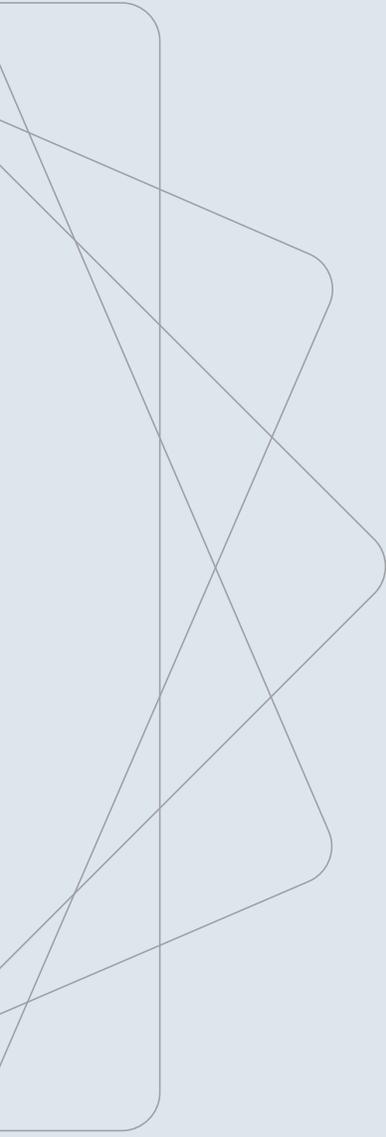# BOLD THINKERS SERIES

Abt ASSOCIATES

#RestoringtheCoasts

Coastal Restoration:
Will we know it when we see it?

NOVEMBER 2, 2017 • 9 A.M. – 12 P.M.
Newseum, Knight Conference Center
Washington, DC

Abt Associates is pleased to present this Bold Thinkers Series Event
Coastal Restoration: Will we know it when we see it?

National experts on coastal restoration, resilience, and adaptive management join us today to discuss challenges associated with large-scale coastal restoration.

Restoration of coastal ecosystems plays an important role in protecting and enhancing vital natural resources, coastal economies and the health and welfare of communities. Coastal restoration can also play a key role in decreasing vulnerability to storms and other threats to our coastlines.

Challenges associated with coastal restoration include the large spatial and time scales over which actions might be undertaken; balancing jurisdictional interests; evaluating the return on investment dollars put towards restoration; and technical challenges with implementing, monitoring and evaluating project outcomes.

We hope today's event will stimulate discussion and generate bold solutions to the issues of coastal recovery, restoration and resiliency facing America and the world.

Abt Associates has been engaged in restoration and resiliency planning for more than 30 years. Working in the United States and worldwide, our team of environmental scientists, engineers, data analysts, economists and policy professionals delivers solutions to clients that are rooted in scientific evidence and framed in actionable terms.

AGENDA

NOVEMBER 2, 2017 • THE NEWSEUM • WASHINGTON, DC

Welcome

Paul Anninos
Vice President
Abt Associates

Keynote

Garret Graves
U.S. Representative, Louisiana, 6th District

Panel 1: Measuring Success

MODERATOR: **Joshua Lipton, PhD**
Vice President
Abt Associates

Holly Bamford, PhD
Chief Conservation Officer
National Fish and Wildlife Foundation

Donald Boesch, PhD
Professor
University of Maryland Center for
Environmental Science

Denise Reed, PhD
Expert in Coastal Marsh Sustainability

Panel 2: Declaring Victory

MODERATOR: **Diana Lane, PhD**
Principal Associate/Scientist
Abt Associates

Lynn Scarlett
*Co-Chief External Affairs Officer and
Global Climate Strategy Lead*
The Nature Conservancy

Leonard Shabman, PhD
Resident Scholar
Resources for the Future

Buck Sutter
Deputy Executive Director and Program Director
Gulf Coast Ecosystem Restoration Council

Special thanks to our partner, DigitalGlobe, for
providing satellite images documenting the impact of
Hurricane Harvey, and other disasters.

