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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Sediment and Contaminant Processes -- Fundamentals of Sediment Transport -- The Mechanics of Soft Cohesive Sediments During Early Diagenesis -- Advances in Risk Assessment in Support of Sediment Risk Management -- Assessing Biological Effects -- Assessing Bioavailability of Hydrophobic Organic Compounds (HOCs) and Heavy Metals in Sediments Using Freely Available Pore Water Concentrations -- Risk Management for Contaminated Sediments -- Monitored Natural Recovery -- In Situ Biotransformation of Contaminants in Sediments -- In Situ Treatment for Control of Hydrophobic Organic Contaminants Using Sorbent Amendment: Theoretical Assessments -- Capping for Remediation of Contaminated Sediments -- Sediment Dredging, Treatment, and Disposal -- Monitoring Remedial Effectiveness -- Contaminated Sediment Research and Development Needs -- Index.
Sommario/riassunto	The purpose of this volume, Processes, Assessment and Remediation of Contaminated Sediment, is to help engineers and scientists better understand contaminated sediment sites and identify and design remedial approaches that are more efficient and effective. Contaminated sediment management is a difficult and costly exercise that is rarely addressed with easily identified and implemented remedies. It is hoped that this book can help identify and implement management approaches that provide an optimal, if not entirely satisfactory, solution to sediment contaminant problems. Topics

addressed in this volume include: · An introduction to contaminated sediment management that summarizes the tradeoffs between natural attenuation, containment and active removal (Chapter 1). · A series of chapters describing key sediment processes that separate sediments from contaminated soil sites and make understanding sediment processes difficult: - An introduction to the processes that are uniquely associated with contaminated sediment sites including sediment resuspension, groundwater upwelling, hyporheic exchange and bioturbation (Chapter 2). - The current understanding of sediment erosion and transport and how these processes are modeled (Chapter 3). - A description of the physical and biological processes operative at the sediment-water interface (Chapter 4). · A series of chapters describing sediment risk assessment approaches including: - How to design risk assessment programs to support risk management decisions (Chapter 5). - The biological effects that usually define the risks that contaminants in sediments represent and the biological assays used to assess those risks (Chapter 6). - Assessing bioavailability via chemical measurements, primarily through the use of porewater concentration measurements (Chapter 7). · A series of chapters describing sediment risk management, i.e., remedial approaches and their design, including: - Processes describing how to develop and implement risk management efforts (Chapter 8). - Each of the key approaches to managing contaminated sediments; monitored natural recovery (Chapter 9), intrinsic biotransformation and biodegradation (Chapter 10), in situ treatment via carbon amendments (Chapter 11), in situ containment via capping with either inert material or with active amendments (Chapter 12) and dredging and excavation (Chapter 13). - The design and implementation of a monitoring program to evaluate remedy performance (Chapter 14). Each chapter in this volume has been thoroughly reviewed for technical content by one or more experts in each of the subject areas covered. The editors and chapter authors have produced a well-written and up-to-date treatise that we hope will be a useful reference for those making decisions on the assessment and remediation of contaminated sediments and for those involved in research and development of advanced technology for the assessment and remediation of sediments.