

Protecting Water Quality in Washington

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Topics for today

- Human Health Criteria & Implementation Tools Update
- Spokane River Toxics
- Industrial Stormwater
- Upcoming work
 - Water Quality Assessment
 - Nonpoint Plan Update





Human Health Criteria & Implementation Tools Update

Water Quality Standards Changes

- Human Health Criteria: Calculation Variables
 - Fish consumption rate
 - Risk rate for carcinogens
 - Relative source contribution for toxic effect chemicals
 - Body weight
 - Drinking water
- Challenging Chemicals
 - Arsenic
 - PCBs
 - Mercury
- Implementation Tools
 - Compliance schedules
 - Variances
 - Intake credits



GOVERNOR'S PROPOSED RULE

Keeping water clean for our communities.

MORE protective than
current standards for
70% of chemicals



AS protective as
current standards for
30% of chemicals

The Governor's proposed water quality rule will result in standards that are more protective for 70% of regulated toxics. A majority of those will be 2-20 times more protective.



GOVERNOR'S PROPOSED RULE

The rule would be more protective than current standards for 70% of the 96 chemicals

KEY

- Proposed rule is **more** protective on this chemical
- Proposed rule is **as** protective on this chemical

FRESH WATER

1,1,2-Tetrachloroethane | 1,1,2-Trichloroethane | 1,1-Dichloroethylene
 1,2,4-Trichlorobenzene | 1,2-Dichlorobenzene | 1,2-Dichloroethane
 1,2-Dichloropropane | 1,2-Diphenylhydrazine | 1,2-Trans-Dichloroethylene
 1,3-Dichlorobenzene | 1,3-Dichloropropene | 1,4-Dichlorobenzene
 2,3,7,8-TCDD (Dioxin) | 2,4,6-Trichlorophenol | 2,4-Dichlorophenol
 2,4-Dimethylphenol | 2,4-Dinitrophenol | 2,4-Dinitrotoluene
 2-Chloronaphthalene | 2-Chlorophenol | 2-Methyl-4,6-Dinitrophenol
 3,3'-Dichlorobenzidine | 4,4'-DDD | 4,4'-DDE | 4,4'-DDT
 Acenaphthene | Acrolein | Acrylonitrile | Aldrin | alpha-BHC
 alpha-Endosulfan | Anthracene | Antimony | Asbestos | Benzene | Benzidine
 Benzo(a)Anthracene | Benzo(a)Pyrene | Benzo(b)Fluoranthene
 Benzo(k)Fluoranthene | beta-BHC | beta-Endosulfan
 Bis(2-Chloroethyl)Ether | Bis(2-Chloroisopropyl) Ether | Bis(2-Ethylhexyl)
 Phthalate | Bromoform | Butylbenzyl Phthalate | Carbon Tetrachloride
 Chlordane | Chlorobenzene | Chlorodibromomethane | Chloroform
 Chrysene | Copper | Cyanide | Dibenzo (a,h) Anthracene
 Dichlorobromomethane | Dieldrin | Diethyl Phthalate
 Dimethyl Phthalate | Di-n-Butyl Phthalate | Endosulfan Sulfate | Endrin
 Endrin Aldehyde | Ethylbenzene | Fluoranthene | Fluorene
 gamma-BHC (Lindane) | Heptachlor | Heptachlor Epoxide
 Hexachlorobenzene | Hexachlorobutadiene | Hexachloro-cyclopentadiene
 Hexachloroethane | Indeno (1,2,3-cd) Pyrene | Isophorone | Mercury
 Methyl Bromide | Methylene Chloride | Nickel | Nitrobenzene
 N-Nitrosodimethylamine | N-Nitrosodi-n-Propylamine
 N-Nitrosodiphenylamine | Pentachlorophenol | Phenol | PCBs | Pyrene
 Selenium | Tetrachloroethylene | Thallium | Toluene | Toxaphene
 Trichloroethylene | Vinyl Chloride | Zinc

MARINE WATER

1,1,2-Tetrachloroethane | 1,1,2-Trichloroethane | 1,1-Dichloroethylene
 1,2,4-Trichlorobenzene | 1,2-Dichlorobenzene | 1,2-Dichloroethane
 1,2-Dichloropropane | 1,2-Diphenylhydrazine | 1,2-Trans-Dichloroethylene
 1,3-Dichlorobenzene | 1,3-Dichloropropene | 1,4-Dichlorobenzene
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 Trichloroethylene | Vinyl Chloride | Zinc