FREE WIFI: newseumguest, no password needed

SPEAKERS

#RestoringtheCoasts

Keynote

Garret Graves
U.S. Representative, Louisiana, 6th District

Congressman Garret Graves is a Republican member of Congress representing Louisiana's Sixth Congressional District – 13 parishes stretching north of Baton Rouge through the Capital Region down to Louisiana's Bayou country. Graves sits on the House Committees on Transportation and Infrastructure and Natural Resources.

At the start of the 115th Congress, Graves was named Chairman of the House Transportation and Infrastructure Subcommittee on Water Resources and Environment, which oversees water resources development and regulatory programs administered by the U.S. Army Corps of Engineers and the Environmental Protection Agency (EPA), along with other agencies and water-related programs. In addition to his policy expertise, Graves has more than 20 years of experience working on energy, infrastructure, fisheries, maritime and water resources issues.

Prior to being elected to Congress, he served as Louisiana's Chairman of the Coastal Protection and Restoration Authority (CPRA) where he managed for the state one of America's largest civil works programs in history and successfully streamlined government while boosting its productivity. Under Graves' tenure, Louisiana constructed more flood protection infrastructure and restored more miles of coastline than any other period of time in state's history.

Graves is a native of Baton Rouge, Louisiana, where he still resides with his wife Carissa and their three children.

@RepGarretGraves, @GarretGraves

Panel 1: Measuring Success

Joshua Lipton, PhD MODERATOR
Vice President
Abt Associates

Dr. Joshua Lipton, Vice President of Research and Innovation at Abt Associates, is an environmental toxicologist with expertise in mechanistic and chemical toxicology; quantitative ecology and fisheries biology; and Natural Resource Damage Assessment and Restoration (NRDAR). Lipton is an international leader in the quantitative evaluation of ecosystem impacts, having directed assessments throughout North America, as well as in Europe, South America, and Asia, and his work in quantitative ecosystem restoration scaling has included marine, estuarine, freshwater, and terrestrial species and habitat types. He has designed and directed field and laboratory studies, modeling efforts, and monitoring programs assessing species and ecosystem responses to stress. Lipton's toxicological research involves connecting physiological mechanisms of toxicity with effects at the organism, population, and community/habitat level, and has included laboratory and field studies related to chemical bioavailability; effects of stressors on ion-regulatory, immune, endocrine, and hematological systems; chemical and multi-stressor effects on function (e.g., reproductive, respiratory, cardiac, homeostasis); and behavioral toxicology. Lipton is an author of numerous peer-reviewed publications and presentations; has been an invited speaker and instructor to government and university audiences; and his professional service includes editorial and scientific advisory boards. Prior to joining Abt Associates, Lipton was President, CEO, and Chairman of Stratus Consulting, an environmental research and consulting firm known for high-level technical excellence and innovation in environmental sciences and natural resources. Stratus Consulting merged with Abt Associates in February 2015. Lipton holds PhD and MS degrees in Natural Resources from Cornell University.

@abtassociates

Holly Bamford, PhD
Chief Conservation Officer
National Fish and Wildlife Foundation

Dr. Bamford is responsible for advancing the National Fish & Wildlife Foundation's conservation vision, strategy and a metrics-based evaluation system for the Foundation's grant-making programs. She sets national and regional cross-cutting conservation strategies that cover many ecosystems and address significant conservation challenges in oceans, coasts, forests, grasslands and freshwater environments. Bamford also supports the design, development and fundraising planning for the conservation strategy, as well as guiding the conservation policies and practices of the Foundation.

Prior to joining NFWF, Bamford was acting assistant secretary for conservation and management for the National Oceanic and Atmospheric Administration (NOAA). In that role, she directed administration policy, programming, and investments for NOAA's ocean, coastal and fisheries management. Her responsibilities spanned coastal resilience, marine protected areas, protected species, sustainable fisheries and coastal services. Bamford worked closely with members of Congress, other agency leaders, partner organizations, and local communities to develop policies and take conservation actions to ensure coastal and ocean stewardship. Bamford earned her doctorate in Organic Environmental Chemistry from the University of Maryland.

