Water Quality Standards:
What They Are, How They Work, and Why They Matter

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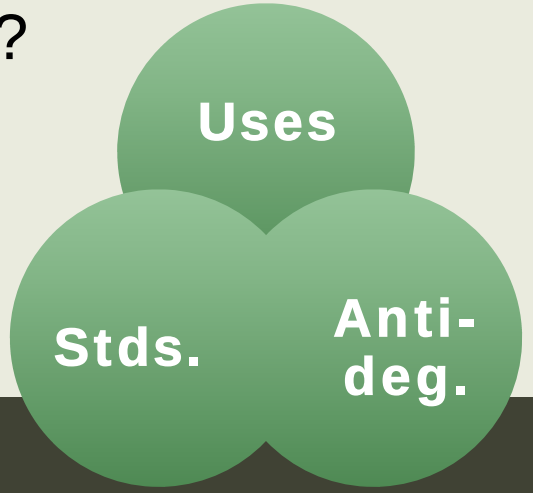
Outline

- What are water quality standards?
  - Beneficial Uses
  - Standards
  - Antidegradation
- How are standards developed and used?
- Summary
- Q & A

What Are WQ Standards?

- Fundamental tool of the Clean Water Act
- CWA objective:
  - "Restore and maintain the chemical, physical and biological integrity of the nation's waters"
  - "Fishable and swimmable" interim goal
- Address three key questions:
  1. What and who are we protecting?
  2. What conditions are protective?
  3. How do we maintain high water quality?



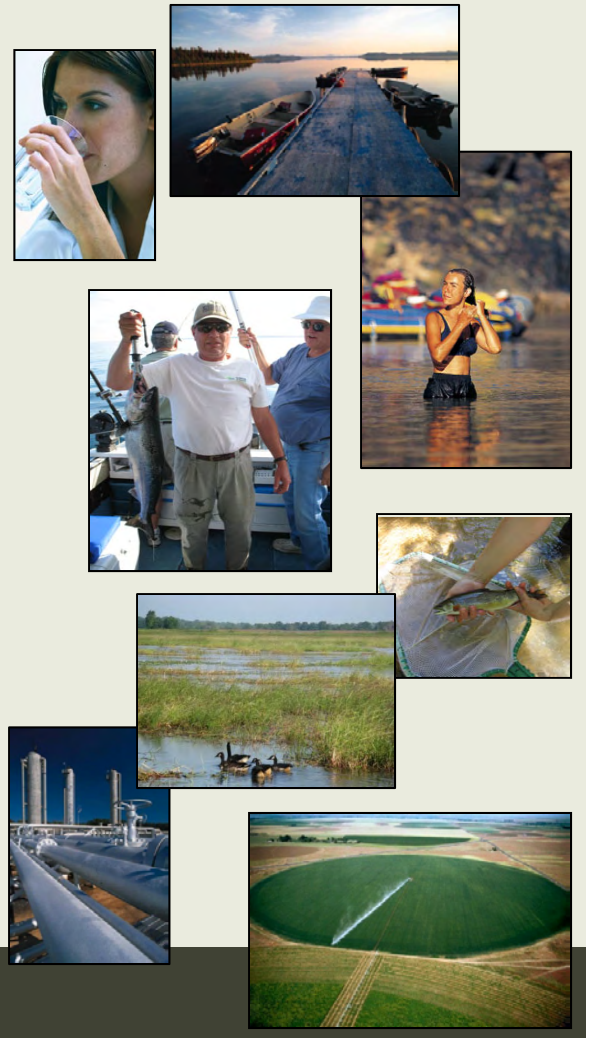
Who/What is Protected?

- Waters assigned <u>beneficial uses</u>
- Minnesota Statutes (Section 115.44, Subd. 3):
  - "...best usage in the interest of the public..."
- Clean Water Act (Section 303(c)(2)(A)):
  - "...use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agriculture, industrial, and other purposes, and also...use and value for navigation."

