


Nutrient Assessment Protocol

Water Resources Advisory Committee

February 18, 2015

Proposed Methodology for Identifying Nutrients as a Cause of Aquatic Life Use (ALU) Impairment in Wadeable Streams

Background:

- U.S. EPA's most recent National Rivers and Streams Assessment identifies nutrient pollution as one of the most widespread causes of aquatic life use (ALU) impairment

- DEP is in the process of developing an objective, effects-based method for identifying ALU impairments caused by nutrients

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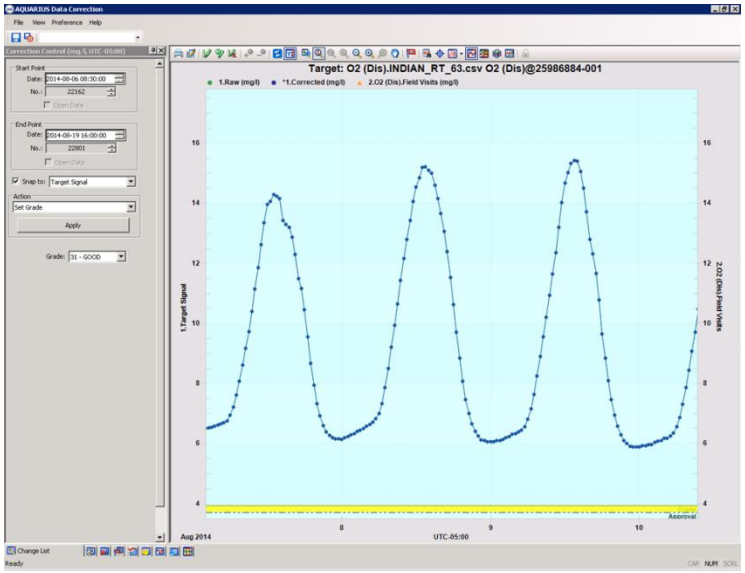
3 Key Components of Proposed Nutrient Impact Assessment Methodology

- Macroinvertebrate Community Characteristics
- Phosphorus and Nitrogen Levels
- Diurnal (Daily) Dissolved Oxygen (DO) Fluctuations



Excessive photosynthetic activity (periphyton DO production) in a southeast Pennsylvania stream

