Eleventh International Conference on the Remediation and Management of Contaminated Sediments

FINAL PROGRAM

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Eleventh International Conference on Remediation and Management of Contaminated Sediments

Welcome to Austin! Thank you for attending the 2023 Sediments Conference.

We are so grateful for your participation, especially after the 2021 Conference postponement and then unfortunate cancellation in 2022 due to the COVID pandemic. We are excited to gather, once again, to discuss pressing technical challenges facing our world. We believe you will find both the technical program content and the networking opportunities of this Conference well worth your time!

Our daily work of aquatic systems management requires engagement across diverse groups of stakeholders representing environmental, economic, political, and social dimensions. The 2023 technical program therefore reflects this multi-dimensional approach and includes sessions and panel discussions focused on emerging contaminants and critical considerations in sediment management and remediation, including characterization and management of PFAS, beneficial use of contaminated sediments, climate change, advanced data analytics to improve decision-making and remedy design, and incorporating environmental justice from project inception through completion stages.

We acknowledge and appreciate the participation of the Conference Sponsors seen to the left whose financial support is integral to Battelle's ability to organize and host the Conference. In addition, we recognize the efforts of the Technical Steering Committee, Session Chairs, Panel organizers, and others, who have committed their time and technical expertise to developing a high-quality program. Our sincere thanks are also extended to the hundreds of platform and poster presenters who are responsible for all the research, hard work, and innovation that will be shared in individual presentations over the course of this week. We are eager to see and hear all the updates and advancements in the field since we gathered last!

On Monday, January 9, our Conference commences with nine short courses plus a Career Roundtable and Career KickStarter for students and young professionals. The Plenary Session, featuring Dr. Douglas McCauley, will be presented at 5:30 p.m. in the Lone Star Ballrooms A & B (Level 3). All attendees, including Exhibitors, are invited to attend the Plenary Session. The Welcome Reception will be held in our exhibit hall immediately following the Plenary Session and will feature more than 70 exhibit booths and an early display of Group 1 Posters.

From Tuesday, January 10, through Thursday, January 12, nearly 500 platform and poster presentations will be presented in 47 breakout sessions. Five panel discussions, 10 Learning Lab presentations, and two Lunch & Learn presentations will also be conducted. Posters will be presented in two groups on Tuesday and Wednesday evenings from 5:45-7:00 p.m. On Thursday afternoon, the Conference will close with a short reception and a Closing Panel discussion from 3:00-4:15 p.m. The Closing Panel will provide a recap of major topics and themes from each of the five technical tracks in our Conference Program while also touching on research needs, innovative approaches, and upcoming challenges in the contaminated sediments field.

In your free time, we hope you enjoy exploring the arts, music, and cuisine that make Austin such an enticing place to visit. We are happy you are here with us and look forward to seeing old friends and colleagues, meeting new people, encouraging and mentoring students and young professionals, and learning more about this important work we do every day.

Jana Heisler White and Eliza Kaltenberg | Conference Program Chairs (Battelle)

CONTENTS

Conference Floor Plan—Lone Star Ballrooms (Level 3)

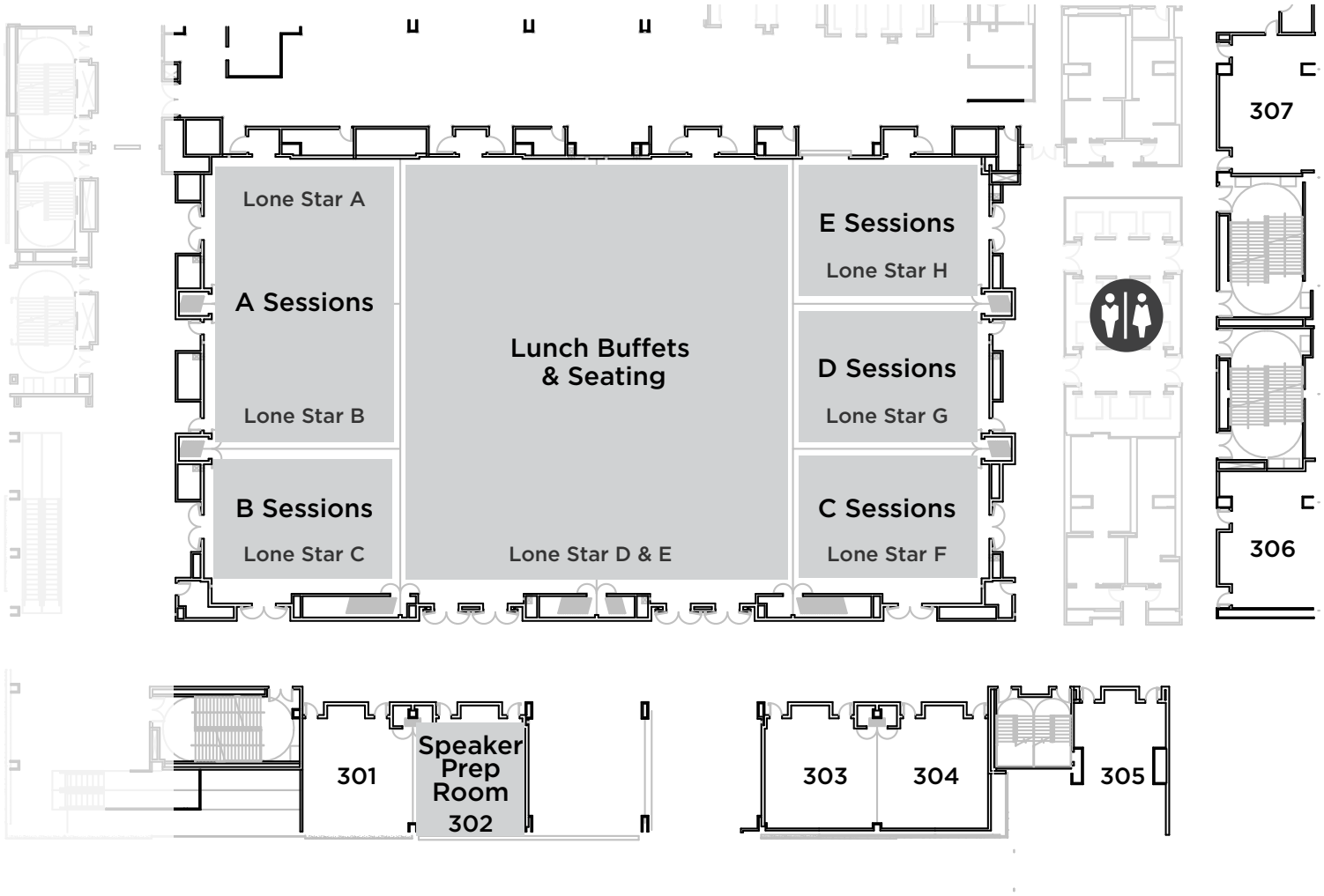

Exhibit Hall—JW Grand Ballroom (Level 4)

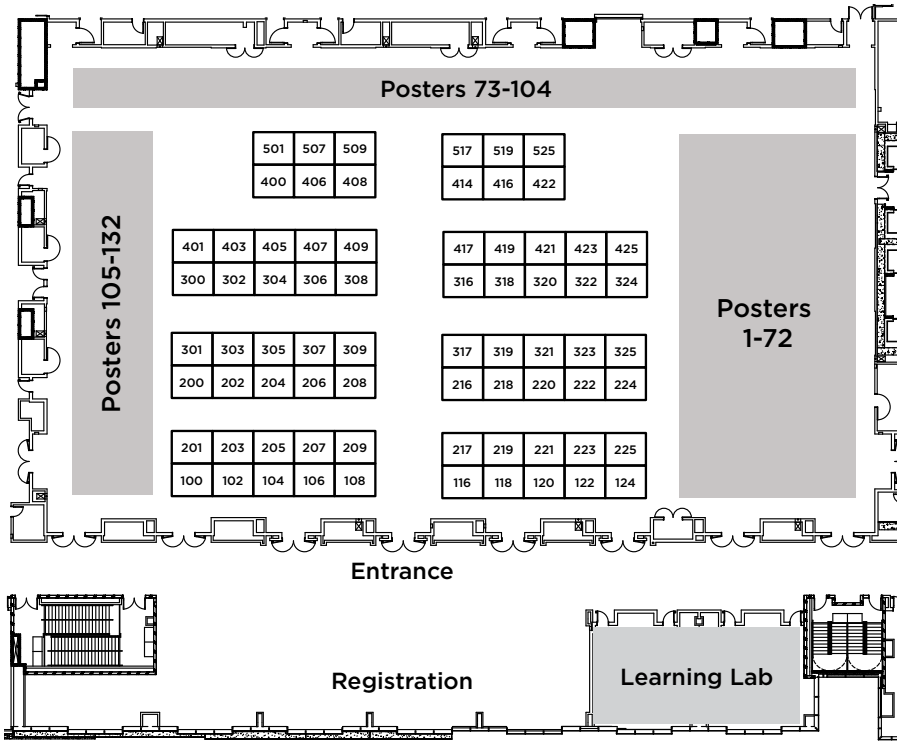

Exhibit Hours

Monday, January 9: 7:00–8:30 p.m.
Tuesday, January 10: 7:00 a.m.–7:00 p.m.
Wednesday, January 11: 7:00 a.m.–7:00 p.m.
Thursday, January 12: 7:00 a.m.–1:00 p.m.

Conference Sponsors are shown in bold.

Plenary Session—Lone Star Ballrooms A & B

Douglas McCauley is an Associate Professor at the University of California Santa Barbara (UCSB), an adjunct Professor at the University of California at Berkeley, and the Director of the Benioff Ocean Science Laboratory—an applied research center based at UCSB's Marine Science Institute that creates replicable, science-based solutions to improve ocean health. Dr. McCauley is a Sloan Research Fellow in the Ocean Sciences and member of World Economic Forum's Friends of Ocean Action.

Plenary Session Schedule

Monday, January 9, 5:30–7:00 p.m.

Welcome and Opening Remarks
Conference Chairs:
Jana Heisler White, Ph.D. (Battelle)
Eliza Kaltenberg, Ph.D. (Battelle)

Presentation of Student Paper Award

An Industrial Revolution in the Ocean?
Douglas McCauley, Ph.D.

Dr. McCauley has degrees in political science and biology from the University of California at Berkeley and a Ph.D. in biology from Stanford and has conducted postdoctoral research at Stanford, Princeton, and UC Berkeley. He has been published in leading research journals such as *Science, Nature,* and the *Proceedings of the National Academy of Sciences USA* and has been featured in outlets such as the New York Times, BBC, TIME, and US National Public Radio.

The Industrial Revolution ushered in profound change for people, industry—and the environment. While this period brought much good for society, the messiness of this industrialization created centuries of environmental challenge that are still being cleaned up. But environmental history has played out very differently on land and sea. To date, the influence of human industry has been less profound in most of the ocean than it has been on land. But many indications suggest that this may be changing. Emerging marine industries such as aquaculture, ocean energy, marine shipping, ocean mining, and marine power generation are all growing exponentially. These industries are creating transformative benefits for the global economy, global nutrition, and energy systems. However, if improperly managed, they could create significant negative impacts on ecosystem health on par with the damage observed during the first Industrial Revolution. This raises an important question: how can we learn from history on land to create a better future for our oceans and other aquatic ecosystems? And how will these new changes affect the health of an ocean already under stress from major threats, such as plastic pollution, climate change, and other sources of pollution?

One clear way forward is to embrace the power of a resource we have at our disposal today that we did not have during the first Industrial Revolution: environmental big data and new technology. Dr. McCauley will discuss how by harnessing the power of these new insights, we can more intelligently and justly manage and remedy early impacts of what may become the second major Industrial Revolution for our planet.

All attendees, including Exhibitors, are invited to attend the Plenary Session.

NOTES

General Information

All Conference events will be held at the JW Marriott Austin (110 E 2nd St, Austin, TX 78701).

See the following pages for additional information:
- Page 11: Short Courses offered on Monday
- Page 46: Overview of the platform sessions and panels to be conducted each day. Times for exhibits, breakfasts, lunches, and receptions.
- Pages 18 and 30: Poster Sessions in each of the two poster groups.

Program Overview

Monday, January 9

- **8:00 a.m.-5:00 p.m.** All-Day Short Courses
- **8:00 a.m.-12:00 p.m.** Morning Short Courses
- **12:30-2:30 p.m.** Career Roundtable
- **2:00-8:30 p.m.** Registration Desk Open
- **3:00-5:00 p.m.** Career KickStarter
- **5:30-7:00 p.m.** Plenary Session
- **7:00-8:30 p.m.** Welcome Reception, Exhibits, Group 1 Poster Display

Tuesday, January 10

- **7:00 a.m.-7:00 p.m.** Registration Desk Open
- **7:00-8:00 a.m.** Continental Breakfast
- **8:00 a.m.-5:35 p.m.** Platform Presentations
- **9:30-10:15 a.m.** Morning Beverage Break
- **11:30 a.m.-1:00 p.m.** General Lunch
- **3:00-3:45 p.m.** Afternoon Beverage Break
- **5:45-7:00 p.m.** Group 1 Poster Presentations and Reception

Wednesday, January 11

- **7:00 a.m.-7:00 p.m.** Registration Desk Open
- **7:00-8:00 a.m.** Continental Breakfast
- **8:00 a.m.-5:35 p.m.** Platform Presentations
- **9:30-10:15 a.m.** Morning Beverage Break
- **11:30 a.m.-1:00 p.m.** General Lunch
- **3:00-3:45 p.m.** Afternoon Beverage Break
- **5:45-7:00 p.m.** Group 2 Poster Presentations and Reception

Thursday, January 12

- **7:00 a.m.-4:00 p.m.** Registration Desk Open
- **7:00-8:00 a.m.** Continental Breakfast
- **8:00 a.m.-2:40 p.m.** Platform Presentations
- **9:30-10:15 a.m.** Morning Beverage Break
- **11:30 a.m.-1:00 p.m.** General Lunch
- **2:40-3:00 p.m.** Closing Reception
- **3:00-4:15 p.m.** Closing Panel Wrap-Up Discussion

Presentations

Late revisions in **platform presentations** (speaker changes, withdrawals) will be marked on daily lists outside each session room.

Talks are scheduled at 25-minute intervals, and each talk is to begin promptly at the time printed in the schedule, except as may be noted at the beginning of the day on the daily lists. Session Chairs will adhere strictly to the schedule, making it possible for registrants to move between session rooms to hear the talks most pertinent to them. To minimize distraction, please confine such movement to the short intervals between talks.

Posters will be presented on Tuesday and Wednesday evenings in the Exhibit Hall. During the poster sessions, presenters will be standing at their posters to discuss their work, and light refreshments will be served. See pages 18-24 and 30-35 for details on the poster presentations.

Audio, video, and still photography are prohibited in session rooms during platform presentations or panel discussions without FIRST securing the speaker(s) permission and notifying the session chair or panel moderator in advance.

Video and still photography of poster board presentations are also prohibited without FIRST securing author/speaker permission.

Professional Development

General Attendance Certificate. If you would like to receive a general certificate of Conference attendance, inquire at the Registration Desk. PDF certificates will be emailed after the Conference.

Hours Logged Certificate. If your state licensing board accepts Conference attendance for credit and will require documentation of hours attended during the Tuesday through Thursday technical program, a daily attendance log can be established for you. A PDF certificate will be emailed after the Conference with the total number of hours logged.

Logged Hours Policy

To log attendance hours, you are required to sign in and out whenever you arrive at or leave the Conference and you may not complete or sign a previous days' log. Only those days with complete attendance logs (*i.e.*, sign-in, sign-out, and signature) will be included on your attendance certificate, no exceptions.

Exhibits
(JW Grand Ballroom, Level 4)

Booths will be provided from more than 70 organizations that conduct remediation activities or supply equipment used in such work. Exhibits will be on display from 7:00 p.m. Monday evening through 1:00 p.m. Thursday afternoon. See page 5 for exhibit hours and the list of exhibitors.

Daily continental breakfasts, beverage breaks, and poster refreshments will be served in the Exhibit Hall.

Ad Hoc Meeting Rooms, Internet Café & Wi-Fi

Ad Hoc Meetings. Small meeting rooms are available for ad hoc meetings. Check at the Conference Registration Desk for room details and available reservation times.

Internet Café. Computers and charging outlets are available to participants who wish to check email during Conference hours Monday–Thursday at the Internet Café, located near the Registration desk.

Complimentary wireless Internet access is available in the Exhibit Hall and session rooms.

Network (SSID) name: JWMarriott_Conference
Password (case-sensitive): Sed23

Messages, Job Postings, Lost & Found

A message board will be available near the Registration Desk. Notices about jobs available or wanted can be posted here. This board also will be used for messages taken by the registration staff for attendees. Please turn any found items into the Registration Desk. Lost items may be picked up with a detailed description of the item.

Learning Lab Schedule (Rooms 402 & 403, Level 4)

The schedule of planned presentations is available on the Conference mobile app and can be seen below. Each Learning Lab is scheduled twice, once on Tuesday and once on Wednesday.

Tuesday, January 10

- **8:00-8:25 a.m.**—3-D Visualization and Analysis Software Demonstration
- **8:50-9:15 a.m.**—Benthic Flux Chamber to Monitor Contaminant Flux from Sediments
- **9:40-10:05 a.m.**—Selecting Sustainable Remediation Options Using the SURE Toolbox for Contaminated Land Management: Hands-On Training
- **10:30-10:55 a.m.**—Designing a Robust, Spatially Representative, Long-Term Sediment Monitoring Program: Application of Power Analysis and a Generalized Random Tessellation Sampling (GRTS) Algorithm in R
- **1:00-1:25 p.m.**—Demonstration of the FishRand Probabilistic, Spatially-Explicit Bioaccumulation Model
- **1:50-2:15 p.m.**—Application of Passive Sampling Methods to Long-Term Monitoring and Remediation Effectiveness Assessment
- **2:40-3:05 p.m.**—Quantifying Aqueous Concentrations in Direct Contact with NAPL-Containing Sediment Using Porous Ceramic Samplers
- **3:30-3:55 p.m.**—Modeling Propeller Wash-Induced Sediment Transport Using EFDC+
- **4:20-4:45 p.m.**—First Utilization of Computational Fluid Dynamics (CFD) Technology for High Performance Environmental Dredging
- **5:10-5:35 p.m.**—Digital Data Collection with QNOPY

Wednesday, January 11

- **8:00-8:25 a.m.**—Designing a Robust, Spatially Representative, Long-Term Sediment Monitoring Program: Application of Power Analysis and a Generalized Random Tessellation Sampling (GRTS) Algorithm in R
- **8:50-9:15 a.m.**—Digital Data Collection with QNOPY
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- **3:30-3:55 p.m.**— First Utilization of Computational Fluid Dynamics (CFD) Technology for High Performance Environmental Dredging
- **4:20-4:45 p.m.**—Benthic Flux Chamber to Monitor Contaminant Flux from Sediments
- **5:10-5:35 p.m.**—3-D Visualization and Analysis Software Demonstration

Learning Lab Sponsor

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Mobile App & Abstract Collection

Abstracts will be available only through the Conference mobile app. Due to the size of the program—five panel discussions and nearly 500 platform talks and poster presentations—it is recommended that attendees review the schedule and abstracts prior to the Conference.

Abstracts are included for all platform and poster presentations and panel discussions. The app may be used to build a personal schedule, take notes on presentations, and highlight favorite Exhibitors. In addition, you have the option of entering your profile to enhance networking opportunities with other participants, including sending private instant messages and scheduling meetings, if enabled.

Proceedings

All presentations given at the Conference will be represented in the proceedings. The one-page abstract will be supplemented with the slide files for platform presentations. Poster presenters have also been invited to submit PDFs of their poster presentations. After the Conference, the proceedings will be compiled and published only online.

Meals, Breaks, & Receptions

For the convenience of Conference participants, the following meals, breaks, and light receptions, seen to the right, will be provided at no additional cost to program registrants and exhibit booth staff during the food service times listed.

Food service for breakfasts, morning and afternoon beverage breaks, and receptions will be in the Exhibit Hall. Buffet lunches will be served in Lone Star Ballrooms D & E (Level 3) to accommodate seating.

The Closing Reception will be served in Lone Star Ballrooms D & E just prior to the start of the Closing Panel Discussion that will be held in Lone Star Ballrooms A & B.

For other meals and refreshments not provided by the Conference, The Veranda at Dean's, Corner Restaurant, Burger Bar Congress, Dean's Italian Strakhouse, Edge Rooftop, and Starbucks (open from 6:30 a.m.-2:00 p.m.) are in the Hotel and other options are available nearby.

Guest Tickets. If registrants wish to bring guests to meals or receptions, guest tickets can be purchased at the Registration Desk; guest tickets will be priced equal to the cost incurred by the Conference for each meal.

Lunch & Learn Schedule

Attendees may collect their lunch, if desired, prior to attending the Lunch & Learns. **NOTE:** Lunch & Learn start times are 10 minutes after the scheduled session break begins in the room and end times are 15 minutes before the next session starts.

TUESDAY

(E Sessions Room—12:45-1:35 p.m.)

Navigating the Water Treatment Design and Permitting Process

Presented By: Peggy Derrick (EA Engineering, Science, and Technology, Inc., PBC) and Amber Wilson (Infrastructure Alternatives, Inc.)

WEDNESDAY

(E Sessions Room—12:20-1:10 p.m.)

Update on Work Products from the 2018 Joint U.S. Army Corps (ERDC) and Sediment Management Work Group (SMWG) Workshop on Uncertainty in the Evaluation of Fish Consumption

Presented By: Steven C. Nadeau (Sediment Management Work Group [SMWG]), David A. Moore (U.S. Army Corps/ERDC), Betsy Ruffle (AECOM), Jason Conder (Geosyntec), Deborah Edwards (NewFields), Danielle Pfeiffer (Arcadis), and Katherine von Stackelberg (Harvard Center for Risk and Analysis)

Closing Reception Sponsors

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GHD
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WEEKS
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Food Service Times

Breaks between sessions may not directly correspond with food and beverage service times. If you wish to attend specific functions, please plan your schedule accordingly.

Continental Breakfast
Tuesday-Thursday, 7:00–8:00 a.m.

Morning Beverage Break
Tuesday-Thursday, 9:30–10:15 a.m.

Buffet Lunches
Tuesday-Thursday, 11:30 a.m.–1:00 p.m.

Afternoon Beverage Break
Tuesday-Wednesday, 3:00–3:45 p.m.

Welcome Reception
Monday, 7:00–8:30 p.m.

Group 1 Poster Presentations & Networking Reception
Tuesday, 5:45–7:00 p.m.

Group 2 Poster Presentations & Networking Reception
Wednesday, 5:45–7:00 p.m.

Closing Reception
Thursday, 2:40–3:00 p.m.

Short Course Schedule

Limited onsite Short Course registration may be available. Come to the Conference Registration desk one hour in advance of your preferred course to see if space is available.

Short Course registrants may pick up their badge, sign in for their course, and be directed to the course room at the Conference Registration Desk up to one hour prior to the course start time.

Monday, January 9, 8:00 a.m.-5:00 p.m.

- Evaluating Sediment Transport: Best Practices, Tools, Techniques, and Application to Site Management

Monday, January 9, 8:00 a.m.-12:00 p.m.

- Application of Activated Carbon to Sediment Remediation: Design to Installation to Monitoring Reactive Capping and In Situ Treatment
- *Capping Design: The Art of Designing Isolation Layers to Reduce Environmental Risk Associated with Contaminated Sediments
- Expanding the Use of In Situ Solidification/ Stabilization to Provide Additional Tools for the Management of Impacted Sediments
- Environmental Forensics: Where Did That Contaminant Originate and Is It Degrading?
- Per- and Polyfluoroalkyl Substances (PFAS) Site Characterization and Assessment Tools

Monday, January 9, 1:00-5:00 p.m.

