Issue #7:
"Significant and/or *de minimis*" Degradation

Background

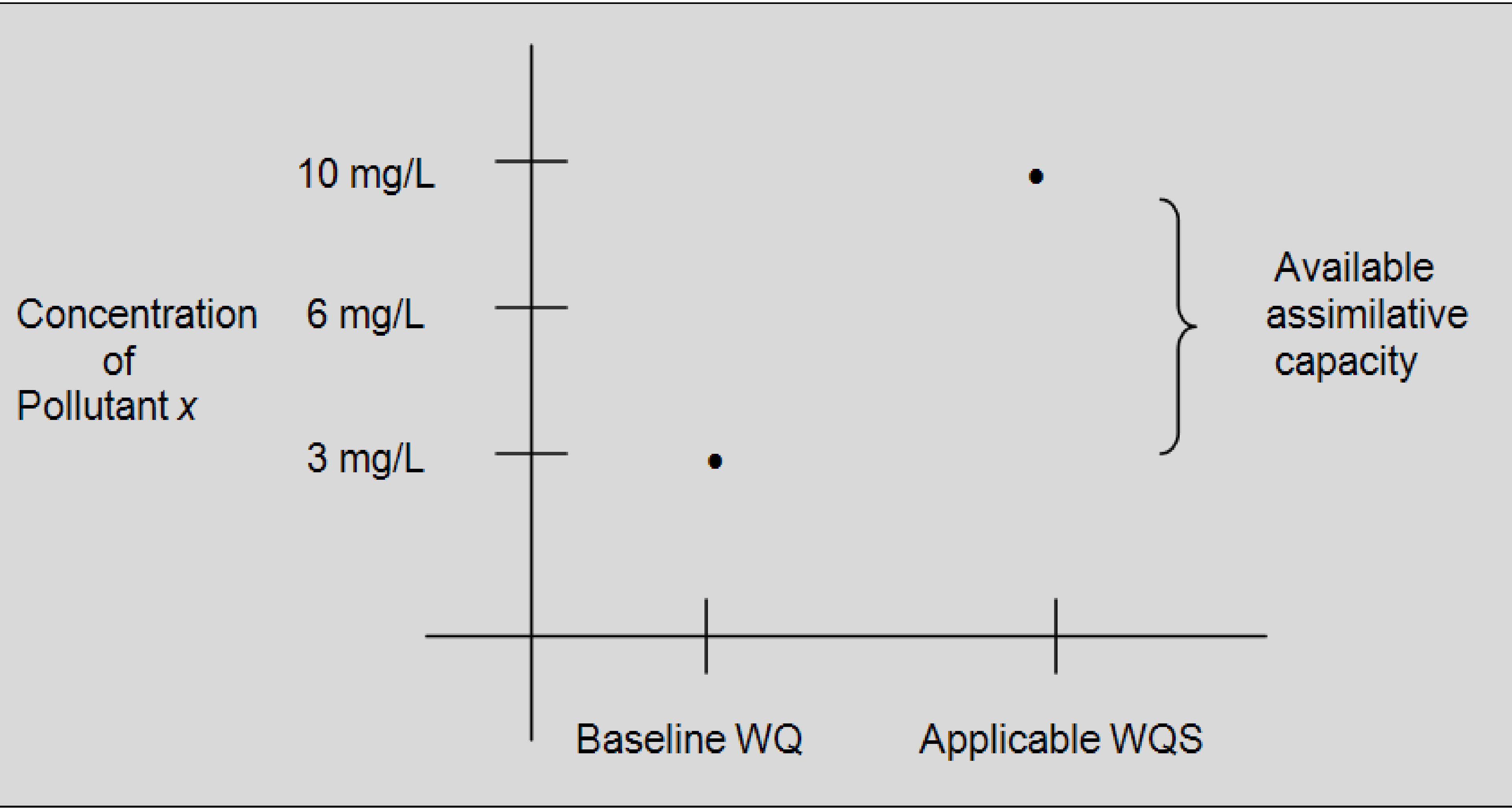
- Federal regulations do not explicitly state that insignificant levels of degradation can be excluded from Tier 2 analysis
- Significance thresholds (a.k.a *de minimis*, "measurable" degradation) allow state regulatory agencies to maximize their resources by concentrating on new or expanded discharges that will be higher than the allowable threshold level

