

ERDC Researchers present at the Twelfth International Conference on the Remediation and Management of Contaminated Sediments

Impact Statement: Researchers from USACE ERDC Environmental Laboratory (EL) presented results of their USACE-funded Dredging Operations and Environmental Research (DOER) Program, Strategic Environmental Research and Development Program/Environmental Security Technology Certification Program (SERDP/ESTCP), and reimbursable research projects on the assessment and management of contaminated sediments. The biannual international conference, organized by Battelle held in Tampa, FL 27-30 January 2025 was attended by more than 1,000 researchers representing government, academia, and industry. The technical program included sessions and panel discussions focused on emerging contaminants and critical considerations in sediment management and remediation, including characterization and management of poly- and perfluorinated alkyl substances (PFAS), beneficial use of contaminated sediments, advanced data analytics to improve decision making, and remedy design.

Drs. David Moore, Gui Lotufo, Carlos Ruiz, Paul Schroeder, Jesyca Jarabica, Karen Keil, Jennifer Miller, and Jim Luke (all of ERDC Environmental Laboratory [EL]), Carl Platz (Great Lakes and Ohio River Division [LRD]), and Mr. Bill Gardiner (USACE Seattle District [NWS]) presented results of their research and conferred with external agency collaboration partners. Dr. Moore lead a short course on “PFAS and Sediment Background, Sampling and Transport”. Dr. Lotufo gave a platform presentation on “Fate, Toxicity and Bioaccumulation of PFAS in Exposures to Spiked Sediments” and presented a poster on “Benthic Bioaccumulation of PFAS in Field Collected sediments” (Figure 1). Dr. Moore gave platform presentations on “Bioaccumulation and Maternal Transfer of PFAS in a Multigenerational Zebrafish Exposure” and “Innovation in Contaminated Sediment Treatment and Management to Facilitate Beneficial Use: A Public Private Partnership Research Initiative” (Figure 2). Dr. Moore also presented a poster on “Ambient Concentrations of PFAS in Environmental Media”. In addition, Dr. Moore served as a panelist for a Technical Panel on Assessing PFAS in Sediments: The Importance of Sediment-Water Dynamics in Chemical Fate and Transport, Risk Assessments and Developing Regulations” (Figure 3). Dr. Ruiz and Jesyca Jarabica presented on a “Benchscale Evaluation of the Impact of Bioturbation on Thin Layer Caps” (Figure 4). Dr. Schroeder presented on a “Laboratory Examination of Amended Sand Cap Placement” (Figure 5). Mr. Gardiner presented on “Applications of Passive Samplers to Support Risk Assessment and Long-Term Monitoring” (Figure 6). Dr. Karen Keil (EL) co-presented with Victor Magar (Ramboll) a poster on “Increasing Sustainable Beneficial Use Opportunities for Contaminated Sediments” (Figure 7). Dr. Jen Miller gave a platform presentation on “Identification of Beneficial Use of Sediment and Habitat Restoration Needs at Contaminated Great Lakes Coastal Areas”. Dr. Moore met with a panel of industry and regulatory stakeholders to discuss strategies for sustaining a public private research partnership focused on the assessment and management of contaminated sediments in support of beneficial use applications.



Figure 1. Dr. Gui Lotufo (EL) presenting partitioning and uptake of PFAS in a spiked marine sediment.



Figure 2. Dr. Moore (EL) presenting on innovations in contaminated sediment management.



Figure 3. Dr. Moore (EL) on a technical panel discussing assessment of PFAS in sediments.



Figure 4. Dr. Ruiz (EL) presenting on a benchscale evaluation of bioturbation in sediment caps.