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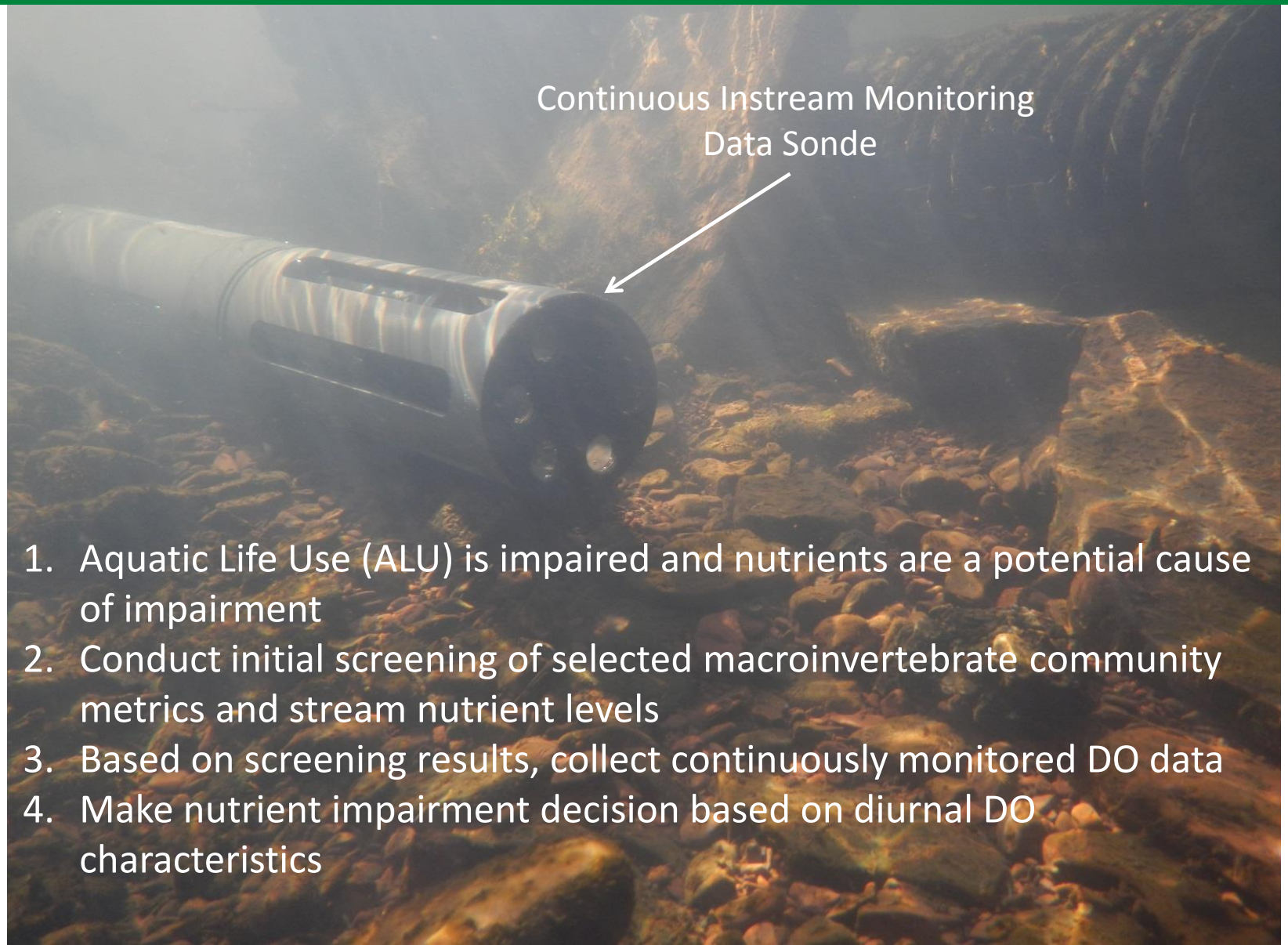
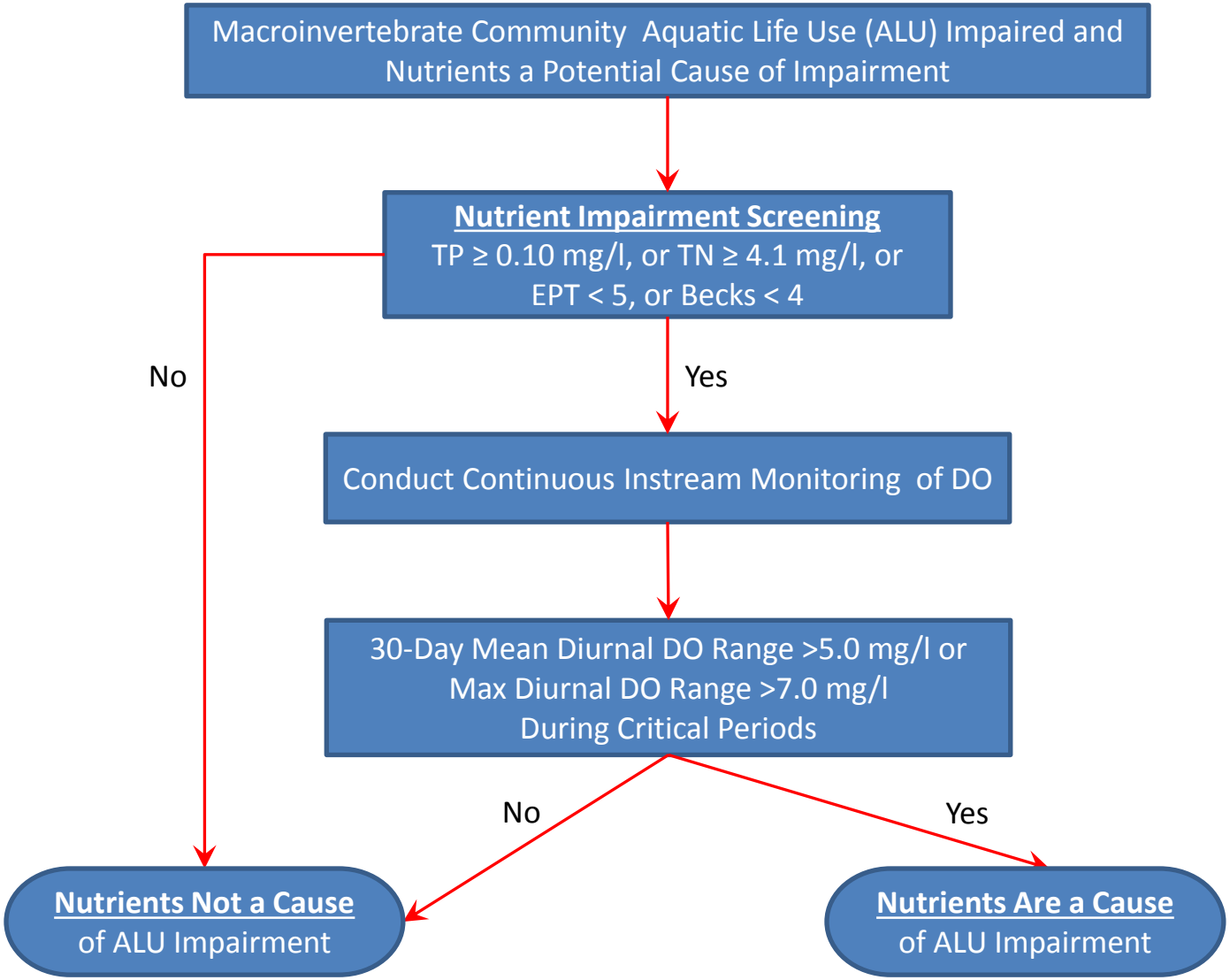
Overview of Proposed Nutrient Impact Assessment Methodology



1. Aquatic Life Use (ALU) is impaired and nutrients are a potential cause of impairment
2. Conduct initial screening of selected macroinvertebrate community metrics and stream nutrient levels
3. Based on screening results, collect continuously monitored DO data
4. Make nutrient impairment decision based on diurnal DO characteristics

Conceptual Model of Wadeable Stream ALU Nutrient Impact Assessment Methodology



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Questions / Comments

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