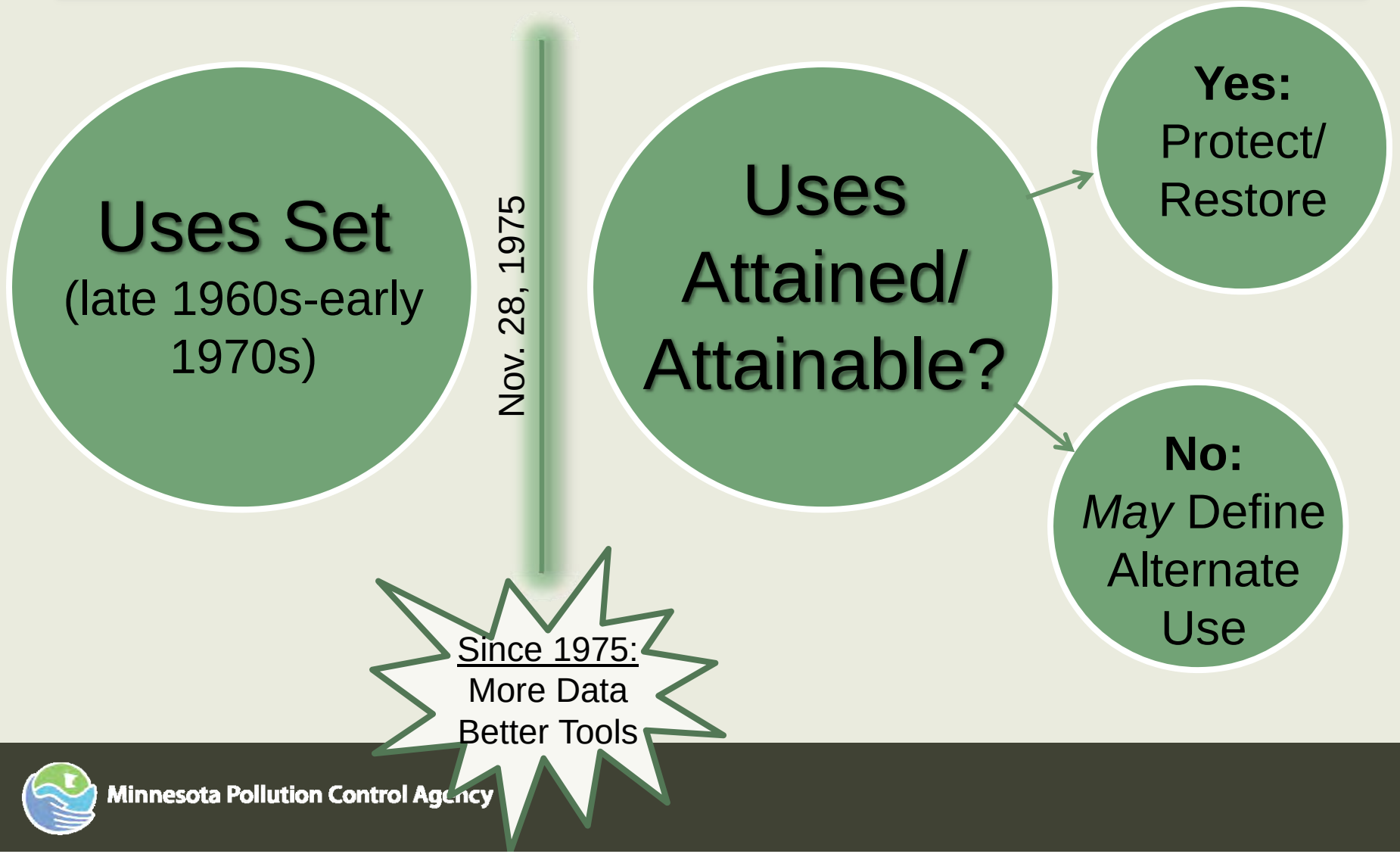
Uses

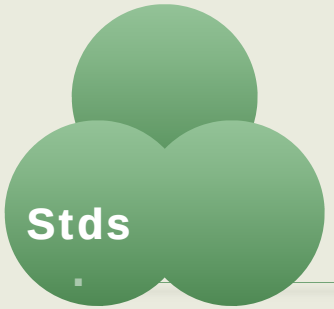
Beneficial Uses

- Seven 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
- Waters have multiple uses
- Existing, designated



Can Beneficial Uses be Changed?





What Conditions are Protective?

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

Aquatic Life & Recreation examples:

Standard	"...no material increase in undesirable slime growths or aquatic plants, including algae..."	6.9 ng/L total mercury in water (outside of Lake Superior Basin)	5.0 mg/L oxygen as a daily minimum, 50% of the days when receiving water flow equals the 7 day, 10-year low flow ($7Q_{10}$)
Protects for:	Aesthetics, swimming	People and wildlife eating fish	Fish survival

How Is Good Water Quality Protected?

