L.4.

Tiered Aquatic Life Uses

Rulemaking Hearing Presentation
February 16, 2017

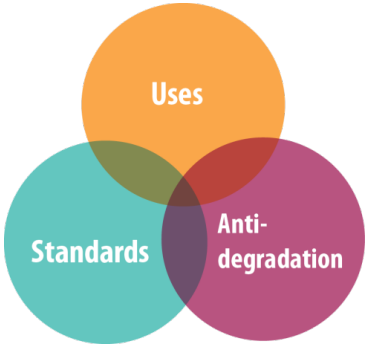
Will Bouchard
Research Scientist

Minnesota Pollution Control Agency

Outline

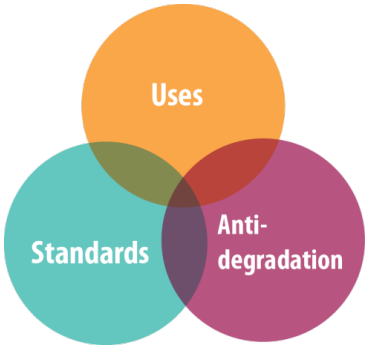
- Introduction to water quality standards
- Statutory authority for proposed rule
- What is the Tiered Aquatic Life Uses (TALU) framework
- Why is the TALU framework needed
- Why is the TALU framework reasonable
- Summary of outreach
- Summary of comments and preliminary responses

Introduction to Water Quality Standards



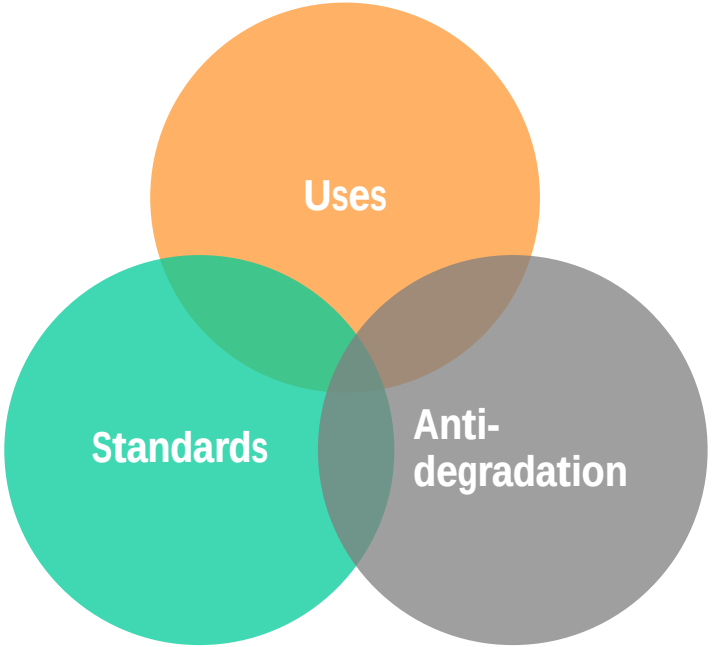
What are water quality standards?

- Fundamental tool of the Clean Water Act
- Intersection of science and policy (values)
- Address three key questions:
  - What and who are we protecting?
  - What conditions are protective?
  - How do we maintain high water quality?



Water Quality Standards and TALU

- The TALU amendments only revise rules related to Uses and Standards
- The antidegradation rules are not being revised as part of TALU

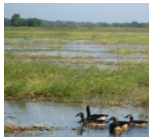


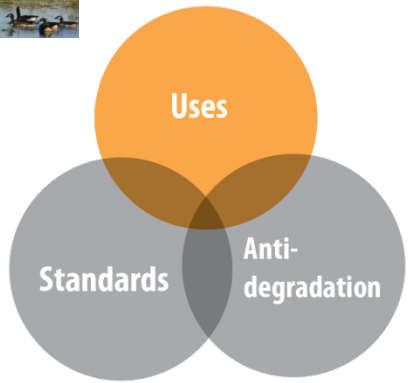
What/who is protected?

- States classify waterbodies by beneficial uses
- Seven use classes in MN Rules:
  1. Drinking water
  2. Aquatic life and recreation
  3. Industrial use and cooling
  4. Agricultural and wildlife use
  5. Aesthetics and navigation
  6. Other uses
  7. Limited resource value



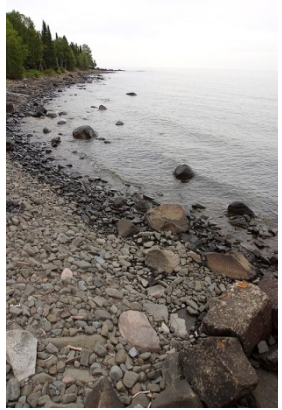




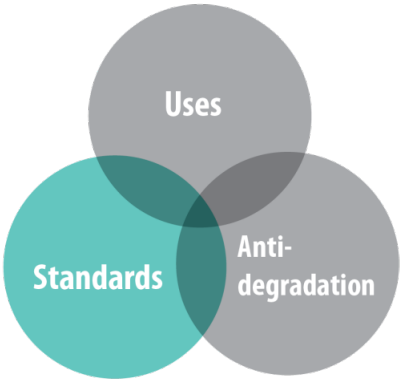



What conditions are protective?

L.4.



