



Revisions to Wisconsin's Recreation Water Quality Standard and Implementation Procedures

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Government Affairs Seminar
February 23rd, 2017

Outline

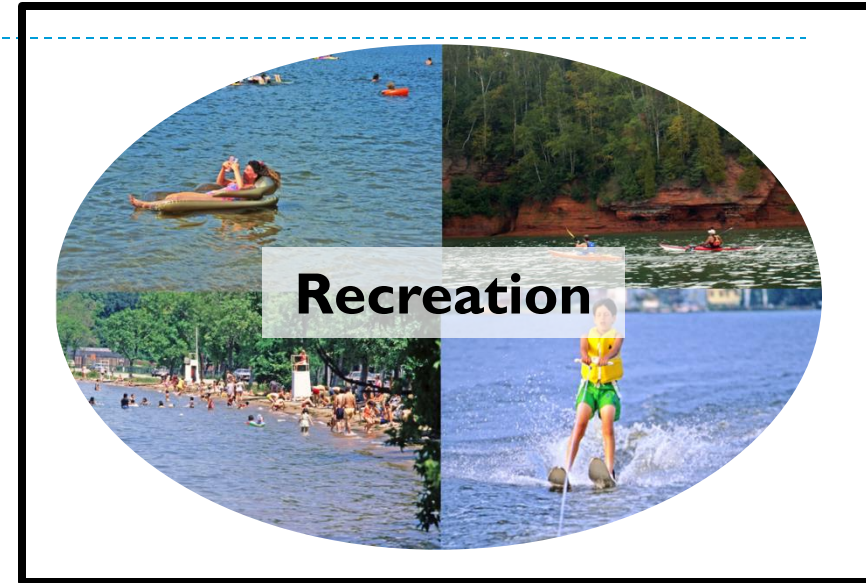
- ▶ Water quality standards – recreation
- ▶ Criteria – history and issues
- ▶ Permit limits
- ▶ Disinfection exemption
- ▶ Mixing zones
- ▶ Proposed changes and potential impacts
- ▶ Next steps



The Clean Water Act – Water Quality Standards

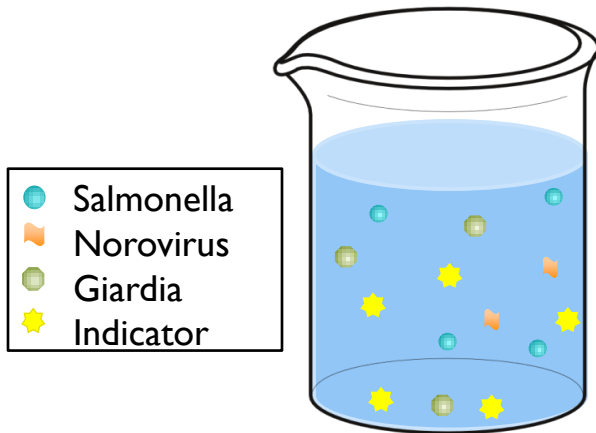


Wisconsin's Designated Uses



Wisconsin's Water Quality Standard for Recreation

- ▶ Recreation use
 - ▶ Establishes a goal of protecting for recreation in and on Wisconsin's waters
- ▶ Water Quality Criteria
 - ▶ Bacteria criteria (fecal coliform) to protect people from illness caused by human fecal contamination



Pathogen Indicator

- ▶ A microorganism that is present in human waste but does not itself cause disease.
- ▶ Used to indicate the presence of human fecal contamination
- ▶ More numerous than pathogens in human fecal matter
- ▶ Cheaper, safer, and easier to measure than pathogens