@NFWFnews

Panel 1: Measuring Success

Donald Boesch, PhD
Professor
University of Maryland Center for
Environmental Science

Donald F. Boesch is a Professor of Marine Science at the University of Maryland Center for Environmental Science, where he recently stepped down as President after 27 years. He earned his B.S. in biology at Tulane University and Ph.D. in oceanography at the College of William and Mary. Boesch has conducted ecological and oceanographic research on coastal and continental shelf ecosystems along the Atlantic Coast, and in the Gulf of Mexico, eastern Australia, and the East China Sea. He has served on numerous panels and conducted assessments concerning coastal restoration in the Chesapeake Bay, Coastal Louisiana, Florida Bay and the Everglades, and the Baltic Sea. Boesch is a past-chairman of the National Academy of Sciences' Ocean Studies Board and is currently a member of the Leadership Council of the Joint Ocean Commission Initiative. He was a member of the National Commission on the BP Deepwater Oil Spill and Offshore Drilling. He subsequently served as the Government's principal witness on environmental harm in the U.S. vs. BP Exploration & Production Clean Water Act trial that led to the consent decree providing more than $13.6 billion for Gulf of Mexico ecosystem restoration and restoration of natural resource damages.

@DonBoesch, @UMCES

Denise Reed, PhD
Expert in Coastal Marsh Sustainability

Denise J. Reed is a nationally and internationally recognized expert in coastal marsh sustainability and the role of human activities in modifying coastal systems with more than 30 years of experience studying coastal issues in the United States and abroad. Reed has served as s a Distinguished Research Professor in the University of New Orleans' Department of Earth and Environmental Sciences, and spent five years as Chief Scientist at The Water Institute of the Gulf. She has served on numerous boards and panels addressing the effects of human alterations on coastal environments and the role of science in guiding restoration, including the NRC Committee on Sustainable Water and Environmental Management in the California Bay-Delta, and has been a member of the USACE Environmental Advisory Board and the NOAA Science Advisory Board. Reed received her B.S. degree in Geography from Sidney Sussex College, and her M.A. and Ph.D. degrees from University of Cambridge.

Panel 2: Declaring Victory

Diana Lane, PhD MODERATOR
Principal Associate/Scientist
Abt Associates

Diana Lane, principal associate/scientist, is an expert in providing restoration planning support to agencies, and leads the environmental science and restoration practice at Abt Associates. She has more than 17 years of experience in restoration ecology, environmental program evaluation, and natural resource damage assessment and restoration (NRDAR).

For the past five years, Lane has been deeply engaged with restoration planning for the Deepwater Horizon oil spill NRDA case, providing high-level technical and strategic restoration planning support to state and federal Trustee agencies. Lane has expertise in designing and applying habitat and resource equivalency analysis (HEA/REA) to quantify natural resource injuries and determine the amount of restoration required to compensate for injuries. She also has led evaluations of restoration effectiveness and evaluations of environmental programs and initiatives run by Foundations. Lane holds a Ph.D. in Ecology from the University of Illinois at Chicago, an M.S. in Rangeland Ecosystem Science from Colorado State University, and a B.A. in Biology from Harvard University.

@abtassociates

Lynn Scarlett
Co-Chief External Affairs Officer and Global Climate Strategy Lead
The Nature Conservancy

Former Deputy Secretary and Chief Operating Officer of the U.S. Department of the Interior, Lynn Scarlett is Co-Chief External Affairs Officer at The Nature Conservancy and Global Climate Strategy Lead. In these roles, Scarlett directs all policy in the United States and the 70 countries in which TNC operates. Scarlett also served at Interior as the Acting Secretary of the Interior in 2006. While Interior's Deputy Secretary, Scarlett initiated and chaired the Department's Cooperative Conservation Working Group and its first-ever Climate Change Task Force. Ms. Scarlett chaired the nation's Wildland Fire Leadership Council, and served on the Executive Committee of the President's Management Council. She also co-chaired the First Lady's Preserve America Initiative.