- Standards identify the conditions needed to support the beneficial use
- Generally statewide or region-specific
- Can be narrative or numeric

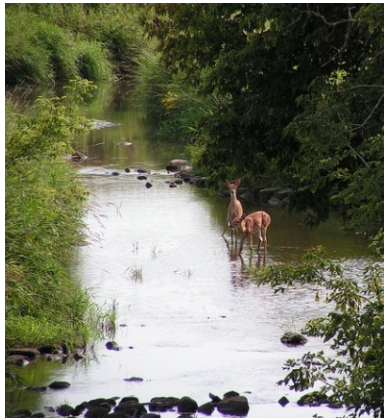


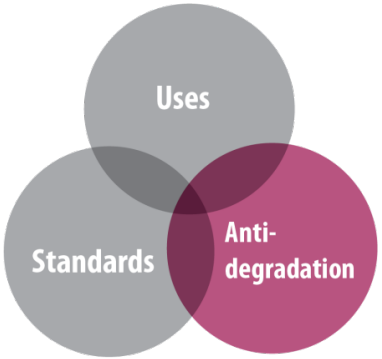
Aquatic Life & Recreation (Class 2) examples:

	Narrative	Numeric	Numeric
Standard	"… the normal fishery and lower aquatic biota … shall not be seriously impaired or endangered … by the discharge of any sewage, industrial waste, or other wastes …"	6.9 ng/L total mercury in water (outside of Lake Superior Basin)	5.0 mg/L oxygen as a daily minimum
Protects for	Healthy aquatic community	People and wildlife eating fish	Fish survival

How are high quality waters protected?

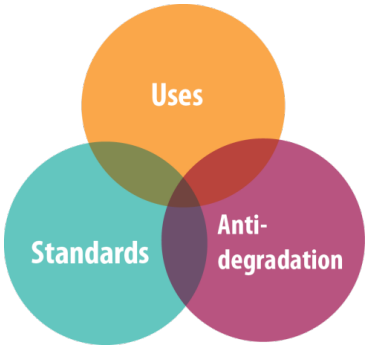
- **<u>Antidegradation:</u>**
  - Protects and maintains existing uses;
  - Prevents degradation of high water quality unless certain conditions are met; and
  - Protects and maintains the quality of outstanding resource waters
- The proposed TALU rule amendments do **<u>not</u>** revise the antidegradation rule





How are standards used?

- Measures/benchmarks
  - Communication
  - Monitoring and Assessment
- Controls
  - Permit Limits (WQBEL)
  - Antidegradation review
  - Total Maximum Daily Load (TMDL) studies



Statutory Authority

Statutory Authority

- Clean Water Act requires states to establish water quality standards (33 USC § 1313)
- Minnesota Statutory Authority
  - Minn. Stat. § 115.44
    - MPCA authority to classify waters of the state
  - Minn. Stat. § 115.03
    - MPCA authority to establish/alter standards for any water of the state
    - MPCA authority to perform all acts necessary to participate in delegated Clean Water Act programs (e.g., NPDES/permitting)

What is a TALU framework?

A Tiered Aquatic Life Uses or TALU framework assigns **biological goals** to **streams** based on their **biological potential** and then assesses if those goals are attained

Seven beneficial use classes in Minnesota Rules:

L.4.

Class 1: Drinking water

Class 2: Aquatic life and recreation

Class 3: Industrial use and cooling

Class 4: Agricultural and wildlife use

Class 5: Aesthetics and navigation

Class 6: Other uses

Class 7: Limited resource value

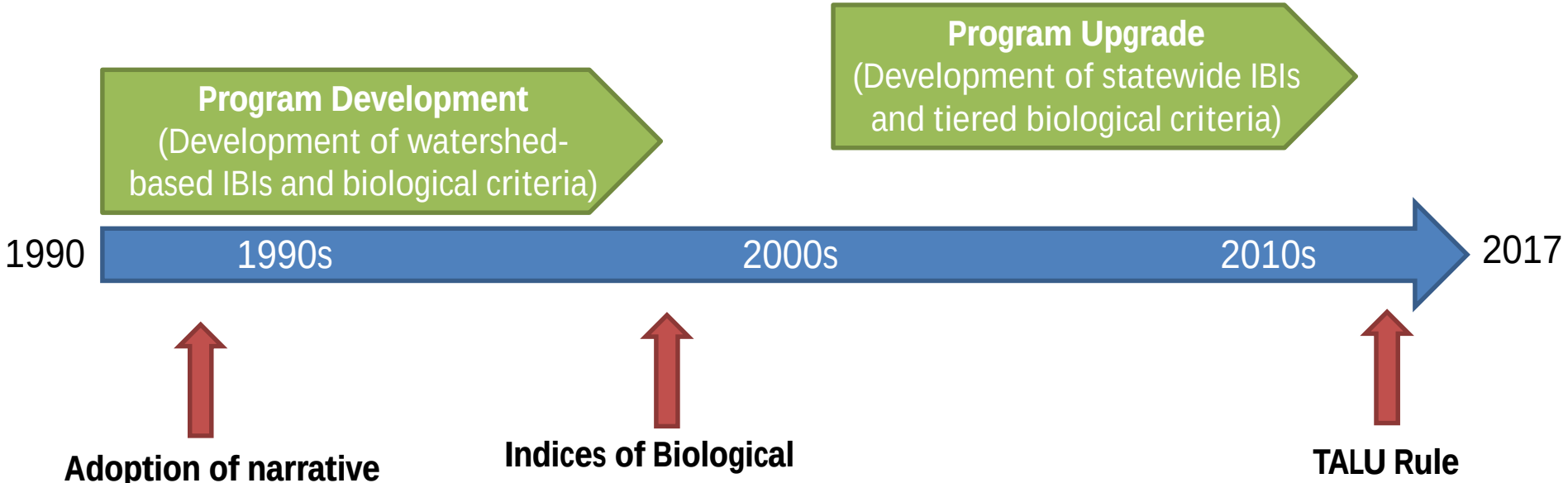
One of the most important beneficial uses in Minnesota which protects fish, insects, mussels, plants, and the ecosystem services they provide

Why is a TALU framework needed?