- Dredging 201: Introduction to Sediment Remediation
- Emerging Contaminant: Microplastics and Their Presence in Waterways, Effects and Potential Solutions
- Developing Representative Sediment Background Concentrations

** Indicates a "laptop-required" course.*

Education Sponsor

WEDA
Western Dredging Association
westerndredging.org

Student/Young Professional Participation & Events

University students through Ph.D. candidates will find participation in the Conference valuable to their career development. In addition to the technical information gained by attending presentations and visiting exhibits, students will be able to meet and talk with environmental professionals representing a wide range of work experience and employers. Recruitment is a major focus of many participating Exhibitors and Sponsors and the Conference will provide enhanced networking opportunities for student jobseekers. Be sure to check the Message Board near the Registration Desk where job postings may be available from participating companies.

Student Paper Competition Winner

The winning paper is scheduled for presentation as seen below. The winner is awarded a complimentary registration and a financial award to help cover travel and related costs to attend the Conference.

Oindrila Ghosh
(University of Maryland Baltimore County)

Design Optimization of Passive Sampling Prototypes with Periodic Vibration for Porewater Measurements of Polychlorinated Biphenyls

(Session A6, Poster Group 1, Board #33)

CONGRATULATIONS!

Career Roundtable for Students and Young Professionals

Monday, 12:30-2:30 p.m. (Lone Star F)
Open to all students and young professionals.

This roundtable will provide an opportunity for students and early-career professionals to learn more about career paths in the contaminated sediments field. Representatives from academia, a regulatory agency, industry, consulting, and non-profit/NGO will provide brief career overviews, followed by question-and-answer and open discussion.

Career KickStarter

Monday, 3:00-5:00 p.m. (Lone Star D & E)
Pre-registration was required to match mentors/mentees.

The Career Kickstarter is a program designed to foster networking and mentorship within the environmental sector. New professionals will be matched with an experienced professional in a mentorship relationship, which both mentee and mentor are committed to sustaining for 1 year.

Student Events Sponsors

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Program Committee, Session Chairs & Panel Moderators

Program Committee

Conference Chairs

Jana Heisler White, Ph.D. (Battelle)

Eliza Kaltenberg, Ph.D. (Battelle)

Steering Committee

Bonnie Brooks (Washington State Department of Ecology)

Peggy Derrick (EA Engineering)

Paul Doody, PE (Anchor QEA, LLC)

Espen Eek, Ph.D. (Norwegian Geotechnical Institute)

Anne Fitzpatrick, LHG (Geosyntec)

Upal Ghosh, Ph.D. (University of Maryland, Baltimore County)

Helen Jones (USACE New England)

Lisa Lefkovitz, PMP (Battelle)

Michael Sivak (U.S. EPA Region 2)

Jason Speicher, MBA (Navy NAVFAC Atlantic)

TUESDAY PLATFORM SESSIONS

A1. Innovative Characterization and Assessment Approaches
Michael Meyer (Battelle)
Jason Palmer (AECOM)

A2. Innovative Characterization and Assessment Tools
Andrew Jackson (Texas Tech University)
Jason Speicher (Naval Facilities Engineering Command Atlantic)

A3. Contaminant Forensics
Helder Costa (Haley & Aldrich, Inc.)
Mike Johns (Windward Environmental LLC)

A4. Risk Assessment
Jana Heisler White (Battelle)
Katherine von Stackelberg (Harvard Center for Risk Analysis)

B1. PFAS Bioavailability, Bioaccumulation, and Risk Assessment
Jason Conder (Geosyntec Consultants, Inc.)
Phyllis Fuchsman (Ramboll)

B2. Geospatial Data Evaluation and Data Visualization
Juliana Atmadja (WSP)
Alex Mansfield (Battelle)

B3. Contaminant Fate and Transport in Sediments
Solomon Gbondo-Tugbawa (WSP)
Craig Jones (Integral Consulting, Inc.)

C1. NAPL and MGP Sites
Sean Carroll (Haley & Aldrich, Inc.)
Michael Crystal (Sevenson Environmental Services, Inc.)

C2. Restoration and Revitalization Strategies
Joshua Collins (AECOM)
Marc Mills (U.S. Environmental Protection Agency)

C3. Great Lakes Legacy Act Successes and Challenges
Steven Nadeau (Sediment Management Work Group)
Steven Shaw (Sevenson Environmental Services, Inc.)

C4. Remedial Cleanup Objectives and Approaches for Optimized Remedial Development
Aaron Frantz (CDM Smith, Inc.)
Michael Spera (AECOM)

D1. Sustainability: Environmental Metrics, Stakeholder Values, Cost-Benefit
Bob Beinstein (AECOM)
Stephanie Fiorenza (Arcadis)

D2. Dredging, Dredged Material Dewatering and Disposal Design
Jamie Beaver (EA Engineering, Science, and Technology, Inc., PBC)
Randy Pit (Infrastructure Alternatives, Inc.)

D3. Monitored Natural Recovery (MNR) and Enhanced MNR
Paul Bireta (Chevron)
Michael Werth (Anchor QEA, LLC)

E1. Sediment Bioremediation
Arul Ayyaswami (Tetra Tech, Inc.)
Amar Wadhawan (Arcadis)

E2. Monitoring and Evaluating Remedy Implementation and Effectiveness
Keir Craigie (Tetra Tech, Inc.)
George Hicks (Haley & Aldrich, Inc.)

E3. Remediation of Ports, Harbors, and Urban Waterways
Philip Spadaro (TIG Environmental)
Amber Wilson (Infrastructure Alternatives, Inc.)

WEDNESDAY PLATFORM SESSIONS

A5. Nanomaterials, Microplastics and Other Emerging Contaminants in the Environment
AmyMarie Accardi-Dey (Tetra Tech, Inc.)
Susan Kane Driscoll (Exponent)

A6. Advances in Passive Sampling Methods
Meg Jalalizadeh (Exponent)
Magdalena Rakowska (Envirostatus, LLC/Texas Tech University)

A7. Application of Passive Samplers
Eliza Kaltenberg (Battelle)
Ludovica Silvani (Ramboll)

A8. Characterization and Remediation of PFAS-Contaminated Sediments
Kavitha Dasu (Battelle)
Dan Griffiths (Parsons)

B4. Groundwater/Sediment/Surface Water Interactions
Lisa Lefkovitz (Battelle)
Bob Veenstra (Geosyntec Consultants, Inc.)

B5. Hydrodynamics and Sediment Transport
Kara Scheu (Integral Consulting Inc.)
James Wands (HDR, Inc.)

B6. Contaminant Bioavailability and Uptake
Guilherme Lotufo (U.S. Army Corps of Engineers)
Blair McDonald (WSP)

B7. Ebullition
Karl Rockne (University of Illinois Chicago)
Priscilla Viana (Arcadis)

C5. Remedy Cost Allocation Considerations and Alternative Financial Models
Kate Lasseter (TIG Environmental)
Larry Silver (Langsam Stevens Silver & Hollaender)

C6. Communication and Facilitation with Stakeholders
Louise Dyble (Shepard Mullin Richter and Hampton)
Len Warner (WSP)

C7. Site Management Decision Strategies
Nicolette Andrzejczyk (U.S. Navy)
Andrew Bullard (CDM Smith Inc.)

C8. Environmental Justice Considerations in Sediment Projects
Miranda Henning (Integral Consulting, Inc.)
Roger Santiago (Environment and Climate Change Canada)

D4. In Situ Treatment Amendments
Moses Ajemigbitse (AquaBlok, Ltd.)
Upal Ghosh (University of Maryland, Baltimore County)

D5. Long-Term Monitoring Strategies
Wardah Azhar (CDM Smith Inc.)
Sonal Patil (Arcadis)

D6. Cap Design
John Collins (AquaBlok, Ltd.)
Espen Eek (Norwegian Geotechnical Institute)

D7. Cap Modeling
Danny Reible (Texas Tech University)
Deirdre Reidy (Anchor QEA, LLC)

E4. Lessons Learned in Remedy Implementation
Steve Garbaciak (Foth)
Andrew Timmis (J.F. Brennan Company, Inc.)

E5. Dredging Design and Operations
Paul Doody (Anchor QEA, LLC)
Jason Raimondi (Geosyntec Consultants, Inc.)

THURSDAY PLATFORM SESSIONS

A9. Chemical/Toxicological/Biological Measurements and Monitoring
Michael Ciarlo (EA Engineering, Science, and Technology, Inc., PBC)
LaRae Lehto (Minnesota Pollution Control Agency)

A10. Field Sampling Methods and Techniques
Ernest Ashley (CDM Smith, Inc.)
Caryn Kiehl-Simpson (EA Engineering, Science, and Technology, Inc., PBC)

A11. Source ID, Loading Assessment, and Control
Erin Hughes (Foth)
Madi Novak (U.S. EPA)

B8. Advanced Data Analysis and Decision Tools
Philip Goodrum (GSI Environmental)
Tim Negley (TIG Environmental)

C9. Adaptive Management Approaches
Jens Laugesen (DNV)
Michael Sivak (U.S. Environmental Protection Agency)

C10. Determining Background
Anne Fitzpatrick (Geosyntec Consultants, Inc.)
Allison Geiselbrecht (Floyd|Snider)

C11. Climate Change, Coastal Adaptation, and Resiliency
Amy Hawkins (U.S. Navy)
Susan Nilson (Foth)

D8. Beneficial Use of Contaminated Sediments
Rebecca Gardner (Anchor QEA, LLC)
Jason Guenther (Tetra Tech, Inc.)

D9. Sediment Management in the Northwest Region
Reid Carscadden (CRETE Consulting, Inc.)
Susan McGroddy (Windward Environmental LLC)

E6. Habitat Mitigation and Restoration
Ryan Davis (Anchor QEA, LLC)
Anthony St. Aubin (Stantec)

E7. Cap Construction and Operation
Timothy Donegan (Sevenson Environmental Services, Inc.)
Tyler Lee (J.F. Brennan Company, Inc.)

E8. In Situ Stabilization
John Hull (AquaBlok, Ltd.)
Wendell Wen (AECOM)

Panel Discussions

TUESDAY

(B Sessions Room—8:00-9:40 a.m.)
Will Sediment Caps Last Forever? And How Should We Address the Possibility that They Don't?
Moderators: Steve Garbaciak (Foth) and Philip Spadaro, RG (TIG Environmental)

(D Sessions Room—3:55-5:35 p.m.)
Implementing Adaptive Management at Contaminated Sediment Sites
Moderator: Betsy Henry, Ph.D. (Anchor QEA, LLC)

WEDNESDAY

(E Sessions Room—3:55-5:35 p.m.)
Cost Drivers for Environmental Dredging and Capping Projects
Moderators: Steve Garbaciak (Foth) and Andrew Timmis (J.F. Brennan Company, Inc.)

THURSDAY

(D Sessions Room—8:00-9:40 a.m.)
Beneficial Use of Contaminated Sediments: The Promise and the Challenge
Moderators: Steven Nadeau (Sediment Management Work Group) and Philip Spadaro (TIG Environmental)

(B Sessions Room—1:00-2:40 p.m.)
The Intersection of Environmental Justice and Contaminated Sediment Investigation and Remediation
Moderator: Miranda Henning, BCES (Integral Consulting, Inc.)

Tuesday Platform Sessions—8:00–10:30 a.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
8:00	**Determination of Contaminated Sludge Thickness in a Former Tidal Estuary Boat Harbour, Nova Scotia, Canada.** *T. Bachiu and V. Banks.* Tim Bachiu (WSP/Canada)	**PANEL DISCUSSION** **Will Sediment Caps Last Forever? And How Should We Address the Possibility that They Don't?** **Moderators** Steve Garbaciak (Foth Environment Solutions) Philip Spadaro, RG (TIG Environmental) **Panelists** Jennifer Hagen (Ramboll) Tim Havranek (Ramboll) Victor Magar (Ramboll) Helder Costa (Haley and Aldrich) Garry Horvitz (Haley and Aldrich) Andrew Timmis (J.F. Brennan Company)	**NAPL Mobility at the Newtown Creek Superfund Site: Multi-Stage Testing Results and Data Evaluation.** *M.J. Gefell, T. Gross, and S. Messur.* Michael Gefell (Anchor QEA, LLC/USA)	**Open Discussion with Session Chairs: Rethinking Sediment Remediation through the Land-Use Lens**	**PAH Biodegradation in Sediment Cap Environments: Evaluating How Performance Varies with Materials and Redox Zones.** *G. Pagnozzi, K. Millerick, D. Reible, and S. Carroll.* Giovanna Pagnozzi (Geosyntec Consultants, Inc./USA)
8:25	**Porewater and Oxidation-Reduction Chemistry Assessment in a Complex Tidal Wetland for Remedial Design.** *B. Johnson, B. Warner, J. DiMarzio, S. Greenfield, H. Ziaei, A. Alborzi, N. Shaghaghi, A. Deonarine, and D. Reible.* Ben Johnson (GSI Water Solutions, Inc./USA)		**Manistee Sediment Remediation.** *G. Zellmer, E. Dievendorf, N. Gensky, and A. Santini.* Eric Dievendorf (Arcadis/USA)	**GLNPO Saves the Day by "Rescuing" Two Detroit Riverfront Conservancy (DRFC) RiverWalk Construction Projects Requiring Sediment Caps by Utilizing Great Lakes Legacy Act Funding in Record-Breaking Speed.** *S.C. Nadeau and A. Corbin.* Steven Nadeau (Sediment Management Work Group/USA)	**Aerobic Bioaugmentation to Decrease Polychlorinated Biphenyl (PCB) Emissions from Contaminated Sediments to Air.** *C.M. Bako, A. Martinez, J.M. Ewald, J.B.X. Hua, D. Ramotowski, Q. Dong, J.L. Schnoor, and T.E. Mattes.* Christian Bako (U.S. Environmental Protection Agency/
8:50	**Incremental Sampling Methodology to Improve Characterization of PCBs in Wetland Sediment.** *M. Meyer, C. Farragher, S. Moore, and S. Lee.* Caitlyn Farragher (Battelle/USA)		**Concepts Relative to OPA Encapsulation and IDN Sediments.** *J.A. Johnson, I. Mamonkina, C.E. Ruiz, P.R. Schroeder, and D. Blue.* Irina Mamonkina (NewFields/USA)	**Sustainable Dredging and Contaminated Sediment Re-Use at the Port of Kokkola, Finland.** *M. Mengelt, T. Marjamäki, J. Forsman, and V. Magar.* Michael Mengelt (Ramboll/Finland)	**Bench-Scale and Pilot Test Studies on Bioremediation of 1,4-Dioxane and Chlorinated Solvents in Sediments and Soils.** *V. Ramalingam, J. Neuhaus, and A.M. Cupples.* Vidhya Ramalingam (Tetra Tech, Inc./USA)
9:15	**Step-Outs and Objective Simulations of Bias Effects on SWAC.** *J. Eykholt, D.C. Miller, and C. Draper.* Jerry Eykholt (WSP/USA)		**Installation of Amended Composite Geotextiles for Sheen Control and Bank Stabilization.** *S. Crawford.* Samuel Thomas Crawford (J.F. Brennan Company, Inc./USA)	**Tiered Approach to Sustainability Analysis in Sediment Remediation Decision Making.** *A.D. McNally, S.E. Apitz, A.G. Fitzpatrick, and D. Harrison.* Amanda McNally (Geosyntec Consultants, Inc./USA)	**Bioremediation and Phytoremediation of an Oil-Contaminated Salt Marsh in South Louisiana.** *L. Fontenot, M. Abbene, C. Nguyen, and C. Sanfilippo.* Lance Fontenot (Integral Consulting Inc./USA)
9:40	**Integrating Co-Occurrence of Multiple COCs with Facility Histories, Chemical Forensics, and Sediment Transport to Reconstruct 100 Years of Sediment Contamination.** *L.S. McWilliams.* Laura McWilliams (LM Consulting LLC/USA)	SESSION BREAK	**West Station Former MGP: Evaluations of Wall Reinforcement and Extension Technologies in a Complex System to Facilitate Sediment Removals.** *K. Brooks, R.D. D'Hollander, A. Ayoubian, A. Roueenfar, and A. Burnham.* Kristen Brooks (Parsons/USA)	SESSION BREAK	SESSION BREAK
10:05	SESSION BREAK	**B1.** **PFAS: Coming Soon to a Sediment Site near You.** *J. Conder.* Jason Conder (Geosyntec Consultants, Inc./USA)	SESSION BREAK	**D2.** **Pilot Testing of Contaminated Sludge Consolidation at the Ralston Street Lagoon Provides Disposal Site for River Sediments.** *M.S. Schultz, J. Jathal, M.L. Passaro, and D. Vicari.* Michael Schultz (CDM Smith Inc./USA)	**E2.** **Sediment PCB Cleanup Remedy Effectiveness: Case Study Synthesis.** *C. Patmont, P. Doody, B. Henry, and S. Replinger.* Clayton Patmont (Anchor QEA, LLC/USA)

A1. Innovative Characterization and Assessment Approaches

Panel Discussuon

C1. NAPL and MGP Sites

D1. Sustainability: Environmental Metrics, Stakeholder Values, Cost-Benefit

E1. Sediment Bioremediation

Tuesday Platform Sessions—10:30 a.m.–1:00 p.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
10:30	**Economical Innovations for Improved Chemical Mass Flux Quantification in Sediment.** *M.J. Gefell, K. Russell, and D. Rosenberry.* Michael Gefell (Anchor QEA, LLC/USA)	**The Role of PFAS in Sediments in Fish Recovery.** *J. Benaman, J. Connolly, D. Glaser, B. Lamoureux, W. Ku, S. LaRoe, D. Opdyke, and D. Reidy.* Jennifer Benaman (Anchor QEA, LLC/USA)	**The Conowingo Pilot Project: Findings and Implications.** *S.B. Merrill, J. Deni Chambers, A. Demorest, V. Magar, and S. Bedosky.* Sam Merrill (Northgate Environmental Management/USA)	**Effective Fill Management at the New Bedford, MA Lower Harbor CAD Cell.** *S.A. Taylor, J. Cummings, M. Beaudoin, D. Ferguson, J. Lally, D. Lederer, and T. Rezendes.* Shane Taylor (Jacobs/USA)	**Videoprobing as an Innovative Method to Avoid Underestimating Cap Thicknesses as Part of the Onondaga Lake Cap Monitoring Program.** *E. Glaza, M. Vetter, P. Scharfschwerdt, and D. Browning.* Edward Glaza (Parsons/USA)
10:55	**Use of a Comprehensive Passive Profiler to Characterize Interactions between Sediments and Surface Water.** *U. Garza-Rubalcava, A.V. Smith, D.D. Reible, W.A. Jackson, P. Hatzinger, and G. Lavorgna.* Uriel Garza-Rubalcava (Brown University/USA)	**Challenges Associated with the Analysis for PFAS in Sediments and Tissues.** *C.J. Neslund.* Charles Neslund (Eurofins Environment Testing America/USA)	**If You Clean It, They Will Come: Combining Sediment Remediation with Revitalization and Redevelopment.** *S. Inman, K. Powell, P. Doody, M. Conese, M. Aquino, and S. Murphy.* Kim Powell (Anchor QEA, LLC/USA)	**Innovative Blending of Large Volume Dredged Materials to Reduce Pollutant Risk and Enable Sustainable Reuse.** *S. Yan, L. Cheung, and U. Ghosh.* Songjing Yan (University of Maryland, Baltimore County/USA)	**Assessing the Effectiveness of the Completed Lower Fox River Remedy.** *T. Van Hoof, S. Lehrke, J. Wolfe, P. Montney, and P. LaRosa.* Tara Van Hoof (Foth/USA)
11:20	**Development and Implementation of an Innovative Field UV Screening Method for Identifying NAPL and Distinguishing Sources.** *P. Kenny, M. Byker, E. Hritsuk, and E. Miyashita.* Marcus Byker (Ramboll/USA)	**Development of Novel Modeling Approaches for Rapid Risk Characterization of PFAS.** *D.W. Moore and E.J. Perkins.* David W. Moore (U.S. Army Corps of Engineers, ERDC/USA)	**Approaches to Sediment Management for Dam Removal Projects.** *S. Lyons and B. Mastin.* Shane Lyons (AECOM/USA)	**Key Considerations for Managing Debris for Environmental Dredging Projects.** *D. Hayes, M. Palermo, J. Beaver, M. Bowman, and M. Ciarlo.* Donald Hayes (The Dredging Professor LLC/USA)	**Post-Remediation Verification Monitoring of the Buffalo River, New York.** *K.S. Bell, V.S. Magar, M. Sorensen, K. Leigh, S. Bagnull, M. Reemts, and R. Galloway.* Kristin Searcy Bell (Ramboll/USA)
11:45	**Assessment of Mercury and Arsenic Leaching from Sediments Subject to Cyclic Inundation/Drainage or Tides Using Passive Samplers.** *H. Ziaei Jam, N. Shaghaghi, A. Alborzi, B. Rao, T. Vrtlar, U. Garza Rubalcava, A. Deonarine, D. Reible, N. Grosso, and B. Johnson.* Hasti Ziaei Jam (Texas Tech University/USA)	SESSION BREAK	SESSION BREAK	**The Impact of Treatability Testing on Full-Scale Projects.** *C. McNeely.* Connor McNeely (Infrastructure Alternatives, Inc./USA)	**Head of the Thea Foss Waterway: 18 Years of Capping Remedy Effectiveness Monitoring.** *G. Braun, S. Ozkan, J. Wetzsteon, and L. Goldstein.* Gary Braun (Tetra Tech, Inc./USA)
12:10	SESSION BREAK			**Innovative Remedy Design for Cost-Effective Dredging and Disposal of Contaminated Sediments.** *J. Hutchens, K.S. Bell, and V. Magar.* James Hutchens (Ramboll/USA)	**Activated Carbon-Amended Enhanced Natural Recovery (ENR): Biological Lines of Evidence from a Pilot Study in the Lower Duwamish Waterway.** *J. Conder, G. Revelas, V. Magar, G. Heavner, L. Nelis, C. Whitmus, D. Williston, J. Stern, L. Erickson, J. Flaherty, D. Schuchardt, P. Rude, A. Crowley, and J. Florer.* Jason Conder (Geosyntec Consultants, Inc./USA)
12:35		**Integrating R, Power BI, and ArcGIS Online to Guide Sediment Investigations and Allocation toward Better Decision-Making.** *T.L. Negley, J.C. Combes, and K. Ives.* Tim Negley (TIG Environmental/USA)	**USEPA's Great Lakes Legacy Act: Past, Present, and Future.** *S.E. Cieniawski and M.L. Tuchman.* Scott Cieniawski (U.S. Environmental Protection Agency/USA)	SESSION BREAK	**LUNCH & LEARN** **(12:45 -1:35 p.m.)** **Navigating the Water Treatment Design and Permitting Process**

A2. Innovative Characterization and Assessment Tools

B1. PFAS Bioavailability, Bioaccumulation, and Risk Assessment

B2.

C2. Restoration and Revitalization Strategies

C3.

