

Judi L. Durda Vice President



Education and Credentials

M.S., Phi Kappa Phi, Zoology and Toxicology, North Carolina State University, Raleigh, North Carolina, 1986

B.S., Phi Beta Kappa, Biology and Environmental Science, George Washington University, Washington, DC, 1982

Certified Senior Ecologist, Ecological Society of America, 2007

Professional Affiliations

Ecological Society of America

Director, Board of Professional Certification, Ecological Society of America (2010–2016)

Society of Environmental Toxicology and Chemistry (SETAC)

Past President, Board of Directors, Chesapeake Potomac Chapter of SETAC

Society for Risk Analysis

Peer Reviewer

Environmental Toxicology and Chemistry

Integrated Environmental Assessment and Management

National Institute of Environmental Health Sciences Special Emphasis Panel—Superfund Research

Professional Profile

Judi Durda is a toxicologist and ecologist with more than 30 years of experience in the health and environmental science fields, working on behalf of both government and private clients. Ms. Durda specializes in using science and science-based strategies to address complex technical issues related to the manufacture, use, or disposal of chemicals, consumer products, pharmaceuticals, and hazardous and nonhazardous wastes. Her specific experience includes risk assessment, toxicological evaluations, forensics analysis, and regulatory compliance support under a variety of federal and state regulatory programs and in related litigation. She has conducted health and safety evaluations of chemicals present in food, beverages, and medical devices; conducted technical evaluations to support product registration of crop protection chemicals; assessed the potential human health risks from the use of veterinary antibiotics; and initiated research on the effects of consumer product chemicals on children's health. She also has extensive experience with emerging and yet to be regulated chemicals including per- and polyfluoroalkyl substances (PFAS).

In addition, Ms. Durda has extensive experience in the evaluation of ecological risks and natural resource damages potentially associated with chemical release or disposal. She has conducted risk and damage assessments and designed monitoring programs at waste sites in the United States and abroad. A hallmark of her work has been development of assessment strategies that support cost-effective remedial solutions and simultaneous consideration of potential restoration needs (e.g., natural resource damages) at a site. She has applied this technique at a variety of waste sites. Types of facilities evaluated include metal finishing and processing sites; mining sites; wood treatment facilities with copper, chromium, and arsenic contamination and creosote; pesticide and organic chemical manufacturing facilities; chlor-alkali plants; mercury, PCB, and dioxin waste sites; hydrocarbon and oil waste sites; Department of Defense facilities; railyards; municipal and hazardous waste landfills; mixed industrial waste sites; and contaminated rivers and estuaries.



Relevant Experience

Contaminated Sediments

Creosote Site Assessment, Southeastern and Midwestern U.S.—Evaluated potential human health and ecological risks associated with PAH and other constituents present in sediments at former wood treatment facilities. Designed sampling programs as needed.

Feasibility Study Support and Post-remediation Monitoring, New Jersey—Provided technical support to assess risk reduction associated with different remedial alternatives. Also led efforts to develop biological metrics to assess system response post-remedy. Chemicals of interest included mercury and PCBs.

Remedial Design, Contaminated Sediment Site, Michigan—Assisting in development of remedial design for a contaminated sediment site in Michigan. Constituents of concern include mercury, PCBs, and PAHs.

Remedy Design Support, Alabama—Served on a project team that designed supplemental remediation to address residual DDT present in the sediments of the river floodplain. Evaluated DDT uptake in fish under different remediation scenarios to determine the necessary scale of remedial actions. Modeling included evaluation of accumulation changes in response to variable flooding regimes.

RI/FS and Risk Assessment for a Watershed, New Jersey—Led risk assessment for an RI/FS being conducted for the Berry's Creek watershed, a Superfund site located in the Meadowlands. Also a principal author of the remedial investigation report for the site. Chemicals of interest included mercury and other metals and PCBs.

Feasibility Study and Risk Assessment Support, Mining Site, Midwest—Principal-in-charge of technical team that conducted the feasibility study at a former mining site. Constituents of concern included lead and other metals.

Ecological Risk Assessment at a RCRA Regulated Facility, Ohio—Evaluated ecological risks associated with potential releases from wastewater treatment sludge to a freshwater creek. Evaluation included use of bioassessment data on benthic and fish community composition, sediment chemistry, and statistical comparison to reference site conditions. Constituents of concern included cadmium, copper, chromium, nickel and zinc. Evaluation conducted using Ohio EPA ecological risk assessment guidance.

Food-Web Investigation at an Estuary, New Jersey—Designed and implemented a study to elucidate aquatic food-web structure in an estuary to support assessment of mercury and PCB transfer and bioaccumulation. Study elements included stable isotope analysis and gut content analysis of the top predators.



Benthic Community Assessment of an Estuary, New Jersey—Designed and implemented a study to evaluate benthic community composition and the potential effects of mercury and other metals, PCBs, and nonchemical stressors in a tidal estuary.

Mercury and PCB Uptake in a Marsh Food Web, New Jersey—Designing studies to assess chemical accumulation insects and invertebrates inhabiting a marsh adjacent to a tidal estuarine water body.

RI/FS at a Dioxin Waste Site, Gulf Coast—Provided technical support as part of the overall RI/FS to assess potential risks and remedies for a dioxin waste site on the U.S. Gulf Coast. Evaluations included source evaluations, fate and transport analysis, bioaccumulation modeling, and risk assessment.

