Classifying & Assessing Waterbodies: 3 Water Quality Standards Rules

Goals:
- Accurate
- Consistent
- Efficient
Water Quality Standards

- **Clean Water Act Goal:** *Restore and maintain the chemical, physical and biological integrity of the Nation’s waters*

- Required states to adopt water quality standards to protect fish, shellfish and recreation in and on the water
  - Designated Uses: Goals for the uses each waterbody should support
  - Water Quality Criteria: Benchmarks to protect the designated use (numeric or narrative)
  - Antidegradation: Policy and implementation procedures to protect high quality waters
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**Designated Uses**: NR 102, 104, 105

**Biological Criteria**: NR 102

**Site-Specific Criteria for Phosphorus**: NR 119

- What are our expectations for this waterbody?
- Is the biology meeting these expectations?
- Is the phosphorus criterion right for the waterbody?
Why were these initiated?

• Two major components relate to phosphorus implementation
  • Bioconfirmation of phosphorus impairments
    • Not list as impaired if P is high but biology is good
    • Requires codifying a “combined criteria” approach
  • Site-specific criteria for phosphorus

• Dovetails with other needed changes
  • Updates outdated designated use framework
  • Codifies practices currently in use
  • Codifies a standard process to streamline future updates
General Timeline

Jan 2016
Completed draft rule language & Technical Support Doc.

2017
External Advisory Committee (June-May)

2018
Economic Analysis solicitation
Public comment period & hearing

2019
Begin legislative process (1.5 yrs.)

Promulgation 2019?
Advisory Committee Representatives

- ~20 members; umbrella group reps
- Began meeting early in the process
- Explain goals & content of rules
- Discuss how to improve rules
Designated Uses → Biological Criteria → Site-Specific Criteria for Phosphorus
Wisconsin’s Designated Uses

Fish & Aquatic Life

Recreation

Public Health & Welfare

Wildlife
Designated Uses…The Foundation

Focus:

Goal: Accuracy & Efficiency

- Set correct expectations for permits & resource management
- Provide a streamlined approach
Current Fish & Aquatic Life (FAL) Uses:

- Coldwater
- Warmwater Sport Fish
- Warmwater Forage Fish
- Limited Forage Fish
- Limited Aquatic Life

New Aquatic Life Uses:

Waterbody Type + Biocondition Tier

<table>
<thead>
<tr>
<th>Streams/Rivers</th>
<th>Lakes/Reservoirs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ephemeral Stream</td>
<td>• Cold Lake</td>
</tr>
<tr>
<td>• Macroinvertebrate</td>
<td>• Warm Lake</td>
</tr>
<tr>
<td>• Cold Stream</td>
<td>• Great Lake</td>
</tr>
<tr>
<td>• Warm Stream</td>
<td></td>
</tr>
<tr>
<td>• River</td>
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</tbody>
</table>

LFF & LAL with dischargers are not changing with this rule package.
Why are updates needed?

• Need to update waters never officially classified or misclassified

• Need categories for unrepresented groups: small streams without fish, cold lakes

• Provide a range of expectations:
  • Protect waters already in excellent condition
  • Less stringent criteria in small streams without fish & certain cases where impacts are uncontrollable
  • Differentiate between natural differences & human-caused impacts
Streamlining Revisions: Publish in a Non-Codified List

- For non-controversial updates, no rulemaking required
  - Promulgate the *standard process* instead of the results
  - Still goes through public comment & EPA approval
- Allow for rulemaking for those that may entail a cost or are controversial

**Why?**

1. **Logistics**
   - Impossible to promulgate Uses for each individual waterbody in the state
   - Solution: Use DNR databases & maps as official record of approved changes
   - Similar to Impaired Waters List & Trout Classifications

2. **Efficiency & timeliness**
   - Because Use changes currently require rulemaking, they have never been updated
   - By not requiring rulemaking, DNR can accurately classify waterbodies as they are assessed, & results in more appropriate criteria for permittees
Cost considerations

- If use is revised from Warm to Cold, may affect limits (~1-3% permits)
- Warm & Cold classification categories & criteria are not changing; use revisions may be needed regardless of this rule

★ Any revisions to individual waterbodies’ uses that may affect permittees can go through a separate rulemaking process