D2. Dredging, Dredged Material Dewatering and Disposal Design

E2. Monitoring and Evaluating Remedy Implementation and Effectiveness

Tuesday Platform Sessions—1:00–3:30 p.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
1:00	**Evaluation of PCB Source and Transport in San Diego Bay Using Sediment Traps.** *J. Parker, M. Johns, G. Douglas, and J. Hardenstine.* Jennifer Parker (Windward Environmental LLC/USA)	**Geospatial Data Visualization and Accessibility for Allocation Process Related to CERCLA Liability Cases.** *B.S. Harvey and J.A. Breiner.* Bernadette Harvey (FTI Consulting/USA)	**Sediment Remediation and Habitat Restoration at Spirit Lake, Duluth, Minnesota.** *M. Loomis, M.C. Ciarlo, J. Beaver, and M. Bowman.* Mark Loomis (U.S. Environmental Protection Agency/USA)	SESSION BREAK	**LUNCH & LEARN** **(12:45 -1:35 p.m.)** **Navigating the Water Treatment Design and Permitting Process** **Presented By** Peggy Derrick (EA Engineering, Science, and Technology, Inc., PBC) and Amber Wilson (Infrastructure Alternatives, Inc.)
1:25	**Evaluation of Generic PAH Profiles Used in Sediment Source Characterization Modeling.** *K. O'Reilly, D. Athanasiou, M. Edwards, and S. Ahn.* Dimitrios Athanasiou (Exponent/USA)	**Use of Geostatistical Methods to Delineate Active Remediation Areas in the Lower Duwamish Waterway, Seattle, Washington.** *T. Thornburg, J. Stern, C. Hanson, and M. Beuthe.* Jeffrey Stern (King County Department of Natural Resources/USA)	**Scanlon Reservoir Remediation: An R&D Pilot Study for In Situ Remediation of Dioxins/Furans in an Operating Hydroelectric Reservoir.** *S. Bagnull, R. Mohan, E. Patmont, K. Powell, A. Brunton, M. Kern, C. Nigrelli, S. Siegan, S. Schoff, L. Lehto, and S. Shaw.* Steven Bagnull (Anchor QEA/USA)	**Large-Scale MNR and Enhanced MNR Remedy in Western Port Angeles Harbor.** *A. Geiselbrecht, M. King, C. Patmont, R. Gardner, M. Johns, and L. Baker.* Allison Geiselbrecht (Floyd|Snider/USA)	
1:50	**Straight Out of Austin: What a Long, Strange Trip It's Been.** *A. LeHuray.* Anne LeHuray (Chemical Management Associates LLC/USA)	**Data Visualization: An Evolving Chapter in Scientific Story Telling.** *K. Whitehead, N. Goodkind, B. Sackmann, and G.K. Ansell.* Kenia Whitehead (GSI Environmental Inc./USA)	**Milwaukee Estuary Area of Concern (AOC): A Creative Great Lakes Legacy Act Partnership to Address Contamination on a Massive Scale.** *H. Williams and C. White.* Heather Williams (U.S. Environmental Protection Agency/USA)	**Activated Carbon-Amended Enhanced Natural Recovery (ENR): Results of a Three-Year Pilot Study in the Lower Duwamish Waterway.** *V.S. Magar, J. Conder, L. Nelis, G. Heavner, C. Whitmus, G. Revelas, D. Williston, J. Stern, L. Erickson, J. Flaherty, D. Schuchardt, P. Rude, A. Crowley, J. Florer, and K. Bahnick.* Victor Magar (Ramboll/USA)	**Bringing It Back Home on the Cuyahoga: Gorge Dam Sediment Removal, Innovative Processing, and Beneficial Use Design.** *J. Wiens, M. Kalisz, D.G. Grubb, M. Reif, W. Andrae, L. Iacobucci, E.A. Stern, A. Kovalik, A. Maher, and R. Miskewitz. J. Tannar Wiens (Jacobs/USA)*
2:15	**Characteristic Furan Signature from Chlorine Production Wastes Identifies Sediment Impacted by Historical Chemical Plant.** *L.S. McWilliams and H.J. Costa.* Laura McWilliams (LM Consulting LLC/USA)	**Innovative Three-Dimensional Sediment Corrective Action Evaluation and Optimized Remedial Design.** *T. Sattler, E. Dieck, S.M. Damon, S. Ueland, and M. Morris.* Timothy Sattler (Langan/USA)	**Ryerson Creek Outfall: Designing a Collaborative Project under the Great Lakes Legacy Act Using Public-Private Partnerships.** *J. Sirk, D. Meric, G. Gibbons, M. Loomis, H. Williams, E. Bertaut, H. Hopkins, and L. Schoen.* Jed Sirk (Geosyntec Consultants, Inc./USA)	**Regulatory Perspective on Remedy Selection for Contaminated Sediments at a Former Paper Mill.** *J.K. Schatz, E.K. McDonnell, and K. Parrett.* Jeffrey Schatz (Oregon Department of Environmental Quality/USA)	**An Overview and Update on the Randle Reef Sediment Remediation Project.** *R. Joyner, R. Santiago, and M. Graham.* Roger Santiago (ECCC/Canada)
2:40	**Forensic Tools for the Analysis of PFAS in the Subsurface.** *T.N. Thomas.* Tiffany Thomas (Haley & Aldrich, Inc./USA)	SESSION BREAK	**Rouge River AOC: Partnering to Clean Up the Old Channel of the Lower Rouge River Increases Redevelopment Interest and Triggers Cleanup of Former Industrial Area.** *E. Stieber, L. Stirban, N. Langlais, J. Telano, and R. Ellison.* Elizabeth Stieber (WSP/USA)	**A Case Study of Thin Cover Placement Pilot Application in Brunswick Estuary Wetlands, Georgia, USA.** *M. Reemts, R. Mohan, P. Gupta, R. Galloway, T. Johnson, and R. Brown.* Mark Reemts (Anchor QEA, LLC/USA)	**Lessons Learned on an Urban Waterway: Holistic Solution for Long-Term Benefit of Multiple Stakeholders.** *M. Walter, L. Parsons, J. Hagen, D. Engbring, S. Schlichtholz, and P. Elliott. Mark Walter (Ramboll/USA)*
3:05	**Forensic Analysis of Obscure Chlorinated Compounds in Sediment Samples for Historic Source Identification.** *J.G.D. Peale, L. Smith, J. Bernard, and B. Webb.* James Peale (Geosyntec Consultants, Inc./USA)	**Remobilization of Mercury-Contaminated Sediments from Salt Pond Restoration, South San Francisco Bay, California.** *B.E. Jaffe, A. Foxgrover, M. van der Wegen, F. Achete, M. Marvin-DiPasquale, and T. Fregoso.* Bruce Jaffe (U.S. Geological Survey/USA)	SESSION BREAK	**Seeking Innovation: Common Carp Removal for PCB Reduction and Habitat Restoration.** *K.E. Gustavson, M. Basler, J. Abid, P. Bajer, and L. Venne.* Karl Gustavson (U.S. Environmental Protection Agency/USA)	**Use of a CAD Cell for Disposal of PCB-Contaminated Sediments at the New Bedford Harbor, MA Superfund Site.** *D.J. Dickerson.* David Dickerson (U.S. Environmental Protection Agency/USA)

A3. Contaminant Forensics

B2. Geospatial Data Evaluation and Data Visualization

B3.

C3. Great Lakes Legacy Act Successes and Challenges

D3. Monitored Natural Recovery (MNR) and Enhanced MNR

E3. Remediation of Ports, Harbors, and Urban Waterways

Tuesday Platform Sessions—3:30–5:35 p.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
3:30	SESSION BREAK	**Marsh-Waterway Exchange of Methylmercury at Berry's Creek Study Area, New Jersey.** *G. Chang, C. Jones, T. Martin, and P. Brussock.* Grace Chang (Integral Consulting Inc./USA)	**Linked PCB Mass Balance and Food Web Model to Assess Effectiveness of Source Control and Sediment Remediation in the Anacostia River.** *U. Ghosh, M. Bokare, A. Pinkney, and D. Murali.* Upal Ghosh (University of Maryland, Baltimore County/USA)	SESSION BREAK	SESSION BREAK
3:55	**Target Lipid Model and Empirical K_{OC} Values to Predict PCB Sediment Toxicity to Invertebrates.** *P.C. Fuchsman, A.E. O'Connor, and K.J. Fetters.* Phyllis Fuchsman (Ramboll/USA)	**Evaluation of Mercury Fate and Transport from a Manufacturing Facility on the Ohio River.** *K.M. Groff, J.M. Nielsen, and V.S. Magar.* Kim Groff (Ramboll/USA)	**Using the Clean Water Act to Achieve Better Sediment Cleanups.** *S.A. Sheldrake.* Sean Sheldrake (CDM Smith Inc./USA)	**PANEL DISCUSSION** **Implementing Adaptive Management at Contaminated Sediment Sites** **Moderator** Betsy Henry, Ph.D. (Anchor QEA, LLC) **Panelists** Doug Tomchuk (U.S. EPA) Karl Gustavson (U.S. EPA) Katherine Garufi, PE (HDR, Inc.) Peter Brussock, Ph.D. (The ELM Group) Robert Wyatt (Northwest Natural)	**Designing an Evolving Urban Sediment Project: A Component of the Milwaukee Estuary AOC.** *E.E. Englund, J.M. Trast, J.W. Caryl, and P.F. Kenny.* Eric Englund (GEI Consultants/USA)
4:20	**San Diego Bay PCB Bioaccumulation Model.** *J. Toll, S. Replinger, J. Parker, K. Goffman, C. Hanson, M. Johns, A. Gibbs, and K. Croteau.* John Toll (Windward Environmental LLC/USA)	**Assessing Sediment Recontamination and Bioaccumulation by Stormwater Heavy Metals.** *I. Drygiannaki, D.D. Reible, B. Rao, J.A. Dawson, M. Rakowska, M. Bejar, N.T. Hayman, G. Rosen, M.A. Colvin, B. Chadwick, R. Pitt, B. Steets, M. Otto, and J. Ervin.* Ilektra Drygiannaki (Geosyntec Consultants, Inc./USA)	**CSM-Based Sediment Remediation Strategies without Published State Standards.** *N. Hastings, J. Port, D. Wolfram, L. Hellerich, J. Robinson, L. McIntosh, and J. Hamel.* Nicholas Hastings (Woodard & Curran/USA)		**Multi-Use Application of In Situ Solidification (ISS) to Support Construction of New Deep-Water Berth in Boston, Massachusetts.** *I. Gladstone, R.J. Titmuss, M. Sabulis, P. Jansen, N. Hoang, and C.H. Myers.* Michael Sabulis (GEI Consultants/USA)
4:45	**Probabilistic Risk Assessment of Sustainable Fish Consumption at Portland Harbor Superfund Site.** B. Ruffle, D. Pfeiffer, E. Morrison, G. Kirkwood, and P.D. Anderson. Betsy Ruffle (AECOM/USA)	**Insights Gained from the Development and Calibration of an Innovative Contaminant Fate and Transport Model.** *R. Makhlouf, L. Bateman, and K. Russell.* Ramzy Makhlouf (Anchor QEA LLC/USA)	**Establishment of an Area-Wide Proposed Early Action Cleanup Level for the Anacostia River Sediment Project.** *R. Zvoleff, M. Shupe, P. Song, J. Cooper, and D. Murali.* *Rebecca Zvoleff (Tetra Tech, Inc./USA)*		**Maximizing Efficiency during Remediation and Restoration of an Asbestos-Impacted Urban Waterway.** *K. Apigian, E. Hultstrom, R. Smith, and P. Leofanti.* Kyle Apigian (Woodard & Curran/USA)
5:10	**Deconvoluting Thermodynamics from Biology in the Aquatic Food Web Model.** *U. Ghosh, M. Bokare, and F. Gobas.* Upal Ghosh (University of Maryland, Baltimore County/USA)	**Impact of Dredging on River Sediment, Water, Aquatic Macroinvertebrate, and Riparian Spider PCB Concentrations.** *R.O. Otter, D.M. Walters, J.M. Lazorchak, K. Fritz, and M.A. Mills.* Ryan Otter (Middle Tennessee State University/USA)	**Application of California Sediment Quality Objectives at Small Sites: Challenges and Potential Modifications.** *W.R. Hovel and B. Hitchens.* Wendy Hovel (Geosyntec Consultants, Inc./USA)		**Operational Considerations for Implementing a Harbor-Wide Remedy in an Active Naval Harbor.** *M. Woltman, M. Bodman, T. Wang, S. Rodriguez, and R. Pickering.* Matt Woltman (Anchor QEA, LLC/USA)

A4. Risk Assessment

B3. Contaminant Fate and Transport in Sediments

C4. Remedial Cleanup Objectives and Approaches for Optimized Remedial Development

Panel Discussion

E3. Remediation of Ports, Harbors, and Urban Waterways

5:45-7:00 p.m. POSTER GROUP 1 PRESENTATIONS AND RECEPTION (EXHIBIT HALL)

Group 1 Posters

Display: Monday, 7:00 p.m.–Tuesday, 7:00 p.m.
Presentations: Tuesday 5:45–7:00 p.m.

The following posters will be on display from Monday evening through Tuesday evening in the Exhibit Hall. During the Presentations/Reception period on Tuesday evening, presenters will be at their displays to discuss their work. The poster board number assigned to each presentation appears below.

A1. Innovative Characterization and Assessment Approaches
A2. Innovative Characterization and Assessment Tools
A3. Contaminant Forensics
A4. Risk Assessment
A5. Nanomaterials, Microplastics and Other Emerging Contaminants in the Environment
A6. Advances in Passive Sampling Methods
A7. Application of Passive Samplers
A8. Characterization and Remediation of PFAS-Contaminated Sediments
B1. PFAS Bioavailability, Bioaccumulation, and Risk Assessment
B2. Geospatial Data Evaluation and Data Visualization
B3. Contaminant Fate and Transport in Sediments
C1. NAPL and MGP Sites
C2. Restoration and Revitalization Strategies
C3. Great Lakes Legacy Act Successes and Challenges
C4. Remedial Cleanup Objectives and Approaches for Optimized Remedial Development
D1. Sustainability: Environmental Metrics, Stakeholder Values, Cost-Benefit
D2. Dredging, Dredged Material Dewatering and Disposal Design
D3. Monitored Natural Recovery (MNR) and Enhanced MNR
E1. Sediment Bioremediation
E2. Monitoring and Evaluating Remedy Implementation and Effectiveness
E3. Remediation of Ports, Harbors, and Urban Waterways

A1. Innovative Characterization and Assessment Approaches

1. Sedimentation Dynamics a Key Element for a Remedial Investigation of a Reservoir Impacted by an Abandoned Mercury Mine. *S. Dent, H. Young, and J. Silvertooth.*
Stephen Dent (CDM Smith Inc./USA)

2. Legacy Sediment Contamination Remedial Investigation and Remedial Approaches in Lower Rouge River Mainstem. *A. Falkner, R. Ellison, S. Noffke, and K. Kowalk.*
Amber Falkner (U.S. Environmental Protection Agency/USA)

3. Reach-Wide Summaries for River Sediment Data Groupings following Optimized, Stratified Sampling. *G. Horstmeier, C. Draper, E. Thomas, and J. Eykholt.*
Greg Horstmeier (WSP/USA)

4. Where Science and Cost Apportionment Collide: Contaminant Loading from Upland Soils to Sediments. *M.J. Mao, N.C. Grasso, and J.T. Rominger.*
Matthew Mayo (Gradient/USA)

5. PAH Fingerprinting to Assess Creosote Treatment in Timber Pilings. *G. Pagnozzi, A. Fitzpatrick, W. Hovel, and C. Bartlett.*
Giovanna Pagnozzi (Geosyntec Consultants, Inc./USA)

6. Use of SPI Technology to Quantitatively Evaluate the Effects of Carp Removal on Surface Sediment Conditions in a Michigan Lake. *G. Revelas, L. Venne, S. Wodzicki, G. Chang, P. Pauquette, and C. Draper.*
Gene Revelas (Integral Consulting Inc./USA)

7. A Case Study of Woodwaste Assessment and Cleanup in Washington. *P. Wiescher, M. Pollock, E. Hess, and A. Hackett.*
Phil Wiescher (Maul Foster & Alongi, Inc./USA)

A2. Innovative Characterization and Assessment Tools

8. Evaluation of a Rapid Biosensor Tool for Measuring PAH Availability in Sediment. *J. Conder, M. Jalalizadeh, E. Luo, A. Bess, B. Pautler, M. Healey, and M. Unger.*
Jason Conder (Geosyntec Consultants, Inc./USA)

9. Marine Streamer Electrical Resistivity Characterization of Riverbed Sediment Contamination: Coeur d'Alene River, Idaho. *N. Crook, M. McNeill, and S. Calendine.*
Nigel Crook (hydroGEOPHYSICS Inc./USA)

10. In Situ Porewater and Sediment Sampler. *J.L. McWilliams and L.S. McWilliams.*
Laura McWilliams (LM Consulting LLC/USA)

11. SPIDAR-WEB: A Web-Based Sediment Profile Imagery Data Analytics and Reporting Platform. *B. Sackmann and I. Stupakoff.*
Brandon Sackmann (GSI Environmental/USA)

A3. Contaminant Forensics

12. Forensic Analysis of PCDD/Fs and PCBs in the Lower 2 Miles of the Passaic River, New Jersey. *M.J. Bock and N. Rose.*
Michael Bock (The Intelligence Group/USA)

13. PFAS Signature®: A Forensic Approach for PFAS Source Tracking Using High-Resolution Mass Spectrometry Tools. *K. Dasu, C. Orth, L. Mullins, D. Friedenberg, S. Dufek, B. Hill, and J. Thorn.*
Kavitha Dasu (Battelle/USA)

14. PCB Forensic Source Detection in San Diego Bay Sediments Using High Resolution GC/MS Congener Analysis. *G. Douglas, J. Hardenstine, M. Johns, and J. Parker.*
Mike Johns (Windward Environmental LLC/USA)

15. Fingerprinting Inherently Multivariate PAH Signatures in a Complex Sediment System. *A. Lutgen, S. Sorsby, and A. Madison.*
Alyssa Lutgen (WSP/USA)

16. Biological and Chemical Contamination Source Tracking in Urban Sewersheds. *A. Muller, Y. Burhan, J. Travis, and D. Pilat.*
Antoine Muller (Tetra Tech, Inc./USA)

17. Use of Non-Target Analysis for Matrix Mitigation and Accurate Quantification of Legacy PFAS. *C.J. Neslund.*
Charles Neslund (Eurofins Environment Testing America/USA)

18. Using Multiple Lines of Evidence to Ascertain Long-Term Pb Leakage from Abandoned Mine Tailing Ponds to Klity Creek, Kanchanaburi Province, Thailand. *T. Phenrat.*
Tanapon Phenrat (Naresuan University/Thailand)

19. Whose PFAS Is It? A Forensics Toolbox for a Defensible Identification of PFAS Sources in Sediments. *J. Pietari.*
Jaana Pietari (Ramboll/USA)

20. Identifying Byproduct (Also Known as "Inadvertently Generated") Polychlorinated Biphenyls in Waterbodies. *J.T. Rominger, A.P. Tcaciuc, and K. Herman.*
Jeff Rominger (Gradient/USA)

21. Environmental Forensics: Lessons Learned and Approaches toward Robust Data Analysis. *Y. Wang, E. Garvey, S. Gbondo-Tugbawa, and J. Atmadja.*
Ying Wang (WSP/USA)

22. The Effect of Data Transformation Methods on the Interpretation of a Principal Components Analysis of Sediment Polycyclic Aromatic Hydrocarbons. *A.E. Wilkes, S.P. Parker, J.R. Flanders, and G.R. Long.*
Austin Wilkes (EHS Support/USA)

A4. Risk Assessment

23. Use of Population Concepts to Support CERCLA Remedy Selection. *B. Anthony, C. Meyer, T. Walker, W. Stiteler, A. Fowler, J. Loper, T. Loper, G. Macolly, and J. Schell.*
Bonner Anthony (Arcadis/USA)

24. Augmenting and Refining Traditional Sediment Toxicity Identification Evaluations to Gain Clarity, Rigor, and Precision. *P. Arth and K. Payne.*
Peter Arth (Enthalpy Analytical/USA)

25. Site-Specific Ecological Risk Assessment of Johnston Facility, Johnston Atoll, USA. *M.A. Beauchemin, S. Palmer, J. Suski, and T. Quiniola.*
Melissa Beauchemin (EA Engineering, Science, and Technology, Inc., PBC/USA)

26. Optimized Remedy Development to Address Ecological Protectiveness in a Floodplain Setting. *P.J. de Haven, R.A. Siebenmann, and C.J. Saranko.*
Peter de Haven (Geosyntec Consultants, Inc./USA)

27. Site-Specific Creel Angler Survey of the Anacostia River. *B. Ruffle, R. Damera, K. Vosnakis, R. O'Haver, D. Cox, and T. Sanford.*
Betsy Ruffle (AECOM/USA)

A5. Nanomaterials, Microplastics and Other Emerging Contaminants in the Environment

28. Microplastics as Emerging Contaminants: Small Fry or Big Whale of a Problem? *J.K. Anderson, K. Whitehead, J. Wilhelm, and G.K. Ansell.*
Janet Anderson (GSI Environmental/USA)

29. Microplastics: From Source to Sediment, an Evaluation of Fate and Transport and the Future of Regulatory Actions. *D. Metzler and J. Peters.*
Darcy Metzler (Haley & Aldrich, Inc./USA)

30. How Clean Is Clean Enough for Plastic Pellet Remediation? *S.S. Patil, K. Maroo, S. Dunn, and D. Gerber.*
Sonal Patil (Arcadis/USA)

31. Critical Data Gaps for Characterizing Sediment-Associated Microplastics. *R. Zajac-Fay, J. Conder, T. Liu, and I. Drygiannaki.*
Rachel Zajac-Fay (Geosyntec Consultants, Inc./USA)

A6. Advances in Passive Sampling Methods

32. Optimizing the Use of Peepers for Sediment Passive Sampling of Redox Sensitive Metals. *I. Drygiannaki, F. Risacher, H. Schneider, J. Conder, B. Pautler, A. Sweett, and A.W. Jackson.*
Ilektra Drygiannaki (Geosyntec Consultants, Inc./USA)

Student Paper Competition Winner

33. Design Optimization of Passive Sampling Prototypes with Periodic Vibration for Porewater Measurements of Polychlorinated Biphenyls. *O. Ghosh, L. Cheung, U. Ghosh, and M. Jalalizadeh.*
Oindrila Ghosh (University of Maryland, Baltimore County/USA)

34. PFAS INSIGHT™: A New Tool for Passive Sampling of PFAS. *E.M. Kaltenberg, K. Dasu, S. Marconetto, and B. McDonald.*
Eliza Kaltenberg (Battelle/USA)

35. The Development of Diffusive Equilibrium, High-Resolution Passive Samplers to Measure Perfluoroalkyl Substances (PFAS) in Groundwater. *K.S. McDermett, W.A. Jackson, J. Guelfo, and T.A. Anderson.*
Kaylin McDermett (Geosyntec Consultants/USA)

36. Development of Site-Specific Partition Coefficients to Predict PCB Porewater Concentrations. *S. McGroddy, K. Godtfredsen, S. Replinger, J. Flaherty, L. Erickson, J. Florer, D. Schuchardt, P.D. Rude, A. Crowley, J. Stern, and D. Williston.*
Susan McGroddy (Windward Environmental LLC/USA)

37. Biomimetic Extraction with Polydimethylsiloxane as a Robust Method to Measure Potential Toxicity of Petroleum Mixtures in Sediments. *A. Redman, T.F. Parkerton, D. Letinski, M. Rakowska, and D.D. Reible.*
Magdalena Rakowska (Envirostatus, LLC and Texas Tech University/USA)

