



2015 DREDGING SUMMIT & EXPO

MANAGING THE 5Rs OF ENVIRONMENTAL DREDGING

A WEDA CONTINUING EDUCATION SHORT COURSE

Monday, June 22, 2015; 1:00 – 5:00 pm

Westin Galleria, 5060 West Alabama, Houston, TX

Course Content

The 5Rs of Environmental Dredging - Removal, Resuspension, Release, Residuals, and Risk - continue to be important aspects in design and implementation of contaminated sediment remedies. This 4-hour short course provides methods to assess and predict effective removal of sediments by dredging and an understanding of the potential impact of residual and resuspended sediments. The short course will then provide methods to manage the 5Rs including operational approaches and engineered controls to achieve successful projects.

The intended audience includes stakeholders (agency personnel, potentially responsible parties, design consultants, and contractors) involved in the evaluation and design of sediment remedies using environmental dredging as a remedy component. Lessons learned from recent case studies will be included for each topic.

- Course will provide 4.0 CEUs with a certificate
- The minimum enrollment is 20 participants; maximum enrollment is 50 participants.
- The cost of the short course is \$150 (WEDA member) and \$200 (nonmember)
- The registration deadline is June 15, 2015
- Late registration cost is \$200 (WEDA member) and \$250 (nonmember)

Number attending: _____

Names of attendees: _____
(Please Print) _____

Register online at www.westerndredging.org, or email/mail this completed form to:
Tom Verna, WEDA, P.O. Box 2035, Spotsylvania, VA 22553, tmverna@westerndredging.org

Payment: Please circle one VISA MC AMEX DINERS DISCOVER
ACCT # _____ / _____ / _____ / _____ EXP Date: __ / __ Security Code: ___

Authorized Signature: _____



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Course Schedule

TIME	SUBJECT	INSTRUCTOR
1:00 PM	Overview of the 5Rs of Environmental Dredging <ul style="list-style-type: none"> • Introduction of Instructors and Students • Goals of the Course • Environmental Dredging as a Remedy Component • Definitions and Interactions of the 5Rs 	Mike Palermo
1:15 PM	Sediment Removal by Dredging <ul style="list-style-type: none"> • Equipment Capabilities and Selection • Dredging Plan Design • Operations for Effective Sediment Removal 	Mike Palermo
2:00 PM	Sediment Resuspension and Contaminant Release During Dredging <ul style="list-style-type: none"> • Turbidity vs. Suspended Solids • Assessment and Prediction of Resuspension • Performance Standards for Releases • Laboratory Tests for Water Column and Air Releases • Models for Release Assessment • Resuspension and Contaminant Release Monitoring 	Don Hayes
3:00 PM	BREAK	
3:15 PM	Operational and Engineered Controls for Resuspension and Releases <ul style="list-style-type: none"> • Managing Resuspension During Dredging • Operational Controls • Best Management Practices • Silt Curtains and Hard Containment Structures 	Norman Francingues
3:45 AM	Dredging Residuals <ul style="list-style-type: none"> • Prediction of Residual Thicknesses and Concentrations • Operational Strategies for Residuals Control • Residual Caps • Residuals Monitoring 	Paul Schroeder
4:30 PM	Risk Implications <ul style="list-style-type: none"> • Water Column Risks • Risks to Benthic Organisms • Human Health Exposures and Risks • Safety Considerations 	Paul Schroeder
5:00 PM	Adjourn	



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About the Instructors

Dr. Michael R. Palermo - Mike Palermo Consulting, Inc.