Scarlett is author or co-author of publications on climate change adaptation; ecosystem services; large landscape conservation; and science and decision-making. She chairs the Science Advisory Board of NOAA, recently co-chaired the Landscape Conservation Cooperatives Council established in 2014 by the U.S. Department of the Interior, and serves on the National Academy of Sciences Sustainability Roundtable. She received her Bachelor's and Master's degrees in political science from the University of California, Santa Barbara, where she also completed her Ph.D. coursework and exams in political science and political economy.

@LynnScarlett1, @Nature_org

Panel 2: Declaring Victory

Leonard Shabman, PhD
Resident Scholar
Resources for the Future

Dr. Shabman is a resident scholar at Resources for the Future, an independent, nonpartisan organization that conducts economic research and analysis for natural resources and environmental policies and decision-making. He was formerly a faculty member at Virginia Tech. In addition, Dr. Shabman has held positions as staff economist at the United States Water Resources Council, Scientific Advisor to the Assistant Secretary of Army, Civil Works, Visiting Scholar at the National Academy of Sciences -National Research Council and Arthur Maass-Gilbert White Scholar at the Corps of Engineers Institute for Water Resources.

He recently completed service as the chair of the Science and Engineering Advisory Board of the Louisiana Coastal Restoration and Protection Authority (CPRA), as CPRA revised their master plan.

Previously he served on an advisory panel reviewing the proposed Donaldson to the Gulf project and prior to that served on the National Technical Advisory Committee for the Louisiana Coastal Area (LCA) plan. Among his publications is a book on the 60-year history of construction and operations of the New Orleans area's storm protection projects leading up to the Katrina landfall.

His current work includes assessing the feasibility of private-public partnerships for funding inland waterways and flood control infrastructure, and reimagining the design of post-flood disaster aid and the national flood insurance program.

Shabman was named an Associate of the National Academies of Science in 2004. He holds a Ph.D. from Cornell University.

@RFF_org

Buck Sutter
Deputy Executive Director and Program Director
Gulf Coast Ecosystem Restoration Council

Mr. Sutter is the Deputy Executive Director and Program Director of the Gulf Coast Ecosystem Restoration Council. Prior to this position, he served as the Director of the Office of Habitat Conservation for the National Oceanographic and Atmospheric Administration, National Marine Fisheries Service (NOAA/NMFS) with national responsibility for protecting and restoring habitat toward sustaining fisheries and recovering listed species within healthy and resilient ecosystems.

During his NOAA tenure, Sutter developed a cross-agency leadership team for NOAA's Habitat Enterprise to enhance the cohesion of NOAA's missions that support habitat science, policy and landscape-scale conservation toward ecosystem-based habitat conservation. He also developed restoration strategies for Deep Water Horizon, and led the development of "A Strategy for a Healthy Gulf of Mexico: Resilience through Ecosystem Restoration" to guide NOAA's priority setting and decision-making. Sutter served as Deputy Executive Director for the interagency Gulf Coast Ecosystem Restoration President's Task Force (GCERTF), and was responsible for the technical and science components of the Task Force. He closely coordinated with GCERTF members, which consisted of Assistant Secretary-level and senior policy leadership of 11 federal and the five Gulf state member agencies.

Sutter began his professional career as a fishery scientist at the Gulf Coast Research Laboratory in Mississippi, and later with the Florida Wildlife Research Institute in St. Petersburg, Florida. He has extensively published on fishery science in the Gulf of Mexico. He holds a degree in Zoology from the University of Rhode Island and a master's degree in Fisheries Science from the University of Massachusetts.

RESTORATION, MONITORING AND EVALUATION, AND MODELING PROJECTS AT ABT ASSOCIATES

For more than two decades, Abt has assisted state and federal agencies, tribes and organizations with scientific and strategic support on planning, monitoring and managing the implementation of restoration projects and programs. Our team's experience ranges from developing site-specific restoration plans to providing strategic restoration planning support in marine, coastal, riverine and upland environments throughout the United States.