38. Assessing Bioavailability and Toxicity of Hydrocarbons and Other Nonpolar Organics in Contaminated Sediments Using Ex Situ Passive Sampling and GC-FID Analysis. *T.F. Parkerton, D. Letinski, A. Redman, M. Rakowska, and D.D. Reible.*
Magdalena Rakowska (Envirostatus, LLC and Texas Tech University/USA)

39. Re-Thinking the Kinetics of Metals in Sediment Passive Samplers Using Reverse Tracers.
F.F. Risacher, I. Drygiannaki, J.M. Conder, B. Pautler, A. Sweett, and A.W. Jackson.
Florent Risacher (Geosyntec Consultants, Inc./Canada)

A7. Application of Passive Samplers

40. Sediment Passive Sampling Data Accurately Predicts Concentrations in Benthic Invertebrate Tissue. *J. Conder, J. Arblaster, V. Magar, G. Heavner, L. Nelis, C. Whitmus, G. Revelas, D. Williston, J. Stern, L. Erickson, J. Flaherty, D. Schuchardt, P. Rude, A. Crowley, and J. Florer.*
Jason Conder (Geosyntec Consultants, Inc./USA)

41. Pilot-Scale Demonstration of Innovative Approaches to Measure Freely Dissolved Polychlorinated Biphenyls in Choccolocco Creek.
J. Conder, A. Fowler, C. Thomas, J. Loper, T. Loper, and E.G. Macolly.
Jason Conder (Geosyntec Consultants, Inc./USA)

42. Passive Sampling to Monitor Hydrophobic Organic Contaminant Concentration Changes across Seasons in the Anacostia River Watershed.
N. Lombard, M. Bokare, D. Murali, and U. Ghosh.
Nathalie Lombard (University of Maryland, Baltimore County/USA)

43. Diffusive Gradient Thin-Film Samplers: A Critical Line of Evidence in Ecological Risk Assessment.
B.G. McDonald.
Blair McDonald (WSP/Canada)

44. Design of a Modular DGT Passive Sampling Array.
E. Lazzarotto, K. Broadgate, and B.G. McDonald.
Blair McDonald (WSP/Canada)

45. Perspectives in Passive Sampling Technology for Contaminant Monitoring: Synthesis of Findings from a Multi-Stakeholder Expert Survey. *M. Rakowska, A.V. Smith, T.F. Parkerton, and D.D. Reible.*
Magdalena Rakowska (Envirostatus, LLC and Texas Tech University/USA)

46. Multi-Phased Sampling Design to Quantify Naturally-Occurring Metals in Anoxic Sediment Using Passive Porewater Samplers. *J. Arblaster, L. Smith, A. Fitzpatrick, F. Risacher, and L. Baker.*
Luke Smith (Geosyntec Consultants, Inc./USA)

47. PCB Source Evaluation Using Passive Sampling Techniques at Orote Landfill, Naval Base Guam.
W. Wen, B. Nagy, P. Gates, and J. Tamashiro.
Wendell Wen (AECOM/USA)

A8. Characterization and Remediation of PFAS-Contaminated Sediments

48. The EPA 1633 Draft PFAS Method: Key Features and Lessons Learned through Validation.
B. Chandramouii, N. Farmer, and M.C. Hamilton.
Bharat Chandramouli (SGS Canada/Canada)

49. Extraction of Zwitterionic PFAS from Impacted Soils Using the "Nickerson" Method. *S. Choyke, A. Nickerson, A. Borgo, T. Phomsopha, T. McKnight, and A. Patterson.*
Sarah Choyke (Eurofins Environment Testing America/USA)

50. Passive Treatment of PFAS-Impacted Stormwater.
J. Cuthbertson, J. McDermott, M. Shore, R. Mora, M. Ajemigbitse, and J. Collins.
John Cuthbertson (AECOM/USA)

51. Drivers and Alternatives for Interim and Long-Term Remediation of PFAS-Impacted Sediments and Surface Water. *A. Horneman, T. McWilliams, T. Guillette, J. Kirk, and N. Forsberg.*
Allan Horneman (Arcadis/USA)

52. PFAS Soil and Sediment Remediation. *M. Welch and J. Foglio.*
Trevor Litwiller (GZA Geo Environmental Inc./USA)

53. Controlling PFAS Discharge to Surface Water.
J.M. Rice, S. Sellwood, J. Hull, and J. Collins.
John Rice (TRC Companies, Inc./USA)

54. Geosynthetic Barriers for PFAS Containment: Current Options, Historical Precedents and New Materials. *G. Martins, C. Cheah, and T. Walker.*
Trevor Walker (HUESKER Inc./USA)

B1. PFAS Bioavailability, Bioaccumulation, and Risk Assessment

55. Development of a Diffusion-Based Equilibrium Passive Sampler for PFAS Detection in Sediment Porewater and Surface Water. *B.G. Pautler, F. Salim, M. Healey, A. Sweett, I. Ilina, J. Roberts, B. Medon, A. Pham, F. Risacher, L. D'Agostino, J. Conder, R. Zajac-Fay, J. Gautier, S. Mabury, A.O. De SIlva, P. McIsaac, A. Patterson, and R. Mitzel.*
Michael Healey (SiREM/Canada)

56. PFAS Exposure Study Design with *Chironomus Dilutus*. *C.J. McCarthy, S.A. Roark, and C.J. Salice.*
Chris McCarthy (Jacobs/USA)

57. Results of a Multigenerational Zebrafish PFOS Exposure. *D.W. Moore, K. Gust, N. Vinas, M. Wilbanks, E. Mylroie, C. Cox, A. Kimble, J. Conder, and J. Arblaster.*
David W. Moore (U.S. Army Corps of Engineers, ERDC/USA)

58. Getting from Here to There: Testing the Applicability of Bioaccumulation Factors for PFAS for Freshwater Fish. *K. Whitehead, P.E. Goodrum, J. Wilhelm, E. Reátegui Zirena, and S. Hutton.*
Kenia Whitehead (GSI Environmental Inc./USA)

59. Development of Novel Functionalized Polymeric Thin Films for Equilibrium Passive Sampling of PFAS Compounds in Surface and Groundwater. *S. Yan, U. Ghosh, G. Foster, and B. Murtadh.*
Songjing Yan (University of Maryland, Baltimore County/USA)

B2. Geospatial Data Evaluation and Data Visualization

60. Using Indicator Kriging for Lead Spatial Patterns Assessment in Sediments: The Caveira Mine Case Study, Portugal. *T. Albuquerque, R. Fonseca, J. Araújo, and N. Silva.*
Teresa Albuquerque (Polytechnic Institute of Castelo Branco/Portugal)

61. From ROD to Refinement: Contaminated Sediment Delineation Using 3DVA at Portland Harbor. *K. Vickstrom, H. Young, T.J. Cook, W. Azhar, and S.A. Sheldrake.*
Thomas Cook (CDM Smith Inc./USA)

62. Spatial Interpolation of Surface Sediment Concentrations to Establish Proposed Early Action Area Cleanup Boundaries. *J. Cooper, M. Shupe, and D. Murali.*
Justin Cooper (Tetra Tech, Inc./USA)

63. Paint Me a Picture/Tell Me a Story: Translating Data from a Database into Remedial Decisions. *C. Draper, J. Abid, and E. Thomas.*
Cynthia Draper (WSP/USA)

64. Rapid Summaries of River Sediment Sampling from a Conditional Sample Density Analysis. *J. Eykholt, S. Acker, E. Thomas, and C. Draper.*
Jerry Eykholt (WSP/USA)

65. Multiple Lines of Evidence Support 3-D Delineation of a Historical Dredge Prism. *L. Uselman, C. Huynh, and D. Deetz Silva.*
Logan Uselman (Integral Consulting Inc/USA)

B3. Contaminant Fate and Transport in Sediments

66. Real-Time Monitoring of the Fate and Transport in Sediments Using Microbial Potentiometric Sensors (MPSs). *S.R. Burge, R.G. Burge, and E.D. Taylor.*
Scott Burge (Burge Environmental, Inc./USA)

67. Evaluating the Effects of Polychlorinated Biphenyls in Stormwater on Sediment Recontamination and Bioavailability. *T. Hussain, B.A. Rao, M.I. Rakowska, D.D. Reible, D. Athanasiou, N.T. Hayman, G.H. Rosen, M.A. Colvin, D.B. Chadwick, R. Pitt, M. Otto, B. Steets, and J. Ervin.*
Tariq Hussain (Texas Tech University/USA)

68. Environments of Deposition and Evolution of Hydrophobic Organic Compounds in Lake Sediment and Fish Tissue. *E.L. McLinn and B.J. O'Neill.*
Eugene McLinn (Burns & McDonnell Engineering, Inc./USA)

69. Successful Implementation of SWAC Method and Design to Remediate PCB-Contaminated Subtidal Sediments at the New Bedford Harbor Superfund Site. *A. Rigassio Smith, C. Lu, J. Blount, and M.E. Esten.*
Anita Rigassio Smith (Jacobs/USA)

70. Arsenic Concentrations and Species Distribution in Historically Contaminated Estuarine Sediments in St. Helens, Oregon. *N. Shaghaghi, H. Ziaei, A. Alborzi, D.D. Reible, A. Deonarine, B. Johnson, B. Warner, J. DiMarzio, and S. Greenfield.*
Negar Shaghaghi (Texas Tech University/USA)

71. Leaching Rate of PCB from Marine Paint Chips. *A.D. Uhler, J.H. Hardenstine, D.A. Edwards, and G.R. Lotufo.*
Allen Uhler (NewFields/USA)

72. Evaluation of Effectiveness and Performance of Stormwater Management Systems to Limit Sediment Recontamination of Heavy Metals. *H. Zhou, B. Rao, C. Gomes-Avila, T. Hussain, D.D. Reible, N.T. Hayman, M.A. Colvin, and M. Demyers.*
Huayun Zhou (Texas Tech University/USA)

C1. NAPL and MGP Sites

73. Visual Display of Quantitative Data for Sample Selection for NAPL Mobility Testing in Sediment. *F.C. Harris, L.A. Reyenga, and J.M. Hawthorne.*
F. Claire Harris (GEI Consultants/USA)

74. Conceptual Models for NAPL Emplacement in Sediments. *J.A. Johnson, I. Mamonkina, D. Blue, E.M. Snyder, and T. Fischer.*
Irina Mamonkina (NewFields/USA)

75. Opportunities for Cost Savings and More Sustainable Remedies in Sediment: Implications of the New ASTM Standards on NAPL Mobility. *L.A. Reyenga.*
Lisa Reyenga (GEI Consultants, Inc./USA)

76. Degree of OPA Encapsulation in IDN Sediments: Effects on Pore Scale NAPL Mobility and Aqueous Phase Mass Transport of Dissolved Petroleum Hydrocarbon Constituents. *C.E. Ruiz, P.R. Schroeder, J.A. Johnson, I. Mamonkina, A.D. Redman, D. Blue, and S.P. Hopkins.*
Carlos E. Ruiz (U.S. Army Corps of Engineers/USA)

C2. Restoration and Revitalization Strategies

77. Naturalizing and Relocating the Don River within a Contaminated Landscape: The Port Lands, Toronto, Ontario. *J. Kusa and M. Melchior.*
Jonathon Kusa (Inter-Fluve, Inc./USA)

C3. Great Lakes Legacy Act Successes and Challenges

78. Torch Lake: GLLA Project in the Hubbell Processing Area and Lake Linden Recreation Area. *D. Amber, J.L. Telano, H.A. Williams, S.L. Swart, P.T. LaRosa, and L. Stirban.*
Danielle Amber (Ramboll/USA)

79. Developing and Implementing a Quality Control and Quality Assurance Program for the Spirit Lake Project. *M.C. Ciarlo, C. Kiehl-Simpson, J. Beaver, M. Loomis, and D. Bauman.*
Michael Ciarlo (EA Engineering, Science, and Technology, Inc., PBC/USA)

80. Clean Sediments and Clear Channels for Howards Bay and Fraser Shipyards: Combined Navigation and Remediation Dredging. *M. Erickson, M. Gravelding, E. Dievendorf, L. Tomlinson, S. Hill, and P. Viana.*
Eric Dievendorf (Arcadis/USA)

81. Winter is Coming: Successful Completion of a Great Lakes Legacy Act (GLLA) Remedial Capping Project in the St. Louis River Area of Concern (AOC) in Duluth, Minnesota. *M. Kern, L. Lehto, N. Patterson, D. Mally, and M. Elliot.*
LaRae Lehto (Minnesota Pollution Control Agency/USA)

82. Review of Quality Documentation for GLLA Remedial Construction Projects: How to "Right-Size" Submittals to Meet QA/QC Requirements. *M. Loomis, L. Blume, M. Galloway, T. Lewis, Z. Rahim, and M. Davis.*
Mark Loomis (U.S. Environmental Protection Agency/USA)

83. Quality Assurance Considerations for Great Lakes Legacy Act Projects. *M. Loomis, L. Blume, M. Galloway, J. Schofield, and Z. Rahim.*
Mark Loomis (U.S. Environmental Protection Agency/USA)

84. Estimating PCB Background Concentrations in the Great Lakes Using Great Lakes Legacy Act Data. *M. Loomis, L. Blume, A. Haas, K. Miller, and P. Goovaerts.*
Mark Loomis (U.S. Environmental Protection Agency/USA)

C4. Remedial Cleanup Objectives and Approaches for Optimized Remedial Development

85. Data Processing and Management of Heterogenous PCB Contamination at the Former Adirondack Steel Site. *E. Cummings, K. Thapa, and R. Conden.*
Emily Cummings (EA Engineering, Science, and Technology, Inc., PBC/USA)

86. Permitting Constraints and Their Influence on Remedy Design. *B. Deshields and K. Purcell.*
Bridgette DeShields (Integral Consulting Inc./USA)

87. Use of Multiple Lines of Evidence to Assess Risk, Develop Remedial Alternatives, and Select a Preferred Remedy for the Lower Genesee River. *L. Gorton, E. Glaza, M. Vetter, T. Drachenberg, K. Brooks, W. Long, L. Brussel, A. Ruta, M. Rondinelli, and T. Towey.*
Edward Glaza (Parsons/USA)

88. San Diego Bay: Technical and Legal Challenges Due to New Sediment Regulations. *M. Palmer, K. King, K. Richardson, and B. Gibson.*
Mike Palmer (de maximis, inc./USA)

89. Circular Economy and Sediment Management in European and Italian Legislation. *F. Peres.*
Federico Peres (B&P Avvocati Law Firm, University of Padua/Italy)

90. Addressing Sediment Contamination under the LSRP Program in New Jersey: Challenges and Potential Improvements. *D. Winslow, S. Huber, R. Beach, and T. Briggs.*
Geoffrey Schwartz (GZA GeoEnvironmental, Inc./USA)

91. The Old Upper Mountain Road Site: Sediment Remediation and On-Site Consolidation in the New York State Superfund Program. *M. Smith, D. Conan, T. Midgley, B. Scharf, S. Saucier, and M. Cruden.*
Matt Smith (EA Engineering, Science, and Technology, Inc., PBC/USA)

92. Impacts of the Characterization and Evaluation of Wood Wastes on Remedial Design in a Tidal Wetland. *B. Johnson, B. Warner, J. DiMarzio, and S. Greenfield.*
Braedon Warner (GSI Water Solutions, Inc./USA)

D1. Sustainability: Environmental Metrics, Stakeholder Values, Cost-Benefit

93. Quantitative Evaluation and Optimization of an Existing Remedy to Align with Green Remediation Goals and Guidance in New York State. *D. Conlon, M. Smith, D. Conan, B. Scharf, S. Saucier, and M. Cruden.*
Dylan Conlon (EA Engineering, Science, and Technology, Inc., PBC/USA)

D2. Dredging, Dredged Material Dewatering and Disposal Design

94. Dredge Footprint Delineation by Estimating Total PCB Congener Concentration with an Expedited Laboratory Procedure. *A. Accardi-Dey, M. Shupe, R. Zvoleff, D. Murali, and E. Redman.*
AmyMarie Accardi-Dey (Tetra Tech, Inc./USA)

95. Potential Impacts of Sediment Dredging on a Contaminated Stream in an Abandoned Sulphide Metal Mining Area in Southern Portugal. *J. Araújo, R. Fonseca, N. Silva, R. Silva, and T. Albuquerque.*
Joana Araújo (University of Évora | ICT/Portugal)

96. Important Factors for On-Site Placement of Contaminated Dredged Material in Confined Disposal Facilities. *J. Beaver, M. Bowman, J. Trombino, L. Rief, M. Gutberlet, and T. Midgley.*
Jamie Beaver (EA Engineering, Science, and Technology, Inc., PBC/USA)

97. Environmental Dredging, Dewatering, and Water Treatment of Metals-Impacted Sediment. *B.E. Culp.*
Barrett Culp (TRC Environmental Corporation/USA)

98. Evaluating PCBs in Dredge Residuals: Setting Expectations, Managing Risk, and Meeting Goals—Case Study. *M. Prytula, C. Draper, C. Gerbig, and J. Hansen.*
Cynthia Draper (WSP/USA)

99. PFAS-Impacted Solids: How Lessons Learned from the Wastewater Industry Can Apply to Sediments Projects. *B. Vermace, E. Lund, A. McCabe, K. Wolohan, and M. Ellis.*
Mike Ellis (Barr Engineering Co./USA)

100. Remedy Effectiveness of Voluntary Early Removal of Sediments Completed at Former Green Bay MGP. *E. Hritsuk, S. Goetz, J. Hagen, and G. Luke.*
Eric Hritsuk (Ramboll/USA)

101. Options for Disposal of Dioxin-Laden Sediment: A Comprehensive Laboratory Treatability Study. *S. Dore, D. Pope, K. Jaglal, C. Skirth, and S. Kemp.*
Kendrick Jaglal (GHD/USA)

102. Sediment Treatability Testing and Multiple Accounts Analysis for Mill Lake, Rayrock Remediation Project in Yellowknife, NT, Canada. *B.M. Mastin, J. Nolin, R. McCullough, M. Sanborn, and R. Studer-Halbach.*
Brian Mastin (AECOM/USA)

103. Pb-Contaminated Sediment Dispersion and Associated Risk due to Improper Sediment Dredging and Dewatering Operation in Klity Creek, Kanchanaburi Province, Thailand. *T. Phenrat.*
Tanapon Phenrat (Naresuan University/Thailand)

104. Use of 3-D Modeling and Precision Dredging Equipment to Optimize Sediment Remediation. *J. Schindler.*
Jason Schindler (Weston Solutions, Inc./USA)

105. Practical Considerations for Treatment, Transport, Disposal, and Reuse of Dredged Material. *W. Simons.*
William Simons (J.F. Brennan Company, Inc./USA)

106. Comparison between Two Treatability Studies for Dewatering of Fine, Highly Organic Sediments. *L. Zeng, M. Wenrick, S. Abrams, S. Weatherwax, K. Czajkowski, and S. Ueland.*
Matthew Wenrick (Langan/USA)

107. Overview of Engineered Turf Landfill Capping Technology and Its Application to Sediment Management Area Closure. *M. Zhu.*
Ming Zhu (Watershed Geosynthetics/USA)

D3. Monitored Natural Recovery (MNR) and Enhanced MNR

108. Assessment of Monitored Natural Recovery Using Multiple Lines of Evidence. *W. Azhar, R. Mathew, K. Roberts, D. Peabody, and S. Ruhala.*
Wardah Azhar (CDM Smith Inc./USA)

109. Demonstration of Monitored Natural Recovery of Chlorinated Benzene-Impacted Sediments in a Freshwater Canal. *G.R. Long, J. Collins, S.A. Morgan, and S. Norcross.*
Gary Long (EHS Support/USA)

110. Effectiveness of Early Actions in Accelerating a Harbor-Wide Monitored Natural Recovery Remedy in Esquimalt Harbour. *K. Ritchot, A. Corp, D. Ormerod, M. Bodman, and T. Wang.*
Kristen Ritchot (PWGSC/Canada)

111. First Monitored Natural Recovery (MNR) Study Conducted on the Palos Verdes Shelf Superfund Site, California, USA. *C.L. Tang, T. Petry, and C. McDonald.*
Chi-Li Tang (Los Angeles County Sanitation Districts/USA)

E1. Sediment Bioremediation

112. Aerobic Bioaugmentation to Decrease Polychlorinated Biphenyl (PCB) Emissions from Contaminated Sediments to Air. *C.M. Bako, A. Martinez, J.M. Ewald, J.B.X. Hua, D. Ramotowski, Q. Dong, J.L. Schnoor, and T.E. Mattes.*
Christian Bako (U.S. Environmental Protection Agency/USA)

113. Sediment Bioremediation for Maintaining Wetland Ecosystem Health, Tamil Nadu, India. *S. Kanmani, D. Srivastava, and U. Ramachandran.*
Sellappa Kanmani (Anna University/India)

114. Anaerobic Degradation of Hexachlorocyclohexane by Newly Developed Desulfomicrobium-Dominant Microbial Consortia. *M.I. Khan, K. Yoo, C. Vogt, and I. Nijenhuis.*
Muhammad Imran Khan (Helmholtz Center for Environmental Research-UFZ/Germany)

115. In Situ Treatment of PCBs in a Former Industrial Cooling Pond with Bioamended Activated Carbon. *K.R. Sowers, U. Ghosh, and T. Chadeayne.*
Kevin Sowers (University of Maryland, Baltimore County/USA)

116. Active Bacterial Formula (ABF) for Crude Oil Waste Sludge Degradation. *O. Ubani and H.I. Atagana.*
Onyedikachi Ubani (University of South Africa/South Africa)

E2. Monitoring and Evaluating Remedy Implementation and Effectiveness

117. Empirical Sediment and Fish Tissue Recovery Trends Since 2002 in the Portland Harbor Superfund Site. *A. Fitzpatrick, J. Conder, B. Ruffle, J. Arblaster, and K. Kroeger.*
Anne Fitzpatrick (Geosyntec Consultants, Inc./USA)

118. Is There More to Remedy Metrics Than Fish? *A.S. Fowler, J.R. Loper, T.B. Loper, E.G. Macolly, J.D. Schell, C.L. Thomas, and M.P. Price.*
Alan Fowler (Geosyntec Consultants/USA)

119. Recontamination Evaluation at an Early Action Site, the Lower Duwamish Waterway: Inferences why Post-Construction Results Remained Elevated. *C.D. Moody, P. Cordell, and A.E. Desai.*
Chris Moody (Farallon Consulting/USA)

120. Managing Mercury Sediment Contamination in Juneau, Alaska: Are Aquatic Sediment Caps Working in Douglas Harbor and Gastineau Channel? *J. Nakayama, P. Martin, and D. West.*
John Nakayama (NewFields/USA)

121. Evaluation of a Shoreline Revetment Reactive Core Mat Nine Years after Deployment. *R. Scott, S. Carroll, H. Costa, and M. Owens.*
Ryan Scott (Haley & Aldrich, Inc./USA)

122. Preliminary Environmental Assessment of Contaminated Sediment Dredging in an Urban River, New Jersey, USA. *O.G. Soetan, J. Nie, and H. Feng.*
Oluwafemi Soetan (Montclair State University/USA)

123. Onondaga Lake Remediation: Post-Construction Monitoring for Second Five-Year Review. *M.L. Spera, R. Montione, and M. O'Neill.*
Michael Spera (AECOM/USA)

E3. Remediation of Ports, Harbors, and Urban Waterways

124. History of a 21-Year Remedial Investigation: Area-Wide Petroleum Project in Astoria, Oregon. *A.L. Coates, M. Pugh, and P. Seidel.*
Anna Coates (Oregon Department of Environmental Quality/USA)

125. Cooperative Sediment Cleanup and Waterfront District Revitalization. *B. Gouran, L. Scholten, M. Woltman, M. Larsen, and L. McInerney.*
Brian Gouran (Port of Bellingham/USA)

126. Randle Reef Sediment Remediation Project Stage 2: Methodologies Utilized for Contaminated Sediment Dredging, Water Treatment and Isolation and Thin Layer Capping. *W. Harris and T.M. Walker.*
Wayne Harris (Milestone Environmental Contracting Inc./Canada)

127. Remediation of Pearl Harbor Sediments: Dredging in an Active Navy Harbor with Potential Explosive Hazards. *K. Markillie, J. Anderson, M. Greenwald, and S. Sahetapy-Engel.*
Kimberly Markillie (U.S. Navy/USA)

128. Navigation and Sediment Cleanup for the Anacostia River. *G. Mikeska and B. Peterson.*
Gretchen Mikeska (District of Columbia Department of Energy & Environment/USA)

129. Leveraging Enhancement of Remedy Provisions to Optimize Environmental Cleanup and Navigation Dredging Benefits at New Bedford Harbor. *S. Nilson, P. Rezendes, and C. Duarte.*
Susan Nilson (Foth/USA)

130. Development of a Sediment Capping Remedy in an Urban Waterway. *J. Nemesh.*
Robert Schellberg (Tetra Tech, Inc./USA)

131. Waterfront Toronto Environmental Risk Management Measures for a New River Valley. *D. Thorson, C. Robb, P. Andonyadis, D. Bertrand, A. Nasseri-Moghaddam, M. Janes, H. Cumberland, D.J. Bonnett, D. Forbes, and L. Solano.*
Danielle Thorson (Geosyntec Consultants, Inc./Canada)

132. Installation and Tracking of Risk Management Measures as Part of the Construction of a New River Valley. *D. Thorson, A. Higgins, B. Patel, D. Bertrand, D.J. Bonnett, H. Cumberland, D. Forbes, and L. Solano.*
Danielle Thorson (Geosyntec Consultants, Inc./Canada)

NOTES

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Wednesday Platform Sessions—8:00–10:30 a.m.