Aquatic Life Standards

- Historically, aquatic life protection relied most on chemical and physical standards (e.g., dissolved oxygen, ammonia)
- The MPCA has been using biological standards for over 20 years
- Biological standards directly measure aquatic life use goals

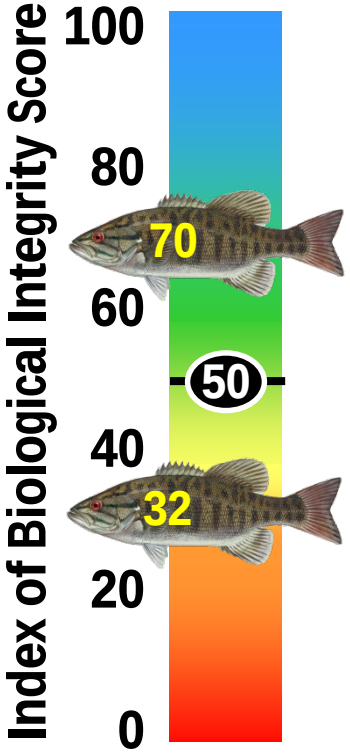
Biological Monitoring Timeline



Why Minnesota is ready for a TALU framework

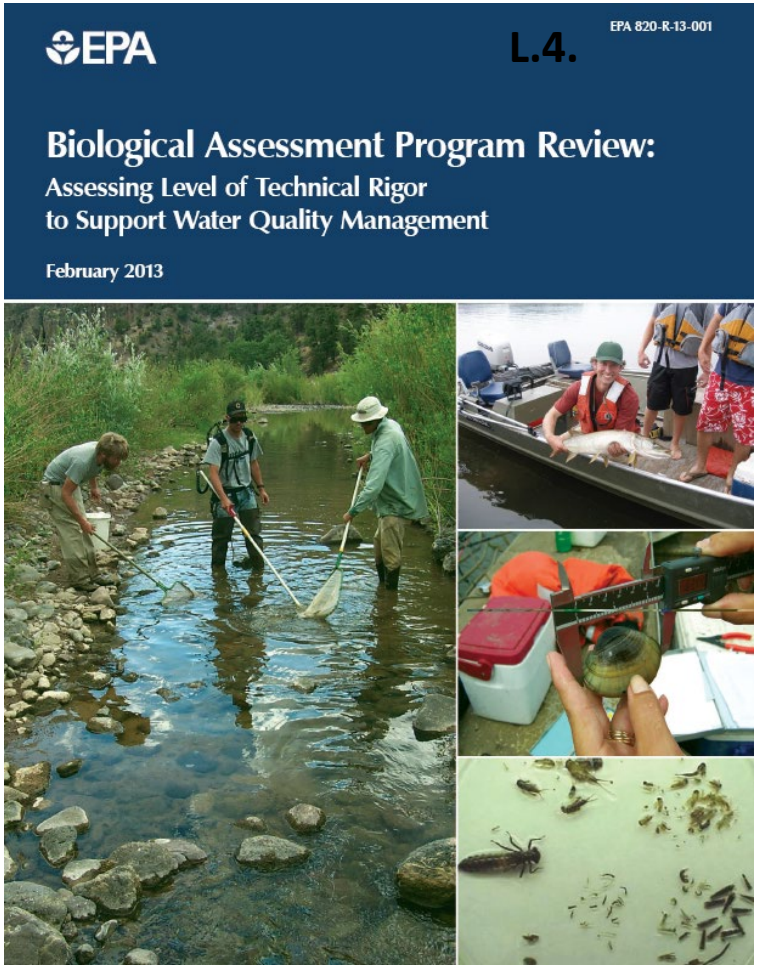
L.4.

- Extensive statewide sampling of fish and invertebrates
- Robust tools for measuring aquatic life health (Indices of Biological Integrity)
- Biological criteria

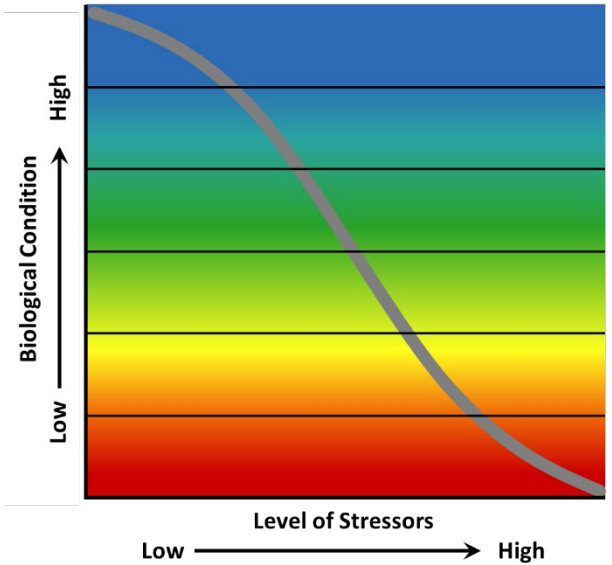


Program Review

- Minnesota's biological assessment program was reviewed by a third party
- This review determined that Minnesota's program was among the top in the U.S. and capable of supporting a TALU framework
- Extensively documented in a series of reports, guidance documents and peer-reviewed literature



Why is a TALU framework reasonable?



