

Freshwater Sediment Quality Values Technical Report
Clay Patmont comments (1 of 2)
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Overall, I think the SQGs do a commendable job of developing reasonable reliability (~80%) and controlling false positives. However, in the end it is still a co-occurrence evaluation with associated warts (Lee et al <http://www.gfredlee.com/unrelSedCooccur.pdf>). Also, the screening approach used in this evaluation may miss some important studies such as the Ecology Quendall/Baxter data for PAHs or upper Columbia data for metals. They were screened out on the assumption that “toxicity would frequently occur in samples without adequate chemistry to explain it” (p4). In many situations this conclusion may be erroneous (e.g., focused chemistry/bioassay analyses are often based on early screenings which determined that other COCs were not important). It may make sense to add a step that evaluates such cases so that in the future robust datasets are included in the SQG updates. I also agree that following the marine paradigm is a good approach, leaving some room for judgment on the part of the site managers to select cleanup values somewhere between the SQS and CSs range in consideration of feasibility, cost, and protectiveness. While I understand that control comparisons were used to reduce the noise in the database and to optimize the number of valid data pairs for the purpose of developing chemical screening criteria, I think it is crucial to clarify in the rule that control comparisons should not be used for confirmatory biological testing evaluations. On page 7, the possibility of identifying reference sites for freshwater sites is discussed, and confounding factors such as the greater heterogeneity and changing conditions associated with freshwater locations is noted. We should discuss as a group the importance of developing appropriate “real world” reference data for confirmatory testing evaluations, since use of controls for such comparisons will result in a significant false positive bias. We should discuss using a reference envelope or pooled reference data approach (e.g., combining suitable reference data across studies, maybe with subsets to address fine, medium, and coarse grain size). A few other points: 1) the SQS for nickel (26 ppm) appears to be below State-wide background (38 ppm per Ecology) so this should be adjusted; 2) there are some chemicals with a relatively wide range between the SQS and CSL, which opens questions regarding the reliability of the bioassay endpoint used to define the SQS; and 3) from a practical standpoint, the SQS for bis(2-ethylhexyl)phthalate (500 ppb) will be above ambient urban background anywhere there are stormwater inputs. The phthalate work group determined BEHP was likely coming from volatilization of vinyl products in buildings, which is effectively an uncontrollable regional background source.

Attached are my comments on the draft freshwater sediment SQV report. Overall, I think the SQGs developed in the draft report do a commendable job of developing reasonable reliability (~80%) and controlling false positives, and represents a strong step forward to develop freshwater sediment criteria. However, there are at least several issues that should be addressed more thoroughly in the final report, including:

- Organic carbon (OC) normalization;
- Chemical criteria for bis(2-ethylhexyl)phthalate;
- Use of reference samples for confirmatory biological determinations;
- Future incorporation of additional sediment data; and
- Other miscellaneous comments.