Goal: Minimize cost; ensure public participation
Designated Uses → Biological Criteria → Site-Specific Criteria for Phosphorus
How do we assess if a stream is attaining its designated use? Biology is our most direct measure of a waterbody’s health.
Two types of Biological Metrics

- Pollutants
- Natural conditions
- Habitat impacts

Higher level communities used to assess overall health

→ “Biocriteria”

Algae & plants used to assess phosphorus

→ “Phosphorus Response Criteria”

Human & natural nutrient inputs
Biological Criteria (Biocriteria)

- Have been in use for many years
- Developed using Wisconsin data
- Very common among states
- Moving from guidance to code

Streams & Rivers:
- Fish
- Bugs

Lakes:
- Plants

Biocriteria:
- Excellent
- General
- Impaired
- Natural Factors
- Modified
Phosphorus Response Criteria

Streams:
- Attached algae

Rivers:
- Suspended algae
- Bugs

Lakes:
- Suspended algae
- Plants

“First responders” to phosphorus
Used in assessments for several years

**Goal:** Base Impaired Waters listing on both the phosphorus concentration and whether there is a biological response
P Response Criteria used for:

- Assessing for impairment due to P
- Eligibility for less-stringent P Site-Specific Criteria

Upper bound:
Riv/Str: 2x criterion
Lakes: 1.5x criterion
Cost considerations

- Some waters would be added/removed from impaired waters list
- Listings for biocriteria are not expected to directly impact dischargers
  - Would require stressor ID study and site-specific criteria or TMDL before permit limits would be adjusted
- Listings for P don’t directly affect permit limits because limits are dependent on separate calculation procedures in ch. NR 217
- Minimal economic impact
Designated Uses → Biological Criteria → Site-Specific Criteria for Phosphorus
Site-specific criteria for phosphorus

• Use SSC if the statewide phosphorus criteria are over- or under-protective
  • Only likely to apply to a small number of cases

• Authority for SSC is already in code, but lacks detail or process
  • This rule sets consistent requirements & a streamlined process

• 6 categories of eligible cases
  • 3 more-stringent; 3 less-stringent

• SSC based on protecting the waterbody and downstream waters
  • Protect Aquatic Life & Recreation Uses
  • Demonstrate using biological metrics
- SSC is a water quality standard, not a permit compliance option
- Similar to a TMDL, an SSC helps inform the permitting process, but is not a permitting tool

**SSC is:**
- Selected to be the appropriate P criterion for a waterbody
- Based on science
- Protective of designated uses
- Set to ensure downstream waters are not affected

**SSC is not:**
- Based on economics
- A change to the permitting system
- A compliance option

**Compliance options:**
- Adaptive Management
- Water Quality Trading
- Alternative Effluent Limits
- Upgrades

**Other permitting tools:**
- Compliance Schedules
- Variances
Six standard SSC categories

• Alternative methods also allowed

<table>
<thead>
<tr>
<th>Less-Stringent</th>
<th>More-Stringent</th>
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<tbody>
<tr>
<td>1. Exceeds P but biological metrics attained</td>
<td>1. Attains P but biological metrics are not attained</td>
</tr>
<tr>
<td>2. Reservoirs with TMDL/modeling</td>
<td>2. Impoundments with TMDL/modeling</td>
</tr>
<tr>
<td>3. High natural background P concentration</td>
<td>3. Outstanding or Exceptional Resource Waters (OERW)</td>
</tr>
</tbody>
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Cases typically not eligible

• Phosphorus is high & biology is not attained = Impaired
• Phosphorus & biology are both good = Not Impaired
Cost considerations

- Very few waters likely eligible for less-stringent SSC
- Slightly more waters eligible for more-stringent SSC
- Even when eligible, unlikely to affect treatment needed
- Minimal economic impact
Recap: Benefits

- Correctly classify waters & apply correct criteria
  - Recognize where higher or lower criteria are appropriate
  - Timely, efficient updates

- Codify biological metrics for transparency & consistency
  - Delist waters exceeding P but with good biology & waters for which we set lower expectations
  - Retain listing for waters where algae is a problem

- Site-specific criteria for phosphorus
  - Account for variability in how waters respond to P
  - Set standard process & expectations
Questions & Discussion

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