

Predictive Ability of Sediment Quality Guidelines

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INTRODUCTION

The quantitative extent to which sediment quality guidelines (SQGs) are predictive of the presence, or absence, of toxicity of contaminated sediment to sediment-dwelling organisms or to higher trophic-level organisms is a critical concern among scientists and regulators evaluating the application of one more numeric SQG approaches in assessments of sediment quality. Users of these guidelines should understand how well various SQGs predict the presence or absence and extent of toxicity in sediment samples. The ability of various SQGs to present the potential for effects or no effects of contaminants on organisms in freshwater, estuarine, and marine environments was examined through a review of the published literature focused on 3 specific questions:

- 1) How well do SQGs represent the potential for effects or no effects observed in laboratory toxicity tests and in field studies of benthic communities?
- 2) How well do SQGs represent the potential for effects or no effects in organisms as a result of contaminant uptake and/or trophic transfer?
- 3) How have SQGs been applied and validated in the field as part of sediment management and risk management decision making?

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