One-size-fits-all goal

West Branch Little Knife River

Little Cedar River

Judicial Ditch 7

More precise aquatic life use goals

West Branch Little Knife River

Exceptional Use

High quality water resources

Little Cedar River

General Use

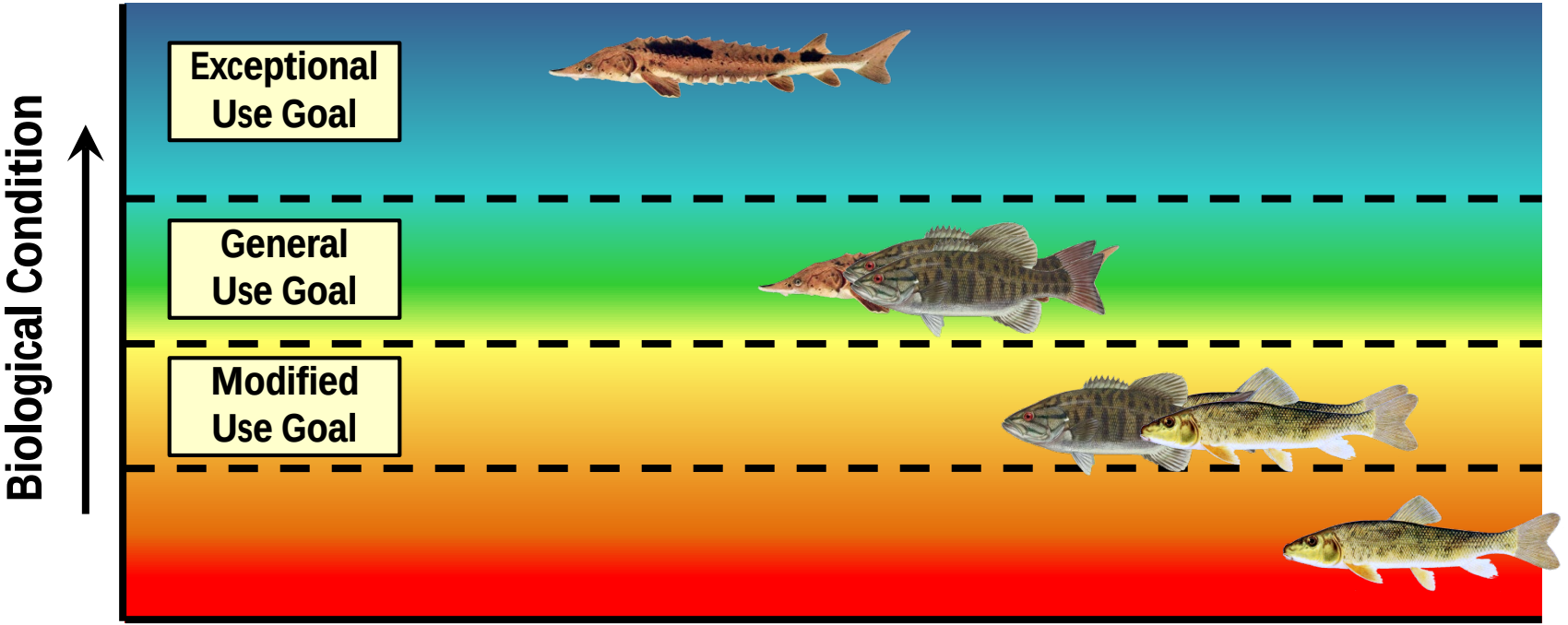
Current Goal

Judicial Ditch 7

Modified Use

Water resources with human altered habitat

Aquatic Life Goals



Determining Tiered Uses

Does the stream meet the General or Exceptional Use biological criteria?

YES → Designate General or Exceptional Use

NO

Use Attainability Analysis

Is habitat limiting the biological communities?

NO → Designate General Use

YES

Is the limiting habitat the result of legal human activities?

