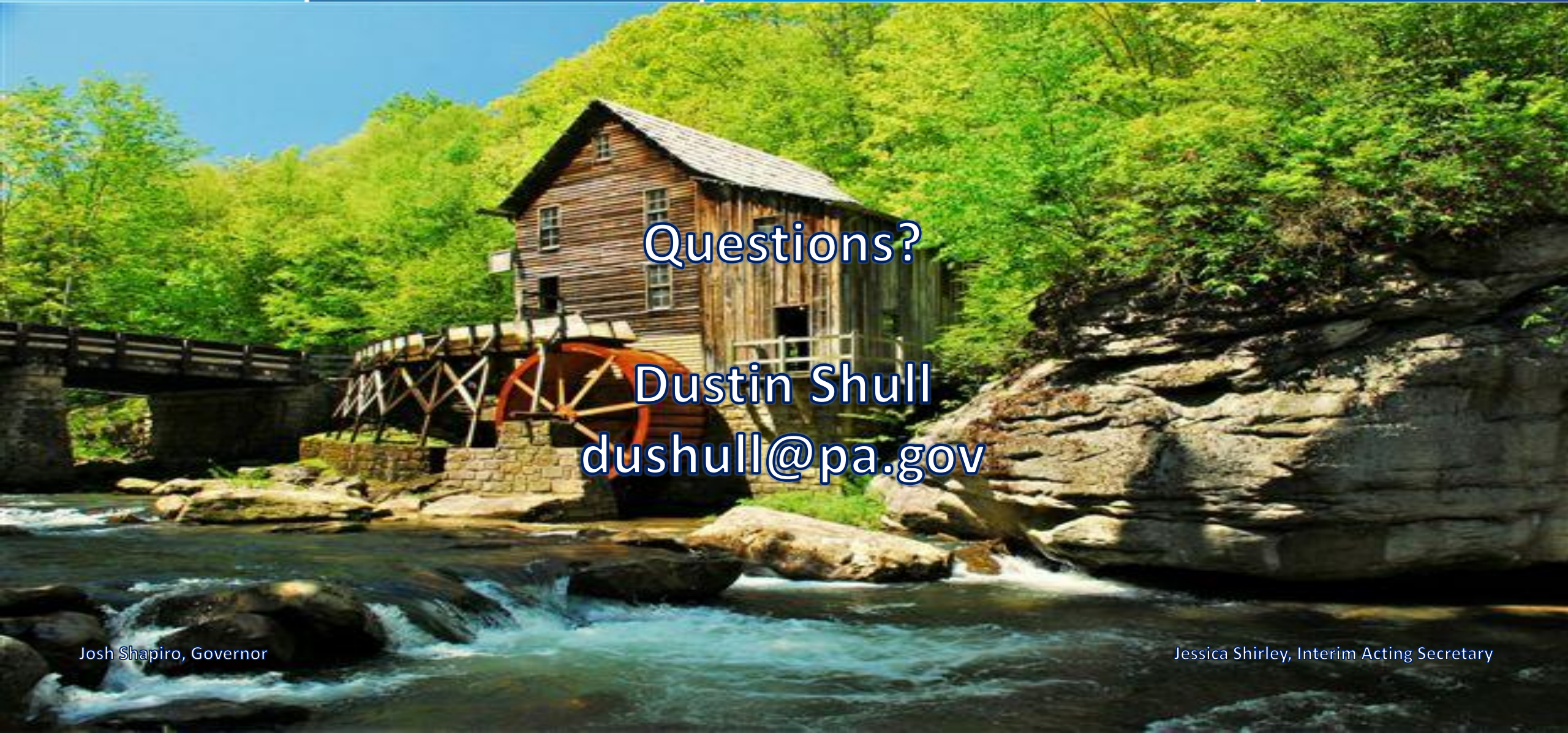




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Questions?

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