Effective Use Of Sediment Quality Guidelines: Technical And Regulatory Decisions.

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Assessments of contaminated sediment sites typically attempt to provide information to answer two key, and often contentious, questions: (1) is there significant biological impairment and (2) is there a need to actively remediate the site to reduce either human or ecological risk? Efforts to respond to the first question are most often driven by technical data and technical guidelines including the use of sediment quality values or "criteria." The decision to actively remediate is one that relies on technical data, but involves to a large degree, stakeholder input, social issues, and cost benefit considerations. To a large extent, efforts to date have focused on developing technically defensible sediment assessment methods (laboratory and field), valid sediment quality values or criteria and risk assessment approaches. While these efforts have advanced the state-of-the-science, they have not resulted in universally acceptable assessment guidelines or universal sediment criteria. Scientists and regulators alike are still seeking an answer to the question, what concentration causes toxicity? After 20 years of attempting to answer this question, it is apparent that there is no one concentration for each substance that is universally toxic. Future efforts should be focused, not on improving the validity of sediment quality values or criteria, but on improving and standardizing the decision making process for assessing both impairment and the need for remediation. Lessons learned from formalizing water quality criteria as well as suggestions for a potential framework will be reviewed.