Bacteria criteria – history & issues

1968

Committee* recommends fecal coliform criteria

1973

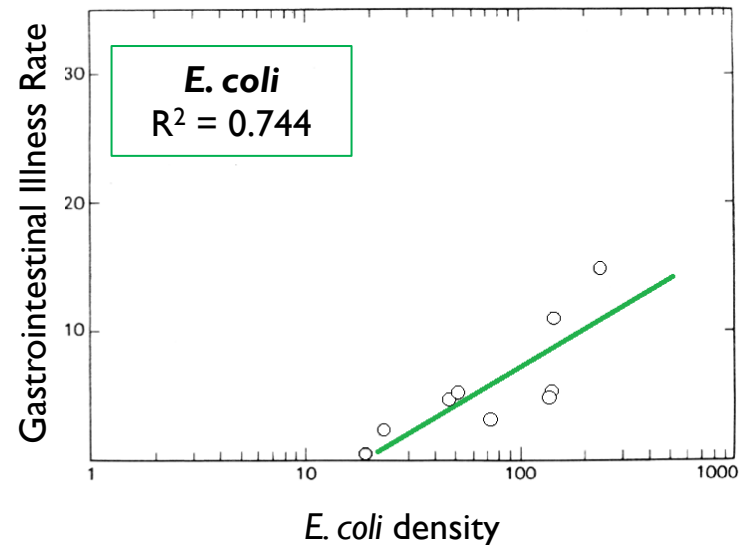
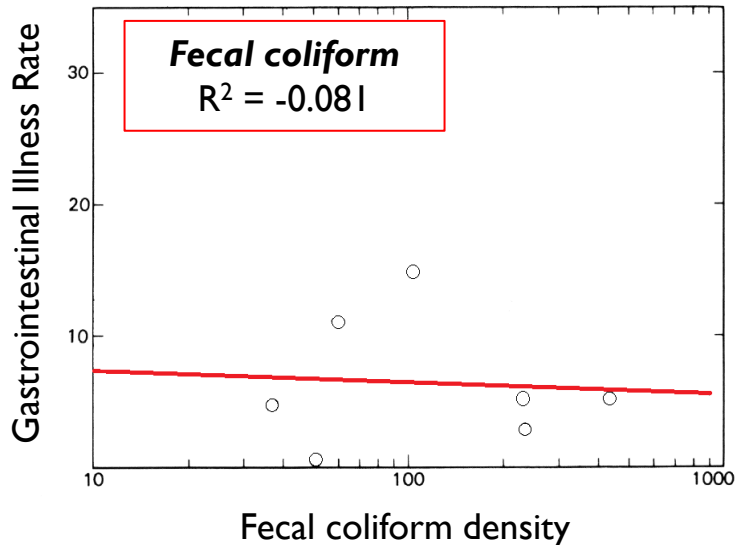
WI adopts fecal coliform criteria

1976

EPA publishes fecal coliform criteria

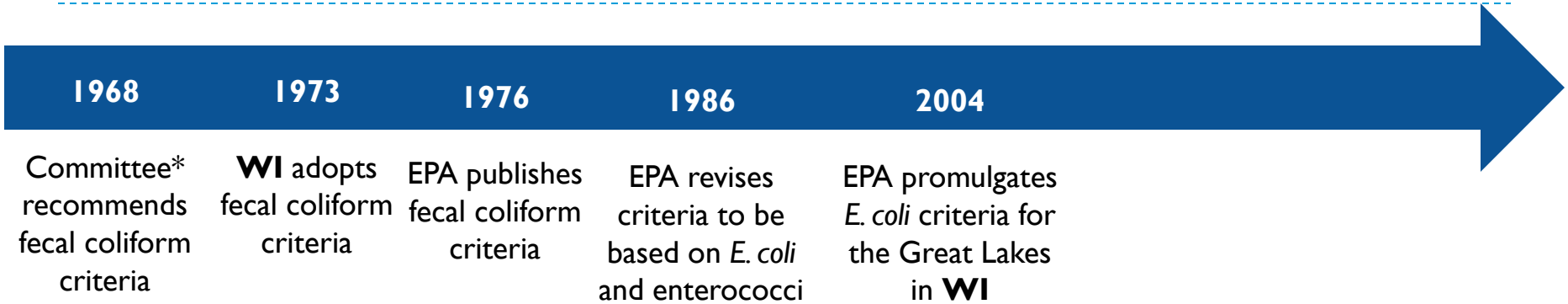
1986

EPA revises criteria to be based on *E. coli* and enterococci



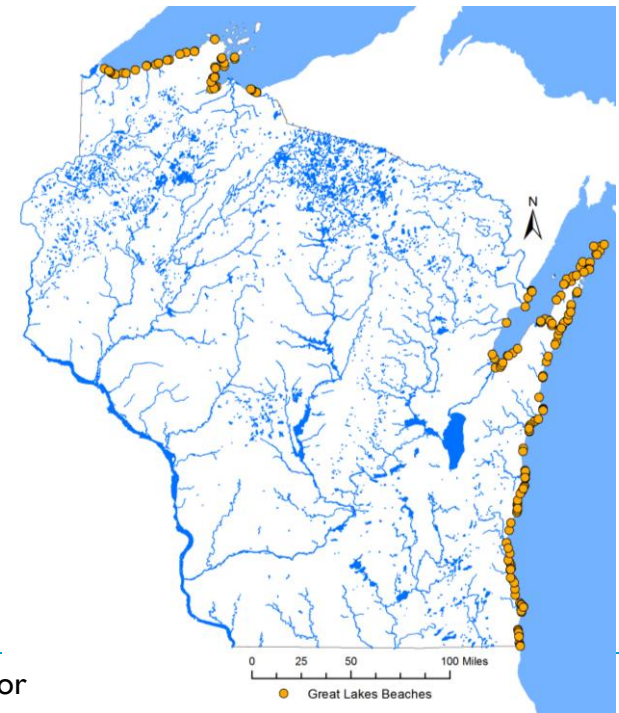
No correlation observed between **fecal coliform** level and gastrointestinal illness rate
Strong correlation observed between ***E. coli*** level and gastrointestinal illness rate