Human Health Criteria Fish Consumption Rate

	Current	Alternative1	Decision Alternative 2	Alternative 3
Fish Consumption Rate	6.5 grams/day	225 grams/day	175 grams/day	125 grams/day
Basis	National data	Washington data: Suquamish Fish Consumption Tribal survey	Negotiated value used in Oregon's updated Human Health Criteria	Washington data: Fish Consumption Rate surveys of three Puget Sound tribes
Target Population	Mean of General Population	Mean of Surveyed Suquamish Tribal Members	Highly Exposed Population	Mean of three Puget Sound Tribal Studies





Human Health Criteria Risk Level

Numeric	What it means, under specified exposure assumptions
10^{-6}	...risk of one additional occurrence of cancer, in one million people beyond existing risk level (women1:3 – men:1:2) – after 70 years of daily exposure
Decision 10^{-5}	...risk of one additional occurrence of cancer, in one hundred thousand people beyond existing risk level (women1:3 – men:1:2) – after 70 years of daily exposure
10^{-4}	...risk of one additional occurrence of cancer, in ten thousand people beyond existing risk level (women1:3 – men:1:2) – after 70 years of daily exposure

↑
Increasing protection

For NTR human health criteria, the exposure assumptions are:

70 years of daily exposure to **6.5 g/day** of fish and shellfish, and **2 liters/day** of untreated surface waters, for a **154 lb.** person.

Challenging Chemicals: Arsenic, PCBs, Mercury

Arsenic - Adopt Safe Drinking Water Act regulatory level of 10 ppb

PCBs - Criteria calculated at a risk level of 4×10^{-5} (to equal noncancer) & apply "hold the line" decision

Mercury - Defer adoption of new mercury criteria (stay under the NTR in interim)



Tools to Help with Implementation

Ecology already has a number of tools that we use when issuing permits (e.g. mixing zones).

We are planning to expand those tools:

1. New language allowing intake credits for water quality based effluent limits
2. Additional language around compliance schedules
3. Clarifying language for variances



Timeline

- Preliminary draft rule went out on Sept. 30, 2014
- Issue draft rule in early 2015
- Governor proposes Toxics Reduction Package to 2015 Legislature
- Adopt final rule after 2015 Legislature closes



Website



www.ecy.wa.gov/water/standards/index.html





Spokane River Toxics

Spokane River Regional Toxics Task Force

Goals

- Bring the Spokane River into compliance with water quality standards
- Better understand how PCBs enter and move through river
- Identify data obtained and needed to address data gaps
- Implement Best Management Practices to achieve source reduction



How Do We Know It's Working?

- Measurable Progress
 - Adaptive Management
 - Inputs, Outputs, Outcomes
 - Implementation Timeframes





Industrial Stormwater

Industrial Stormwater General Permit

- Most permit conditions unchanged
- Revisions made to:
 - Streamline reporting (e-Reporting)
 - Simplify engineering reports for treatment systems
 - Improve protection of Puget Sound sediment cleanup sites



Industrial Stormwater

- Most controversial for discharges to waters undergoing sediment cleanups
 - Characterize solids in storm drain lines
 - Clean out, dispose of solids
 - Total Suspended Solids (TSS) sampling
 - Category 5, 30 mg/L TSS limit
 - Non-Category 5 (e.g. Cat. 4B), 30 mg/L TSS benchmark
 - 2 year compliance schedule, if discharge point wasn't already subject to the TSS limit





Upcoming Work



Water Quality Assessment

- Data analysis began in 2011
 - Finally complete with all the data analysis
 - More data records than the past
 - Will only be for freshwater (marine water was done in 2012).
 - Analysis is based on existing water quality standards.
 - Will include new hydrological based segment sizes.





Nonpoint Management Plan

- Develop strategies for addressing all nonpoint pollution
 - Required by EPA to develop strategies for addressing nonpoint
 - Important to do this right - distribute pressure and responsibility for controlling pollution.
 - Need engagement – public process starts this winter.





Questions and Discussion