Deepwater Horizon (DWH) Oil Spill NRDA, Gulf of Mexico

Abt staff played a key role in state and federal trustee agencies' responses to the DWH oil spill, providing technical and strategic support. Abt served as the leading technical support contractor for more than $100 million of work, supporting the injury assessment, the early restoration effort, and the long-term restoration planning effort. Additionally, our staff played a critical role in drafting the Programmatic Damage Assessment and Restoration Plan and Programmatic Environmental Impact Statement and supporting technical appendices, with the final version released in February 2016.

Florida Gulf Environmental Benefit Fund (GEBF) Restoration Strategy

In 2016, Abt supported the Florida Fish and Wildlife Conservation Commission (FWC) in preparing the Florida GEBF Draft Restoration Strategy and presenting it to the public. This document presented key priority needs by watershed, driven by an analysis of restoration actions identified in local, regional and statewide conservation and management plans. We are currently supporting FWC in preparing the Final Restoration Strategy, which will include public comments.

Systems Approach to Geomorphic Engineering (SAGE) Community of Practice

SAGE is a community of practice composed of agencies and organizations working together to facilitate the integration of green and gray solutions for coastal protection, encourage regional and landscape-scale planning, and improve collaboration between public and private sectors for financing. Abt is supporting SAGE's efforts to share best practices, cultivate partnerships and reduce duplicate efforts in this rapidly evolving field.

Kalamazoo River Polychlorinated Biphenyl (PCB) Site NRDA, Michigan

Since the 1990s, Abt staff have supported state and federal trustee agencies with injury assessment and restoration planning for a PCB-contaminated site on the Kalamazoo River. Recently, we worked with the trustees to identify potential restoration projects, evaluate projects against restoration criteria and develop a draft and final Restoration Plan and Environmental Assessment (RP/EA). We also assisted the Trustees in preparing a Programmatic Restoration Plan and an Environmental Impact Statement for the trustees' entire site restoration program which was finalized in 2016.

Nyanza Landfill Site Restoration Planning, Massachusetts

Abt worked with state and federal agency personnel to help them identify, screen and select proposed projects to restore resources harmed by contamination released from the Nyanza Landfill Site into the Sudbury River in Massachusetts. We collaborated with engineers and local agencies to prepare planning-level designs and refine cost estimates for proposed projects. On behalf of the trustee agencies for the Site, we developed a draft RP/EA to describe proposed restoration projects to the public. We then supported the agencies with public outreach activities surrounding the plan, summarized and responded to public comments and prepared a final version of the document. Guided by the RP/EA document, the agencies are now implementing projects to benefit coldwater fish habitat, fish passage, riparian habitat, and public use of resources.

Restoration on the Upper Arkansas River, Colorado

Abt restoration scientists worked with natural resource agency personnel to identify restoration projects to benefit riparian, aquatic, and upland habitats that were adversely impacted by mining activities in the Upper Arkansas River basin. We also identified and evaluated projects to benefit groundwater services according to criteria established by the agencies to develop tiers of preferred projects. We developed innovative monitoring frameworks, and schedules to guide monitoring actions and agency oversight; and supported the agencies in the development of an RP/EA and a Restoration Monitoring and Public Outreach Plan document.

Lower Fox River/Green Bay NRDA, Wisconsin

Abt staff conducted an extensive restoration planning effort to identify and evaluate environmental restoration projects that could compensate the public for losses resulting from wide-spread PCB contamination in the Lower Fox River/Green Bay environment. Working with natural resource trustee agencies and the public, we evaluated the benefits from a range of potential restoration approaches, including wetland protection and restoration, nonpoint source pollution reduction and recreational facility improvements. We subsequently worked to develop a restoration progress report, evaluating and summarizing all restoration activities from 2004 to 2012.

