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Changes to Washington State's recreational use criteria and implications for surface waters

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Changes to Washington's State Recreational Use Criteria: Implications for Surface Waters

Bryson Finch

Watershed Management Unit
Water Quality Program



DEPARTMENT OF
ECOLOGY
State of Washington

Why Now?

§ **BEACH Act (2000)**

- Requires coastal states to adopt new EPA criteria within 36 months
- Required to adopt 2012 recommendations by Dec. 2015
- Risk losing EPA BEACH grant if fail to adopt new criteria

§ Ecology's Performance Partnership Agreement with EPA

- Agreement to adopt new indicators

§ Increased interest from regulated community to update criteria



Current Recreational Criteria

| <u>FRESH WATER (Fecal Coliform)</u> | Geometric Mean (cfu/100mL) | STV (cfu/100mL) |
|--|--------------------------------------|---------------------------|
| Extraordinary Primary Contact | 50 | 100 |
| Primary Contact | 100 | 200 |
| Secondary Contact | 200 | 400 |
| ----- | | |
| <u>MARINE WATER:</u> | | |
| Primary Contact (fecal coliform) | 14 | 43 |
| Secondary Contact (enterococcus) | 70 | 208 |
| ----- | | |
| Shellfish Harvesting Use (fecal coliform) | 14 | 43 |

Not
Recreational
Criteria



2012 EPA Recommendations

| Criteria Elements | Estimated Illness Rate (NGI): 36 per 1,000 primary contact recreators | | OR | Estimated Illness Rate (NGI): 32 per 1,000 primary contact recreators | |
|--------------------------------------|---|----------------------------------|----|---|----------------------------------|
| | Magnitude | | | Magnitude | |
| Indicator | GM (cfu/100 mL) ^a | STV (cfu/100 mL) ^a | | GM (cfu/100 mL) ^a | STV (cfu/100 mL) ^a |
| Enterococci – marine and fresh | 35 | 130 | | 30 | 110 |
| OR | | | | | |
| <i>E. coli</i> – fresh | 126 | 410 | | 100 | 320 |

Duration and Frequency: The waterbody GM should not be greater than the selected GM magnitude in any 30-day interval. There should not be greater than a ten percent excursion frequency of the selected STV magnitude in the same 30-day interval.



Current WQ Standards



FRESHWATER

Recreation
fecal coliform

Shellfish Harvesting
&
Recreation
fecal coliform criteria

MARINE WATER



Revised WQ Standards and Considerations



FRESHWATER

~~Recreation
fecal coliform~~

Recreation
E. Coli and/or
Enterococcus criteria

Upstream compliance may require regulatory limits on *fecal coliform* to meet downstream shellfish harvesting use

Shellfish Harvesting
fecal coliform criteria

MARINE WATER

Recreation
Enterococcus criteria



Why New Indicators?

| Water Type | Bacterial Indicator | Correlation Coefficient (w/ Illnesses) |
|---------------|---------------------------|--|
| Marine | Enterococcus | .96 |
| | E. coli | .56 |
| | Fecal coliforms | .51 |
| | Klebsiella | .61 |
| | Einterobacter/Citrobacter | .64 |
| | Total coliform | .65 |
| | C. perfringens | .01 |
| | P. aeruginosa | .59 |
| | A. hydrophila | .60 |
| | V. parahemolyticus | .42 |
| Staphylococci | .60 | |
| Freshwater | Enterococcus | .74 |
| | E. coli | .80 |
| | Fecal coliforms | -.08 |





Implications

Recreational Use Classes

§ Fecal coliform use classes:

- Extraordinary (50 cfu), Primary (100 cfu), Secondary (200 cfu)

§ EPA recommendations are based on primary contact uses only

- EPA no longer approves secondary contact criteria
- Extraordinary originated from 1968 DOI recommendations

§ Options:

- Remove extraordinary and secondary use classes (primary only)
- Remove secondary use classes
- Do not propose rule changes for secondary uses