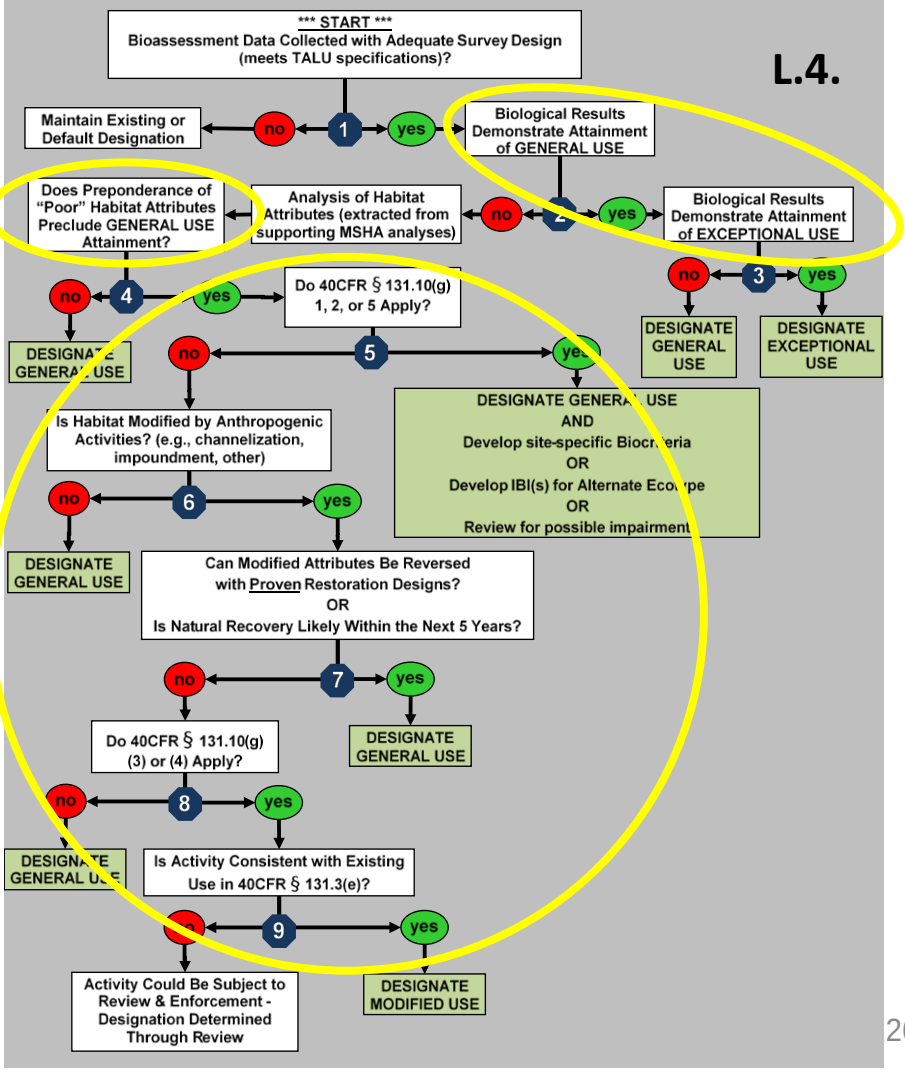
NO → Designate General Use

YES

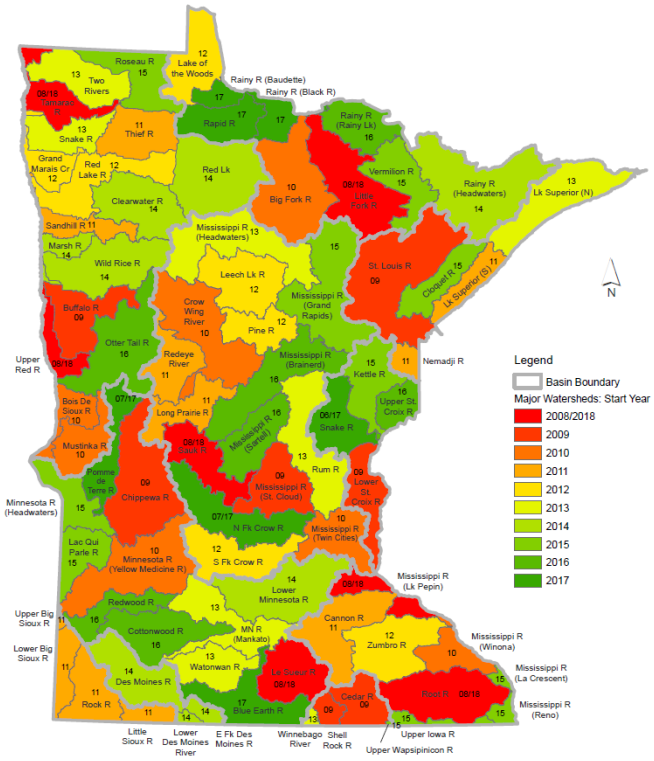
The stream is eligible for Modified Use designation

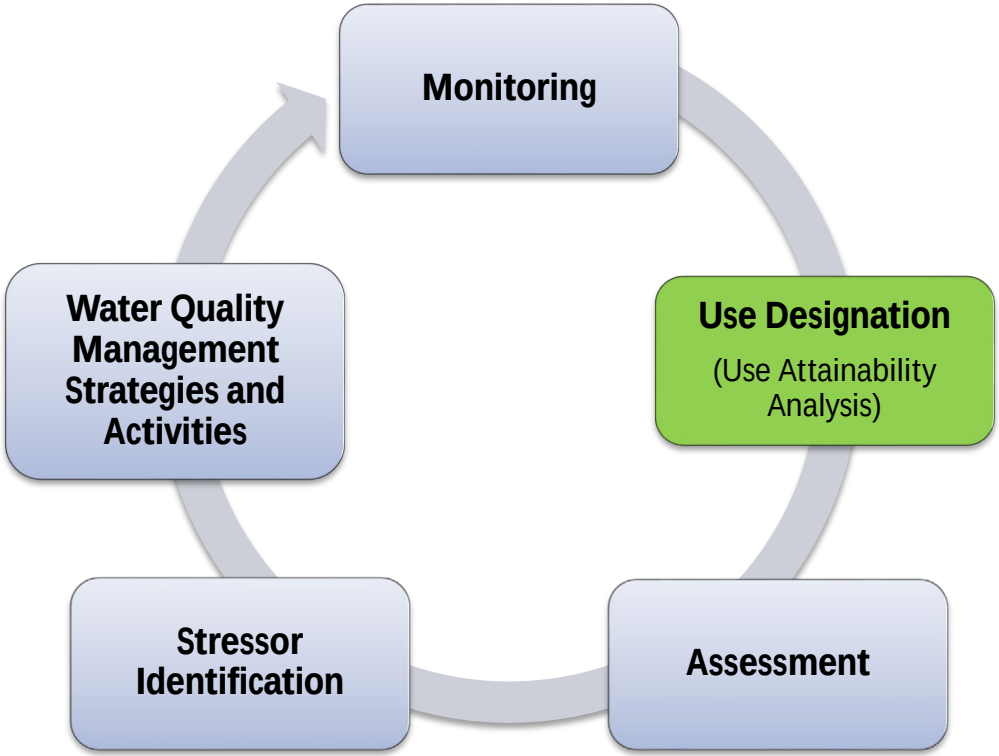
Determining Tiered Uses

Described in detail in SONAR and MPCA (2015) Draft technical guidance for designating aquatic life uses in Minnesota streams and rivers (S-63)



