

# Permitting Tools: Mixing Zones and Intake Credits

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Diana Washington  
Senior Engineer/Permit Manager  
Water Quality Program



# Reasonable Potential (RP)

- RP is an evaluation of whether or not, the discharge of a pollutant will cause or contribute to an exceedance of a narrative or numeric criteria



# Narrative Criteria

- The narrative criteria are statements that describe the desired water quality goal, such as waters being "free from" pollutants like oil and scum, color and odor, and other substances that can harm people and fish. These criteria protect water bodies from pollutants for which numeric criteria are difficult to specify.



# Numeric Criteria

- Numeric criteria are numbers that specify limits and/or ranges of chemical concentration that protect designated uses.
- Ecology uses a reasonable potential spreadsheet to evaluate the potential of a pollutant identified in a discharge to cause or contribute to an exceedance of the numeric criteria
- The following link provides information about criteria and the tools used to evaluate reasonable potential.
  - <https://ecology.wa.gov/Water-Shorelines/Water-quality/Freshwater/Surface-water-quality-standards/Criteria>





# Mixing Zones

- WAC 173-201A-400

# Mixing Zone (MZ) Conditions

- (1) Establish in discharge permits
- (2) Fully apply All Known Available and Reasonable Methods of Prevention, Control and Treatment (AKART) before issuing a MZ
- (3) Consider critical discharge conditions
- (4) No MZ unless clearly indicated that the MZ will not have a RP to cause loss of or substantially interfere with existing uses or adversely affect public health.

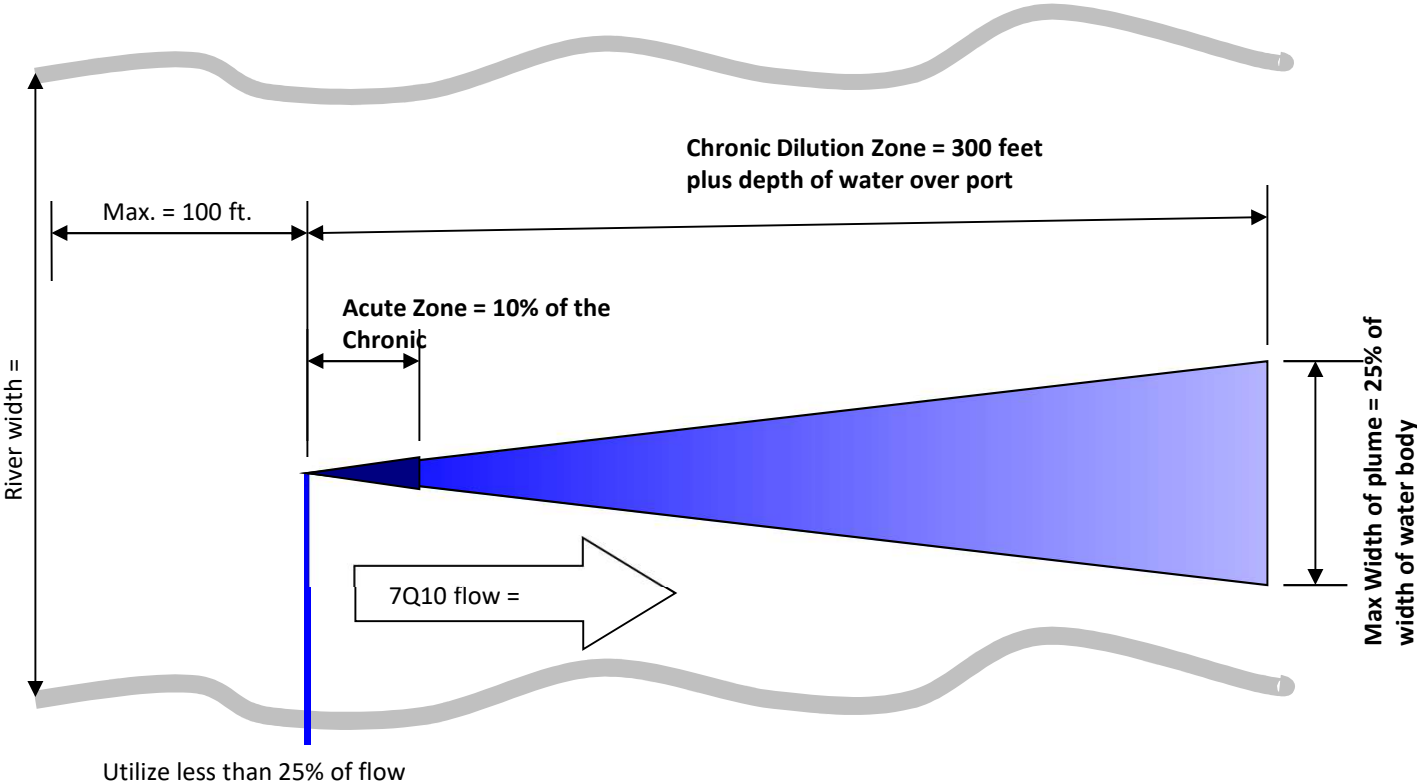


# Mixing Zone Conditions Cont.

- (5) WQ criteria will not be violated outside the MZ.
- (6) Minimize size
- (7) Meet max size requirements
- (8) Meet criteria based on data and approved modeling
- (9-16) Exceptions and special circumstances



# Mixing Zones



Plan View – not to scale





# Is a PCB Mixing Zone an Option for the Spokane River Dischargers?

- ❖ Not for PCBs—Because:
  - The receiving water fails to meet the water quality standards so no additional mass can be contributed to the river.
    - Condition 5 above (slide 7)





# Intake Credits

- WAC 173-201A-460

# Intake Credits Defined

WAC 173-201A-460 (1)

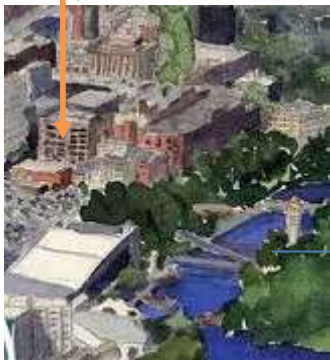
- What is an Intake Credit?
  - An intake credit gives a discharger an allowance for the pollutant load in the source water used and then discharged.



GW polluted by human activity not eligible

Flow weighted if multiple sources

Source water with known pollutant (PCB) load



Domestic or other water system source-- pollutant evaluated taken where it enters the distribution system. Must demonstrate same source.



Industrial discharge with no increase in pollutant load at the edge of the MZ if one is provided

No RP to cause or contribute to an exceedance of criteria

No net increase in mass of pollutant in the wastewater



Timing and location of the discharge would not result in adverse WQ impacts



# Will this apply to our permits?

❖ Not for PCBs—Because:

- The Spokane river is already listed for PCBs. Therefore RP to cause or contribute to an exceedance of criteria.
- the GW has PCBs that are contributed by human activity