Ecology may modify recreational use classes and water body designations



TMDLs, Permitting, & Transition Period

§ TMDLs

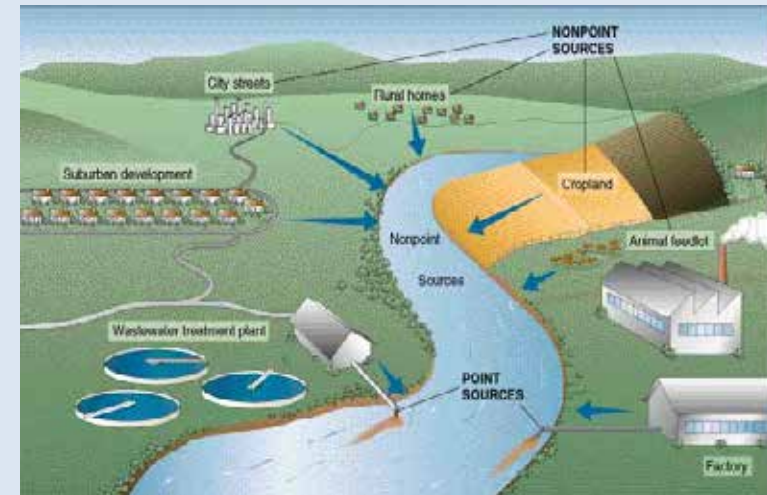
- Existing fecal coliform based TMDLs
- New TMDLs

§ Permitting

- Updating permits: 5-year renewals

§ Criteria Transition Period

- Two sets of criteria available for permittees



Laboratory Impacts

§ Methods:

- E. coli: similar methods and equipment compared with fecal coliform
- Enterococcus: new methods, equipment, and upfront costs

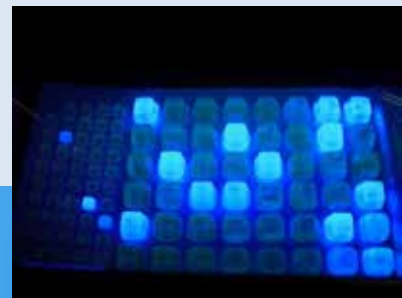
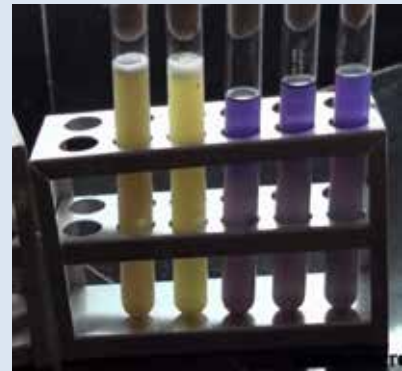
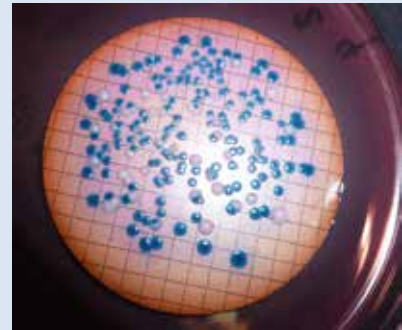
§ Accreditation:

- 1 microbiologist in accreditation unit
- Drinking water audits priority

§ Current Status:

- 188 WWTPs accredited for fecal coliform
 - 9 test for E. coli
 - 4 test for enterococcus
- 35 commercial labs: fecal coliform
- 22 commercial labs: E. coli
- 10 commercial labs: enterococcus

Transition period needed to accredit labs for new indicators



Timeline / Outreach

- § Announce rulemaking (**CR-101**): August 16th, 2017 ü
 - Stakeholder/public process: educate / collect information / draft rule
 - Kick-off webinar: October 17th, 2017 ü
 - Technical Team Meetings: February - March 2018 ü
 - Regulatory (cost/benefit) analysis: ongoing
 - SEPA analysis: June 2018
 - Proposed rule language webinar: Late June 2018

- § Publish proposed rule (**CR-102**): Summer 2018
 - Hold 2-4 public hearings
 - Receive and respond formally to comments

- § Adopt rule by Winter 2018



Questions?

§ Contact Information:

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