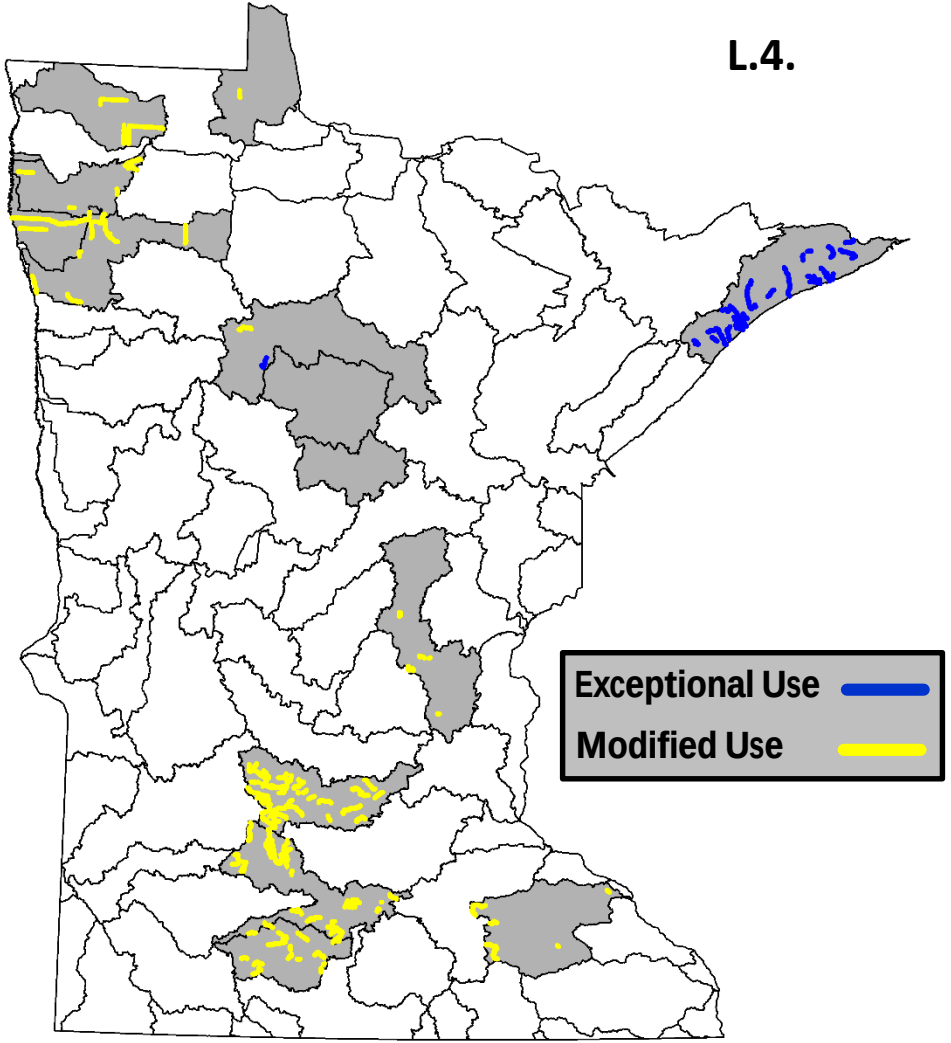
Intensive Watershed Monitoring Strategy





Proposed Tiered Aquatic Life Uses

As part of the TALU rule amendments, the Agency is proposing to classify 141 reaches to the Modified or Exceptional Use (see SONAR Appendix A)



Tiered Aquatic Life Uses...

- **IS NOT** a change to Minnesota's definition of "waters of the state" (Minn. Stat. § 115.01, subd. 22);
- **IS NOT** a change to aquatic life use goals for lakes, ponds, wetlands and other non-flowing waters (i.e., lentic waters);
- **IS NOT** a change to any of the existing chemical or physical standards established in Minn. R. chs. 7050 and 7052; and
- **IS NOT** a shift from chemical standards to biological criteria for assessing the attainment of aquatic life use goals;
- **IS NOT** a rationale for the *a priori* relaxation of pollution controls or the removal of waters from the impaired waters list;
- **IS NOT** a mechanism for downgrading the existing beneficial use class for a water body.

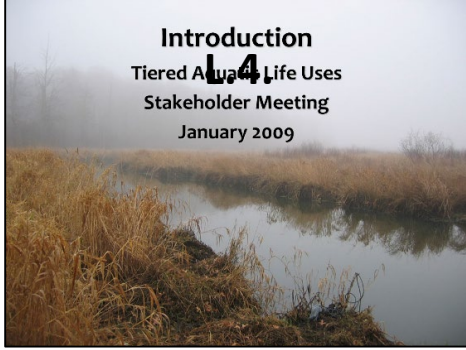
Tiered Aquatic Life Uses…

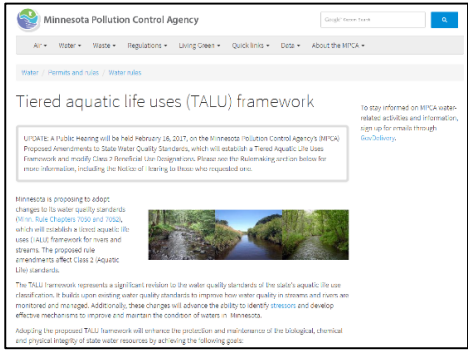
- **Will** provide more accurate designations of the biological potential for aquatic life in Minnesota's streams;
- **Will** provide more defined protections for high quality waters and the aquatic life they support;
- **Will** set appropriate aquatic life goals for waters affected by legal, historical impacts, such as channelized streams;
- **Will** provide a better defined and a greater range of management options resource planning;
- **Will** better balance the requirement and need to protect and restore aquatic resources while balancing important socio-economic needs;
- **Will** provide more clarity in aquatic life standards;
- **Will** result in better protection and restoration outcomes for aquatic life and improved water quality in Minnesota streams.

