

HUMAN HEALTH WATER QUALITY CRITERIA AND ECOLOGY IMPAIRED LISTING POLICY

Presented to MWPAAC – February 24, 2016

Ecology's Proposed Human Health Water Quality Criteria

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- January 2016 Ecology proposed State Human Health Water Quality Standards
- Public comment being taken until April 22nd
- When new Human Health criteria are approved, they will affect permits for utility activities

Human Health Criteria Incorporate Multiple Factors

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$$HHC = \frac{RL \times BW}{CSF \times [WC + (FCR \times BCF)]}$$

Carcinogen

Non-Carcinogen

$$HHC = \frac{RfD \times RSC \times BW}{[WC + (FCR \times BCF)]}$$

- HHC = Human Health WQC in $\mu\text{g/L}$
- RL = Risk Level 10^{-6}
- BW = Body weight
- **FCR = Fish consumption rate**
- BCF = Bioconcentration factor
- CSF = Cancer Slope Factor (carcinogenic toxicity)
- RfD = Reference Dose (non-carcinogen toxicity)
- WC = Water consumption (^a freshwater only)
- RSC = Relative Source Consumption (^b some non-carcinogens)



Ecology's Proposed Standards

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- Fish Consumption Rate – 175 grams/day
- Cancer Risk Rate of 10^{-6}
- 2 ubiquitous chemicals stay the same
 - PCBs
 - Mercury
- Arsenic – changed to equal drinking water standard
 - Measured as total arsenic instead of the more challenging to measure inorganic form

PCBs

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Variables	Current HHC NTR Using 6.5 g/day FCR		EPA proposed HHC assuming 175g/day FCR	
	Marine	Fresh	Marine	Fresh
RL = Risk Level	10 ⁻⁶		10 ⁻⁶	
BW = Body weight (kg)	70		80	
FCR (g/day) = Fish Consumption Rate	6.5		175	
BCF = Bioconcentration factor	31,200		31,200	
CSF = Cancer Slope Factor (mg/kg/day)	2		2	
WC = Water consumption (L)	0	2	0	2.4
HHC (µg/L)	0.000170	0.000170	0.0000073	0.0000073

Ecology proposal retains these values

Ecology's Proposed Rule also Includes

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- New or more detailed implementations tools
 - ▣ Variances
 - ▣ Compliance schedules
 - ▣ Intake credits
- Clarifies how the rule applies to CSO wet weather treatment facilities

Potential Affects of these Regulatory Changes

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- Wastewater Plants
- CSO Outfalls and Treatment Facilities
- Stormwater Outfalls and Discharges

Proposed Rule Process

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- Proposed WQ Rule revision open for public comment through April 22, 2016
- Ecology will consider comments, then finalize the rule
- Ecology then submits the WQ Standards revision to EPA for approval.

Questions And Discussion

Waterbody Listing Policy

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- CWA requires WA identify if surface waters are meeting water quality standards.
- Every 4 years Ecology prepared a Water Quality Assessment Report that categorizes all waters
- Five categories
 - 1 = waters meets criteria
 - 2 = waters of concern
 - 3 = insufficient data
 - 4 = waters impaired but no TMDL required because:
 - 4a = already has a TMDL
 - 4b = has an alternative pollution control plan (e.g. Superfund cleanup plan)
 - 4c = impaired but not by a pollutant
 - 5 = Water is impaired (does not meet WQ standards (303d list), a Water Quality Improvement Plan (TMDL) is required

Refining Listing Criteria

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- 1/20/16 Ecology called for new data from all sources to be submitted use in next Assessment and waterbody listings
- Ecology is also requesting Scoping comments on whether changes should be made in the Guidance they use to classify waterbodies into a category (1-5)
- Types of data used
 - ▣ Water Quality
 - ▣ Sediment
 - ▣ Fish or shellfish tissue
 - ▣ Sediment toxicity testing (bioassays)
 - ▣ Presence/Absence of invertebrates in stream sediments

Importance of Getting These Criteria Right

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- Loose criteria leads to many more Category 5 listings on sometimes scant or old (10+ yrs.) information
 - Relatively few “waters of concerns” or “insufficient data”
- Each listing must have a TMDL, the implementation of which may fall on utilities
- No clear ‘delisting’ policy leaves impairments active too long

Refining Listing Criteria

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- The current policy was last revised in 2012
- Many Category 5 listing (impaired waterbodies) are based on old or scant data
- Comments needed:
 - Create Strategic Policies and procedures
 - Utilize Robust data to support listings
 - Assure appropriate use of all Assessment Categories
- Scoping comment period open till April 1st

Questions

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