Regulatory and Trustee Negotiations, Texas—Led a multiconsultant technical team in negotiations with state environmental regulators and state and federal trustees to address sediment contamination in a Texas bayou.

Human Health and Ecological Risk Assessment, Maryland—Led human and ecological risk assessment efforts at a steel mill site located in Baltimore Harbor. Chemicals of potential interest included lead, cadmium, chromium, zinc, PAHs, and benzene. Developed a field investigation program to assess potential contributions to offshore surface water and sediment from stormwater and groundwater releases from the site.

Human Health and Ecological Risk Assessment, Maryland—Led human and ecological risk assessment efforts at a former manufacturing site located in Baltimore Harbor. Chemicals of potential interest include industrial solvents. Assessing potential risks from groundwater discharge to surface water.

Litigation Support, Baltimore Harbor Redevelopment, Maryland—Evaluated human and ecological risks associated with sediment contamination in a proposed redevelopment area under legal dispute.

Expert Witness, Texas—Retained as an expert witness to assess health and ecological risks associated with organochlorines, metals, and other chemicals present in sediments and waters of a bayou in Texas. Work included design of biological sampling programs, risk analysis, and participation in technical mediation.

Ecological Risk Assessment of Creosote-Contaminated Sediments in the St. Johns River, Florida—Conducted an assessment that focused on potential ecological impacts of PAHs in river sediments.

Sediment Quality Triad and Weight-of-Evidence Evaluation, Nationwide—Led technical efforts associated with weight-of-evidence evaluation of benthic community impacts potentially associated with sediment contamination with PAHs, metals, pesticides, and other constituents at a variety of contaminated sediment sites.



Forensic Assessment and Source Allocation, Mercury, PCBs, Dioxin, Confidential Location—

Directed a forensic assessment to evaluate sources of mercury, PCBs, and other chemicals present in river sediments and wetlands in a southern estuary. Assessments included visual (e.g., fingerprinting, source mapping) and statistical forensic techniques (e.g., principal component analysis), coupled with historical source evaluation and fate and transport modeling.

Mercury Study, Galveston, Texas—On behalf of a potentially responsible party (PRP) group, developed monitoring study to assess mercury concentrations in fish and crab to address EPA concerns about potential health risks for recreational users of a lake downgradient of a Superfund site. Study design took into account the likely multiple sources of mercury in the industrialized area surrounding the site, fish and crab movement into and out of the lake from the nearby estuary, and fate and transport pathways for mercury from the site.

Evaluation and Management of Groundwater–Surface Water/Sediment Interactions, New Jersey, Kentucky, West Virginia, Texas, and Maryland—

Directing several ongoing efforts to evaluate the risk consequences and management needs to address the release of contaminants in groundwater discharging to surface waters. Focus of investigations include fate and transport assessments, loading and discharge modeling and monitoring, forensic source allocation, toxicity assessment, and risk evaluation. Sites being addressed are located throughout the United States.

Long-Term Monitoring of DDT Bioaccumulation, Alabama—Provided long-term support to a post-remediation monitoring effort at a DDT waste site. Efforts included evaluation of yearly sediment, fish tissue, and sediment bioassay data and preparation of annual monitoring reports to EPA.

Probabilistic Techniques Applied toward Derivation of Performance Standard, Southeastern United States—

A probabilistic exposure analysis model was developed within a risk-based framework to determine safe levels of the organochlorine pesticide DDT in the prey of wading birds foraging in freshwater wetlands. The novel approach developed as part of this probabilistic model offered the distinct advantage of incorporating the inherent variability in behavior that occurs within natural wading bird populations, such that the range of theoretically possible exposures could be evaluated. The output of this model was a performance standard based on plausible exposure, assessed through a quantification of the inherent variability and uncertainty in biological attributes of wading birds.

Mercury Cleanup Level Evaluation, New York—

Conducted extensive review of the ecotoxicological, statistical, and regulatory basis of a sediment remediation level established by EPA in a record of decision for a mercury waste site located in an embayment of a large river in New York. Review took advantage of recent toxicological data for mercury, state and federal sediment management strategies, and statistical evaluations of sampling data to develop a remediation strategy.



Emerging Contaminants

Toxicology Review of 1,2,3-Trichloropropane and Comment on Proposed Regulatory Standard, New Jersey—Worked on a team evaluating human toxicology of 1,2,3-trichloropropane and prepared comments on proposed regulatory standard in New Jersey.

Toxicology Review of p-Chlorobenzene Sulfonic Acid and Other Organic Acids, Nevada—Conducted toxicological review and derived toxicity reference doses for *p*-chlorobenzene sulfonic acid and five other organic acids present in groundwater near a former industrial facility near Las Vegas, Nevada. Toxicological work was adopted by the State of Nevada to establish groundwater concentration limits to support regulatory evaluations in the state.

Toxicology Review of p-Chlorobenzene Sulfonic Acid, California—Senior technical advisor for toxicological review to support development of concentration limits in groundwater.

Guide to Emerging Contaminants, United States—Principal-in-charge of research and development of a comprehensive guide to regulatory actions involving emerging contaminants in the United States.

Toxicology Support for Legacy PFAS—Led team engaged in in-depth toxicological reviews for legacy PFAS compounds, including perfluorooctanoic acid, perfluorooctane sulfonic acid, and perfluorononanoic acid. Evaluations addressed mode of action, toxicokinetics, and laboratory animal and epidemiological data review.

PFAS Biomonitoring—Reviewed and analyzed biomonitoring data for PFAS in blood. Studies evaluated included site-specific studies of local populations near a suspected source and national biomonitoring programs.