Non-TALU Rule changes

- Removal of Class 2C
- Update of formatting for Minn. R. 7050.0470

Outreach


Introduction
Tiered Aquatic Life Uses
Stakeholder Meeting
January 2009


Minnesota Pollution Control Agency
Tiered aquatic life uses (TALU) framework


A Tiered Aquatic Life Uses Framework For Minnesota
MPCA Citizens' Board Meeting
January 27, 2015
Minnesota Pollution Control Agency

Extensive Outreach

- **January 2009:** Five informational meetings around the state
- **February-March 2009:** Meetings with different sectors potentially impacted by the TALUs framework
- **June 2013:** Webcast informational meeting
- **January 2015:** MPCA Citizen's Board
- **June 2016:** MPCA Advisory Committee Meeting
- **2009-2016:** 30+ presentations at conferences, symposia, seminars, state agency leadership meetings, and other meetings

Comments

Support for the Rule

The MPCA received comments supporting the TALU framework or concept of the TALU framework

Comments Requesting Clarifications

- Neutral comments seeking information were received
- The MPCA will respond to these and direct commenters to this information

Supporting Documentation

- The supporting documentation is extensive and complex to document the entire process and make the science transparent
- Recognizing the complexity, the MPCA provided layers of information:
  - Fact sheet (2 pg)
  - TALU overview (6 pg)
  - SONAR
  - Extensive supporting documentation
- With the exception of the SONAR, these materials have been available on the TALU webpage for 1-3 years

Proposed Use Designation Information

- Extensive and sufficient documentation provided in Appendix A of the SONAR
- The Agency made a draft list of the proposed changes available in June 2016 in response to stakeholder comments during the Advisory Committee Meeting
- A map-based tool is in development and comments on design will be considered

Concerns with Protecting Existing Uses

- The Modified Use protects an existing use and is not a “Downgrading” of the water body
- Based on habitat limitation
- Chemical standards still apply independently to Modified Use waters
- The Modified Use cannot result in the degradation of downstream waters

Modifications to Proposed Rule

- Several comments included recommendations for revisions to the proposed rule language
- The MPCA plans to modify the proposed rule language based on some of these comments (see Hearing Exhibit L-5)

Modifications to Proposed Rule

Clarification that existing chemical and physical standards apply to TALUs

7050.0220, Subp. 1, Items A, B and C

A. cold water ~~sport fish (trout waters)~~ aquatic life and habitat, also protected for drinking water: Classes 1B~~,~~; 2A ~~,~~; 2Ae or 2Ag; 3A or 3B~~,~~; 4A and 4B~~,~~; and 5 (subpart 3a);

B. cool and warm water ~~sport fish~~ aquatic life and habitat, also protected for drinking water: Classes 1B or 1C~~,~~; 2Bd~~,~~; 2Bde, 2Bdg, or 2Bdm; 3A or 3B~~,~~; 4A and 4B~~,~~; and 5 (subpart 4a);

C. cool and warm water ~~sport fish, indigenous aquatic life, and wetlands~~ aquatic life and habitat and wetlands: Classes 2B, ~~2C,~~ 2Be, 2Bg, 2Bm, or 2D; 3A, 3B, 3C, or 3D; 4A and 4B or 4C; and 5 (subpart 5a); and

7050.0220, Subp. 3a, 4a, and 5a

Subp.3a. Cold water ~~sport fish~~ aquatic life and habitat, drinking water, and associated use classes. Water quality standards applicable to use Classes 1B, 2A,~~;~~ 2Ae or 2Ag; 3A or 3B~~;~~; 4A and 4B~~;~~; and 5 surface waters. The water quality standards in 7050.0222, subp. 2 that apply to Class 2A also apply to Classes 2Ae and 2Ag. In addition to the water quality standards in 7050.0222, subp. 2, the biological criteria defined in 7050.0222, subp. 2d. apply to Classes 2Ae and 2Ag.

Subp. 4a. Cool and warm water ~~sport fish~~ aquatic life and habitat, drinking water, and associated use classes. Water quality standards applicable to use Classes 1B or 1C, 2Bd,~~;~~ 2Bde, 2Bdg, or 2Bdm; 3A or 3B~~;~~; 4A and 4B~~;~~; and 5 surface waters. The water quality standards in 7050.0222, subp. 3 that apply to Class 2Bd also apply to Classes 2Bde, 2Bdg, and 2Bdm. In addition to the water quality standards in 7050.0222, subp. 3, the biological criteria defined in 7050.0222, Subp. 3d. apply to Classes 2Bde, 2Bdg, and 2Bdm.

Subp. 5a. Cool and warm water ~~sport fish~~ aquatic life and habitat and associated use classes. Water quality standards applicable to use Classes 2B, 2Be, 2Bg, 2Bm, ~~2C,~~ or 2D; 3A, 3B, or 3C; 4A and 4B; and 5 surface waters. See parts 7050.0223, subpart 5; 7050.0224, subpart 4; and 7050.0225, subpart 2, for Class 3D, 4C, and 5 standards applicable to wetlands, respectively. The water quality standards in 7050.0222, subp. 4 that apply to Class 2B also apply to Classes 2Be, 2Bg, and 2Bm. In addition to the water quality standards in 7050.0222, subp. 4, the biological criteria defined in 7050.0222, Subp. 4d. apply to Classes 2Be, 2Bg, and 2Bm.