	A SESSIONS Lone Star A & B		B SESSIONS Lone Star C		C SESSIONS Lone Star F		D SESSIONS Lone Star G		E SESSIONS Lone Star H	
8:00	A5. Nanomaterials, Microplastics and Other Emerging Contaminants in the Environment	**Frameworks for Screening and Risk Management of Chemicals and Advanced Materials: A Review.** *D.W. Moore, B. Ruffle, S. Thakali, A. McQueen, S.P. Hopkins, and T.A. Key.* David W. Moore (U.S. Army Corps of Engineers, ERDC/USA)	B4. Groundwater/Sediment/Surface Water Interactions	**Quantifying Flow and Contaminant Flux for Groundwater-Surface Water Interactions: Techniques for Different Site Conditions.** *K.T. Russell, D. Reidy, G. Weatherford, and M. Gefell.* Kevin Russell (Anchor QEA, LLC/USA)	C5. Remedy Cost Allocation Considerations and Alternative Financial Models	**Allocating the Costs of Complex Sediment Mega-Sites: Who's Going to Pay for That Three Billion Dollar Remedy?** *J.C. Raffetto, L.S. Kirsch, and J.F. Visser.* Jack Raffetto (Sidley Austin LLP/ USA)	D4. In Situ Treatment Amendments	**Modeling the Sorption Kinetics of PCBs in Activated Carbon of Various Particle Sizes.** *X. Shen, D. Reible, M. Mitchek, and J. Wong.* Danny Reible (Texas Tech University/ USA)	E4. Lessons Learned in Remedy Implementation	**Lessons Learned: Design and Implementation of Sediment Remediation Projects.** *J. Raimondi.* Jason Raimondi (Geosyntec Consultants, Inc./USA)
8:25		**An Evaluation of Microplastics as Vectors for Contaminants in Sediments.** *S. BinAhmed-Menzies, M. Ellis, T. Boom, and L. Carney.* Mike Ellis (Barr Engineering Co./ USA)		**Intertidal Geophysics to Improve Characterization of Groundwater to Surface Water Contaminant Transport.** *M. Meyer, S. Moore, A. Baird, and S. Lee.* Sam Moore (Battelle/USA)		**Calculation of Contaminant Mass in Sediments for Use in Cost Allocation.** *J.M. Kneeland, R.H. Mozumder, and E.L. Butler.* Jessie Kneeland (Gradient/USA)		**Measurement of Sediment and Cap Material Partition Coefficients for Use in Cap Design for the Lower 8.3 Miles of the Passaic River.** *H. Fadaei, P. Viana, D. Liles, D. Profusek, M. Gravelding, N. Gensky, and U. Ghosh.* Hilda Fadaei (Arcadis/USA)		**What I Failed to Learn at the Sediment Conferences: Lessons from the Atlantic Wood Industries Superfund Site River Cleanup.** *R. Sturgeon.* Randy Sturgeon (U.S. Environmental Protection Agency/USA)
8:50		**Not All Microplastics are Created Equal: Refining Depositional Footprints of Microplastics in Sediments of Puget Sound, Washington.** *B.S. Sackmann, K. Whitehead, L. Premathilake, and T. Khangaonkar.* Brandon Sackmann (GSI Environmental/USA)		**Use of Ultraseep Meters and Differential Pressure Piezometers to Measure Groundwater to Surface Water Discharge.** *K. Craigie, J. Moore, and B. Chadwick.* Keir Craigie (Tetra Tech, Inc./USA)		**Determining Equitable Shares of Responsibility Pursuant to CERCLA for Discharges from Municipal Sanitary Sewer Systems.** *J. Manley.* Judy Manley (TechLaw Consultants, Inc./USA)		**Spirit Lake Case Study: Field Investigation and Design Evaluation to Support Chemical Isolation Cap Design.** *C. Kiehl-Simpson, M. Ciarlo, J. Beaver, and M. Loomis.* Caryn Kiehl-Simpson (EA Engineering, Science, and Technology, Inc., PBC/ USA)		**Dredging Contaminated Sediments Mixed with Large Building Demolition Debris, Artifacts, and Munitions.** *K. Skellenger, T. Thornburg, R. Wyatt, and M. Crystal.* Kendra Skellenger (Anchor QEA, LLC/USA)
9:15		**Microplastic Contamination in Fish in the Tidal Freshwater Portions of the Anacostia and Potomac Rivers, Washington, DC.** *R.F. Murphy, R.J. Woodland, and M. Criscuoli.* Bob Murphy (Tetra Tech, Inc./USA)		**Assessing Groundwater/Surface Water Interactions Using a Variety of High Resolution Tools and Traditional Methods.** *C. Patterson, A. Gavaskar, S. Lee, A. Danko, L. Lefkovitz, E. Kaltenberg, J. Sminchak, and A. Jackson.* Eliza Kaltenberg (Battelle/USA)		**Alternative Approaches for Funding Cleanup of Contaminated Sediments.** *P. Spadaro and L. Rosenthal.* Philip Spadaro (TIG Environmental/ USA)		**Effectiveness of Reactive Amendments to Reduce Porewater Sulphide in Esquimalt Harbour Wood Waste-Impacted Sediments.** *T. Sorensen, B. Lamoureux, D. Berlin, K. Ritchot, R. Thomas, and M. Bodman.* Tasha Sorensen (Anchor QEA/USA)		**Design Approaches for Cost-Effective Remediation of Large Sediment Sites.** *T. Blackmar, R. Feeney, and R. Chozick.* Terri Blackmar (Tetra Tech, Inc./USA)
9:40	SESSION BREAK			**Investigating Groundwater: Surface Water Interaction Using Distributed Temperature Sensing (DTS) Technology.** *H. Tahon, D. Adilman, S.W. Lee, F. Selker, and C. Gabrielli.* Heather Tahon (Geosyntec Consultants/USA)	SESSION BREAK			**Using SEDflume to Assess Sediment Amendment Stability.** *S. McWilliams, K. Carbonneau, C. Jones, and R. Damera.* Samuel McWilliams (Integral Consulting Inc./USA)	SESSION BREAK	
10:05	A6.	**Inter-Laboratory Study of Polyethylene and Polydimethylsiloxane Polymeric Samplers for Ex Situ Measurements of Freely-Dissolved Hydrophobic Organic Compounds in Sediment Porewater.** *G.R. Lotufo, M.M. Michalsen, D.D. Reible, P.M. Gschwend, U. Ghosh, A.J. Kennedy, K.M. Kerns, M.I. Rakowska, A. Odetayo, J.K. MacFarlane, S. Yan, and M. Bokare.* Kristen Kerns (U.S. Army Corps of Engineers/ USA)		**Establishing a Sediment Concentration Cleanup Goal for PCBs Using Sediment-Water Diffusive Flux.** *N. Lombard, M. Bokare, D. Murali, and U. Ghosh.* Nathalie Lombard (University of Maryland, Baltimore County/USA)	C6.	**Stakeholder and Regulatory Agency Coordination at Portland Harbor: Remedial Design Guidelines and Considerations.** *W. Azhar, H. Young, M. Novak, J. Clark, L. Orr, and S. Sheldrake.* Wardah Azhar (CDM Smith Inc./USA)		**Evaluation of Capping Amendments: Laboratory Columns Evaluation.** *C.E. Ruiz, P.R. Schroeder, D.W. Moore, J.A. Johnson, and I. Mamonkina.* Carlos E. Ruiz (U.S. Army Corps of Engineers/USA)	E4.	**When Unknown Unknowns become Known: Lessons Learned at the Ashland Lakefront MGP Superfund Site.** *D. Roznowski, K. Aukerman, T. Lee, and A. Buell.* Denis Roznowski (Foth/USA)

Wednesday Platform Sessions—10:30 a.m.–1:00 p.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
10:30	**A6. Advances in Passive Sampling Methods** **Validation of a Rare Congener PCB Performance Reference Compound (PRC) Method and a PRC-Free Method for Equilibrium Concentration Determination of PCBs, PAHs and Dioxins & Furans in Sediment Porewater.** *F. Salim, B.G. Pautler, M. Healey, A. Sweett, I. Ilina, J. Roberts, J. Thompson, J. Conder, P. McIsaac, R. Martrano, A. Patterson, and R. Mitzel.* Faten Salim (SiREM/Canada)	SESSION BREAK	**C6. Communication and Facilitation with Stakeholders** **Efficient and Effective Community and Stakeholder Engagement at Superfund Sites.** *E. O'Connell, J. Dittman, K. Lasseter, and P. Spadaro.* Erin O'Connell (TIG Environmental/ USA)	SESSION BREAK	**E4. Lessons Learned in Remedy Implementation** **Challenges in Site Investigations, Design, Remedy Implementation, and Monitoring in Shorelines with Shallow Bedrock.** *M. Bodman, K. Ritchot, A. Corp, M. Woltman, and T. Wang.* Michael Bodman (National Defence/ Canada)
10:55	**Application of a Polymeric Equilibrium-Based Passive Sampler for Methylmercury to Measure a Sediment Porewater Depth Profile.** *J.C. Damond, U. Ghosh, and C.C. Gilmour.* Jada Damond (University of Maryland, Baltimore County/USA)	**B5. Hydrodynamics and Sediment Transport** **Real-Time Fluxes in a Riverine System Demonstrated through In Situ Optical Monitoring.** *L. Venne, K. Merritt, M. Johnston, C. Draper, P. Pauquette, G. Chang, F. Spada, and K. Gustavson.* Louise Venne (WSP/USA)	**More Than Just Volunteering.** *V. Batters-Thompson, G. Mikeska and T. Sherard.* Vanessa Batters-Thompson (DC Appleseed Center for Law and Justice/USA)	**D5. Long-Term Monitoring Strategies** **Long-Term Monitoring Program Design and Early Results for the Former Portland Gas Manufacturing Site, Portland, Oregon.** *T. Thornburg, R. Wyatt, K. Skellenger, and S. Norwood.* Robert Wyatt (NW Natural/USA)	**Lessons Learned during Capping an Urban Canal and Installation of a Base for a Planned Urban Wetland.** *M. Walter and N. Wyrowski.* Mark Walter (Ramboll/USA)
11:20	**Development of a Single Model to Estimate the Extent of Equilibrium of Different Families of Contaminants in Polymeric Passive Samplers.** *A. Alborzi, U. Garza-Rubalcava, X. Shen, T. Hussain, A.V. Smith, R. Islam, and D. Reible.* Ashkan Alborzi (Texas Tech University/ USA)	**Anthropological Impacts on Morphology and Resulting Contamination Patterns on the Newark Bay Southwestern Sub-Tidal Shallows.** *R. Mathew, R. Bubnyte, and E.J. Garland.* Rooni Mathew (CDM Smith Inc./ USA)	**Incorporating First Nations' Knowledge and Priorities into Remedy Selection.** *E. Crawford, F. Wong, A. Corp, A. Blanc, and M. Larsen.* Eric Crawford (Transport Canada/ Canada)	**Evaluating Natural Recovery Timeframes: The Importance of Unbiased Sampling Designs at Portland Harbor.** *K.E. Vickstrom, J.W. Kern, S.A. Sheldrake, and M. Novak.* Kyle Vickstrom (CDM Smith Inc./USA)	**A New and Noteworthy Capping Option.** *D. Wibralski.* Dan Wibralski (J.F. Brennan Company, Inc./USA)
11:45	**Improved Understanding of Contaminant Transport and Fate in Sediments Using High Resolution Multi-Parameter Passive Samplers.** *W.A. Jackson, U. Garza-Rubalcava, D. Reible, P.B. Hatzinger, G. Lavorgna, and L. Lefkovitz.* Andrew Jackson (Texas Tech University/USA)	**Development of a Dynamically-Coupled Near/Far Field Propeller Wash Scour Sediment Transport Model.** *P.M. Craig, J.Y. Jung, L.A. Bastidas, A.J. Mausolff, P.F. Wang, D.W. Blue, and F.J. Messina.* Paul Craig (DSI, LLC/USA)	**Engaging Audiences: Interactive Websites for a Common Site Narrative.** *J. Oliver and J. Quinley.* Jill Oliver (Anchor QEA/USA)	**Lessons Learned from Fish and Surface Water Long-Term Monitoring.** *J. Abid, L. Venne, E. Curtis, and C. Draper.* Joseph Abid (WSP/USA)	**Wetland Habitat Area Remedial Construction.** *B. Orchard Aragon, E.J. Suardini, and C. Elmendorf.* Barbara Orchard Aragon (Arcadis/ USA)
12:10	SESSION BREAK	**Simulated Dynamics of Dredge-Induced Sediment Transport in the Lower 8.3 Miles of the Passaic River.** *J. Atkinson, H. Zhao, C. How, and M. Erickson.* John Atkinson (Arcadis/USA)	**Sediment Sites: Navigating the Liability and Site Closure Gauntlet.** *J.A. Tufano, J.W. Ring, and H. Cumberland.* Jay Tufano (Ring Bender LLP/USA)	SESSION BREAK	**LUNCH & LEARN** **(12:20 -1:10 p.m.)** **Update on Work Products from the 2018 Joint U.S. Army Corps (ERDC) and Sediment Management Work Group (SMWG) Workshop on Uncertainty in the Evaluation of Fish Consumption** **Presented By** Steven C. Nadeau (Sediment Management Work Group [SMWG]), David A. Moore (U.S. Army Corps/ERDC), Betsy Ruffle (AECOM), Jason Conder (Geosyntec), Deborah Edwards (NewFields), Danielle Pheiffer (Arcadis), and Katherine von Stackelberg (Harvard Center for Risk and Analysis)
12:35		SESSION BREAK	SESSION BREAK		

Wednesday Platform Sessions—1:00–3:30 p.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
1:00	**Comparative Review of Passive Sampling to Conventional Metrics for Evaluating Sediment Remediation Efficacy.** *J.S. Grundy, R.M. Burgess, and M.K. Lambert.* James Grundy (ORISE Participant at U.S. EPA/USA)	SESSION BREAK	SESSION BREAK	**Port Lands Toronto: Case Study of Cost-Effective Application of Powder Activated Carbon for a Reactive Treatment Layer at a Brownfield Remediation Site.** *N. Doucette, J. Herrington, J.A. Collins, and M. Ajemigbitse.* Nicholas Doucette (QM Environmental/Canada)	**LUNCH & LEARN (12:20 -1:10 p.m.)**
1:25	**Application of Passive Samplers to Support Risk Assessment and Long-Term Monitoring.** *W. Gardiner, K. Kerns, D. Moore, G. Lotufo, D. Reible, A. Smith, M.D.R. Islam, C. McCarthy, H. Rectenwald, and D. Lavoie.* William W. Gardiner (U.S. Army Corps of Engineers/USA)	**Marine Sediments as a Source of Fukushima ^{137}Cs for Benthic Fish in Japan's Coastal Waters.** *N.S. Fisher, C. Wang, and N. Volkenborn.* Nicholas Fisher (Stony Brook University/USA)	**Implementing a Resilient Wetland Sediment Remediation Project Considering Elevated Climate Activity.** *L. Hellerich, N. Hastings, J. Port, B. DePascale, and J. Markey.* Lucas Hellerich (Woodard & Curran/USA)	**Installation and Monitoring of a Pilot Sediment Capping with Activated Biochar.** *C. Maurice, G. Dublet-Adli, E. Flodin, E. Eek, and G. Cornelissen.* Espen Eek (Norwegian Geotechnical Institute/Norway)	**When Designing a Dredge Prism, Geostatistical Models are Important but Must be Tempered by Sound Engineering Principles.** *C.R. Pray and J.L. Englehart.* Chris Pray (GEI Consultants/USA)
1:50	**Groundwater/Surface Water Interactions at the Transition Zone: Utilizing an In Situ Passive Sampling Program to Evaluate Groundwater Upwelling.** *M. Healey, B.G. Pautler, J. Roberts, J. Conder, D. Toler, L. Fontenot, and S. Aufdenkampe.* Michael Healey (SiREM/Canada)	**Comparative Bioaccumulation Study of Activated Carbon Amendments.** *R. Damera, J. Bleiler, U. Ghosh, L. Cheung, and T. Sanford.* Ravi Damera (AECOM/USA)	**Forever and a Day: CERCLA Interpretation of Unlimited Use and Unrestricted Exposure.** *S. Dunn, F. Payne, and G. King.* Shannon Dunn (Arcadis/USA)	**CapSim 5: Modeling the Fate and Transport of Redox-Sensitive Contaminants for Sediment Assessment and In Situ Remedial Design.** *X. Shen and D. Reible.* Xiaolong Shen (Texas Tech University and Arcadis U.S., Inc./USA)	**Water Quality Impacts Associated with Bucket Dredging.** *D.F. Hayes and D.E. James.* Donald Hayes (The Dredging Professor LLC/USA)
2:15	**Application of Polyethylene Devices (PEDs) to Cap Design and Post-Cap Monitoring.** *L.F. Lefkovitz, E.M. Kaltenberg, A. Rigassio Smith, D. Dickerson, and M. Esten.* Lisa Lefkovitz (Battelle/USA)	**Site-Specific Relationship between PCB Porewater Concentrations and Bioaccumulation at Penniman Lake, Virginia.** *M.R. Islam, A. Smith, D. Reible, W. Gardiner, G. Lotufo, H. Rectenwald, C. McCarthy, and D. Lavoie.* Rashedul Islam (Texas Tech University/USA)	**Developing a River-Wide Cleanup in a Complicated Jurisdictional Setting.** *G. Mikeska and D. Murali.* Gretchen Mikeska (District of Columbia Department of Energy & Environment/USA)	**The Use of Cap Modeling in an Adaptive Management Approach for the Life of a Project: Design, Construction, and Long-Term Monitoring.** *D. Reidy, K. Russell, and P. LaRosa.* Deirdre Reidy (Anchor QEA, LLC/USA)	**Shoreline Dredging Risk Mitigation: Consider "The Zone of Influence."** *S. Ozkan, R. LamaTamang, S. Ernst, T. Blackmar, and M. Ahmed.* Senda Ozkan (Tetra Tech, Inc./USA)
2:40	SESSION BREAK	**Assessing PCB Concentration in Fish from Passive Sampler Data Using a Thermodynamic Equilibrium Model: Upper Roanoke River Case Study.** *N. Lombard, L. Cheung, J. Hill, L.A. Weitzenfeld, and U. Ghosh.* Nathalie Lombard (University of Maryland, Baltimore County/USA)	**Evaluating Site-Specific Background Including Ongoing Sources to Develop Realistic Cleanup Goals for the Newtown Creek Superfund Site.** *A. Shellenberger, D. Haury, P. LaRosa, and K. Russell.* Amanda Shellenberger (Anchor QEA, LLC/USA)	**Measurement and Evaluation of Darcy Velocity for Use in Cap Design for the Lower 8.3 Miles of the Passaic River.** *M. Erickson, N. Gensky, and P. Viana.* Michael Erickson (Arcadis/USA)	**New Bedford Harbor Superfund Site Dredging Design and Technology Initiatives for Cleanup Success.** *J. Lally, N.W. Mangelson, D. Lederer, S. Taylor, and M.D. Crystal.* John Lally (Lally Consulting, LLC/USA)
3:05	**Reconstructing Temporal PFAS Trends from Sediment Cores with Multiple Approaches.** *M.A. Cashman, M.G. Cantwell, A.R. Robuck, M. Morales-McDevitt, and J. Koelmel.* Michaela Cashman (U.S. Environmental Protection Agency/USA)	**Novel Mercury Sequestration Technology to Suppress the Methylmercury and Bioaccumulation in Sediment.** *C. Stransky, K. Abusaba, C. Gerbig, A. Gabriel, K. Pingree, J. Miller, and D. Griffin.* Chris Stransky (WSP/USA)	SESSION BREAK	SESSION BREAK	**Diver-Assisted Dredging under Structures to Protect Manatees and Minimize Ecological Impacts while Dredging in Sensitive Habitats: Design Build Services for Wagner Creek/Seybold Canal, Miami, Florida.** *B. Madabhushi, D. Levy, T. Donegan, M.D. Crystal, and R. Fenton.* Babu Madabhushi (AECOM/USA)

A8.