Bacteria criteria – history & issues

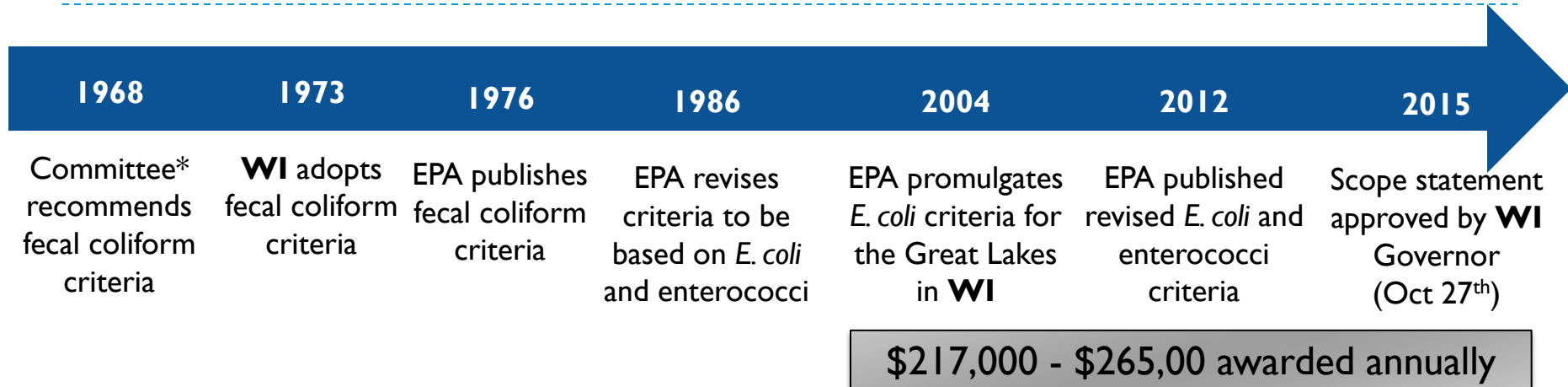


BEACH Act

- ▶ Required States with coastal waters to adopt criteria as protective as EPA's 1986 criteria by April 2004
- ▶ EPA over-promulgated criteria apply in addition to the criteria in NR 102
 - ▶ Fecal coliform criteria apply statewide
 - ▶ *E. coli* criteria apply to the Great Lakes



Bacteria criteria – history & issues



Additional BEACH Act Requirements

- ▶ Requires EPA to publish new/revised criteria every 5 years
- ▶ Requires states with coastal waters to adopt new/revised criteria not later than three years after EPA's publication of these criteria
- ▶ Authorizes EPA to award grants for beach programs

Revisions are needed to update criteria, adequately protect recreation, and ensure compliance with the BEACH Act.

Fecal Coliform Permit Limits

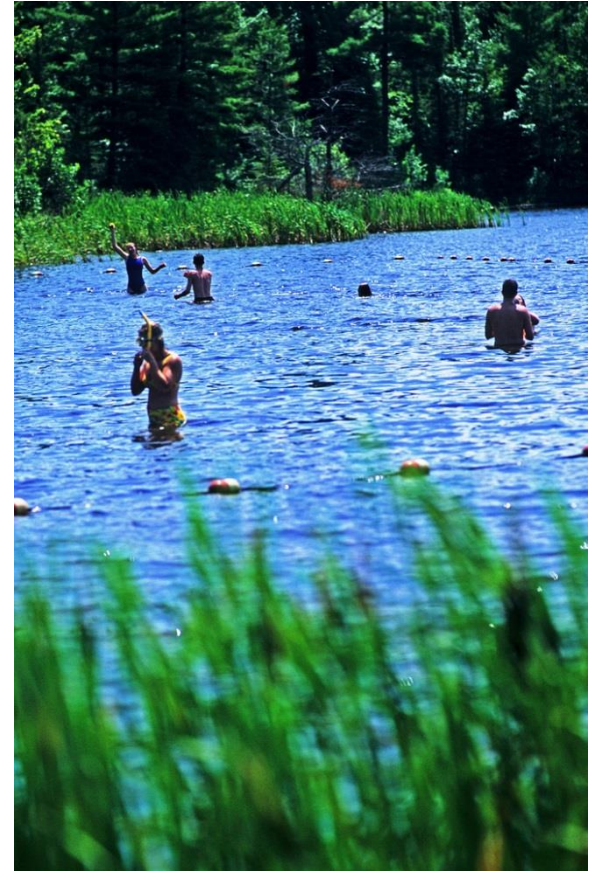
Criteria

Geometric mean may not exceed 200 in a month

Permit Limit

Geometric mean may not exceed 400 a month

- ▶ Fecal coliform limit is a treatment technology limit
- ▶ Current limit does not align directly with the water quality criteria.



