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## Superfund Contaminated Sediments: Guidance and Technical Support

### Related Links

- [Sediments Home](#)
- [How Superfund Cleans Up Sediment Sites](#)
- [Sediment Risk Management Principles](#)
- [Contaminated Sediments Technical Advisory Group](#)
- [Large Sediment Sites: Tiers 1 and 2](#)

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Below is a list of guidance and technical support documents for managing sediment sites.

### Primary Sediment Guidance Documents

- [Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites \(EPA, 2002\)](#) (PDF) (11 pp, 71 K)
- [Contaminated Sediment Remediation Guidance for Hazardous Waste Sites \(EPA, 2005\)](#) (PDF) (236 pp, 3 MB)
- [Remediating Contaminated Sediment Sites - Clarification of Several Key Remedial Investigation/Feasibility Study and Risk Management Recommendations, and Updated Contaminated Sediment Technical Advisory Group Operating Procedures, January 9, 2017](#) (PDF) (24 pp, 6 MB)

### Coordinating Water, Superfund, and Enforcement Programs

- [Promoting Water, Superfund, and Enforcement Collaboration on Contaminated Sediments](#) (PDF) (3 pp, 647 K)
- [Sediment Assessment and Monitoring Sheet #4, A Primer for Remedial Project Managers on Water Quality Standards and the Regulation of Combined Sewage Overflows under the Clean Water Act](#) (PDF) (23 pp, 390 K)
- [Integrating Water and Waste Programs to Restore Watersheds: A Guide for Federal and State Project Managers](#) (PDF) (197 pp, 10 MB)

### Remedial Investigation

- [Developing Sediment Remediation Goals at Superfund Sites Based on Pore Water for the Protection of Benthic Organisms from Direct Toxicity to Non-ionic Organic Contaminants \(EPA, 2017\).\(PDF\) \(75 pp, 2.5 MB\)](#)
- [Guidance Manuals to Support the Assessment of Contaminated Sediments in Freshwater Ecosystems \(PDF\) \(149 pp, 996 K\)](#)
- [Ecological Risk Assessment and Risk Management Principles for Superfund Sites \(PDF\) \(9 pp, 1 MB\)](#)
- [Guidelines for Ecological Risk Assessment \(EPA, 1998\).\(PDF\) \(188 pp, 959 K\)](#)
- [Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments \(EPA, 1997\).\(PDF\) \(239 pp, 17.8 MB\)](#)
- [Determination of the Biologically Relevant Sampling Depth for Terrestrial and Aquatic Ecological Risk Assessments \(EPA, 2015\).\(PDF\) \(75 pp, 2.2 MB\)](#)
- [Assessment and Remediation of Contaminated Sediments \(ARCS\) Risk Assessment and Modeling Overview Document \(EPA, 1993\).\(PDF\) \(82 pp, 3.8 MB\)](#)
- [Risk Assessment Guidance for Superfund \(RAGS\), Volume 1, Part A \(EPA, 1989\).\(PDF\) \(288 pp, 7.8 MB\)](#)

## Feasibility Study

- [Sediment Assessment and Monitoring Sheet #2- Understanding the use of models in predicting the effectiveness of proposed Remedial Actions at Sediment Superfund Sites \(EPA, 2009\).\(PDF\) \(36 pp, 1.9 MB\)](#)
- [Estimating Contaminant Losses from Components of Remediation Alternatives for Contaminated Sediments \(EPA, 1996\).\(PDF\) \(301 pp, 11.3 MB\)](#)
- [Technical Guidelines on Performing a Sediment Erosion and Deposition Assessment \(SEDA\) at Superfund Sites \(ACE, 2014\).\(PDF\) \(183 pp, 9.4 MB\)](#)

## Dredging

- [Technical Guidelines for Environmental Dredging of Contaminated Sediments \(ACE, 2008\).\(PDF\) \(302 pp, 5.3 MB\)](#)
- [The Four R's of Environmental Dredging: Resuspension, Release, Residual, and Risk \(ACE, ERDC, 2008\).\(PDF\) \(64 pp, 635 K\)](#)
- [Sediment Dredging at Superfund Megasites: Assessing the Effectiveness \(National Research Council, 2007\).\(PDF\) \(316 pp, 4.3 MB\)](#)
- [Evaluation of Dredged Material Proposed for Disposal at Island, Nearshore or Upland Confined Disposal Facilities – Testing Manual \(ACE, 2003\).\(PDF\) \(337 pp, 3.1 MB\)](#)
- [Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Inland Testing Manual \(EPA and ACE, 1998\).\(PDF\) \(176 pp, 9.6 MB\)](#)
- [Mass Balance, Beneficial Use Products, and Cost Comparisons of Four Sediment Treatment Technologies near Commercialization \(ACE, ERDC, 2011\).\(PDF\) \(286 pp, 15.8 MB\)](#)
- [ARCS Program Remediation Guidance Document \(EPA, 1994\).\(PDF\) \(356 pp, 18.3 MB\)](#)
- [Handbook: Remediation of Contaminated Sediments \(EPA, 1991\).\(PDF\) \(51 pp, 3.6 MB\)](#)
- [Evaluating the Effectiveness of Contaminated-Sediment Dredging, Gustavson \*et al.\*, Env. Sci. Technol., 2008. \(PDF\) EXIT \(6 pp, 1.7 MB\)](#)
- [Contaminated Sediments in Ports and Waterways: Cleanup Strategies and Technologies \(National Research Council, 1997\).\(PDF\) EXIT \(318 pp, 2.3 MB\)](#)


