

**Effective use of sediment quality guidelines 1: Which guideline is right for me?** Walter J. Berry, U.S.EPA, NHEERL, AED, Narragansett, RI

A bewildering array of sediment quality guidelines have been developed, but fortunately they mostly fall into two families: empirically-derived and theoretically-derived. The empirically-derived guidelines utilize large data bases of concurrent sediment chemistry and biological effects information to develop predictive relationships between the two. The theoretically-derived guidelines use theory (usually equilibrium partitioning, better known as EqP theory) to make predictions based on water-only biological effects data and proper sediment normalization of contaminant concentrations. Both of the methods have their strengths and weaknesses. An understanding of the way that the guidelines are derived can be very helpful in determining how and when the different guidelines can and should be used. Often it is useful to use both types of guidelines together. And remember this: it is seldom appropriate to make important, expensive decisions about contaminated sediment based on chemistry information alone.