PFAS Environmental Investigation—Led team that designed and implemented multimedia sampling program for legacy PFAS. Studies included groundwater, soil, surface water, sediment, and sediment porewater.

PFAS Regulatory Engagement—Conducted technical reviews of proposed regulatory and advisory standards for PFAS in groundwater and drinking water. Prepared technical comments on regulatory docket and served as technical representative of clients in regulatory and public meetings. Work conducted in multiple states and on federal initiatives.

PFAS Reviews, Agency for Toxic Substances and Disease Registry—Conducted and prepared comments on PFAS toxicology reviews prepared by the Agency for Toxic Substances and Disease Registry.

PFAS Natural Resource Damage Assessment—Evaluated natural resource damages under state law related to PFAS in groundwater, rivers, and lakes.

PFAS Product Stewardship—Provide technical consulting support to the FluoroCouncil on short-chain PFAS and related fluorochemical products. Conduct scientific assessments and assist with



stakeholder communications related to the health and environmental safety of short-chain PFAS and fluorotelomers.

PFAS Replacement Chemistry Evaluations—Support evaluation of the toxicology, fate, and risk of replacement PFAS chemistry.

PFAS Litigation Support—Provided technical support for litigation involving PFAS compounds.

PFAS and Firefighting Foams—Serving as technical advisor on study of PFAS and non-PFAS compounds in firefighting foams.

Monthly Newsletter on Perfluoroalkyl Substances—Principal-in-charge of a monthly newsletter summarizing recent developments related to PFAS toxicology, fate, risk, regulation, and litigation.

1,4-Dioxane—Conducted toxicological review of the mechanism of action of 1,4-dioxane related to hepatotoxicity in humans. Reviewed regulatory standards and assessed implication of alternative dose-response models on drinking water standards.

Emerging Contaminants in the Great Lakes—Participated in international panel designed to address needs for assessment and management of emerging contaminants in the Great Lakes.

Polychlorinated Naphthalenes—Evaluating fate and toxicity in a variety of environmental settings.

Nanomaterials—Conducted reviews of toxicological properties of a variety of nanomaterials.

Natural Resource Damage Assessment—Evaluated natural resource damages under state law related to perfluorinated chemicals in groundwater, rivers, and lakes. Used resource equivalency and other economic methods to assess damages. Supported negotiations with trustees.

Risk Assessment

Coal Ash Risk Assessment, Confidential Location—Evaluating ecological risks potentially associated with releases at a coal-fired power plant. Constituents of concern include selenium and arsenic.

Biotic Ligand Modeling at Superfund Site, Pennsylvania—Evaluating potential aquatic toxicity of copper using biotic ligand model and other tools.

Regulatory Analysis and TSCA—Providing technical support to clients regarding risk assessment and risk management issues under TSCA.

Wood Treatment Sites, Nationwide—Providing technical support to multiple clients to address human health and ecological risks at former wood treatment sites where creosote and pentachlorophenol were used. Sites regulated under CERCLA and RCRA.

Ecological Risk Assessment at a RCRA Regulated Facility, Ohio—Evaluated ecological risks associated with land disposal of wastewater treatment sludge. Evaluation included statistical



spatial evaluation of residual metal concentration in soils along with screening-level risk calculations. Constituents of concern included cadmium, copper, chromium, nickel, and zinc. Evaluation conducted using Ohio EPA ecological risk assessment guidance.

Perchlorate Risk Assessment to Support Remediation and Redevelopment, Virginia—Evaluated human health and ecological risks from perchlorate at a former rocket fuel manufacturing facility. Used evaluation to support remediation and redevelopment designs at the site.

Risk Assessment of Mercury in a Marine Environment, Confidential Location—Led human health and ecological risk assessments of mercury present in a marine environment.

Risk Assessment at a Petroleum Site, Montana—Principal-in-charge for human health and ecological risk assessment for a former petroleum storage site in Montana. Groundwater contamination and potential discharge to a nearby creek were evaluated along with other pathways. Used risk-based assessments in support of remedy development.

Risk Assessment of PCBs and Beef, Confidential Location—Conducted an evaluation to examine potential human health risks from exposure to beef from cattle that have grazed on pasture containing PCBs. Assessment included evaluation of distribution of beef in the commercial marketplace. Supported alternative risk-based remedy design for site.

Ecological Risk Assessment, New York—Led ecological risk assessment efforts for a creek in upstate New York. Key constituents are arsenic and DDT.

Ecological Risk Assessment, Landfill, Massachusetts—Prepared environmental risk characterization report consistent with the Massachusetts Contingency Plan. Key element of the risk characterization was differentiation between impacts caused by hazardous constituents versus physical habitat alterations. Phthalates were a principal hazardous constituent of concern.

Risk Assessment, Mining Site, Illinois—Conducted human and ecological risk evaluations for a former mining site in Illinois and overseeing residential soil cleanup. Lead and other metals are of potential interest. Work is being conducted under the state's Tiered Approach to Corrective Action Objectives (TACO) program.

Human Use Surveys at Waste Site, Mid-Atlantic Region—Designed and implementing a camera survey to document human use at a Superfund site in the mid-Atlantic region. Information on frequency of use, types of activities, and exposed population being gathered to support development of site-specific exposure assumptions in the risk assessment.

Vapor Intrusion Risk Assessment, Baltimore, Maryland—Evaluated human health risks from vapor intrusion at a brownfields redevelopment site. Work has included soil vapor sampling program design, exposure modeling, and risk assessment.