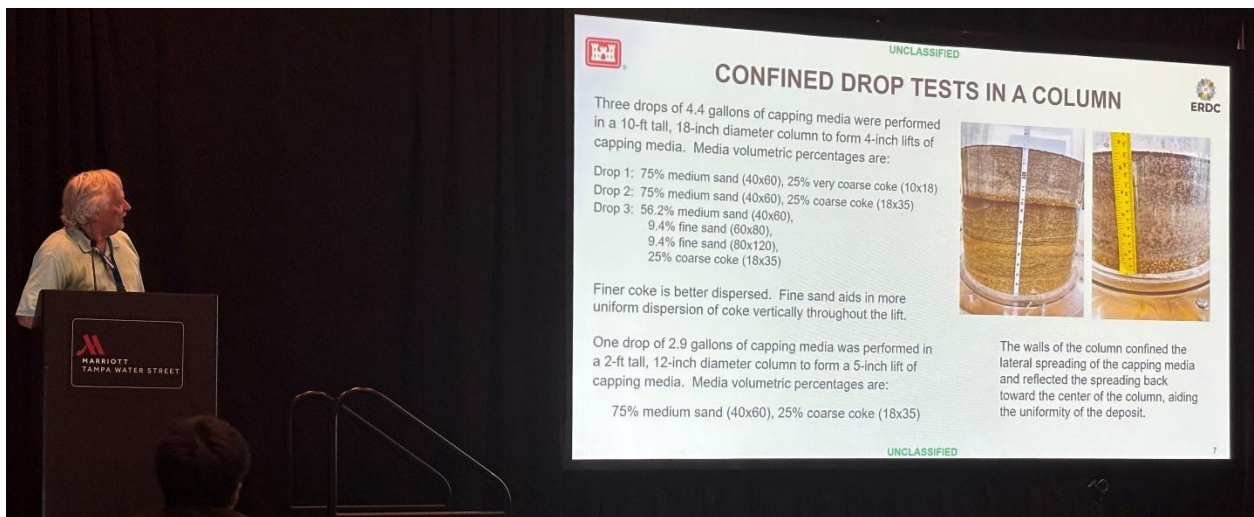


Figure 5. Dr. Schroeder (EL) presenting on a laboratory examination of amended sand cap placement.



Figure 6. Mr. Bill Gardiner (CENWS) presenting on the application of passive samplers to support risk assessment.

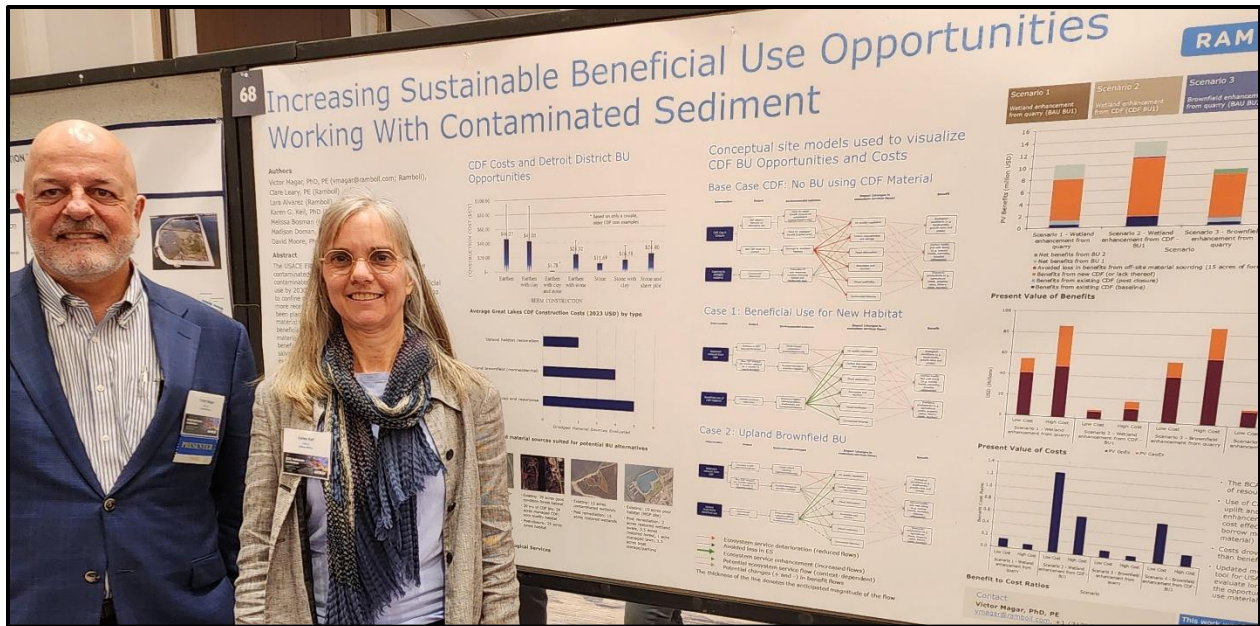


Figure 7. Dr. Karen Keil (EL) and Dr. Victor Magar (Ramboll) presenting on the development of an LCA cost benefit tool to facilitate beneficial use decision making.

The conference was very successful in facilitating exchange of the latest technical information among front line researchers in addressing the assessment and management of contaminated sediments.

Funding for ERDC participation was provided through the USACE Strategic Environmental Research and Development Program (SERDP), the USACE Dredging Operations and Environmental Research (DOER) Program, the Advanced Materials and Substances of Emerging Environmental Concern (AMSEEC) Program, and project funding through a CRADA with NewFields.

ERDC participation in this Conference did not address any specific USACE Statement of Need (SoN). It did, however, fully support the Technology Support Mission of the USACE SERDP, DOER, and AMSEEC Research Programs.

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