

The Real Cost of Sediment Remediation: An Update on Recent Remedy Decisions and EPA Cost Policies, Guidance, and Practice

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Background/Objectives. In June 2018, EPA issued an Advanced Notice of Proposed Rulemaking (ANPRM) regarding its use of cost-benefit analysis in regulatory rulemaking. EPA's purpose is to consider adopting more uniform approaches to cost-benefit analysis in its regulatory actions. Such a review is overdue.

EPA has been criticized for its practices in defining and measuring the benefits of its rulemaking activities. EPA has similarly been criticized for underestimating the costs of its rulemaking activities. While the ANPRM focuses on EPA's rulemaking activities, similar scrutiny is warranted for EPA's remedy selection decision making under CERCLA.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires selection of a site remedy that is both protective of human health and the environment and cost-effective (40 CFR § 300.430 (a)(1)(i)). CERCLA policy and guidance, however, does not provide for a rigorous cost-benefit evaluation, favoring more qualitative methods to compare estimated remedial costs to the other NCP remedy selection criteria (e.g., overall protection, compliance with ARARs, short- and long-term effectiveness, implementability).

While qualitative decision methods may be appropriate for certain projects, more comprehensive, quantitative methods are needed to assess and compare the cost-effectiveness of remedial alternatives at complex sediment "megsites" with estimated cleanup costs in the billions of dollars. This is particularly true at sites where remedial alternatives have small relative differences in overall environmental benefits, but large differences in costs. In such cases, the overall cost-effectiveness of an alternative can (and should) be considered a key differentiator for remedy selection purposes.

Approach/Activities. We review both recent and historical remedy decisions and associated remedial cost estimates for multiple sediment megasites. We also examine the intended role of cost-effectiveness in the CERCLA remedy selection process and its application in current practice. We compare these practices to cost-benefit procedures utilized in decision-making for EPA's other regulatory systems, and for other complex public projects of similar scale and cost (e.g. highway infrastructure, energy projects). We also examine recent case law that may lead to a more searching examination of EPA's CERCLA decision making in the future.

Results/Lessons Learned. Our examination reveals significant shortcomings in the relative role and assessment of cost-effectiveness in the CERCLA remedy selection process. We present tools and implementation strategies that may offer opportunities for improvements to existing CERCLA policy and guidance for assessing cost-effectiveness. The authors believe that such improvements are essential, particularly considering the unprecedented scale and complexity of recent sediment megasite remedy decisions.