Human Health and Ecological Risk Assessment, Nevada—Technical and strategic lead to address human health and ecological risks associated with groundwater and surface soil contamination at



an industrial complex in Nevada. Key issues include perchlorate and volatile organic compound contamination of groundwater and pesticide bioaccumulation and exposure in the terrestrial and ephemeral aquatic environments.

Waste Site Human Health and Ecological Risk Assessments, Nationwide— Assessed risks to humans and terrestrial and aquatic wildlife posed by waste sites regulated under CERCLA, RCRA, and state regulatory programs. Assessments involved field identification of potential receptor species and human activity patterns, quantitative evaluation of human and wildlife exposure, interpretation of toxicity data, and application of ecological and toxicological principles. Conducted deterministic and probabilistic (e.g., Monte Carlo) assessments. Lead investigator or technical director for more than 100 site investigations. Types of facilities evaluated include pesticide and organic chemicals manufacturing facilities; chlor-alkali plants; PCB and dioxin waste sites; hydrocarbon waste sites; wood treatment facilities with copper, chromium, and arsenic contamination; Department of Defense facilities; railyards; metal finishing and processing sites; mining sites; municipal and hazardous waste landfills; mixed industrial waste sites; and contaminated rivers and estuaries.

Risk Assessment of West Nile Virus Incidence and Control, New York— Led the risk assessment effort to evaluate comparative risks on human and wildlife populations of disease versus pesticide use and other management actions. Work was used to assist in development of a vector management program in Suffolk County, New York.

Multistressor, Regional Risk Assessment, Pennsylvania, Delaware, and New Jersey— Co-principal investigator of a regional-scale risk assessment conducted to identify, analyze, and rank the impacts of various stressors on overall ecological health in the Delaware Estuary. Stressors evaluated included physical (e.g., salinity, sedimentation, wetland loss), biological (e.g., invasive species), and chemical (e.g., petroleum, PCBs, mercury) forms.

Arsenic Risk Assessment, Tennessee— Evaluated potential ecological risks associated with residual sediment contamination resulting from an arsenic acid spill in a river. Assessment utilized sediment sampling data and a detailed analysis of arsenic speciation and sediment chemistry to assess aquatic life risks.

DDT and Mercury Waste Site Evaluation, Alabama— Evaluated potential ecological impacts associated with DDT and mercury waste sites in a southern bottomland wetland habitat. Comprehensive assessment involved evaluation of tissue residue data and bioassay data. A trophic model was constructed for the site to interpret chemical accumulation within the food web. Risks assessed for a variety of wetland birds (e.g., heron, wood stork, osprey), mammals, amphibians, fish, and invertebrates.

DDT Bioaccumulation Assessment— Critically reviewed and compiled literature data on the biological accumulation of DDT and its metabolites in aquatic and terrestrial systems. Prepared database of sediment to organism bioaccumulation factors for multiple species across trophic levels.



Data were compiled to support Monte Carlo evaluation of DDT accumulation in terrestrial and aquatic food webs.

Ecological Assessment of Uranium Enrichment Plant Construction, Louisiana—Evaluated environmental impacts associated with construction and operation of a uranium enrichment plant in Louisiana. Task involved a detailed description of the ecology of the area and an evaluation of the potential impacts associated with emissions from the facility.

Australian Olympics Risk Assessment, Sydney, Australia—Assisted in the preparation of and provided quality assurance oversight of an ecological risk assessment conducted in Sydney, Australia, at the site of the Year 2000 Olympics. Activities included assessment of risks in saltwater, estuarine, freshwater, and rare upland environments; identification of remediation needs; development of mitigation strategies; and negotiation with Australian regulatory agencies.

Equine Risk Assessment, Western United States—Assessed reproductive and other health risks to horses exposed to accidental and long-term chemical air emissions from a manufacturing plant. Evaluated both acute and chronic health risks under routine and upset operating conditions. Particle deposition and subsequent ingestion exposures also evaluated. Evaluation conducted as part of a series of evaluations to quell community concerns regarding plant emissions.

Risk Assessment Peer Reviews, Nationwide—Conducted risk assessment peer reviews for private sector clients to determine if the assessments conformed to applicable guidance, yet incorporated recent scientific advances in the areas of exposure assessment, toxicity assessment, and uncertainty analysis.

Occupational Exposure Evaluations in Baltimore Harbor, Maryland—Evaluated potential exposures and risks in workers constructing a tunnel in Baltimore Harbor. Potential exposure to PAHs and metals were of particular concern. Acute and long-term health risks were evaluated.

Risk Assessment Lectures—Assisted in the development and teaching of training courses in risk assessment. Courses included detailed lectures on hazard assessment, dose-response evaluation, exposure assessment, and risk characterization.

Regulatory Review—Reviewed and commented on proposed regulations on behalf of private clients.

Sludge Risk Assessment

Antibiotic Resistant Microorganism and Genes (ARM/ARG), Nationwide—Led team conducting research on monitoring the presence of ARM/ARG in sludge and in the environment. Developed framework for preliminary risk evaluations.

Municipal Sludge Application, Ohio—For litigation, conducted risk and exposure analyses to assess degree of risk posed by land application of municipal sludge. Both chemical and pathogenic risks considered. Evaluated potential for impacts on local residents from sludge-associated odors. Retained by defendant. Case settled.



