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

Bryson Finch
Washington State Dept. of Ecology, United States, bfin461@ecy.wa.gov

Chad Brown
Washington State Dept. of Ecology, United States, chbr461@ecy.wa.gov

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

Bryson Finch
Watershed Management Unit
Water Quality Program
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

### FRESH WATER (Fecal Coliform)

<table>
<thead>
<tr>
<th>Extraordinary Contact</th>
<th>Geometric Mean (cfu/100mL)</th>
<th>STV (cfu/100mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Secondary</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>400</td>
</tr>
</tbody>
</table>

### MARINE WATER:

<table>
<thead>
<tr>
<th>Contact Type</th>
<th>Geometric Mean (cfu/100mL)</th>
<th>STV (cfu/100mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Contact (fecal coliform)</td>
<td>14</td>
<td>43</td>
</tr>
<tr>
<td>Secondary Contact (Enterococcus)</td>
<td>70</td>
<td>208</td>
</tr>
</tbody>
</table>

### Shellfish Harvesting Use (fecal coliform)

- **Not Recreational Criteria**
2012 EPA Recommendations

<table>
<thead>
<tr>
<th>Criteria Elements</th>
<th>Estimated Illness Rate (NGI): 36 per 1,000 primary contact recreators</th>
<th>Estimated Illness Rate (NGI): 32 per 1,000 primary contact recreators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>GM (cfu/100 mL)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>STV (cfu/100 mL)&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Enterococci – marine and fresh</td>
<td>35</td>
<td>130</td>
</tr>
<tr>
<td>OR</td>
<td>E. coli – fresh</td>
<td>126</td>
</tr>
</tbody>
</table>

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.
Upstream compliance may require regulatory limits on *fecal coliform* to meet downstream shellfish harvesting use.
## Why New Indicators?

<table>
<thead>
<tr>
<th>Water Type</th>
<th>Bacterial Indicator</th>
<th>Correlation Coefficient (w/ Illnesses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine</td>
<td><strong>Enterococcus</strong></td>
<td>.96</td>
</tr>
<tr>
<td></td>
<td><strong>E. coli</strong></td>
<td>.56</td>
</tr>
<tr>
<td></td>
<td><strong>Fecal coliforms</strong></td>
<td>.51</td>
</tr>
<tr>
<td></td>
<td><strong>Klebsiella</strong></td>
<td>.61</td>
</tr>
<tr>
<td></td>
<td><strong>Einterobacter/Citrobacter</strong></td>
<td>.64</td>
</tr>
<tr>
<td></td>
<td><strong>Total coliform</strong></td>
<td>.65</td>
</tr>
<tr>
<td></td>
<td><strong>C. perfringens</strong></td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td><strong>P. aeruginosa</strong></td>
<td>.59</td>
</tr>
<tr>
<td></td>
<td><strong>A. hydrophila</strong></td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td><strong>V. parahemolyticus</strong></td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td><strong>Staphylococci</strong></td>
<td>.60</td>
</tr>
<tr>
<td>Freshwater</td>
<td><strong>Enterococcus</strong></td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td><strong>E. coli</strong></td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td><strong>Fecal coliforms</strong></td>
<td>-.08</td>
</tr>
</tbody>
</table>
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**
  - Stakeholder/public process: educate / collect information / draft rule
    - Kick-off webinar: October 17th, 2017
    - Technical Team Meetings: February - March 2018
    - 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:

Bryson Finch
Water Quality Standards Scientist
WA Dept. of Ecology, WQ Program
bfin461@ecy.wa.gov
360.407.7158