

Poster Number

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| Topic | Risk assessment: Problem definition and conceptual model |
| Title | Evaluation of A Conceptual Site Model For Sediment Processes and Geochemical Conditions in a Large Industrial Port Facility, Augusta Bay, Sicily, Italy |
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Keywords: Sediments, risk assessment, mercury, Italy

Summary: Studies of sediment quality in the Augusta Bay industrial harbor located in Sicily, Italy identified elevated concentrations of mercury and other metals and organic chemicals in bay sediments. Previous studies primarily focused on the nature and extent of total mercury in sediments, after which a large-scale dredging remedy was proposed on an area of about 30km². The dredging remedy proposed was not based on an environmental impact analysis and engineering evaluation that considered physical, chemical, and ecological processes. While it had been demonstrated that contamination did exist, characterization of bioavailability of contaminants, indication of the source of ecotoxicity, and evidence of impact to the bay ecology had not been developed. The purpose of this work was to conduct the necessary studies and risk assessment work needed to understand if any substances in the sediment posed ecological or human health risks, and to recommend an appropriate, safe and effective sediment remedy.