Remedial Technology Risk Evaluation, California—Evaluated potential human health exposures and risks associated with land farming of waste sludges in California. Assessment included evaluations of worker exposures during sludge application, offsite air exposure resulting from dust transport, and dietary exposures associated with consumption of beef and vegetables produced in the farmed area.

Lagoon Remediation Risk Assessment, Ohio—Evaluated human health risks associated with various technologies proposed for remediation of former wastewater treatment lagoons at an industrial facility in Ohio. Risk assessment included an evaluation of exposures resulting from lagoon dewatering, sludge excavation, and sludge incineration.

Incineration Risk Assessment

Incinerator Risk Assessment, United States and Canada—Evaluated potential ecological impacts associated with emissions from proposed municipal and solid waste incinerators and cement kilns that use waste as fuel. Multipathway, multichemical assessments included evaluation of food chain exposures to mercury, dioxin, and PCBs in terrestrial wildlife species and surface water exposures to multiple organic and inorganic chemicals in aquatic species. Conducted risk assessments for more than a dozen facilities.

Ecological Risk Assessment for a Waste-to-Energy Facility, Florida—Conducted ecological risk assessment for a facility in Florida. Evaluation focused on exposures to bioaccumulative compounds (methylmercury, dioxin) in federally endangered and threatened species, including the Florida panther and wood stork.

Ecological Risk Assessment of a Carbon Regeneration Facility, Arizona—Evaluated ecological risks associated with emissions from a carbon regeneration facility in Arizona. Constituents of concern included mercury and dioxin and more than 200 other chemicals.

Pathogen Risk Assessment

Antibiotic Resistant Microorganism and Genes (ARM/ARG), Nationwide—Led team conducting research on monitoring the presence of ARM/ARG in sludge and in the environment. Developed framework for preliminary risk evaluations.

Microbiological Risk Assessment of Food Safety, Nationwide—Conducted risk assessment to evaluate potential for human disease from exposure to zoonotic pathogens in food. Assessment included evaluations of microbial ecology, dose-pathogen response assessments, and analysis of exposure pathways along commercial food distribution networks.

Municipal Sludge Application, Ohio—Conducted risk and exposure analyses to assess degree of risk posed by land application of municipal sludge. Both chemical and pathogenic risks considered. Evaluated potential for impacts on local residents from sludge-associated odors. Case settled.



Risk Assessment of West Nile Virus Incidence and Control, New York—Led the risk assessment effort to evaluate comparative risks on human and wildlife populations of disease versus pesticide use and other management actions. West Nile Virus is an arthropod-borne disease associated with specific viruses from the Flaviviridae family. Work was used to assist in development of a vector management program in Suffolk County, New York.

Radiological Risk Assessment

Chemical and Radiological Risk Assessment, New York—Conducted an assessment of health and ecological risks associated with mercury, PCBs, pesticides, and radiological constituents in a river in Long Island, New York.

Radiological Assessment, Western United States—Evaluated potential ecological risks associated with radiation at a U.S. Army test facility and research laboratories.

Tritium Risk Assessment, California—Evaluated potential human health risks from tritium in groundwater.

Ecological Assessment of Uranium Enrichment Plant Construction, Louisiana—Evaluated environmental impacts associated with construction and operation of a uranium enrichment plant in Louisiana.

Metals Toxicology and Assessment

Selenium—Conducted toxicological and ecological assessments of potential impacts of selenium. Evaluations included assessment of potential impacts of coal ash releases at a power plant and selenium releases associated with phosphate mining.

Mercury—Evaluated ecological and human toxicology and risk at multiple Superfund sites. Work has included design and conduct of field studies to address mercury bioaccumulation and toxicity in aquatic systems, food web modeling and assessment, fish consumption evaluations, air monitoring, risk assessment, cleanup level development, and forensic evaluations.

Copper—Evaluated potential aquatic toxicity and risks associated with copper releases at a variety of waste sites. Work has included biotic ligand modeling, benthic toxicity testing, and risk assessment.

Arsenic—Evaluated potential ecological and human health risks associated with arsenic released via spills or associated with historical activities from former wood treatment or other industrial facilities. Work has included human health risk assessment, ecological risk assessment, and field studies to assess bioavailability and form of arsenic in biological tissue.

Zinc—Evaluated potential ecological risks and damages related to zinc in aquatic systems. Evaluations have included toxicity assessments and forensic evaluation of historical releases.

Lead—Evaluated potential ecological risks and damages at numerous mining sites, landfills, and former firing range locations.



Manganese—Evaluated source, bioavailability, and ecological risk associated with manganese in aquatic and wetland settings.

Cadmium—Evaluated ecological risks associated with cadmium in aquatic, wetland, and terrestrial environments. Work has included toxicity testing, source evaluation, and fate assessment.

Chromium—Evaluated human health and ecological risks of chromium at former industrial facilities. Work has included fate and transport evaluations and exposure and toxicity assessments.

Natural Resource Damage Assessment

Natural Resource Damage Assessment, Tidal Urban River, Mid-Atlantic—Leading technical efforts related to potential natural resource damage claims for a former manufactured gas plant. Constituents of concern include PAHs.

Natural Resource Damage Assessment, Landfill, Confidential Location—Leading technical efforts related to potential natural resource damage claims at a former landfill. Constituents of concern include metals and PCBs.

Natural Resource Damage Assessment, U.S. Research Facility, Western United States—Leading technical efforts related to potential natural resource damage claims for a former research facility in the western United States. Constituents of concern include radionuclides.