Modifications to Proposed Rule

Clarification that TALUs are only applicable to flowing waters

7050.0150 Subp. 4.

S. “Lotic water” means a flowing or moving water body such as a stream, river, or ditch.

7050.0222, Subp. 2c., Item A

A. Subitems (1) to ~~(4)~~(5) apply to the beneficial uses in items B and C:

((5) The beneficial use subclass designators “e” and “g” are added to the Class 2A designator as specific additional designators. The additional subclass designators do not replace the Class 2A designator. All requirements for Class 2A cold water stream and river habitats in 7050.0222 and 7052.0100 continue to apply in addition to requirements for Class 2Ae or Class 2Ag cold water stream and river habitats in 7050.0222. These subclass designators are only applied to lotic waters.

7050.0222, Subp. 3c., Item A

A. Subitems (1) to ~~(4)~~(5) apply to the beneficial uses in items B and C:

(5) The beneficial use subclass designators “e”, “g”, and “m” are added to the Class 2Bd designator as specific additional designators. The additional subclass designators do not replace the Class 2Bd designator. All requirements for Class 2Bd warm or cool water stream and river habitats in 7050.0222 and 7052.0100 continue to apply in addition to requirements for Class 2Bde, Class 2Bdg, or Class 2Bdm warm or cool water stream and river habitats in 7050.0222. These subclass designators are only applied to lotic waters.

7050.0222, Subp. 4c., Item A

A. Subitems (1) to ~~(4)~~(5) apply to the beneficial uses in items B and C:

(5) The beneficial use subclass designators “e”, “g”, and “m” are added to the Class 2Bd designator as specific additional designators. The additional subclass designators do not replace the Class 2Bd designator. All requirements for Class 2Bd warm or cool water stream and river habitats in 7050.0222 and 7052.0100 continue to apply in addition to requirements for Class 2Bde, Class 2Bdg, or Class 2Bdm warm or cool water stream and river habitats in 7050.0222. These subclass designators are only applied to lotic waters.

7050.0222, Subp. 2c, 2d, 3c, 3d, 4c, and 4d

Subp. 2c. Beneficial use definitions for lotic cold water aquatic life and ~~stream and river~~ habitat~~s~~ (Class 2A)

Subp. 2d. Biological criteria for lotic cold water aquatic life and ~~stream and river~~ habitat~~s~~ (Class 2A).

Subp. 3c. Beneficial use definitions for lotic warm or cool water aquatic life and ~~stream and river~~ habitat~~s~~ (Class 2Bd)

Subp. 3d. Biological criteria for lotic warm or cool water aquatic life and ~~stream and river~~ habitat~~s~~ (Class 2Bd).

Subp. 4c. Beneficial use definitions for lotic warm or cool water aquatic life and ~~stream and river~~ habitat~~s~~ (Class 2B).

Subp. 4d. Biological criteria for lotic warm or cool water aquatic life and ~~stream and river~~ habitat~~s~~ (Class 2B).

7050.0430 UNLISTED WATERS

Subpart 1. Statewide surface waters. Except as provided in subparts 2 and 3, all surface waters of the state that are not listed in part 7050.0470 and that are not wetlands as defined in part 7050.0186, subpart 1a, are hereby classified as Class 2B ~~2Bg~~, 3C, 4A, 4B, 5, and 6 waters. Unlisted lotic waters are also assigned the beneficial use subclass designator "g" to the Class 2B designator.

Modifications to Proposed Rule

Clarification to the description of the process that is used to designate Modified Uses

7050.0222, Subp. 3c., Item D, Subitem (1) and 7050.0222, Subp. 4c., Item D, Subitem (1)

(1) To meet the definition in this item, waters must have been the subject of a use attainability analysis where it is determined that attainment of ~~and must have been found to be incapable of supporting and maintaining~~ the Class 2Bg beneficial use is not feasible because of human-induced modifications of the physical habitat ~~that preclude the potential for recovery of the fauna~~. These modifications must be the result of direct alteration to the channel, such as drainageway maintenance, bank stabilization, and impoundments.

Modifications to Proposed Rule

Clarification of the habitats to which the TALU biological criteria are applicable

7050.0222, Subp. 2d, 3d, and 4d

A. The biological criteria for cold water aquatic life and habitat (Class 2A) are applicable to perennial and intermittent waters with that allow for colonization of fish and macroinvertebrates.

A. The biological criteria for warm or cool water stream and river habitats (Class 2Bd) are applicable to perennial and intermittent waters that allow for colonization of fish and macroinvertebrates.

A. The biological criteria for warm or cool water stream and river habitats (Class 2B) are applicable to perennial and intermittent waters that allow for colonization of fish and macroinvertebrates.

Rulemaking Schedule

Task	Date(s)
Request for Comments	Request for Comments published August 25, 2014. Close of Comment period, October 17, 2014
Drafting of Rule Language/SONAR	November 2014 to November 2016
Pre-proposal Public Engagement Period	December 2015 to September 2016
Public Informational Meeting on Draft Rule Amendments (held during MPCA Advisory Committee meeting)	June 21, 2016
Public Comment Period/Notice of Intent to Adopt Rules	45-day public comment from December 19, 2016, until 4:30 p.m. on February 2, 2017.
Public Hearing	February 16, 2017
Post-Hearing Comment Period	February 17, 2017 through March 8, 2017
Post-Hearing Rebuttal Period	March 9, 2017 through March 15, 2017
Administrative Law Judge Review and Order	
Adoption of Rules by MPCA	
U.S. EPA Review and Approval	

Questions

TALU webpage:
www.pca.state.mn.us/talu

TALU rule email:
talurulemaking.pca@state.mn.us