



## **Beneficial Use of Contaminated Sediments: Cities, Polluters, Ports, Developers and “Circularity” Economics**

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Remediation and Management of Contaminated Sediments

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**Background/Objectives.** Contaminated sediments in rivers, lakes, and harbors around the world result in diminished ecological health, degradation of environmental resources, economic losses, and, in rare cases, impacts to human health. Despite the ongoing interest in the cleanup of contaminated sediments in rivers and harbors, little progress has been made in reducing the number of contaminated sites worldwide. We examine and critique the possibility of beneficial use of contaminated sediments and the application of “circularity” economics can facilitate the cleanup of contaminated sediments.

**Approach/Activities.** Much of the difficulty in advancing the cause of contaminated sediment cleanup can be attributed to the high cost of cleanups and the difficulty in assigning financial responsibility. Simple schemes dependent on identifying polluters are fraught with underlying complexity. More elaborate approaches tied in with waterfront redevelopment show some promise but are yet to be applied routinely. New advances in the understanding of how sediments may, or may not, factor into circularity pose new challenges and opportunities, with the potential to complement new funding paradigms.

**Results/Lessons Learned.** The most promising possibilities for achieving circularity in sediment management lie in a kind of “punctuated circularity” involving idiosyncratic, project-based beneficial use opportunities. However, these idealized situations will remain elusive for the foreseeable future, barring advancements in technology and regulatory approaches as well as development of market demand for the products made from contaminated sediments.