Natural Resource Damage Assessment, Former Manufacturing Site, Virginia—Leading technical efforts related to potential natural resource damage claims for a former industrial site. Constituents of concern include PCBs, mercury, zinc, arsenic, and antimony.

Natural Resource Damage Assessment, Mining Site, Western United States—Leading technical efforts related to potential natural resource damage claims for a mining site in the western United States. Constituents of interest include selenium and other naturally occurring metals.

Natural Resource Damage Assessment, Mining Site, Western United States—Providing technical and strategic support to address potential natural resource damage claims for a mining site in the western United States. Constituents of interest include naturally occurring minerals.

Natural Resources Damage Assessment, Petroleum Release, Colorado—Led technical efforts related to potential natural resource damage at a refinery site in Colorado where petroleum has been released to groundwater and is potentially discharging into a river.

Natural Resource Damage Assessment, Mining Site, Midwestern United States—Led technical efforts related to potential natural resource damage claims for a mining site in the Midwest. Addressed ecological and human use issues. Constituents of interest included lead, cadmium, nickel, and zinc.

Groundwater Natural Resource Damage Assessment, Confidential Location—Provided technical and strategic consultation for natural resource damage settlement discussions and potential



litigation on a matter involving widespread presence of manufactured chemicals in an urban/suburban area's groundwater.

Groundwater and Wetlands Natural Resource Damage Assessment, Petroleum Site, Minnesota— Provided technical and strategic advice to an industry client on a pending groundwater natural resource damage claim involving alleged injuries to groundwater and a wetland.

Natural Resource Damage Assessment, Delaware— Provided technical and strategic support for a natural resource damage assessment for tidal wetlands containing creosote associated with a former wood treatment facility.

Natural Resource Damage Assessment and Restoration, Texas— Led a joint natural resource damage assessment and ecological services analysis for a Texas bayou, with a focus on benthic community injury from chlorinated solvents and pesticides. Restoration efforts focused on identification and evaluation of restoration projects for salt marsh and other types of wetlands.

Consulting Expert for Petroleum Spill, Confidential Location— Retained as a consulting expert to address fate, transport, and natural resource damages associated with a petroleum spill.

Natural Resource Damage Assessment and Restoration, Alabama— Provided strategic and scientific support to address natural resource injury issues in a wetland and river in Alabama as part of a cooperative assessment process with state and federal trustees. Injuries in fish, birds, and the benthic community potentially associated with sediment in food-web contamination were evaluated. Restoration efforts focused on identification and evaluation of restoration options in forested wetland systems, including hydrological modifications, reforestation, and invasive species control.

Trustee Oversight, Alabama— Provided technical oversight support of natural resource damage studies conducted by the U.S. Fish and Wildlife Service (USFWS) at a DDT Superfund site in Alabama. Provided critical review and comment on behalf of a PRP of studies designed to assess DDT accumulation in the aquatic and terrestrial food web and potential impacts on breeding populations of neotropical migrant bird species. Assisted in the design of a parallel study designed to address avian population risks.

Ecological Risk Assessment and Natural Resource Damage Assessment in an Estuary, Louisiana— Assisted an industry consortium in developing a statement of work to address ecological risks and natural resource damages in an estuary in Louisiana. Efforts included developing a framework for studies designed to assess the impacts of multiple chemical and nonchemical stressors from point and non-point sources. An important goal of the study was to maximize the integration of natural resource damage assessment and RI/FS activities, and thereby reduce redundant or contradictory data demands.

Injury Assessment and Habitat Equivalency Analysis, Southeastern United States— Conducted assessments of injury to natural resources at a Superfund site. Developed the framework for



service flow model to account for seasonal dynamics on the presence, nature, and extent of habitat in a river floodplain and led technical negotiations with state and federal trustees.

Natural Resource Damage Assessment, Minnesota—Provided strategic and technical support to address natural resource damage claims for a lake in Minnesota. Key constituents of concern included PAHs, lead, cadmium, zinc, and chromium.

Natural Resource Damage Assessment Support at a Superfund Site, Virginia—Provided strategic support to a PRP during the initial stages of damage assessment activities initiated by natural resource trustees. Assisted in development of technical strategy for addressing trustee concerns.

Injury Assessment and Habitat Equivalency Analysis, Southeastern United States—Conducted assessments of injury to natural resources at a Superfund site. Worked in conjunction with resource economists to conduct habitat equivalency analysis.

Natural Resource Damage Assessment Support at a Superfund Site, Ohio—Provided strategic support to a PRP. Activities included development of technical strategy for addressing trustee concerns.

Natural Resource Damage Assessment, New York—Provided strategic support to PRPs during initial stage of damage assessment activities for a river in New York. Conducted injury assessments in conjunction with habitat equivalency analyses.

Toxicology

Critical Review of the Toxicity of p-Toluic Acid to Inform Regulatory Standard, North Carolina—Conducted a technical review of the toxicity basis for regulatory standard for *p*-toluic acid. Review utilized a weight-of-evidence approach that evaluated *in vivo* and *in vitro* test results, chemical surrogates, and metabolically relevant compounds.

Toxicity Review of Hexachlorocyclohexane (HCH) Isomers to Support Revision of Regulatory Standards, North Carolina—Prepared documents to support revisions of regulatory drinking water standards in North Carolina.

Mercury Toxicity in Songbirds—Conducted literature review and developed toxicity criteria for assessment of reproductive toxicity in songbirds exposed to mercury via the diet.