A7. Application of Passive Samplers

B6. Contaminant Bioavailability and Uptake

C7. Site Management Decision Strategies

D6. Cap Design

E5. Dredging Design and Operations

Wednesday Platform Sessions—3:30–5:35 p.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
3:30	**A Reliable Dataset from a PFAS Sediment Investigation near a Former (Confidential) Manufacturing Site in Michigan.** *K. McDonald, M. Westra, R. Beach, and L. Nelson.* Katherine McDonald (GZA GeoEnvironmental/USA)	SESSION BREAK	**Environmental Justice: Background and Recent Guidance and Actions Regarding Contaminated Sites.** *J.B. King.* John King (Breazeale, Sachse & Wilson, LLP/USA)	**Balancing Conservatism and Uncertainty in the Lower Passaic River Sediment Cap Chemical Isolation Layer Design.** *P. Viana, M. Erickson, B. Orchard Aragon, and D. Reible.* Priscilla Viana (Arcadis/USA)	SESSION BREAK
3:55	**Field Observations on Fate and Transport of PFAS in Contaminated Sediments.** *A.R. Wadhawan, T. Guillette, S. Dunn, and M. Schnobrich.* Theresa Guillette (Arcadis, Inc./USA)	**Impact of Temperature, NAPLs Concentration, and Co-Substrate on NAPLs Biodegradation and Biogas Production in Sediment.** *M. Khazraee Zamanpour and K.J. Rockne.* Morvarid Khazraee Zamanpour (WSP/USA)	**The Intersection of Risk Assessment, Risk Communication and Environmental Justice.** *B. DeShields and M. Pattanayek.* Bridgette DeShields (Integral Consulting Inc./USA)	**Comprehensive Erosion Protection Assessment for the Cap Design for the Lower 8.3 Miles of the Passaic River.** *B. Orchard Aragon, C. Becker, M. Erickson, J. Atkinson, R. Faber, and T. Blackmar.* Barbara Orchard Aragon (Arcadis/USA)	**PANEL DISCUSSION** **Cost Drivers for Environmental Dredging and Capping Projects** **Moderators** Andrew Timmis (J.F. Brennan Company, Inc.) Steve Garbaciak (Foth Infrastructure & Environment, LLC) **Panelists** Paul LaRosa, PE (Anchor QEA) Chris Greene, PE (Geosyntec Consultants, Inc.) Scott Cieniawski (U.S. EPA – Great Lakes National Program Office) Robert Rule, PE (de maximis, Inc.) Timothy M. Donegan, PE (Sevenson Environmental Services, Inc.) Greg Smith (J.F. Brennan Company, Inc.)
4:20	**An Enhanced Remediation of PFAS-Impacted Sediments Using a Treatment Train of Soil Washing and Adsorptive Media.** *N. Pica, E. Coggin, and A. Thompson.* Nasim Pica (Weston Solutions, Inc./USA)	**The Duration of Ebullition Processes in NAPL-Contaminated Sediments and Implications for Remedy Design.** *D. Vlassopoulos, M. Carey, and R. Barth.* Dimitri Vlassopoulos (Anchor QEA, LLC/USA)	**Advancing Environmental Justice through Inclusive Approaches to Holistic Project Planning and Execution.** *M. Kelly.* Mary Kelly (Agnico Eagle Mines Limited/Canada)	**RECOVERY Application in Three Great Lakes Slips to Validate Three Engineered Sub-Aqueous Caps.** *C.E. Ruiz, P.R. Schroeder, M.A. Royal, and V.B. Person.* Carlos E. Ruiz (U.S. Army Corps of Engineers/USA)	
4:45	**Large Full-Scale In Situ Remediation of PFAS in Groundwater Using PlumeStop®.** *J. Cuthbertson, R. Mora, J. Buzzell, S. Krenz, R. Moore, K. Gaskill, and A. Kavanaugh.* John Cuthbertson (AECOM/USA)	**Bubble-Facilitated Mobilization of Non-Aqueous Phase Liquids at Residual Saturation from Sandy Sediments.** *A. Nunez Garcia, J. Wu, and K.G. Mumford.* Ariel Nunez Garcia (Queen's University/Canada)	**Canadian Experience with Environmental Justice in Managing Contaminated Sediment Sites.** *R. Santiago and J. Peters.* Roger Santiago (ECCC/Canada)	**San Francisco Bay Mud: A Case for Estimating Site-Specific Partitioning Values in Cap Modeling.** *T. Holden, T. Cridge, J. Ripley, and M. Mann-Stadt.* Justin Ripley (Haley & Aldrich, Inc./USA)	
5:10	**Laboratory Assessment of Capping Technologies for Remediation of PFAS-Contaminated Sediments.** *P. Manwatkar, H.D. Atoufi, and D.J. Lampert.* David Lampert (Illinois Institute of Technology/USA)	**Ebullition-Facilitated NAPL Transport: Case Studies Where Screening Evaluations Changed the Remedial Path.** *L.A. Reyenga.* Lisa Reyenga (GEI Consultants, Inc./USA)	**Intersection of Environmental Justice and Contaminated Sediment Sites.** *A. León-Grossmann.* Andrea Leon-Grossmann (Azul/USA)	**Evaluation of Impact of Modeling Assumptions in Chemical Isolation Assessment on Subaqueous Sediment Cap Design.** *Y. Zou, S. Gbondo-Tugbawa, M. Bilimoria, E. Garvey, and S. Bailey.* Yonghong Zou (WSP/USA)	

A8. Characterization and Remediation of PFAS-Contaminated Sediments

B7. Ebullation

C8. Environmental Justice Considerations in Sediment Projects

D7. Cap Modeling

Panel Discussuon

5:45-7:00 p.m. POSTER GROUP 2 PRESENTATIONS AND RECEPTION (EXHIBIT HALL)

Group 2 Posters

Display: Wednesday, 7:00 a.m.-Thursday, 1:00 p.m.
Presentations: Wednesday, 5:45-7:00 p.m.

The following posters will be on display from Wednesday morning through Thursday afternoon in the Exhibit Hall. During the Presentations/Reception period on Wednesday evening, presenters will be at their displays to discuss their work. The poster board number assigned to each presentation appears below.

A9. Chemical/Toxicological/Biological Measurements and Monitoring
A10. Field Sampling Methods and Techniques
A11. Source ID, Loading Assessment, and Control
B4. Groundwater/Sediment/Surface Water Interactions
B5. Hydrodynamics and Sediment Transport
B6. Contaminant Bioavailability and Uptake
B7. Ebullition
B8. Advanced Data Analysis and Decision Tools
C5. Remedy Cost Allocation Considerations and Alternative Financial Models
C6. Communication and Facilitation with Stakeholders
C7. Site Management Decision Strategies
C8. Environmental Justice Considerations in Sediment Projects
C10. Determining Background
C11. Climate Change, Coastal Adaptation, and Resiliency
D4. In Situ Treatment Amendments
D5. Long-Term Monitoring Strategies
D6. Cap Design
D7. Cap Modeling
D8. Beneficial Use of Contaminated Sediments
D9. Sediment Management in the Northwest Region
E4. Lessons Learned in Remedy Implementation
E5. Dredging Design and Operations
E6. Habitat Mitigation and Restoration
E7. Cap Construction and Operation
E8. In Situ Stabilization

A9. Chemical/Toxicological/Biological Measurements and Monitoring

1. Influence of Particle Size Distribution on Heavy Metal Geochemistry of Lagos Harbour, Nigeria. *A. Bamanga, M. Fowler, and G. Mills.*
Awwal Bamanga (University of Portsmouth/United Kingdom)

2. Polychlorinated Biphenyls: Case Studies in Measurement. *B. Chandramouli and M.C. Hamilton.*
Bharat Chandramouli (SGS Canada/Canada)

3. A Reimagined Overlying Water Renewal System for Whole Sediment Toxicity Tests. *C. Davis, D. McCauley, and M. Garton.*
Craig Davis (Great Lakes Environmental Center, Inc./USA)

4. Restoration of Water Bodies Impacted by Mine Drainage: The GeoMaTre Project and Findings for Mercury Assessment at Caveira Mine, Portugal. *R. Fonseca, T. Albuquerque, J. Araújo, and N. Silva.*
Rita Maria Ferreira Fonseca (University of Évora/Portugal)

5. Biota Monitoring Program for the Anacostia River Sediment Project Using Stationary Forage Fish. *A.E. Pinkney and E.S. Perry.*
Alfred Pinkney (U.S. Fish and Wildlife Service/USA)

6. Smallmouth Bass as a Representative Resident Species at Portland Harbor Superfund Site. *B. Ruffle, A. Clodfelter, H.A. Jones, and K. Vosnakis.*
Betsy Ruffle (AECOM/USA)

7. Biocides in Marine Anti-Fouling Paints: A Concern for Small Craft Harbors? *S.R. Seguin, B.G. McDonald, and A. Mylly.*
Shawn Seguin (WSP/Canada)

8. The Benefits of Rapid Turn GC/MS/MS Measurement of 17 2,3,7,8-Substituted Tetra through OCTA-Chlorinated Dibenzo-p-Dioxins and Dibenzofurans in Sediment Samples for Enhanced Characterization at Contaminated Sediments Sites. *P.B. Simon, S.L. Stubblefield, P.M. Simon, K. Craigie, and S. McGee.*
Philip Simon (Ann Arbor Technical Services, Inc./USA)

A10. Field Sampling Methods and Techniques

9. Measurement of Water and Gas-Mediated Contaminant Fluxes Using Benthic In Situ Methods. *P. Frogner-Kockum, A-K. Dahlberg, A. Lehoux, and W. Zhu.*
Paul Frogner-Kockum (Swedish Geotechnical Institute/Sweden)

10. Novel Sediment Sampling Methods for Difficult Substrates on a Pacific Northwest River. *K. Heffern, J. Keithly, and S. Hinz.*
James Keithly (ERM/USA)

11. Sediment Sampling in a Pandemic: A Case Study in Adaptive Planning. *D. Metzler, H. Lee, N. Lee, and J. Galvin.*
Darcy Metzler (Haley & Aldrich, Inc./USA)

12. The Application of Soil Rhizon Samplers for Understanding Sediment Porewater Conditions in a Coastal Wetland. *S.P. Parker, A.E. Wilkes, and G.R. Long.*
Samuel Parker (EHS Support/USA)

13. Multiple Sediment Coring Technique Application: Lower Passaic River. *D.B. Richardson, H. Phelan, and G. Braun.*
Heather Phelan (Tetra Tech, Inc./USA)

14. X-Ray Fluorescence as a Screening Tool for Assisting in Prioritizing Ecological Exposures in Vernal Pool Sediments. *J. Schaffer, C. Beers, G. Wissink, and M. Bradley.*
John Schaffer (Tetra Tech, Inc./USA)

15. The Benefits of High Frequency Sonic Sediment Coring for Improved Recovery on Contaminated Sediment Sites. *P.M. Simon, P.B. Simon, and M.T. DeLong.*
Peter Simon (Ann Arbor Technical Services, Inc./USA)

16. Innovative Data Collection and Visualization Technology: Leveraged to Assess Sediment Accumulation and Evaluate Restoration of a Former Swimming Beach. *E. Trumpatori.*
Evan Trumpatori (Woodard & Curran/USA)

A11. Source ID, Loading Assessment, and Control

17. Evaluation of Effectiveness and Performance of Stormwater Management Systems to Limit Sediment Recontamination of Polycyclic Aromatic Hydrocarbons (PAHs). *C. Gomez-Avila, B. Rao, H. Zhou, T. Hussain, and D.D. Reible.*
Cesar Gomez-Avila (Texas Tech University/USA)

18. Identification of MS4 Control Measures to Address Diffuse Contamination in an Urbanized Stream. *T. Sorell, C. Bell, T. Caputi, and J.V. Loperfido.*
Adam Gutta (Brown and Caldwell/USA)

19. The Impacts of Source Control and Stormwater Regulations on Sediment Concentrations in Washington State. *P.R. Hsieh and R.S. Webb.*
Patrick Hsieh (Dalton Olmsted & Fuglevand/USA)

20. Time-Critical PCB Spill Response and Source Control Action to Protect Sediment. *K. Kroeger, L. Smith, A. Fitzpatrick, P. Rude, and D. Schuchardt.*
Keith Kroeger (Geosyntec Consultants, Inc./USA)

21. PCB Source Identification and Control: Munger Landing Sediment Remediation Area, Duluth, Minnesota. *B. Leick, L. Lehto, and M. Elliott.*
Brad Leick (Minnesota Pollution Control Agency/USA)

22. Source Tracking of PCB Contamination Using Passive Samplers: The Baltimore Story. *N. Lombard, S. Joshee, M. Bokare, L. Cheung, T. Neddham, E. Foss, E. Majcher, D. Griffith, W. Schmidt, K. Grove, and U. Ghosh.*
Nathalie Lombard (University of Maryland, Baltimore County/USA)

23. The Good, the Bad, and the Confusing Parts of Coordinating a Sediment Remedial Investigation and Design with a Waterfront Brownfield Redevelopment. *S. Weatherwax, K. Czajkowski, and S. Ueland.*
Sean Weatherwax (Langan/USA)

B4. Groundwater/Sediment/Surface Water Interactions

24. Groundwater/Seawater Interface Migration and the Effectiveness of Extraction & Injection Wells to Operate as a Hydraulic Barrier to Prevent Sediment Contaminant Transport on a Coastal Barrier Island. *C. John and V. Kamath.*
Chandy John (AECOM/USA)

25. Using Groundwater and Surface Water Interactions to Inform Conceptual Site Model and Remedy Selection for Benzene-Impacted Sediment. *M. Kelley and T. Majer.*
Mark Kelley (Haley & Aldrich, Inc./USA)

26. A Novel Approach for Evaluating Optimal Groundwater-Surface Water Discharge Monitoring Periods for Source Control Evaluation in Portland Harbor. *D.G. Livermore, A. Pomeroy, E. Dodak, and M. Pinto.*
David Livermore (Integral Consulting Inc./USA)

27. Integrated Stratigraphic Sequencing and Flow and Transport Model to Predict Preferential Flow and Mass Flux of Chlorinated Compounds in Washington, DC. *R. Jaimes, X. Montano-Soriano, and D. Murali.*
Dev Murali (District of Columbia Department of Energy & Environment/USA)

28. Using Drone-Mounted Thermal Cameras to Identify Groundwater Discharge. *Z. Powers and W. Steinmann.*
Zachary Powers (GHD/USA)

29. Application of Groundwater Transport Modeling to Examine Plume Mass Discharge and Natural Attenuation within Surface Water Sediments. *M.G. Shupe and D.K. Burnell.*
Mark Shupe (Tetra Tech, Inc./USA)

30. Remedial Solutions for Addressing NAPL and Groundwater Impacts to a Creek from a Subsurface Crude Oil Plume. *V. Tilotta, J. Schwartz, and C.D. Moody.*
Vincent Tilotta (Farallon Consulting/USA)

31. Fate and Transport of TNT and RDX in Multiple Media at the Group 1 Sites within Picatinny Arsenal. *H. Williams, F. DeSantis, and T. Gabel.*
Hilary Williams (EA Engineering, Science, and Technology, Inc., PBC/USA)

B5. Hydrodynamics and Sediment Transport

32. Evaluating the Importance of Wind-Induced Sediment Resuspension in Microtidal Coastal Environments. *J.G. Booth.*
J. Greg Booth (Woodard & Curran/USA)

33. Effects of Dam Removal Sediment Releases on Coastal Lagoon Dynamics and Ecosystems. *C. Jones, K. Scheu, S. McWilliams, and D. Revell.*
Craig Jones (Integral Consulting Inc./USA)

34. A Multi-Scale Hydrodynamic and Sediment Transport Model of the Portland Harbor Superfund Site. *J.Y. Jung, T.J. Mathis, P.M. Craig, B.M. Hoa, D.H. Pham, L.A. Bastidas, and A. Mishra.*
Jeffrey Jung (DSI, LLC/USA)

35. Application of Sediment Erodibility Measurements in Site Characterization.
S. McWilliams, C. Jones, and J. Magalen.
Samuel McWilliams (Integral Consulting Inc./USA)

36. What Do Data Snapshots Miss? The Case for Time-Series Measurements. *K. Scheu, S. McWilliams, C. Jones, and L. Baker.*
Kara Scheu (Integral Consulting Inc./USA)

37. Influence of Periodic Water Level Changes on Sediment Dynamics and Chemical Fate and Transport. *B. Sheets, C. Frias, J. Bankston, E. Dott, and E. Hedblom.*
Ben Sheets (Barr Engineering Co./USA)

B6. Contaminant Bioavailability and Uptake

38. Is Activated Carbon an Effective In Situ Treatment for DDX in Floodplain Soils? *F.S. Dillon, A.D. Harwood, S.A. Nutile, T.M. Hutchinson, and T. Alcamo.*
Frank Dillon (Jacobs/USA)

39. Assessing PCB Concentration in Lower Trophic Aquatic Organisms from Passive Sampler Data Using Thermodynamic Equilibrium Model: Anacostia River Case Study. *N. Lombard, M. Bokare, A. Pinkney, D. Murali, and U. Ghosh.*
Nathalie Lombard (University of Maryland, Baltimore County/USA)

40. Assessment of the Bioaccumulation Potential of PCB Associated with Paint Particles in the Presence of Sediment. *G.R. Lotufo, P.T. Gidley, A.D. McQueen, D.W. Moore, J.H. Hardenstine, and A.D. Uhler.*
Guilherme Lotufo (U.S. Army Corps of Engineers/USA)

41. Evaluation of the Relationship between Sediment, Porewater and Clam Tissue cPAH Concentrations in the LDW. *S. Replinger, K. Godtfredsen, S. McGroddy, L. Read, J. Florer, D. Schuchardt, P.D. Rude, A. Crowley, J. Stern, D. Williston, J. Flaherty, and L. Erickson.*
Suzanne Replinger (Windward Environmental LLC/USA)

42. PCB Concentration Distribution in Collocated Bulk Sediment, Fish Tissue, and Porewater at the Apra Harbor Sediment Site. *J. Tamashiro, W. Wen, B. Nagy, and J. Anthony.*
Jocelyn Tamashiro (U.S. Navy/USA)

B7. Ebullition

43. Evaluation of a Continuous Sediment Ebullition Monitor. *C. Gosse, M. Coleman, and N. Nickerson.*
Colleen Gosse (Eosense Inc./Canada)

44. Use of Unmanned Aerial Vehicles to Monitor Ebullition-Facilitated NAPL Transport. *N. McNurlen, L. Reyenga, C. Carter, and B. Bjorkman.*
Nathan McNurlen (GEI Consultants/USA)

45. Field Investigation of Ebullition-Facilitated Coal Tar Transport in Sediment at a Former MGP Site.
J.M. Rice, K.A. Vater, B. Hoffensetz, M. Friedman Hamm, D. Leitch, and R. Gill.
John Rice (TRC Companies, Inc./USA)

46. Controls on Gas Ebullition along a Vertical Sediment Profile in an Estuarine Urban Waterway.
M. Khazraee Zamanpour and K.J. Rockne.
Morvarid Khazraee Zamanpour (WSP/USA)

B8. Advanced Data Analysis and Decision Tools

47. Comparison of SWAC Estimates, Uncertainty, and Interpolation Methods, Portland Harbor Pre-Remedial Design Investigation. *A. Fitzpatrick, J. Conder, and J. Rosen.*
Anne Fitzpatrick (Geosyntec Consultants, Inc./USA)

48. Intensive Historical Evaluation and Sampling Campaigns to Validate Potential Sediment Contamination Hotspots Related with (Former) Risk Activities. *D. Gorteman, J. Dewilde, K. Van Geert, and K. Van De Wiele.*
Dorien Gorteman (Arcadis/Belgium)

49. A Framework for Evaluating Legacy Sediment Quality behind Dams to Prioritize Proactive Sediment Assessment and Management. *G.R. Long, J.K. Decker, S.P. Parker, N.W.E. Goulding, and A. Patz.*
Gary Long (EHS Support/USA)

50. Predicting Gas Ebullition Based on Readily Obtainable Data Using Machine Learning Approaches. *K. Rockne and M. Mansouri.*
Marzieh Mansouri (University of Illinois Chicago/USA)

51. Digitizing the Haystack: Streamlined Techniques to Pinpoint PRPs. *M.J. Mayo, J.W. Rice, and S. Zhao.*
Matthew Mayo (Gradient/USA)

52. Integrating High-Resolution Acoustic Data with Machine Learning for Improved Benthic Sediment Mapping and Characterization. *J.T. McClinton.*
Tim McClinton (David Evans and Associates, Inc./USA)

C5. Remedy Cost Allocation Considerations and Alternative Financial Models

53. Identifying and Managing Uncertainty in Environmental Response Costs at Sediment Sites.
K. Herman, M. Pollock, S. Zhao, and N. Slagowski.
Kurt Herman (Gradient/USA)

54. Use of Probabilistic Estimating Techniques to Quantify Long-Term Sediment Cap Monitoring and Maintenance Costs. *A. Ricciardelli and C. Toll.*
Albert Ricciardelli (GZA GeoEnvironmental, Inc./USA)

C6. Communication and Facilitation with Stakeholders

55. Effective and Successful Stakeholder Communication: A Contractor's Perspective. *A. Callaway and W. Simons.*
Angela Callaway (J.F. Brennan Company, Inc./USA)

56. Integration of Remediation, Restoration and Revitalization: A Case Study on the Mercury-Impacted South River, Virginia. *J. Collins, D. Kennedy, C. Dixon, N.R. Grosso, and M. Liberati.*
Joshua Collins (AECOM/USA)

57. Community Participation in the Decision-Making Framework for Natural Resource Damages Assessment and Restoration Project Implementation. *E. Glaza, M. Arrigo, C. Milburn, S. Blauvelt, and K. Dziubek.*
Edward Glaza (Parsons/USA)

58. Development of a Programmatic Institutional Controls and Data Management Plan for the Portland Harbor Superfund Site. *R. McDermott, K. Roush, and D. Sanders.*
Rachel McDermott (GSI Water Solutions, Inc./USA)

C7. Site Management Decision Strategies

59. An In-Depth Examination of the Border Wall: Threats and Challenges to the Security of a Waterfront Park and the Advancement of Sediment Remediation Needs in a Navigational Waterway. *K.A. Czajkowski, S. Weatherwax, and S. Ueland.*
KariAnne Czajkowski (Langan/USA)

60. Potential Impact of the Changing Regulatory Climate on Fish Consumption Advisories for Perfluorooctane Sulfonic Acid (PFOS). *L.D. Dell, P. Fuchsman, and H.J. Clewell.*
Phyllis Fuchsman (Ramboll/USA)

61. Non-Dredging Remediation at the New Bedford Harbor Superfund Site. *A. Rigassio Smith, M.E. Esten, and D.J. Dickerson.*
Anita Rigassio Smith (Jacobs/USA)

62. Identification of Environmental Constraint Windows for Dredging in the Lower Passaic River. *J. Schaffer and L. Waskom.*
John Schaffer (Tetra Tech, Inc./USA)

C8. Environmental Justice Considerations in Sediment Projects

63. Remedial Alternative Sustainability Evaluation during Feasibility Study. *E. Hritsuk, S. Goetz, M. Byker, and G. Luke.*
Eric Hritsuk (Ramboll/USA)

64. Environmental Justice Screening Tools: Powerful Platforms with Potential Pitfalls. *J. Zadra, H. Summers, and D. Anning.*
Jonathan Zadra (Integral Consulting Inc./USA)

C10. Determining Background

65. Determining Representative Sediment Background Concentrations: Overview of ASTM Guidance. *A. Geiselbrecht, S. Rouhani, A. Uhler, K. Thorbjornsen, T. Fisher, D. Blue, and S.P. Hopkins.*
Allison Geiselbrecht (Floyd|Snider/USA)

66. A Multivariate Methodology to Characterize Sediments Representative of Background in a Complex Watershed. *J. Holder, J. Zhao, K. Heffern, and N. Hausmann.*
Jennifer Holder (ERM/USA)

67. Determination of Sediment Background Concentrations for an Industrial Urban Site. *S. Rouhani, K. Thorbjornsen, A. Uhler, E. Litman, L. Shams, D. Blue, and F. Messina.*
Shahrokh Rouhani (NewFields/USA)

C11. Climate Change, Coastal Adaptation, and Resiliency

68. Climate Resilience at Fort Monroe Dog Beach Landfill: Shoreline Stabilization Pilot Study to Support Remedial Design. *C. Calabretta, M. Kidder, V. Peterson, and V. Passaro.*
Christopher Calabretta (Leidos/USA)

69. Predicting Coastal Bridge Scour under Future Sea Level Rise Conditions. *Y. Zhang, C.M. Drennan, and J. Skerker.*
Craig Drennan (AECOM/USA)

