

DRAFT RSET WHITE PAPER #3 - Chemical Summation Techniques

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QUESTION/ISSUE: Chemical Summation Techniques. Is the current chemical summation method used by Washington State Sediment Management Standards (SMS) and Corps Puget Sound Dredged Disposal Analysis (PSDDA) program for total PCBs (Aroclors), total PAHs, and total DDTs appropriate for inclusion as the default method in the new SEF?

DISCUSSION:

Standard procedure for Washington State SMS and Corps PSDDA process is to sum detected concentrations only. If all results are non-detected, the total is the highest individual detection limit.

If the summation procedure is changed, it may affect current screening criteria (AETs, etc). Originally Ecology's summation procedure was different from the Corps' and screening criteria had to be recalculated.

SEDQUAL is currently using the Corps/ SMS procedure for summation. Qualified values, i.e. <PQL (J) are included in the total.

We need to be aware of unintended consequences of summation procedures so we don't have the case where all analytes are undetected but the calculated sum is above screening criteria. By adopting current summation practices (for the benthic direct contact screening levels) we would avoid this situation.

REFERENCES: WAC 173-204-320 (2)(b)(i) and (ii)

RECOMMENDATION: Current method works best for the inclusion in SEF and should be recommended for SEF.

PROPOSED LANGUAGE: Add to Current DMEF Section 8.4.1:

- (1) Where chemical analyses identify an undetected value for every individual compound/isomer then the single highest detection limit shall represent the sum of the respective compounds/isomers.
- (2) Where chemical analyses detect one or more individual compounds/isomers, only the detected concentrations will be added to represent the group sum.

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