Mercury Toxicity in Fish—Conducted literature review of toxicity of mercury in fish and used dose-response models to develop residue-based toxicity criteria with which to assess mercury risks in fish.

Carcinogenicity Assessment of HCH Isomers and Petition to Change Regulatory Toxicity Criteria, Nevada—Headed a team of toxicologists investigating the carcinogenicity of alpha-HCH, beta-HCH, and gamma-HCH (lindane). Toxicological data indicate that these compounds are either not carcinogenic or are carcinogenic in rodents, but operate via a threshold-based mechanism. Current regulatory toxicity criteria are derived using the linear low-dose response model, which is the



default cancer dose-response model adopted by EPA. Conducted analysis that indicated that beta- and gamma-HCH are not carcinogenic, and that alpha-HCH is potentially carcinogenic but operates via a nonlinear mode of action. The alternate toxicological evaluations were accepted by the State of Nevada for use in assessing risks and setting cleanup levels.

Human Health Toxicological Criteria Development for Organic Acids, Nevada—Led technical efforts to develop human health toxicological criteria for a series of five organic acids that are of concern in groundwater at a site in Nevada. Work involved evaluation of biochemical mechanisms of action, analysis of structure activity relationships, and review of available *in vivo* and *in vitro* toxicological data. Criteria were accepted by the state regulatory agency for use.

Regulatory Toxicology Reviews, Texas—Conducted critical reviews of the toxicological basis of human health regulatory criteria used by the state of Texas for DDT, BHCs, hexachlorobenzene, and chlorinated benzene products. Assessed feasibility of petitioning for change in criteria.

Drinking Water Standards Review—Prepared a petition on behalf of an industry consortium requesting a change to the federal drinking water standard for lindane. Petition was submitted as comments in response to EPA's 5-year national review of drinking water standards.

Derivation of Site-Specific Water Quality Criteria for BHC Pesticides, North Carolina—Derived site-specific aquatic life criteria for gamma-BHC and other BHC isomers to support risk assessment and remedial design activities at a waste site where BHC groundwater discharge to surface water was at issue. Site-specific criterion for gamma-BHC was 40 times greater than the promulgated state criterion. Site-specific criteria for other BHC isomers were more than 2,000 times those originally considered by regulatory agencies. Site-specific criteria were accepted by both EPA and the state.

DDT Carcinogenicity Evaluation—Evaluated carcinogenicity data for DDT using 1996 proposed EPA guidelines for carcinogen assessment. Considered epidemiological, genotoxicity, bioassay, and mechanistic data, focusing importantly on the role of gap-junction inhibition in DDT carcinogenesis. Compiled weight-of-evidence assessment of DDT carcinogenicity. Assessment was conducted to support modifications of a fish consumption advisory that was posted in a water body near a hazardous waste site where DDT had been manufactured.

DDT Ecotoxicological Evaluation—Critically reviewed toxicity data related to the effects of DDT and its metabolites on avian reproduction. Derived toxicity reference values based on a combination of laboratory and field data and structure activity relationships. Evaluated toxicological data statistically to support Monte Carlo assessment of ecotoxicological risks.

Mirex and Kepone Ecotoxicological Evaluation—Critically reviewed ecotoxicological, fate, and bioaccumulation literature for the organochlorine pesticides mirex and kepone. Purpose of review was to derive toxicity reference values and bioaccumulation factors for use in site-specific ecological risk assessments. Approach considered toxicity data related to ecologically relevant



endpoints (i.e., reproduction, survival) and utilized a weight-of-evidence approach to data interpretation.

BHC Toxicity Assessment—Conducted comprehensive review of toxicity literature for the organochlorine pesticide lindane and other BHC isomers on behalf of an industry consortium. Efforts were part of process to solicit changes to regulatory toxicity values listed in EPA’s IRIS database.

Organ-Specific Toxicological Evaluations—Developed acceptable exposure limits for air pollutants based on organ-specific toxicity. Task involved critical review of the available toxicological data and the use of selected scientifically valid data, conversion factors, and appropriate uncertainty factors in the calculation of exposure limits.

Environmental Criteria Development—Developed acceptable exposure limits for hazardous chemicals in drinking water and air. Task involved review and evaluation of toxicity data and synthesis of pertinent data to derive concentration limits.

Chemical-Specific Toxicological Evaluations, Nationwide—Prepared toxicity profiles for chemicals present at Superfund hazardous waste sites, focusing on potential carcinogenic effects and other irreversible toxic effects of the chemical.

Forensics, Environmental Fate, Remedial Design

Perchlorate Persistence and Risk in Soil, Virginia—Designed and executed a study to assess perchlorate in soils at a former rocket fuel manufacturing facility. Used data to support risk assessment and remedial design.

Forensic Assessment and Source Allocation, Mercury, PCBs, Dioxin, Confidential Location—Directed a forensic assessment to evaluate sources of mercury, PCBs, and other chemicals present in river sediments and wetlands in a southern estuary. Assessments included visual (e.g., fingerprinting, source mapping) and statistical forensic techniques (e.g., principal component analysis), coupled with historical source evaluation and fate and transport modeling.

Mercury Study, Galveston, Texas—On behalf of a PRP group, developed monitoring study to assess mercury concentrations in fish and crab to address EPA concerns about potential health risks for recreational users of a lake downgradient of a Superfund site. Study design took into account the likely multiple sources of mercury in the industrialized area surrounding the site, fish and crab movement into and out of the lake from the nearby estuary, and fate and transport pathways for mercury from the site.