Dr. Michael R. Palermo is a consulting engineer with over 40 years of experience in Dredged Material Management and Contaminated Sediment Remediation, serving both private sector and government clients. Prior to entering consulting practice in 2003, Dr. Palermo served for 36 years with the U.S. Army Corps of Engineers, and served as Director of the Center for Contaminated Sediments at the Waterways Experiment Station (WES). He has authored numerous publications in the area of dredging and dredged material disposal technology and remediation of contaminated sediments, including USACE and USEPA guidance documents for subaqueous capping, contaminated sediment remediation, and environmental dredging for sediment remediation. He was the lead author of the 2008 USEPA *Technical Guidelines for Environmental Dredging of Contaminated Sediments*. He currently provides design services and technical review and oversight for clients, both in the U.S. and abroad, on a wide range of sediment remediation and navigation projects involving contaminated sediments. Dr. Palermo is a Registered Professional Engineer, a member of the Western Dredging Association, International Navigation Association (PIANC), and American Society of Civil Engineers (ASCE). He has served on the adjunct faculty at Texas A&M University and Mississippi State University, is a peer reviewer for ASCE Journal of Environmental Engineering and Journal of Waterway, Port, Coastal, and Ocean Engineering, and is also Associate Editor for the WEDA Journal of Dredging Engineering.

Norman R. Francingues – OA Systems Corporation

Norman R. Francingues has over 40 years of experience in areas of sediment management solutions, environmental dredging and dredged material management, and hazardous waste engineering. Prior to entering consulting practice in 2002, Mr. Francingues served for over 30 years with the U.S. Army Corps of Engineers and served as Director of the Hazardous Waste Research Center at the Waterways Experiment Station (WES). He is an expert in environmental dredging and innovative uses of dredged material. Mr. Francingues has been affiliated with OA Systems Corporation since 2002 as senior consultant and project engineer. He recently served as member of the National Academy of Sciences, National Research Council's Committee on Sediment Dredging at Superfund Megasites. Mr. Francingues is a graduate of Mississippi State University with degrees in Civil Engineering (BS '69) and Environmental Engineering (MS '71). He is a peer reviewer for the ASCE Journal of Environmental Engineering and is a member of the International Navigation Association, Western Dredging Association, and a Charter Member of the Mississippi State University Chapter of Chi Epsilon, an Honorary Civil Engineering Fraternity.



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Dr. Paul R. Schroeder – U.S. Army Engineer Research and Development Center

Dr. Paul R. Schroeder has over 35 years of experience in areas of dredged material management, sediment remediation, environmental dredging, and hazardous waste engineering. Dr. Schroeder serves as a Research Civil Engineer and leader of the sediment management team in the Environmental Laboratory of the U.S. Army Corps of Engineers Research and Development Center at WES and is a technical reviewer for numerous sediment remediation Superfund projects. He has authored numerous publications in the area of dredging and dredged material disposal and remediation of contaminated sediments, including USACE and USEPA guidance documents for subaqueous capping, evaluation of dredged material management alternatives, dredging and dredged material disposal, and environmental dredging for sediment remediation. He recently served as a member of the peer review panel for Phase 1 of the Hudson River project. Dr. Schroeder is a Registered Professional Engineer, past associate editor of ASCE Journal of Environmental Engineering, a member of the American Society of Civil Engineers, and Western Dredging Association, and a peer reviewer for ASCE Journal of Environmental Engineering, ASCE Journal of Waterway, Port, Coastal, and Ocean Engineering, Journal of the Air & Waste Management Association, and Waste Management Journal.

Dr. Don Hayes – University of Nevada, Las Vegas

Dr. Don Hayes is Chair and Professor of Civil and Environmental Engineering and Construction at the University of Nevada, Las Vegas. Dr. Hayes started his career with the Environmental Laboratory of the US Army Engineer Research and Development Center and has since been on the Civil and Environmental Engineering faculty at the University of Louisiana, University of Utah, and University of Nebraska-Lincoln. Dr. Hayes has over 30 years of experience with dredging and sediment management mostly related to environmental dredging and contaminated sediments. He has authored numerous reports and papers related to dredging, sediment management, remediation of contaminated sediment sites, and coastal and wetland restoration. He has worked on many highly visible contaminated sediment projects and served as an expert witness in a number of cases related to sediments, dredging, and contamination. Dr. Hayes holds BS and MS degrees in Civil Engineering from Mississippi State University and a PhD in Environmental Engineering and Water Resources Planning and Management from Colorado State University. He is a registered professional engineer in Louisiana, Mississippi, and Nevada. He is also a Board Certified Environmental Engineer.