"The papers in this volume ... are concerned with approaches for treating and detoxifying sediments and for isolating and stabilizing contaminated sediments by capping or by placement in confined disposal facilities. The authors describe their experiences with monitored natural attenuation of sediments and with a wide variety of treatment technologies (e.g. physical, chemical, thermal, electrokinetic, enhanced biodegradation, and phytoremediation) to remediate sediments and in wetlands. Several papers focus on options for beneficial reuse of sediments and on containment/immobilization approaches."

The topic of contaminated sites, the problems they present and the remediation approaches thereto were highlighted by the first paper in this book that was written by Michael R. Palermo of the US Army Corps of Engineers R&D Center. Palermo writes:

"Remediation of contaminated sediment has received growing attention in the United States in recent years. Contaminated sediments may be viewed as a 'fourth environmental medium', with concerns over sediment impacts equal to those for water, air, and land-disposed waste. Options for managing contaminated sediments include monitoring natural processes which may gradually improve conditions, restricted use of a contaminated area, treatment or isolation of the contaminated sediments in-place, and dredging or excavation followed by treatment or disposal of the sediments at another location. Technical guidance for evaluating each of these options and criteria for selecting among the options is available, but the selection of a final remedy for may sites may be complex, expensive and contentious."

The 54 papers in addition to the foreword by Palermo in this volume are found under the following categories:

- Beneficial reuse (7 papers);
- Bioremediation (13 papers);
- Phytoremediation (3 papers);
- Electrokinetic remediation (3 papers);
- Physical–chemical remediation (14 papers);
- Dewatering (4 papers);
- Capping and confined disposal (3 papers);
- Monitored natural recovery (4 papers);
- Environmental dredging (3 papers).

As with all other volumes in this series, a keyword index, an author index encompassing the papers in all three volumes is provided.

The conference on remediation of contaminated sediments was a groundbreaking one. The organizers and editors are to be congratulated on both the concept of the conference and the timeliness of publication. My only suggestion for improvement would be to provide the addresses of the paper contributors to allow interested scientists to contact them easily.

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Gary F. Bennett

Management of Contaminated Sediments

Augusto Porta, Robert E. Hinchee, Marco Pellei (Eds.), Battelle Press, Columbus, OH, 2002, 317 pp., US$ 75.00, ISBN: 1-57477-128-0

This book is the second (of three) volume of papers presented at the "First International Conference on Remediation of Contaminated Sediments" that was held in Venice, Italy, in October 2001. The first volume, as noted in the review, contained papers on sediment characterization. This volume moves forward to the task of site remediation (management).

Many sediment pollutants are persistent, remaining in place for many years, threatening to adversely impact human health and the environment. Dredging is a common remedial step, but itself may cause problems. It is estimated that as much as 10% of dredged material is contaminated, and disposal of these contaminated materials in controlled sites (as opposed to open water dumping) is expensive. Moreover, the dredging process itself may release contaminants.

This volume contains 33 papers published under the following major headings:

- Policies (seven papers),
- Human-health risk assessment (three papers),
- Ecological risk assessment (four papers),
- Risk assessment of PCB-contaminated sediments (two papers),
- Toxicity measurements (five papers),
- Dredging (three papers),
- Management of dredged materials (six papers),
- Confined disposal facilities (three papers).

Not being able to review all of the papers in this volume, I took an editor's liberty of focusing on the topic of the most interest to me. That topic was discussed in the last section of the book—"Confined Disposal Facilities". The first paper, which was from the United States, discussed the remediation of three sites and construction of confined disposal facilities: (1) a nearshore 59-ha disposal site near Fort McHenry, Maryland; (2) an upland CDF near Boston designed to contain solidified and stabilized contaminated sediments; and (3) a site designed to hold 110,000 m^3 of dredged contaminated sediments.

Subsequent papers discussed construction of an immersed tunnel in Norway. The project required construction of two CDF to hold contaminated sediments. A German paper discussed the Port of Hamburg's dredged material management concept that includes land treatment, beneficial use and disposal of contaminated sediments, as well as sustainable relocation of sediments.

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Gary F. Bennett

Characterization of Contaminated Sediments

Marco Pellei, Augusto Porta, Robert E. Hinchee (Eds.), Battelle Press, Columbus, OH, 2002, US$ 75.00, 365 pp., ISBN: 1-57477-127-2

Characterization of Contaminated Sediments is the first of three volumes of papers presented at the "First International Conference on Remediation of Contaminated Sediments" held in Venice, Italy, in October 2001. Contaminated sediments are a world-wide problem