PROGRAM MONITORING AND EVALUATION (M&E)

Abt has a proven record of developing M&E plans and conducting sophisticated evaluations for a range of environmental and natural resource management programs. Our evaluations typically use an ensemble of methodologies to robustly measure program implementation and outcomes. Our work includes the creative synthesis of ecological and socioeconomic inputs, which provides our clients with a rich, integrated perspective on program management.

We have worked with a range of foundations, including the **National Fish and Wildlife Foundation (NFWF)**, the **Pew Charitable Trusts**, the **Gordon and Betty Moore Foundation**, the **David and Lucile Packard Foundation** and the **Sloan Foundation**.

Metric Development, Evaluation and Monitoring of Hurricane Sandy Coastal Resiliency Program

This program has invested more than $750 million in approximately 180 projects to repair damage and improve the resilience of habitats, communities, and infrastructure to future storms and sea level rise. The Department of Interior and NFWF initiated a resilience assessment in 2015 to evaluate the impact of this investment. Abt developed a framework to organize metrics across resilience activities and goals, including more than 200 metrics and methods to address human health and safety, property and infrastructure protection and enhancement, economic resilience and community competence and empowerment. We are currently assessing ecological and community outcomes, the cost-effectiveness of activities, improved scientific understanding and temporal and spatial scaling of benefits across resilience activities.

Development of an M&E Plan for the Sustain Our Great Lakes (SOGL) Program

Abt is providing support to develop an M&E plan for the SOGL Program. The plan will drive the evaluation of on-the-ground restoration work to ensure investments are supporting measurable actions that benefit species and habitats and are aligned with SOGL and NFWF goals. Using a two-tiered approach to the M&E plan, we are identifying key metrics that will allow NFWF to evaluate progress toward program outcomes annually as well as identify more robust and intensive methods to comprehensively evaluate progress toward program goals. This innovative, two-tiered approach provides NFWF with a cost-effective plan that will result in quantitative evaluations that clearly track program progress and effectiveness.

Development of a Real-Time M&E Plan for the Agriculture Subprogram

Abt developed a framework for a real-time monitoring plan and an initial evaluation to track progress toward reaching the foundation's program objectives of reducing carbon and nitrogen emissions from agriculture. Our work included developing theories of change for each major area of program investment, articulating critical program outcomes, identifying potential metrics for each outcome and selecting metrics and associated methods for tracking the program's progress over time.

Evaluation of NFWF's Administration of Grant Awards for the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS)

Abt worked closely with NFWF and NRCS staff to evaluate the management of cooperative agreements that provide grants for implementing diverse conservation projects across the U.S. We assessed conservation outcomes and identified factors and strategies that either hinder or contribute to the agreements' effectiveness. Our approach included a review of archival cooperative agreement materials, an online survey of grantees, interviews with key NFWF and NRCS staff, in-depth evaluation of conservation outcomes under a subset of grants and synthesis of key metrics of program accomplishments.

Evaluation of the Marine Conservation Initiative (MCI)

Abt conducted a mid-term evaluation of the MCI, a 10-year, $146 million initiative with a focus on fundamental policy reforms to ocean and fisheries management in three regions: British Columbia, New England, and the California Current. We utilized an ensemble methodology for our evaluation, integrating quantitative, qualitative, categorical, and narrative methods to provide broad-based recommendations to enhance long-term program effectiveness.

MODELING

Sea Level Rise Inundation Mapping

Abt staff led a geographic information system (GIS) effort to map areas subject to inundation from sea level rise and storm surge for eight coastal cities along the Atlantic Coast and Gulf of Mexico using the best data available to the public. Different global average sea level rise scenarios (50 cm, 1 m, and 2 m by year 2100) were combined with regional and local factors (e.g., sinking of coastal lands from groundwater extraction), and mapped relative to high tide to identify uplands vulnerable to inundation. Storm surge was estimated using the highest observed water level from historical tide gauge data to illustrate the potential impact of a historic event (e.g., Hurricane Katrina) under future climate change.

Lastly, flood protection feature (e.g., levees) data were incorporated into the analysis, when available. The maps were provided to local television stations to highlight the potential vulnerability of these coastal communities to future sea level rise and storm surge events.