D4. In Situ Treatment Amendments

70. Effect of Bioturbation on Contaminated Sediment Deposited over Remediated Sediment. *A.S. Knox.*
Anna Knox (Savannah River National Laboratory/USA)

71. Mercury Mine Remediation Pilot Study of a New Amendment Technology. *J.E. Miller, K.S.H. Pingree, S.A. McCord, G.J. Reller, and D. Griffin.*
Jon Miller (Albemarle Corp./USA)

72. Amended Capping for Metals, Results of a Bench-Scale Treatability Study. *J. Nemesh and R. Carbonaro.*
Joseph Nemesh (Tetra Tech, Inc./USA)

73. Activated Carbon Amendments Reduce Bioavailability of Dioxins and Furans in Surface Sediment. *G. Pagnozzi, J. Conder, B. Pautler, B. Love, and L. Jorstad.*
Giovanna Pagnozzi (Geosyntec Consultants, Inc./USA)

74. New Amendment Materials for Effective Sequestration of Commingled Organics and Heavy Metals Contamination in Sediments. *G. Rosen, J. Guerrero, N. Hayman, M. Colvin, J. Leather, M. Ajemigbitse, and J. Collins.*
Gunther Rosen (Naval Information Warfare Center [NIWC] Pacific/USA)

D5. Long-Term Monitoring Strategies

75. What Is It Going to Take? It Has Been 5 Years. *M. Gravelding, B. Orchard Aragon, L. Putnam, and K. Toth.*
Mark Gravelding (Arcadis/USA)

76. Long-Term Ecological Monitoring of New Bedford Harbor over 28 Years. *W. Humphries, H. Jones, B. Barra, and M. Welsch.*
William Humphries (AECOM/USA)

77. Hart-Miller Island Exterior Monitoring: Examination of Spatial and Temporal Trends in Sediment Metals Chemistry. *M.W. Powell, H. Miller, G. Harman, A. Penafiel, and P. Derrick.*
Michael Powell (EA Engineering, Science, and Technology, Inc., PBC/USA)

78. Long-Term Monitoring of PCB Transport in the Upper Hudson River: Development of a Rating Curve Model for Estimating Post-Remedy PCB Load. *K. Takagi, S. Gbondo-Tugbawa, E.A. Garvey, Y. Zou, J. Atmadja, J. Wolfe, G. Klawinski, and M. Cheplowitz.*
Kenneth Takagi (WSP/USA)

79. Equivalence Testing and the Reverse Null Hypothesis: Assessing Progress towards Cleanup Levels at Portland Harbor. *K.E. Vickstrom, J.R. Silvertooth, J.W. Kern, S.A. Sheldrake, and M. Novak.*
Kyle Vickstrom (CDM Smith Inc./USA)

D6. Cap Design

80. New Data Address Treatability and Modelling Performance Assumptions for GAC-Based Sediment Remedies. *M.A. Ajemigbitse, J. Collins, and J. Hull.*
Moses Ajemigbitse (AquaBlok, Ltd./USA)

81. Effect of Activated Carbon Amendments on Seepage Velocity. *U. Ghosh, L. Cheung, R. Damera, S. Drummond, and T. Sanford.*
Ravi Damera (AECOM/USA)

82. Environmental Risk Management Measures in the Interim Sediment and Debris Area of a Future Water Lot in Toronto. *I. Drygiannaki, D. Meric, C. Robb, D. Yu, D. Thorson, H. Cumberland, M. Janes, S. Karam, and S. Desrocher.*
Ilektra Drygiannaki (Geosyntec Consultants, Inc./USA)

83. Using Multivariate Analyses and Metals Bioavailability Models to Understand Causes of Seasonal Sublethal Toxicity in Discharge from a Former Mine Pit. *S.A. Roark, M. Powers, A. Wilson Fallon, J.M. Rigsby, R.E. Lockwood, and S.S. Brown.*
Shaun Roark (Jacobs/USA)

84. Evaluation of Capping Amendments: A Laboratory Study. *C.E. Ruiz. P.R. Schroeder, D.W. Moore, J.A. Johnson, and I. Mamonkina.*
Carlos E. Ruiz (U.S. Army Corps of Engineers/USA)

85. Subaqueous Capping Remediation with Innovative Geocomposite for Placing Activated Carbon. *G. Martins, C. Cheah, and T. Walker.*
Trevor Walker (HUESKER Inc./USA)

D7. Cap Modeling

86. Cocoa Beach Golf Muck Dredging and Capping Alternatives Assessment and Remedial Design with Thin Layer Capping Technology. *J. Raimondi, D. Himmelheber, and J. Langenbach.*
Jason Raimondi (Geosyntec Consultants, Inc./USA)

87. DNAPL-Adsorbing Cap for Sediments at a Former Creosote Plant. *P. Song, C. Christian, M. Jones, S. Delhomme, and C. Reece.*
Peter Song (Tetra Tech, Inc./USA)

D8. Beneficial Use of Contaminated Sediments

88. Formulation of Cementitious Ecobinders and Geopolymers Using Flash-Calcined Materials. *M. Amar, M. Benzerzour, and N.E. Abriak.*
Mouhamadou Amar (IMT Nord Europe/France)

89. Overcoming Barriers to Beneficial Use of Dredged Material in the United States. *K.S. Bell, S. Goetz, V. Magar, S. Copp Franz, R. Mandel, B.M. Boyd, D.F. Hayes, J. King, and B. Suedel.*
Kristin Searcy Bell (Ramboll/USA)

90. Coal in Sediments behind a Dam Poses Unique Challenges and Opportunities for Beneficial Use. *L. Cheung and U. Ghosh.*
Louis Cheung (University of Maryland Balitmore County/USA)

91. Massachusetts Bay Industrial Waste Site Restoration: Beneficial Use of Boston Harbor Dredged Material. *A. Hopkins, S. Wolf, K. Sylvester, B. Barra, and C. Wright.*
Aaron Hopkins (U.S. Army Corps of Engineers/USA)

92. Stormwater Management Pond Sediment: Valuable Resource or Costly Waste? *F. Kelly-Hooper and G. Pike.*
Francine Kelly-Hooper (GHD/Canada)

93. Stamp Sands Beneficial Use Screening Evaluation. *P.R. Schroeder and C.E. Ruiz.*
Paul Schroeder (U.S. Army Corps of Engineers/USA)

94. Beneficial Use of Contaminated Sediments: Cities, Polluters, Ports, Developers, and "Circularity" Economics. *P. Spadaro and L. Rosenthal.*
Philip Spadaro (TIG Environmental/USA)

95. Beneficial Reuse Options for Dredged Sediments from Lake Mattamuskeet, North Carolina. *S. Volkoff, A. Berky, B. Weyer, L. Wellborn, and A. Braswell.*
Savannah Volkoff (Geosyntec Consultants, Inc./USA)

D9. Sediment Management in the Northwest Region

96. Riverbank Cap Repairs on the Lower Willamette River. *E. Bakkom, J. Faust, J. Elliott, and G. Kalmeta.*
Erik Bakkom (Maul Foster & Alongi, Inc./USA)

97. 'And the Turtles...' Considering Ecological Functions at Sediment Sites. *S. Miller, H. Nelson, and K. Parrett.*
Sarah Miller (Oregon Department of Environmental Quality/USA)

98. Application of Confined Disposal Technology Could Reduce Cost and Accelerate Schedule in the Cleanup of the Portland Harbor Superfund Site. *M. Palermo, P. Spadaro, and J. Glenn.*
Michael Palermo (Mike Palermo Consulting, Inc./USA)

99. Deposition and Erosion Patterns Supporting a Road to Recovery: A Portland Harbor Story.
K. Kroeger, L. Smith, and A. Fitzpatrick.
Luke Smith (Geosyntec Consultants, Inc./USA)

E4. Lessons Learned in Remedy Implementation

100. Lessons from the Remediation of 1000 ha of Hydrocarbon-Impacted Mangrove Sediments in Bodo, Nigeria. *O. Iroakasi, V. Nwabueze, E. Gundlach, and N. Story.*
Ogonnaya Iroakasi (The Shell Petroleum Development Company of Nigeria Limited/Nigeria)

101. Upward NAPL Seepage during Reactive Cap Construction, and Post-Installation Strategy to Identify and Address Problem Spots. *M. Mann-Stadt, S. Carroll, W. Haswell, and D. Sullivan.*
Maris Mann-Stadt (Haley & Aldrich, Inc./USA)

102. Implementation of Combined Remedial Actions at the Pearl Harbor Sediment Site, Pearl Harbor, Hawaii. *K. Markillie, J. Anderson, and S. Sahetapy-Engel.*
Kimberly Markillie (U.S. Navy/USA)

103. Tidal Creek System Hydraulic Dredging and Subaqueous Capping Lessons Learned. *T. Sattler, S.M. Damon, S. Ueland, and T. Donegan.*
Timothy Sattler (Langan/USA)

104. Construction Management Challenges and Lessons Learned in a Multi-Stakeholder Remediation Project. *K. Thapa, D. Conan, and F. DeSantis, Jr.*
Kritika Thapa (EA Engineering, Science, and Technology, Inc., PBC/USA)

E5. Dredging Design and Operations

105. Recent Developments in Resuspension Control Acceptance. *M. Gravelding, E. Dievendorf, and K. Toth.*
Eric Dievendorf (Arcadis/USA)

106. Navigation Channel Dredging in San Pablo Bay National Wildlife Refuge for PG&E Emergency Transmission Towers Replacement Project.
C.D. Moody and P. Cordell.
Chris Moody (Farallon Consulting/USA)

E6. Habitat Mitigation and Restoration

107. Restoration of Severely Degraded Custom Plywood Mill Industrial Waterfront Back to Productive Nearshore and Upland Habitat.
J. Blanchette, J. Bingham, J. Shannon, S. Edwards, J. Morman, A. Fernandez, and H.S. Park.
Jessica Blanchette (Haley & Aldrich, Inc./USA)

108. Water Level Elevation Monitoring to Inform Remedial Design in a Tidal Wetland. *S. Greenfield, B. Johnson, B. Warner, and J. DiMarzio.*
Sarah Greenfield (DEQ/USA)

109. Restoration of Valuable Habitats in the Lower Passaic River/Northern Newark Bay Integrated with Sediment Cap Design. *B. Orchard Aragon, D. Partridge, and M. Erickson.*
Barbara Orchard Aragon (Arcadis/USA)

110. The Evolving Programmatic Biological Assessment. *S.A. Sheldrake and J.M. Jones.*
Sean Sheldrake (CDM Smith Inc./USA)

111. Measuring Success of the First Wetland Mitigation Bank in New York City with Sediment and Biota Monitoring. *X. Wang, P. McBrien, T. Stewart, T. Shinskey, R. Wachter III, M. Bounkhay, A. Wolfson, M. Taffet, and S. Murphy.*
Xiulan Wang (WSP/USA)

E7. Cap Construction and Operation

112. Evaluation of In Situ Sediment Treatment Effectiveness for PCBs. *K. Craigie, G. Braun, M. Bowersox, J. Roberts, and E. Ashley.*
Keir Craigie (Tetra Tech, Inc./USA)

113. PPB-PAC Treatment for In Situ Capping.
A. Dahmani, F. Dahan, M. Begag, and J. Mulqueen.
M. Amine Dahmani (SESI Consulting Engineers/USA)

114. Application of SediMite™ by Helicopter: Cost-Effective Remedy Implementation for Contaminated Sediment. *B. Jones-Stanley, P. Burnet, F.S. Dillon, and M. Guebert.*
Frank Dillon (Jacobs/USA)

115. Full-Scale Implementation of Carbon-Enhanced Natural Recovery Resulting in No Further Action.
B. Hitchens and J. Conder.
Brian Hitchens (Geosyntec Consultants, Inc./USA)

116. Activated Carbon Application Approaches.
S. Miller, H. Nelson, and K. Parrett.
Sarah Miller (Oregon Department of Environmental Quality/USA)

117. In Situ Treatment of PCB-Impacted Sediments with Bioamended Activated Carbon.
K.R. Sowers and U. Ghosh.
Kevin Sowers (University of Maryland, Baltimore County/USA)

E8. In Situ Stabilization

118. Material Solutions and Applications for Addressing Coal Ash-Impacted Basins. *J.A. Collins, J.H. Hull, and M.A. Ajemigbitse.*
John Collins (AquaBlok, Ltd./USA)

119. New Modified Minerals for Remediation of Long Chain and Short Chain PFAS Compounds in Water.
M.S. Donovan, R. Gorakhki, D. Wind, J. Liu, and C. Bellona.
Michael Donovan (CETCO/USA)

120. Enhancing In Situ Stabilization and Solidification (ISS) in Sediments by Adding Sodium Persulfate. *P. Lindh, P. Elander, K. Bernstén, M. Arner, and B. Smith.*
Per Lindh (Trafikverket/Sweden)

Thursday Platform Sessions—8:00–10:30 a.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
8:00	**PFAS Tracking in Surface Water and Fish Tissue following Multiple AFFF Releases to a River.** *L.M. McIntosh, M. Jannitto, D. Bryant, and J. Steinglass.* Lisa McIntosh (Woodard & Curran/ USA)	**Detecting Presence of LNAPL Using Artificial Neural Network Model and Sensor Data.** *K. Karimi Askarani and T. Sale.* Kayvan Karimi Askarani (Colorado State University/USA)	**Adaptive Management at Large, Complex Contaminated Sediment Sites: Application throughout the Project Life Cycle.** *A. Bullard, S. Kirchner, K. Roberts, and J. Wands.* Andrew Bullard (CDM Smith Inc./ USA)	**PANEL DISCUSSION** **Beneficial Use of Contaminated Sediments: The Promise and the Challenge** **Moderators** Steven Nadeau (Sediment Management Work Group) Philip Spadaro (TIG Environmental) **Panelists** Eric Hedblom (Barr Engineering Co.) Claire Detering, MS (Windward Environmental LLC) David Moore, Ph.D. (USACE - Environmental Research and Development Center [ERDC]) Steven Brown, Ph.D. (The Dow Chemical Company) Victor Magar P.E., Ph.D. (Ramboll/USA) Larry Rosenthal, JD, MPP, Ph.D. (Goldman School of Public Policy, University of California Berkeley)	**Combining Habitat Restoration with Cleanup: Successful Case Studies.** *C. Patmont.* Clayton Patmont (Anchor QEA, LLC/ USA)
8:25	**Developing Hydrocarbon PRGs Using Passive Sampling, Porewater, and Bulk Sediment.** *C. Nace, D. Cooke, R.M. Burgess, L.P. Burkhard, and D.R. Mount.* Dan Cooke (CDM Smith Inc./USA)	**Comparison of Empirical and Machine Language Approaches to Predict Gas Ebullition Flux from Sediment Site Data.** *M. Mansouri and K.J. Rockne.* Karl Rockne (University of Illinois Chicago/USA)	**Berry's Creek Study Area Adaptive Site Management Approach.** *D. Tomchuk and P. Brussock.* Doug Tomchuk (U.S. Environmental Protection Agency/USA)		**Lessons Learned from an Urban Restoration Project within a Sediment Superfund Site.** *M. Havighorst, R. Marinai, P. Cordell, and C. Moody.* Mark Havighorst (Farallon Consulting/ USA)
8:50	**Business Intelligence and Data Management Applied in Ecotoxicological Characterization of Sediment, Surface Water and Effluent in Brazil.** *K. Guiguer, G. Silva, and B. Costa.* Gustavo Cesar Santos Silva (Arcadis/ Brazil)	**Application of Machine Learning to Inform Remedial Decision Making: A Case Study at a Mercury-Impacted River System.** *S. Thakali, S. Durgan, J. Collins. M. Liberati, and N. Grosso.* Sagar Thakali (AECOM/USA)	**Adaptively Managing Cleanup of the Anacostia River in Washington, DC.** *D. Murali, M. Shupe, and R. Zvoleff.* Dev Murali (District of Columbia Department of Energy & Environment/ USA)		**Four Years Post Remediation and Restoration for a Time Critical Removal Action: Bank Stability, New Habitat, and Increased Recreational Use.** *C. Robinson, B. Strzalka, A. Emery-DeVisser, C. Draper, and J. Caryl.* Chad Robinson (WSP/USA)
9:15	**Water Quality Data Patterns as a Baseline to Evaluate a Novel Approach for Controlling Sediment Resuspension.** *L. Venne, K. Merritt, M. Johnston, C. Draper, P. Pauquette, G. Chang, F. Spada, M. Medina, and K. Gustavson.* Louise Venne (WSP/USA)	**Automated Debris Classification Methods for Multibeam Sonar and Vessel-Mounted LiDAR.** *D.B. Hericks, P.J.R. Steenstrup, and C.B. Kenyon.* David Hericks (Tetra Tech, Inc./USA)	**Considerations for Phased Remedy Implementation: A Case Study on Key Learnings from the South River Program.** *B. Reese, J. Collins, N.R. Grosso, and M. Liberati.* Bill Reese (AECOM/USA)		**Strategies for Establishing Submersed Aquatic Vegetation in Freshwater Environments Post-Dredging.** *R. Allison and J. Allison.* Ryan Allison (SWCA Environmental Consultants/USA)
9:40	**Polychlorinated Biphenyl Quantification via Multiple Analytical Techniques.** *D. Peabody, S. Ruhala, S. Kirchner, T. Burgesser, B. Bennett, and W. Azhar.* Daniel Peabody (Michigan Department of Environment, Great Lakes, and Energy/USA)	SESSION BREAK	**Remedy Modification from Comprehensive Dredging to Focused Erosion-Resistant Cover for Mercury-Contaminated Sediment in the St. Clair River.** *E. Glaza and B. Henry.* Edward Glaza (Parsons/USA)	SESSION BREAK	SESSION BREAK
10:05	SESSION BREAK	**B8.** **Development of a Web-Based Geospatial Support System for Long-Term Soil Management Activities at the Anniston PCB Site.** *A. Fowler, R. Siebenmann, J. Loper, T. Loper, E.G. Macolly, and M. Price.* Alan Fowler (Geosyntec Consultants/ USA)	SESSION BREAK	**D8.** **Beneficial Use of Contaminated Sediments.** *E. Hedblom, J. Toll, L. Sittoni, E. Dott, C. Detering, and C. Gustafson.* John Toll (Windward Environmental LLC/USA)	**E7.** **Hydraulic and Mechanical Dredging in Soft Sediment, Geotextile Tube Dewatering, and Multi-Layer Sediment Cap Installation.** *T.M. Donegan and T. Sattler.* Timothy Donegan (Sevenson Environmental Services, Inc./USA)

A9. Chemical/Toxicological/Biological Measurements and Monitoring

B8. Advanced Data Analysis and Decision Tools

C9. Adaptive Management Approaches

Panel Discussion

E6. Habitat Mitigation and Restoration

Thursday Platform Sessions—10:30 a.m.–1:00 p.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
10:30	**Design and Implementation of a Sediment Facies-Specific Sampling Program.** *K. Lundmark, J. Holder, and D.J. Abranovic.* Kevin Lundmark (ERM/USA)	**Power Analyses to Determine Sample Count and Frequency for Statistically Relevant Trending.** *L. Venne, C. Draper, and J. Wolfe.* Louise Venne (WSP/USA)	**Multiple Lines of Evidence for Upstream Background Sediment Concentrations at the Portland Harbor Superfund Site.** *W.R. Hovel, A. Fitzpatrick, J. Arblaster, J. Conder, L. Smith, B. Ruffle, and K. Durocher.* Wendy Hovel (Geosyntec Consultants, Inc./USA)	**Beneficial Use of Dredged Material in the District of Columbia.** *D. Murali, R. Zvoleff, and S. Delhomme.* Dev Murali (District of Columbia Department of Energy & Environment/USA)	**Hydraulic Cap Placement of a Deepwater Sediment Cover.** *M.J. Crystal, J.F. Strunk Jr., and K. Mehigh.* Michael Crystal (Sevenson Environmental Services, Inc./USA)
10:55	**Comparing and Optimizing Sampling Design Strategies to Assess Post-Dredging Conditions in the Hudson River.** *K. Garvey, Y. Wang, J. Atmadja, S. Gbondo-Tugbawa, J.W. Kern, G. Klawinski, and M. Cheplowitz.* Kailtin Garvey (WSP/USA)	**Use of Bathymetry and GIS in Long-Term Risk Management to Monitor Effectiveness and Permanence of Residuals Management Cover.** *S.R. Seguin, B.G. McDonald, and A. Mylly.* Shawn Seguin (WSP/Canada)	**Estimating Long-Term Equilibrium in a Complex Urban Tidal Estuary Using a Simple Spreadsheet Model.** *L. Bateman, K. Russell, R. Makhlouf, and D. Haury.* Laura Bateman (Anchor QEA LLC/ USA)	**Reduce, Reuse, Recycle: A Story of Contaminated Material.** *I. Gladstone, R.J. Titmuss, M. Sabulis, A. Pepin, N. Hoang, and C.H. Myers.* Ileen Gladstone (GEI Consultants/ USA)	**Optimizing Full-Scale Activated Carbon Placement and Cost-Effectiveness.** *P. LaRosa, U. Ghosh, J. Collins, and C. Patmont.* Paul LaRosa (Anchor QEA, LLC/ USA)
11:20	**Recovering Benthic Macroinvertebrates following Sediment Capping in an Urban System.** *A.L. Burnham, E.C. Glaza, M.A. Arrigo, and M.J. Kenward.* Anne Burnham (Parsons/USA)	**Information Management Systems for Dredging Projects.** *A. Higgins, J. Daniel, S. Liu, B. Patel, and J. Rosen.* Andrew Higgins (Geosyntec Consultants, Inc./Canada)	**Development of Sediment Anthropogenic Background for the East Waterway Using Upstream Suspended Sediments.** *D. Berlin, R. Sanga, B. Spangler, J. Florer, D. Williston, J. Stern, P. Rude, and A. Crowley.* Dan Berlin (Anchor QEA, LLC/USA)	**Grassy Point Habitat Restoration: Innovative Use of Sawmill Waste and Nuisance Sediment to Remove Beneficial Use Impairments.** *G. Partch, R. Olah, M. Sjolund, and A. Vandenhouten.* Guy Partch (Barr Engineering Co./ USA)	**Subaqeous Cap Engineering and Placement Performance.** *J. Lally, E. Eliason, and J. Linthorst.* John Lally (Lally Consulting, LLC/USA)
11:45	**A Practical Discussion on Sediment Sample Planning, Methods, and Processing.** *P. Raymaker, P. Sweeney, and M. Schemmel.* Paul Raymaker (Bay West LLC/USA)	SESSION BREAK	**PCBs in Market Basket Fish from Washington, DC Area.** *B. Ruffle, R. Damera, K. Vosnakis, R. Kennedy, Q. Huang, and T. Sanford.* Betsy Ruffle (AECOM/USA)	SESSION BREAK	**Remedial Cap Construction at Four Industrial Slip Sites in the St. Louis River Area of Concern.** *L. Lehto, S. Schoff, M. Elliott, A. Meyer, V. Person, M. Royal, and M. Kern.* LaRae Lehto (Minnesota Pollution Control Agency/USA)
12:10	SESSION BREAK		**A Modeling Approach for Estimating Background Concentrations in Large Urban Contaminated Sediment Sites.** *N.D. Rose and M. Bock.* Nicholas Rose (TIG Environmental/ USA)		SESSION BREAK
12:35			SESSION BREAK	**Intertidal Sediment Remediation in Lower Columbia River: Challenges, Challenges and More Challenges (Location, Location, Poor Location).** *R.S. Webb, M.T. Otten, A. St. John, and J. Wetzsteon.* Robert Webb (Dalton, Olmsted & Fuglevand, Inc./USA)	

A10. Field Sampling Methods and Techniques

B8. Advanced Data Analysis and Decision Tools

C10. Determining Background

D8. Beneficial Use of Contaminated Sediments

D9.

