

Welcome to the Workshop!!

***In Situ* Treatment Technologies for
Contaminated Sediments**

RTDF Sediment Remediation Action Team

Goals of the Workshop

Learn & share experiences
about applications

Highlight research &
development activities

Capture the state-of-
development

Think about collaborative
efforts of broad interest
(lead to field work??)



Why the interest/focus?

- Cost
- Demonstrated to be a viable option
- Potential to address limitations of other cleanup methods – MNR, capping, and removal
- Programs involving remediation development/testing supporting *in situ* treatment applications
- Recent start-up/completion of R&D projects

Approaches of *In Situ* Treatment

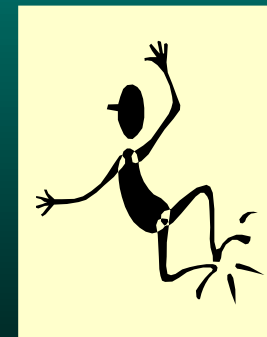
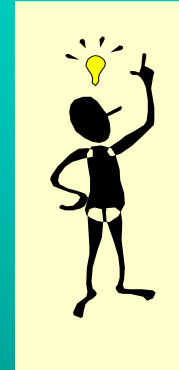
- Biological
 - Microbial degradation
 - Addition of oxygen, nutrients, microorganisms
- Chemical
 - Destruction (e.g., oxidation or dechlorination)
 - Addition of permanganate, hydrogen peroxide, potassium hydroxide
- Immobilization
 - Encapsulate and/or reduce solubility, mobility, or toxicity
 - Addition of cement, limestone, carbon-sources

What's been said?

- Assessment and Remediation of Contaminated Sediments Program (1994)
 - Applications small scale at a few sites
 - Limited data on feasibility, design, & implementation
- National Research Council Report (1997)
 - State of design “nonexistent”
 - “Few proponents” cited as a limitation
- RTDF Workshop (2000)
 - Increasing interest on this topic
 - Several new approaches/areas uncovered

Workshop Format

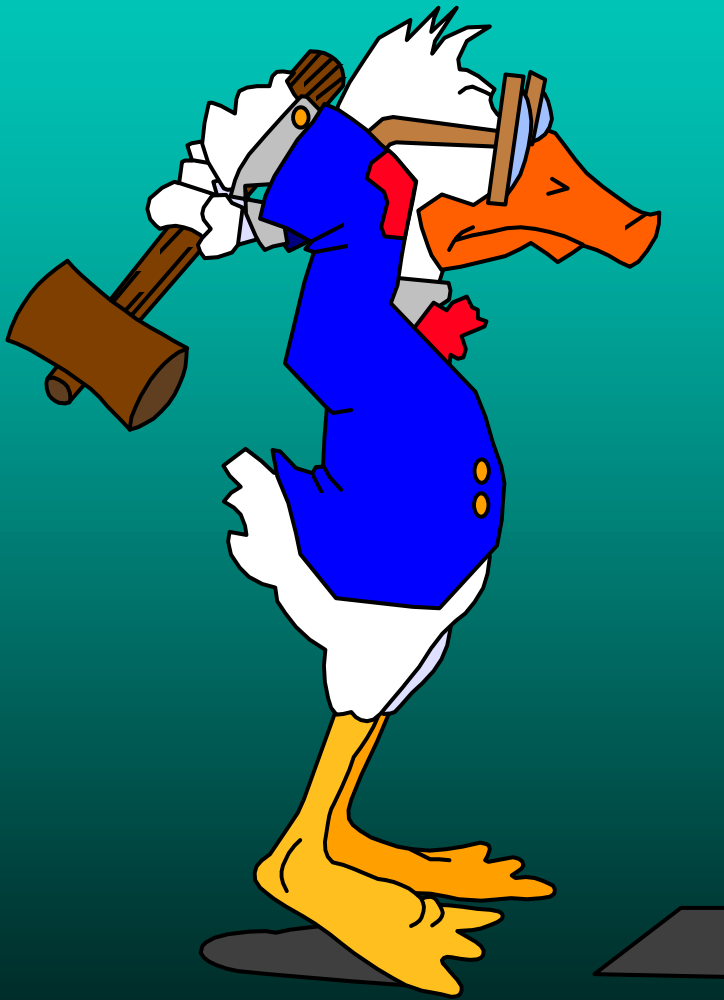
- Presentations
 - Learn about applications
 - Highlight R&D activities
- Group Discussions
 - Share experiences
 - Think about collaborative efforts
- Address key questions
 - Capture the state-of-development



Example Programs for Possible Leveraging

- Great Lakes National Program Office – EPA
 - Great Lakes Legacy Act of 2002
 - www.epa.gov/glnpo
- Superfund Innovative Technology Evaluation (SITE) Program – EPA
 - www.epa.gov/ORD/SITE
- Strategic Environmental Research & Development Program (SERDP) – DOD
 - www.serdp.org
- Environmental Security Technology Certification Program (ESTCP) – DOD
 - www.estcp.org

Workshop “Housekeeping” Items



- Changes to the agenda
- Presentations
 - Clarification questions first, followed by comments
 - “Overflow” in Group Discussions
- Group Discussions
 - Charting of ideas/experiences
 - Everyone gets a chance to speak
- Please keep on schedule!!

Questions

- Description
 - What is the basic approach of the technology?
 - What environmental/technical factors most influence the suitability of the technology (e.g., contaminant(s), site type)?
- Application
 - What stage of development? If evaluated under bench-scale, how close to large-scale field application?
 - Where has the technology been applied?
 - What are the performance results and cost of prior applications?
 - What are the implementation considerations?
- Observations
 - What were some lessons learned from previous applications?
 - What are the most promising aspects?
 - What should be measured and monitored to assess performance efficacy?
- Future Direction
 - What are some obstacles for further development/use (e.g., funding, science, partnerships)?
 - How can we measure/track success of new developments?