Sea Level Rise Armoring Model

In this study, Abt staff developed a spatially explicit inundation algorithm to map and quantify potential changes in habitats in coastal Ocean County, New Jersey under different sea level rise and shoreline armoring scenarios. The model used GIS to map predicted changes in coastal habitats under two alternative sea level rise scenarios and six shoreline armoring scenarios. We then used information from local experts and the scientific literature to predict changes in the relative abundances of fish and bird species under the different scenarios.

Bold Thinking Across Sectors
AT ABT ASSOCIATES

Abt Associates brings more than 30 years of experience in coastal restoration. We offer an in-house team of more than 150 experts in technical and scientific disciplines and policy analysis, across the full range of biological, physical, data, and social sciences. As a premier provider of analytic and management support, we are known for our rigorous approach to solving complex interdisciplinary challenges. We work closely with an extensive network of academic and subject matter experts in a broad range of fields, and we have a proven track record of harnessing this expertise into client-focused, meaningful outcomes.

Shanika Amarakoon, MEM
Senior Associate/Scientist
- Engineering
- Economics
- Environmental planning
- Flood risk management

Daniel Basoli, MA
Senior Associate/Scientist
- Economic analysis and modeling
- Regulatory and economic analysis
- Natural resource economics

Karim Belhadjali, MS
Principal Associate/Scientist
- Coastal restoration planning and management
- Program management
- Community resilience planning

Dave Cacela, MA
Associate/Scientist
- Applied statistics
- Fishery science
- Data management and data science

Rodolfo Camacho, PhD
Principal Associate/Scientist, Vice President
- Environmental engineering
- Coastal modeling

Karen Carney, PhD
Associate/Scientist
- Ecology and biogeochemistry
- Restoration planning and monitoring
- Ecosystem service analysis
- Program evaluation

Joe Donahue, MPP
Associate/Scientist
- Solid waste management
- Infrastructure
- Planning

Allison Ebbets, MS
Senior Analyst
- Plant physiology and ecology
- Restoration ecology
- Restoration planning and evaluation

Debbie Fleischer, MPP
Senior Associate/Scientist
- Programmatic evaluation
- Risk communication
- Hazard impact assessment

Lindsay Foley, MEM
Senior Associate/Scientist
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- Fisheries policy

Terill Hollweg, PhD
Associate/Scientist
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- Restoration ecology
- Restoration planning, monitoring, and evaluation
- Aqueous geochemistry

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- Hydrology
- Remote sensing

Russell Jones, MA
Senior Associate/Scientist
- GIS
- Remote sensing analysis
- Spatial modeling

Michelle Krasnec, PhD
Associate/Scientist
- Environmental biology and behavioral ecology
- Environmental toxicology
- Entomology

Diana Lane, PhD
Principal Associate/Scientist
- Restoration ecology
- Restoration planning
- Adaptive management

Joshua Lipton, PhD
Vice President
- Toxicology
- Ecology
- Environmental impacts, risk, and vulnerability assessment

Mark Lorie, MS
Senior Associate/Scientist
- Water resources and strategic planning
- Decision analysis
- Risk analysis and communication

Meghan Lynch, DSc
Senior Associate/Scientist
- Environmental health
- Toxicology
- Regulatory analysis

David Mills, MA
Senior Associate/Scientist
- Environmental and resource economics
- Cost-benefit analyses
- Restoration program scaling and costing

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Principal Associate/Scientist
- Environmental toxicology
- Aquatic biology
- Biogeochemistry
- Bioremediation

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Senior Analyst
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- Risk management
- Communication and information design

Mikell O'Mealy, MS
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- Marine and coastal ecology
- Biology and fisheries
- Restoration planning

Jennifer Peers, MA
Senior Associate/Scientist
- Restoration planning
- Environmental data analysis
  and communications
- Database design and management

Selena Ramkeesoon, MBA, MLS
**Principal Associate/Scientist,
Vice President**
- Communications