E7. Cap Construction and Operation

Thursday Platform Sessions—1:00–2:40 p.m.

	A SESSIONS Lone Star A & B	B SESSIONS Lone Star C	C SESSIONS Lone Star F	D SESSIONS Lone Star G	E SESSIONS Lone Star H
1:00	**Evaluating Source Control Sufficiency with TIGSED, a Small-Scale Sediment Contamination Model.** *N.D. Rose, P. Spadaro, J. Dittman, and B. Chu.* Nicholas Rose (TIG Environmental/ USA)		SESSION BREAK	**Background Characterization of PAHs in Bedded Sediment for the Bremerton Gas Works Superfund Site.** *N.W. Soccorsy and K.K. Godel.* Kalle Godel (Cascade Natural Gas | Montana Dakota Utilities/USA)	**First to Field Mass Mixing In Situ Stabilization/Solidification Remediation in Uncharted Waters of Kendall Bay.** *D. Meric, C.A. Robb, P. Hutson, J. Gaul, A. Garland, M. Clutterham, and N. Sparke.* Dogus Meric (Geosyntec Consultants, Inc./USA)
1:25	**Use of Surface Water Modeling to Support Source Control in an Upgradient Urban Watershed.** *P. von Loewe, D. Murali, and M. Shupe.* Peter von Loewe (Tetra Tech, Inc./USA)	**PANEL DISCUSSION** **The Intersection of Environmental Justice and Contaminated Sediment Investigation and Remediation** **Moderator** Miranda Henning, BCES (Integral Consulting Inc.) **Panelists** Roger Santiago (Environment and Climate Change Canada) Bridgette DeShields (Integral Consulting Inc.) Jeffrey Talbert, J.D. (Preti Flaherty) Tokesha Collins Wright (Louisiana Chemical Association) Mary Kelly, MES (Agnico Eagle Mines)	**Integrating Resiliency into Contaminated Site Remedies.** *R. Desrosiers Gardner, R. Mohan, K. Gilbert, and R. Sturgeon.* Rebecca Gardner (Anchor QEA, LLC/USA)	**Demonstrating Sediment Recovery in Portland Harbor through PCB Temporal Trends.** *K. Ridolfi, N. Ott, L. Baker, M. Edwards, E. Pendleton, and D. Silva.* Kat Ridolfi (Integral Consulting Inc./ USA)	**Hybrid Remedial Approach Using Subaqueous In Situ Stabilization and Dredging Results in a Stable and Cost-Effective Sediment Remedy.** *D. Lowry and M. Gardner.* Dave Lowry (AECOM/USA)
1:50	**Assessing PCB Mass Balance and Sources in an Urban Estuary by Combining Passive Sampling and Modeling.** *P.H. Israelsson, I. Shrivastava, D.P. Prendergast, J.N. Apell, E.E. Adams, and P.M. Gschwend.* Peter Israelsson (Synthesis Environmental LLC/USA)		**Preserving Flood Conveyance with Resiliency to Climate Change in Design of the Cap Surface for the Lower 8.3 Miles of the Passaic River.** *J. Atkinson, M. Novak, C. How, R. Faber, M. Erickson, and T. Blackmar.* John Atkinson (Arcadis/USA)	**Remedial Decision Making at a Complex Contaminated Sediment Site: A State Perspective.** *B. Paulik, H. Nelson, and P. Seidel.* Heidi Nelson (Oregon Department of Environmental Quality/USA)	**ISS with Chemical Fixation at a Former Power Generating Station.** *P.R. Lear.* Paul Lear (Forgen/USA)
2:15	**A Longitudinal Dataset of Sediment Contamination with Dioxin and PCB in the Houston Ship Channel and Galveston Bay in Texas: Lessons Learned from 20 Years of Monitoring, Characterization, and Assessment.** *H.S. Rifai, A. Govindarajan, and A. Kiaghadi.* Hanadi Rifai (University of Houston/ USA)		**Contaminated Sediment and Climate Change: Sediment Desiccation, the Unthought about Hazard for Caps and MNR.** *J. Dittman and P. Spadaro.* Jason Dittman (TIG Environmental/ USA)	**Remediating a Former Burn Pit on a Dike, How Hard Can It Be? Section 408 Authorization, Global Pandemic, and Oregon Wildfires.** *E. Bakkom, C. Gokcora, and G. Kalmeta.* Erik Bakkom (Maul Foster & Alongi, Inc./USA)	**Manistee In-River ISS Remediation.** *G. Zellmer, M. Williams, M. Giampaolo, E. Dievendorf, N. Gensky, and A. Santini.* Eric Dievendorf (Arcadis/USA)

A11. Source ID, Loading Assessment, and Control

Panel Discussuon

C11. Climate Change, Coastal Adaptation, and Resiliency

D9. Sediment Management in the Northwest Region

E8. In Situ Stabilization

2:40–3:00 p.m.—CLOSING RECEPTION (Lone Star D & E)

3:00–4:15 p.m.—CLOSING PANEL DISCUSSION (Lone Star A & B)

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Battelle gratefully acknowledges the financial commitment and support of the following organizations for the 2023 Sediments Conference.

AECOM is a premier, fully integrated infrastructure and support services firm with a leading sediment management and remediation practice. Our scientists and engineers work on a wide variety of development, cleanup, and restoration projects, including some of the most complex sediment management problems. Our expertise includes sediment site assessment under a variety of regulatory programs, strategic Superfund consulting, dredging and dredged material disposal programs, restoration of water bodies and watersheds, shoreline and site development, natural resource damage assessment support, risk analysis, and design and implementation of complex remediation projects. AECOM has been a key participant in technical consortia (including the Sediment Management Workgroup and the Sustainable Remediation Forum) involving private industry, utility companies, and government organizations. We are playing a leadership role on a number of complex ecological restoration programs in North and South America, Asia, and Australia. Ranked the #1 in Environmental Engineering/Design by Engineering News Record, AECOM works around the globe and in your local neighborhood. We connect knowledge and experience across our global expert network to solve our clients' most complex challenges. A Fortune 500 firm, AECOM has 47,000 employees and revenue of approximately $13.3 billion during fiscal year 2021. **aecom.com**

Anchor QEA is an environmental consulting firm that specializes in all aspects of contaminated sediment cleanup as well as aquatic, shoreline, and water resource projects, including coastal engineering and flood risk management. We have a reputation for collaborating with project partners to successfully and cost-effectively meet remedial goals at even the most challenging sites. Our multidisciplinary teams work alongside clients to strategically formulate, design, and implement solutions to assess, remediate, restore, redevelop, and improve the resiliency of communities. We integrate climate change and other investment liabilities when developing sound engineering solutions; navigate multi-faceted regulatory approval processes, including challenges encountered during remedial design; and implement an efficient procurement process and optimal program management approaches. We embrace environmental, social, and governance elements while passionately solving our clients' challenges with integrity and unmatched service. **anchorqea.com**

AquaBlok Ltd., supplies a full range of materials that provide engineers with options to implement lower cost and more protective contaminated sediment remediation solutions. Treatment/amendment materials are supplied under the AquaGate name and our low-permeability thin capping materials in all forms are called AquaBlok. Solutions for PFAS contamination in soil, groundwater and surface water are also offered. Key benefits of AquaGate and AquaBlok products include; extensive quality control and assurance of material supplied, the use of high-performance powder materials (higher adsorption than granular materials), uniform mixing and documented placement with sand or other materials and finally, the confidence that comes with a history of successful project applications. **aquablok.com**

Arcadis is the world's leading company delivering sustainable design, engineering, and consultancy solutions for natural and built assets. We are more than 27,000 people in over 70 countries, dedicated to improving quality of life. **arcadis.com**

CDM Smith is a privately owned engineering and construction firm providing legendary client service and smart solutions in water, environment, transportation, energy and facilities. Passionate about our work and invested in each other, we are inspired to think and driven to solve the world's environmental and infrastructure challenges. A national leader in environmental remediation, CDM Smith has completed more than 100 sediment projects across the United States for industrial and public sector clients. CDM Smith's services for contaminated sediment remediation span the entire project life cycle, from characterization and assessment of sediments, surface water, and biota, through the selection, design and construction of sediment cleanups. **cdmsmith.com**

EA's scientists, geologists, engineers, and technical experts work collaboratively to assess sediment management challenges, apply today's most advanced technologies, and provide cost-effective and sustainable project designs and solutions. Our goal is to develop contaminated sediment remedies that are technically sound and defensible, achieve client objectives, satisfy regulatory goals, and benefit local business and residential communities and the environment. Over the past 15 years, EA has completed more than $100 million in contaminated sediment investigation, design, and construction oversight under CERCLA, RCRA, and the Great Lakes Legacy Act. Our scientists and engineers have provided remedies for more than 900,000 cubic yards of contaminated sediment for multiple EPA regions, state environmental agencies, and private entities. Our project teams have demonstrated experience addressing the unique challenges associated with characterization and remediation of contaminated sediment sites in lakes, streams, rivers, estuaries, and wetland environments. Today, EA is a 100% employee-owned public benefit corporation with an industry-leading Corporate Social Responsibility program and a culture embedded in the values of openness, prudence, balance, and challenge. The company employs more than 500 professionals through a network of commercial offices. Founded in 1973, EA has earned an outstanding reputation for technical expertise, responsive service, and judicious use of client resources. **eaest.com**

Foth is an award winning engineering solutions provider and acknowledged industry leader in helping our clients address the full spectrum of today's sediment management challenges. From remedial design to remedial action Foth combines in-depth technical expertise built upon a strong foundation of practical experience to deliver innovative solutions to our clients. Since 1938 the firm has thrived in a dynamic and demanding market place by solving our clients' toughest science and engineering challenges. Our 600 member, employee-owned firm operates out of 26 locations across the United States and Canada. **foth.com**

GEI focuses on strategic, client-centered support for the evaluation and remediation of contaminated sediments sites, large and small. Our integrated team of nationally recognized scientists and engineers excels at developing site-specific practical solutions considering land use, environmental drivers, and regulatory needs to ensure success for our clients. GEI specializes in creating cost-effective solutions that are protective, defensible, and scaled to local conditions and project endpoints. Our extensive project experience includes a broad range of solutions including natural attenuation, ecological restoration, in-situ solidification/stabilization, dredging, capping, ecological risk assessment, NAPL mobility in sediment, expert services and more. GEI is an employee-owned firm with a national reach that consists of more than 900 dedicated people at 43 offices coast to coast. **geiconsultants.com**

Geosyntec excels in working with private and public-sector clients on new ventures and complex issues involving the environment, natural resources, and civil infrastructure. We have over 1,500 engineers and scientists located in more than 80 offices. Geosyntec is recognized for our expertise in remedial investigations and feasibility studies and remedial design and construction services. Geosyntec is a consultant of choice for sediment from small sites to mega-sites including the Berry's Creek Study Area, Gowanus Canal, Newtown Creek, Portland Harbor, the Lower Duwamish Waterway, and Onondaga Lake. Geosyntec is pioneering sediment investigation and remediation techniques. We have developed unique methods for sediment core and passive porewater samplers on challenging field sampling scenarios. We have also developed unique evaluation techniques for assessing NAPL mobility and data analysis. We have designed multi-layer reactive caps and one of the first large-scale use of In-situ Stabilization techniques for NAPL impacted contaminated sediments. Geosyntec uses innovative approaches to cost-effectively mitigate risk in complex environments. Our toolbox includes sediment removal, capping (passive and active), in-situ technologies, and monitored natural recovery. Our strong waterfront geotechnical practice allows us to effectively design dredging and capping remedies in soft sediments and provide shoreline stabilization designs including bulkheads. **geosyntec.com**

Haley & Aldrich, Inc. is committed to delivering the value our clients expect from their capital, operations, and environmental projects. Our one-team approach allows us to draw from our 800 engineers, scientists, and constructors in 33 offices for creative collaboration and expert perspectives. Since our founding in 1957, we have had one goal in all we do: deliver long-term value efficiently, no matter how straightforward or complex the challenge. In 2020, Haley & Aldrich acquired Hart Crowser, an engineering and environmental consultancy with extensive expertise in the Pacific Northwest and recognized for its cutting-edge performance-based seismic design methods. **haleyaldrich.com**

Infrastructure Alternatives, Inc. (IAI) provides Clean Water Solutions for environmental remediation projects. IAI supports contaminated sediment cleanup operations with design, installation and operation of dredged material dewatering and water treatment systems. These systems are sized to handle high production dredge flows and produce clean water for regulations-compliant discharge. Our employee-owned, small business finds innovative solutions and works through challenges, to deliver complex projects, on time and on budget. We specialize in contaminated sediments and NPDES permit compliance, from maintaining waste streams segregation, to conditioning, dewatering, and stabilizing dredged material, and clarifying, filtering and discharging clean water. Learn more about IAI at our website: **iaiwater.com**

Brennan is a family-owned marine construction, environmental, and harbor services contractor who serves the inland and coastal waters of the United States. For over 100 years, we have worked closely with clients, engineers, and project partners to execute cost-effective solutions to water-based infrastructure challenges. We put safety and quality at the forefront of every task, and embrace the principles of trust and collaboration. At Brennan, we believe that success is based not only on the outcome of the project but on the journey through which the outcome is achieved. **jfbrennan.com**

Parsons is a leading technology firm driving the future of defense, intelligence, and critical infrastructure, including solving complex environmental challenges. By combining unique technologies with deep domain expertise across cybersecurity, missile defense, space, connected infrastructure, and smart cities, we're providing tomorrow's solutions today. As regulatory frameworks and technologies have evolved, we have stayed at the forefront. Our team of industry experts works closely with customers and stakeholders to address environmental concerns and develop sustainable and cost-effective solutions to protect our natural environment while achieving compliance, reducing risk, and maintaining safety. Our ability to serve in various capacities, coupled with our depth of expertise and flexible contracting methods, provides a framework for successful project execution. For more about Parsons, follow our quest to deliver a better world on Facebook, Instagram, Twitter, and LinkedIn. **parsons.com**

Sediment Solutions LLC is the leading innovator in the use of sediment amendments for in-situ sediment remediation. Our key product, SediMite, offers a low-impact approach for delivering treatment materials to sediment for in-situ remediation. Activated carbon delivered by SediMite is used to treat sediments contaminated with PCBs, mercury, dioxins, furans, PAHs, DDT and other hydrophobic chemicals. Sediment Solutions LLC provides this technology under license from the holders of two US patents and has the exclusive license for the pelletized delivery of activated carbon to sediments. Our three partners combined have nearly a century of experience in the fields of environmental science and engineering focused on risk assessment and sediment remediation. Through collaborations with Government, academic, and industry partners, Sediment Solutions has demonstrated the efficacy of activated carbon in treating contaminated sediments, helping advance the technology into full commercial applications. Sediment Solutions has successfully delivered SediMite for several large sediment projects and looks forward to provide the unique technology at other sites. We also continue pursue additional development opportunities to advance the evaluation and remediation of contaminated sediments, including the use of passive sampling devices and the use of tailored sediment amendments. **sedimite.com**

A national leader in environmental dredging and remedial construction, **Sevenson** has been actively involved in site remediation and restoration since 1979 when we were selected as the principal contractor at the Love Canal site in Niagara Falls, NY. For more than 30 years Sevenson has successfully worked with Industry, the USEPA, USACE and DOE to address challenging remediation and contaminated sediment design and construction issues at complex sites. **sevenson.com**

Tetra Tech is a leading, global provider of consulting and engineering services. We are differentiated by Leading with Science® to provide innovative technical solutions to our clients. We support global commercial and government clients focused on water, environment, sustainable infrastructure, renewable energy, and international development. Tetra Tech provides clear solutions to complex problems. Tetra Tech has offices and operational infrastructure throughout the United States, Canada, and abroad. With 21,000 associates in more than 450 offices in more than 120 countries on seven continents, Tetra Tech's technical knowledge and hands-on site work is broad and deep. Our staff is supported by a uniform administrative and management system that project teams can access immediately to ensure work is completed effectively. Tetra Tech is a global leader in providing engineering and technical services. The company is acknowledged for its cutting-edge expertise in sophisticated environmental analysis, modeling, and design and for delivering this expertise effectively across an entire project life cycle. **tetratech.com**

WSP USA, Inc. is the U.S. operating company of WSP, one of the world's leading engineering and professional services firms. Dedicated to serving local communities, we are engineers, planners, technical experts, strategic advisors and construction management professionals. WSP USA designs lasting solutions in the buildings, transportation, energy, water and environment markets. With more than 10,000 employees in 170 offices across the U.S., we partner with our clients to help communities prosper. WSP possesses one of the nation's strongest integrated teams for providing contaminated sediments science, engineering and restoration services. In developing contaminated sediment restoration plans, we maintain three key values: the ecosystem's natural potential, achievable goals, and sustainability. We use state-of-the-art forensic methods to build a sound understanding of each system and maximize benefit of the overall approach, also paying special attention to the concerns of local communities and stakeholders to ensure long-term protection of restored areas. WSP's experts have been entrusted with key roles on some of the highest-profile sediment sites, such as the Hudson River, Passaic River, and Gowanus Canal/Newtown Creek, and other sites around the country. Their interpretations of highly complex systems have been tested by independent peer reviewers and stakeholders alike. **wsp.com**

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Battelle's environmental engineers, scientists, and professionals offer focused expertise to government and industrial clients in the U.S. and abroad. Combining sound science and engineering solutions with creative management strategies, Battelle works with clients to develop innovative, sustainable, and cost-effective solutions to complex problems in site characterization, assessment, monitoring, remediation, restoration, and management. Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio, since its founding in 1929, Battelle serves the national security, health and life sciences, and energy and environmental industries.

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MONDAY, January 9	TUESDAY, January 10	WEDNESDAY, January 11	THURSDAY, January 12
7:00-8:00 a.m. —Morning Course Check-In 12:00-1:00 p.m. —Afternoon Course Check-In 12:30-2:30 p.m. —Career Roundtable 2:00-8:30 p.m. —Conference Registration Open 3:00-5:00 p.m. —Career KickStarter	7:00 a.m.-7:00 p.m.—Registration, Exhibits, Poster Group 1 Display 7:00-8:00 a.m.—Breakfast 9:30-10:15 a.m.—AM Beverage Break 11:30 a.m.-1:00 p.m.—Lunch 3:00-3:45 p.m.—PM Beverage Break	7:00 a.m.-7:00 p.m.—Registration, Exhibits, Poster Group 2 Display 7:00-8:00 a.m.—Breakfast 9:30-10:15 a.m.—AM Beverage Break 11:30 a.m.-1:00 p.m.—Lunch 3:00-3:45 p.m.—PM Beverage Break	7:00 a.m.-4:00 p.m.—Registration, Exhibits, Poster Group 2 Display 7:00-8:00 a.m. —Breakfast 9:30-10:15 a.m.—AM Beverage Break 11:30 a.m.-1:00 p.m.—Lunch 2:40-3:00—Closing Reception
8:00 a.m.-5:00 p.m. Short Courses	**8:00 a.m.-5:35 p.m. Platform Sessions**	**8:00 a.m.-5:35 p.m. Platform Sessions**	**8:00 a.m.-2:40 p.m. Platform Sessions**
8:00 a.m.-5:00 p.m. (all-day) • Evaluating Sediment Transport: Best Practices, Tools, Techniques, and Application to Site Management **8:00 a.m.-12:00 noon (half-day)** • Application of Activated Carbon to Sediment Remediation: Design to Installation to Monitoring Reactive Capping and In Situ Treatment • *Capping Design: The Art of Designing Isolation Layers to Reduce Environmental Risk Associated with Contaminated Sediments • Expanding the Use of In Situ Solidification/Stabilization to Provide Additional Tools for the Management of Impacted Sediments • Environmental Forensics: Where Did That Contaminant Originate and Is It Degrading? • Per- and Polyfluoroalkyl Substances (PFAS) Site Characterization and Assessment Tools **12:30-2:30 p.m.** • Career Roundtable **1:00-5:00 p.m. (half-day)** • Dredging 201: Introduction to Sediment Remediation • Emerging Contaminant: Microplastics and Their Presence in Waterways, Effects and Potential Solutions • Developing Representative Sediment Background Concentrations **3:00-5:00 p.m.** • Career KickStarter **Indicates a "**laptop-required**" course.*	A1. Innovative Characterization and Assessment Approaches A2. Innovative Characterization and Assessment Tools A3. Contaminant Forensics A4. Risk Assessment	A5. Nanomaterials, Microplastics and Other Emerging Contaminants in the Environment A6. Advances in Passive Sampling Methods A7. Application of Passive Samplers A8. Characterization and Remediation of PFAS-Contaminated Sediments	A9. Chemical/Toxicological/Biological Measurements and Monitoring A10. Field Sampling Methods and Techniques A11. Source ID, Loading Assessment, and Control
	PANEL: Will Sediment Caps Last Forever? And How Should We Address the Possibility that They Don't? B1. PFAS Bioavailability, Bioaccumulation, and Risk Assessment B2. Geospatial Data Evaluation and Data Visualization B3. Contaminant Fate and Transport in Sediments	B4. Groundwater/Sediment/Surface Water Interactions B5. Hydrodynamics and Sediment Transport B6. Contaminant Bioavailability and Uptake B7. Ebullition	B8. Advanced Data Analysis and Decision Tools **PANEL:** The Intersection of Environmental Justice and Contaminated Sediment Investigation and Remediation
	C1. NAPL and MGP Sites C2. Restoration and Revitalization Strategies C3. Great Lakes Legacy Act Successes and Challenges C4. Remedial Cleanup Objectives and Approaches for Optimized Remedial Development	C5. Remedy Cost Allocation Considerations and Alternative Financial Models C6. Communication and Facilitation with Stakeholders C7. Site Management Decision Strategies C8. Environmental Justice Considerations in Sediment Projects	C9. Adaptive Management Approaches C10. Determining Background C11. Climate Change, Coastal Adaptation, and Resiliency
	D1. Sustainability: Environmental Metrics, Stakeholder Values, Cost-Benefit D2. Dredging, Dredged Material Dewatering and Disposal Design D3. Monitored Natural Recovery (MNR) and Enhanced MNR **PANEL:** Implementing Adaptive Management at Contaminated Sediment Site	D4. In Situ Treatment Amendments D5. Long-Term Monitoring Strategies D6. Cap Design D7. Cap Modeling	**PANEL:** Beneficial Use of Contaminated Sediments: The Promise and the Challenge D8. Beneficial Use of Contaminated Sediments D9. Sediment Management in the Northwest Region
	E1. Sediment Bioremediation E2. Monitoring and Evaluating Remedy Implementation and Effectiveness E3. Remediation of Ports, Harbors, and Urban Waterways	E4. Lessons Learned in Remedy Implementation E5. Dredging Design and Operations **PANEL:** Cost Drivers for Environmental Dredging and Capping Projects	E6. Habitat Mitigation and Restoration E7. Cap Construction and Operation E8. In Situ Stabilization
5:30-7:00 p.m. Plenary Session **7:00-8:30 p.m. Welcome Reception, Exhibits, Poster Group 1 Display**	**5:45-7:00 p.m. Poster Group 1 Presentations and Reception** **See pages 18-24 for presentations in Poster Group 1.**	**5:45-7:00 p.m. Poster Group 2 Presentations and Reception** **See pages 30-35 for presentations in Poster Group 2.**	**3:00 p.m. Closing Panel Discussion** **4:15 p.m. Conference adjourns**