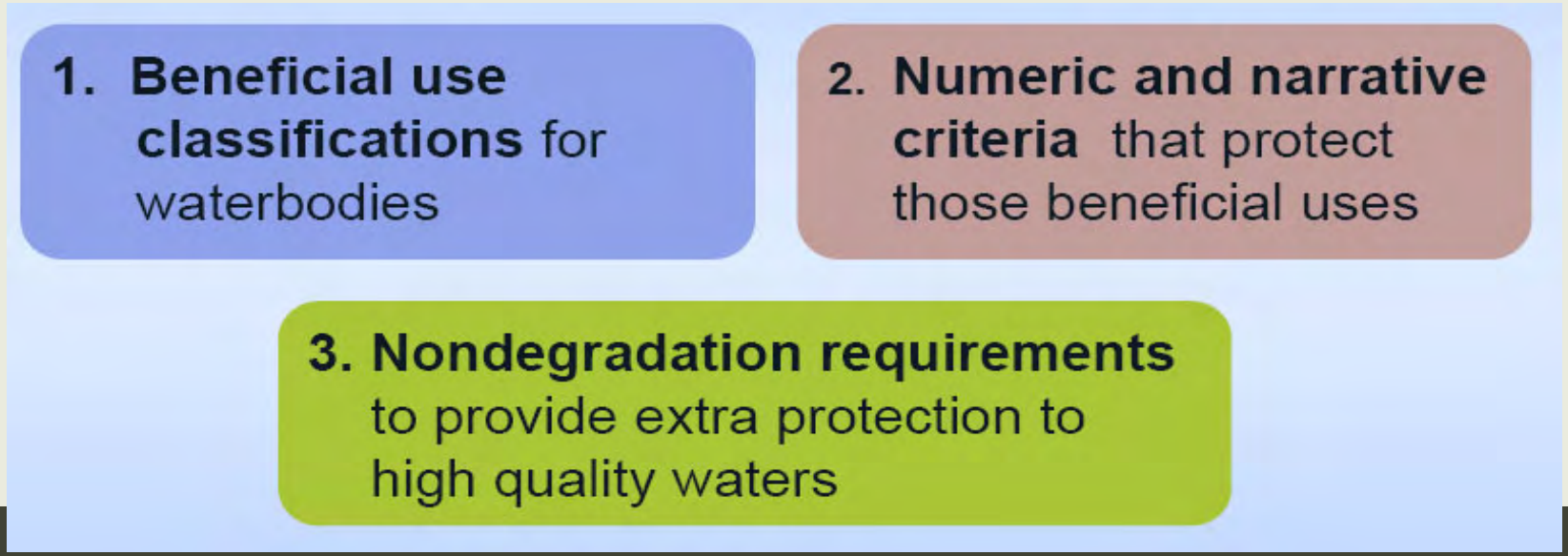
- Antidegradation is a key protection tool
- Different levels of protection:
  1. Maintain existing uses
  2. Protect high quality waters – only allow degradation if:
     - Avoid and minimize impacts
     - Demonstrate need for important social or economic development
     - Protect existing uses
  3. Maintain exceptional waters (ORVWs)

Standards Development

- Required by Clean Water Act and MN Statutes
- Relies on best available science
- Public review of standards at least every 3 years
  - Revise based on new information
  - Revisions follow state Administrative Procedures Act (public input)

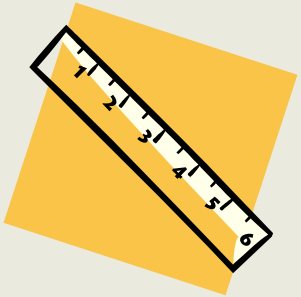
WQ Standards: Summary

- It all goes back to uses
- Required by Clean Water Act and MN Stat.
- Public review at least every 3 years
- Three components:



How Are Standards Used?

- Measures/benchmarks
  - Communication
  - Monitoring and Assessment
- Controls
  - Permitted Effluent Limits
  - Antidegradation review
  - TMDLs



Standards & TMDLs

- The standard sets the goal
  - The condition(s) needed to achieve the use
- The Implementation Plan lays out the response and timeframe
  - Timeline and approach can reflect long-term nature of the restoration effort
  - Tools include permits and best management practices

What's the Bottom Line?

- Standards are the foundation for protecting and restoring clean water
- ID conditions that are protective, based on what and who we are protecting
- Reflect scientific knowledge, public review

Questions / Discussion

Thank You!

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