## In-Situ Sediment Remediation (Capping, Amendments, Enhanced Natural Recovery)

- [Technical Note - Subaqueous Capping and Natural Recovery: Understanding the Hydrogeologic Settings at Contaminated Sediment Sites \(ACE, 2002\).\(PDF\)](#) (16 pp, 2.5 MB)
- Use of In Situ Amendments
  - [Infographic on In Situ Amendments \(PDF\)](#) (4 pp, 4.9 MB)
  - [White Paper: Use of Amendments for In Situ Remediation at Superfund Sediment Sites \(EPA 2013\).\(PDF\)](#) (61 pp, 788 K)
- [ARCS Program Guidance for \*In-Situ\* Subaqueous Capping of Contaminated Sediments \(EPA, 1998\).\(PDF\)](#) (147 pp, 6.3 MB)
- [ARCS Program Remediation Document \(EPA, 1994\).\(PDF\)](#) (356 pp, 18.3 MB)
- [Guidance for Subaqueous Dredged Material Capping \(ACE, 1998\).\(PDF\)](#) (295 pp, 2.3 MB)

## Monitored Natural Recovery

- [Technical Resource Document on Monitored Natural Recovery \(EPA, 2014\).\(PDF\)](#) (251 pp, 5.1 MB)
- [Monitored Natural Attenuation: USEPA Research Program – An EPA Science Advisory Board Review \(U.S. EPA, 2001\).\(PDF\)](#) (66 pp, 330 K)

## Monitoring

- Using Fish Tissue Data to Monitor Remedy Effectiveness
  - Podcast: Using Fish Tissue to Monitor Remedy Effectiveness
    - 00:00 10:31
    - [Download audio](#)
    -  [Download transcript \(10.47 KB\)](#)
  - [Clu-In Webinar: Using Fish Tissue to Monitor Remedy Effectiveness](#)
  - [Sediment Assessment and Monitoring Sheet \(SAMS\) #1 —Using fish tissue data to monitor remedy effectiveness \(EPA, 2008\).\(PDF\)](#) (14 pp, 390 K)
- Passive Sampling:
  - [Laboratory, Field, and Analytical Procedures for Using Passive Sampling in the Evaluation of Contaminated Sediments: User's Manual \(PDF\)](#) (167 pp, 7.7 MB)
    - [Porewater PRC calculator \(.ZIP\)](#) (18.3 MB)
    - [Surface Water PRC calculator \(.ZIP\)](#) (91.6 MB)
  - [Infographic on Passive Sampling \(PDF\)](#) (2 pp, 7.2 MB)
  - [Passive Sampler Webinar \(Clu-In module on how and why to use Passive Samplers, 2 hours long\)](#)
  - [Sediment Assessment and Monitoring Sheet \(SAMS\) #3 - Guidelines for Using Passive Samplers to Monitor Organic Contaminants at Superfund Sediment Sites \(PDF\)](#) (32 pp, 1.8 MB)
  - [Clu-In Webinar Series Session 1 - Porewater Concentrations and Bioavailability](#)
  - [Clu-In Webinar Series Session 2 - Porewater Concentrations and Bioavailability](#)
  - [Clu-In Webinar Series Session 3 - Porewater Concentrations and Bioavailability](#)
  - [Clu-In Webinar Series Session 4 - Porewater Concentrations and Bioavailability](#)
- [Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories \(EPA and the American Fisheries Society, 1993\)](#)
  - [Volume I: Fish Sampling and Analysis, Third Edition \(PDF\)](#) (485 pp, 3.5 MB)

- [Volume II: Risk Assessment and Fish Consumption Limits, Third Edition \(PDF\)](#). (383 pp, 1.71 MB)
- [Volume III: Overview of Risk Management \(PDF\)](#). (114 pp, 711 K)

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