Water quality based effluent limits are needed to ensure recreation is adequately protected

Disinfection Exemption



- ▶ **Wisconsin's Existing Policy**
 - ▶ Department can determine that disinfection is not required to protect the recreation use.
 - ▶ If this exemption is granted, the bacteria criteria do not apply.
- ▶ **EPA Policy**
 - ▶ A disinfection exemption cannot be part of a state's water quality standards.
 - ▶ Water quality criteria cannot be removed unless it is demonstrated that the use is still adequately protected

Mixing Zones

- ▶ Wisconsin Existing Policy
 - ▶ Exemptions granted to facilities discharging to streams/rivers with enough dilution that criteria can be met outside the mixing zone
- ▶ EPA Policy
 - ▶ Mixing zones are not appropriate where they allow for elevated levels of pathogens or pathogen indicators in recreation waters
 - ▶ Criteria apply at the end-of-pipe



Revisions are needed to permit limits and implementation procedures to protect water quality and ensure consistency with federal policies.

Revisions, impacts, and flexibility

Proposed Changes

- Update the bacteria criteria to *E. coli*
- Revise the permit limits to *E. coli*
- Address the disinfection exemption
- Add minimum monitoring requirements

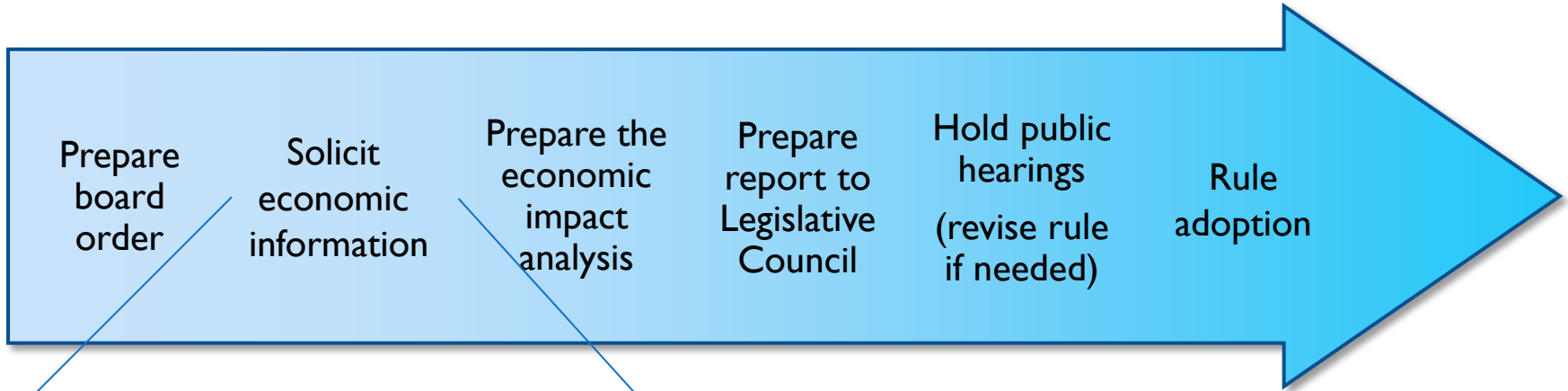
Potential Impacts

- Changes only impact sewage treatment facilities* discharging May - Sept
- Most facilities will need to adjust their monitoring program
- Some facilities will need to initiate a disinfection program

Flexibility Options Considered

- Criteria will not apply to wetlands, ephemeral waters, effluent channels
- Allows for reasonable potential analysis to determine if limits are needed
- Ability for compliance schedules to be established

Next steps



- ▶ Disinfection costs (facilities \leq 1 MGD)
 - ▶ Installation/equipment
 - ▶ Operation & maintenance
- ▶ Monitoring
 - ▶ Costs (fecal coliform, *E. coli*)
 - ▶ Location (in house, commercial lab)



Benefits

- ▶ Increased transparency and consistency statewide
- ▶ Increased efficiency in the permitting and TMDL programs
- ▶ Avoid over-promulgation by EPA
- ▶ Maintain WI's eligibility for BEACH Act grant funding
- ▶ **Protect recreation**



Questions?



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