Kaylene Ritter, PhD
Senior Associate/Scientist
- Contaminant fate and transport
- Hydrology
- Restoration planning

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- Adaptation and vulnerability
- Sea level rise

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- Environmental economics
- Large data storage and delivery

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- Database design and administration
- Programming and data management
- Spatial analysis
- Statistics

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- Environmental toxicology
- Molecular and cellular biology
- Marine mammals
- Restoration planning and monitoring

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- Natural infrastructure design and monitoring
- Hazard resilience assessment
- Flood risk analysis and mitigation

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- Water quality and environmental chemistry
- Hydrological modeling

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Senior Associate/Scientist
- Geomorphology
- Environmental data analysis
- Numerical modeling
- Field sampling and instrumentation

Stacey Worman, PhD
Associate/Scientist
- Analytical and numerical modeling
- Hazard impact assessment
- Marine geochemistry
- Sub-seafloor biosphere

NOTES

"Complex challenges demand a multidisciplinary approach. Abt is working on the front lines every day collaborating with our clients, partners and the community to tackle the toughest challenges. It's what we do best."

—Kathleen L. Flanagan
President and CEO
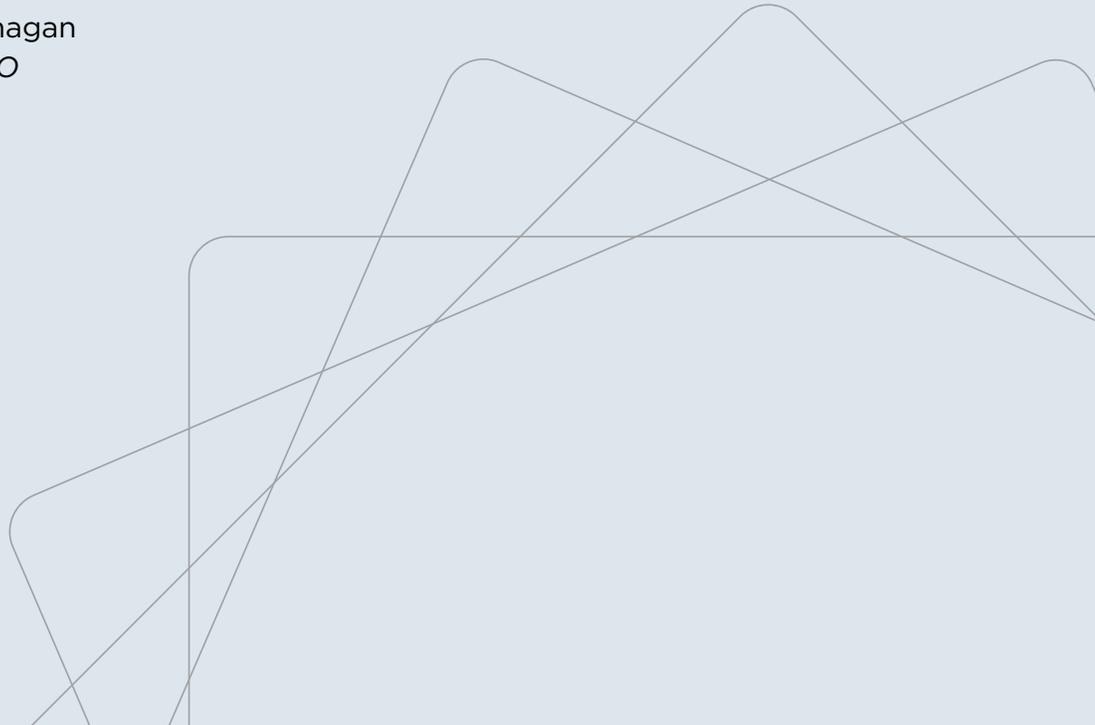
BOLD THINKERS DRIVING REAL-WORLD IMPACT

OUR MISSION

Abt Associates is an engine for social impact, harnessing the power of data and grounded insight to bring people from vulnerability to security worldwide. We provide research, consulting and technical services globally, working in the areas of health, environmental and social policy and international development.

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