Background

- The *de minimis* concept has been challenged by environmental groups, but the courts have generally sided with the states, as long as the thresholds were reasonable/defensible
  - West Virginia
  - Ohio
  - Kentucky

- *Assimilative capacity* is defined as the difference between existing water quality and the criterion value for a pollutant

Assimilative Capacity Example



Questions for Workgroup Consideration

- How can assimilative capacity be calculated given the limited water quality data in Alaska?
- What about cumulative degradation from multiple discharges?
- Presumptive compliance – should certain categories of facilities be exempt from analysis?
- As an alternative to *de minimis* exemptions, could the level of detail in the analysis be tied to the level of potential degradation?

How can assimilative capacity be calculated given the limited water quality data in Alaska?

1. Require permittee to monitor water quality for a set time prior to permit issuance
2. Use TMDL/303(d) list as a guide (Idaho)
   - If a waterbody is multi-impaired, it is a Tier 1
   - Not impaired for multiple parameters, and not listed as Tier 3 then it is a Tier 2
3. Unassessed waters are automatically considered Tier 2 (Kansas & Kentucky)
   - Requires less sampling, but more public discussion/input

What about cumulative degradation from multiple discharges?

- Maximum aggregate decrease in water quality based on multiple *de minimis* findings: might be defined as 20% for a waterbody (King, 2006)

- What constitutes a 10% decrease in water quality can be defined in different ways:
  - 10% of the assimilative capacity of a waterbody
  - 10% above the existing concentration of a pollutant

As an alternative to *de minimis* exemptions, could the level of detail in the analysis be tied to the level of potential degradation?

- Define impacts viewed as de minimis (e.g., less than 5% use of assimilative capacity)
  - Could identify categories/levels of activities as posing a de minimis contribution to water quality degradation

- Tiered proposal based on flow
  - 10% change in large river is much more than 10% of small tributary

Potential Problems

- Documentation and tracking of multiple *de minimis* discharges that may incrementally lower water quality significantly over time – even to the point of impairment

- Potential need to establish baseline water quality conditions, and the scale at which those baseline conditions would apply (e.g., assessment unit, stream reach, watershed, etc.)

Potential Problems

- Resolving disputes over what is considered insignificant or *de minimis*

- Use of a *de minimis* threshold doesn't guarantee that uses will not be impacted

Approaches to defining *de minimis*

1. Measureable Change
2. Percent of Assimilative Capacity
3. Percent of Baseline Water Quality (WQ)
4. Percent of Water Quality Standard
5. Combination

Approaches – Measurable Change

Pros

- Objective, rather than subjective
- Established a priori, if using analytical method detection and sensitivity/precision
- Ambient water quality data may not be necessary

Cons

- Measureable depends on analytical methodology used
- Measureable changes may or may not be biologically meaningful (depending on pollutant)
- What is considered measurable could depend on the concentrations being compared

Approaches - Percent of Assimilative Capacity

Pros

- Tied directly to the existing water quality coupled with the water quality criteria
- Fairly straight-forward
- EPA and Court precedent for this approach being acceptable

Cons

- Best quality waters can be degraded the most
- Must have baseline water quality data1
- Document and track baseline data
- Not conducive to pollutants without numeric criteria (e.g. nutrients)
- Will vary if criteria are determined by formula

Approaches - Percent of Baseline WQ

Pros

- Supportive of pollutants without numeric criteria
- Fairly straight-forward
- Tied directly to existing water quality and not affected by changing criteria
- The baseline water quality is fixed

Cons

- Lowest quality waters can be degraded the most (up to a certain point)
- Must have baseline water quality data1
- Documentation and tracking of baseline data

Approaches – Percent of Water Quality Standard

Pros

- Tied with protection of the beneficial use
- Every discharger would be treated equally until the baseline water quality approaches the cumulative cap

Cons

- Doesn’t tie as cleanly to maintaining existing water quality conditions
- May require baseline water quality data
- Will vary if criteria are determined by formula

Approaches – Combination

Pros

- Could be designed to be most protective of best and lowest quality waters by allowing the most change in "mediocre" quality waters

Cons

- Depending upon its structure, this could be more complicated and confusing
- Requires baseline water quality data
- Documentation and tracking of baseline data