Stream Mitigation: Assessment and Design, Confidential—Assisting in the development of a plan to characterize and mitigate in-stream impacts from mining operations.

Evaluation and Management of Groundwater–Surface Water/Sediment Interactions, New Jersey, Kentucky, West Virginia, Texas, and Maryland—Directing several ongoing efforts to evaluate the risk consequences and management needs to address the release of contaminants in groundwater



discharging to surface waters. Focus of investigations include fate and transport assessments, loading and discharge modeling and monitoring, forensic source allocation, toxicity assessment, and risk evaluation. Sites being addressed are located throughout the United States.

Remedy Design Support, Alabama—Served on a project team that designed supplemental remediation to address residual DDT present in the sediments of the river floodplain. Evaluated DDT uptake in fish under different remediation scenarios to determine the necessary scale of remedial actions. Modeling included evaluation of accumulation changes in response to variable flooding regimes.

Groundwater Risk Management, Texas—Retained as a technical expert to address the potential contribution of groundwater to surface water and sediment at a Texas bayou. Led technical analyses, as well as negotiations with the state and trustees.

Long-Term Monitoring of DDT Bioaccumulation, Alabama—Provided long-term support to a post-remediation monitoring effort at a DDT waste site. Efforts included evaluation of yearly sediment, fish tissue, and sediment bioassay data and preparation of annual monitoring reports to EPA.

Probabilistic Techniques Applied toward Derivation of Performance Standard, Southeastern United States—A probabilistic exposure analysis model was developed within a risk-based framework to determine safe levels of the organochlorine pesticide DDT in the prey of wading birds foraging in freshwater wetlands. The novel approach developed as part of this probabilistic model offered the distinct advantage of incorporating the inherent variability in behavior that occurs within natural wading bird populations, such that the range of theoretically possible exposures could be evaluated. The output of this model was a performance standard based on plausible exposure, assessed through a quantification of the inherent variability and uncertainty in biological attributes of wading birds.

BHC Environmental Fate Assessment—Directed literature review and analysis conducted to characterize likely fate of BHC pesticides in groundwater and surface water. Analysis was conducted to evaluate feasibility of natural attenuation as a remediation option at a waste site where BHC was present in the groundwater. Aquatic life was the principal receptor of concern in adjacent waters.

Mercury Cleanup Level Evaluation, New York—Conducted extensive review of the ecotoxicological, statistical, and regulatory basis of a sediment remediation level established by EPA in a record of decision for a mercury waste site located in an embayment of a large river in New York. Review took advantage of recent toxicological data for mercury, state and federal sediment management strategies, and statistical evaluations of sampling data to develop a remediation strategy.

Remedial Technology Risk Evaluation, California—Evaluated potential human health exposures and risks associated with land farming of waste sludges in California. Assessment included evaluations of worker exposures during sludge application, offsite air exposure resulting from dust



transport, and dietary exposures associated with consumption of beef and vegetables produced in the farmed area.

Department of Defense Site Assessments

Risk Assessment Support for U.S. Army Corps of Engineers, Nationwide—Principal-in-charge for human and ecological risk assessments conducted as part of site inspection reports at formerly used defense facilities under subcontract agreement with Alion Science and Technology Corporation. Provide senior review and technical input on all human and ecological risk assessment activities. Senior technical resource on toxicological evaluations and assessments of munitions and related compounds.

Aberdeen Proving Ground Risk Assessment, Maryland—Evaluated ecological and human health risks associated with past chemical agent testing, munitions testing, pesticide use, and waste disposal at a U.S. Army facility located on the Chesapeake Bay. The facility covered 80,000 acres and contained more than 700 individual waste sites. The primary focus of the assessment was potential impacts on the Chesapeake Bay fishery and shellfishery, although impacts on other ecological resources also were evaluated. Surface water, sediment, and soil ecological risks were evaluated along with potential impacts from groundwater discharge to the Bay. Chemicals of concern included munitions, chemical warfare agents, mercury, arsenic, and other heavy metals, chlorinated pesticides, and volatile organic chemicals. The risk assessment was the first conducted at Aberdeen under the base cleanup program.

Aberdeen Proving Ground Biological Assessment, Maryland—Headed a team of scientists tasked with developing comprehensive field and laboratory studies to evaluate ecological impacts associated with various hazardous waste sites at Aberdeen Proving Ground. The study area consisted of more than 80,000 acres of relatively undeveloped coastal plain uplands, wetlands, and estuary. The biological assessment program was designed to evaluate potential impacts at various trophic levels within both aquatic and terrestrial communities. Five basic types of bioassessment techniques were incorporated into the program: toxicity tests; residue analyses; histological studies; community analyses; and harvest surveys.

Baseline Risk Assessment at Military Installations, Nationwide—Conducted baseline human health and ecological risks assessments at military installations nationwide as part of RI/FS-related activities. Installations evaluated included North and South Tooele Army Depots in Utah, Umatilla Chemical Depot in Oregon, Fort Dix in New Jersey, and the St. Louis Ordnance Plant in Missouri. Evaluations included toxicological and exposure assessments for a number of military-specific compounds (munitions, chemical warfare agents) as well as other hazardous substances.

Alameda Naval Air Station, California—Assisted in the development of a sampling and bioassessment plan to evaluate hazardous chemical contamination at the Alameda Naval Air Station in California. Provided recommendations regarding sample type, number, location, and the timing of sampling events. Recommended specific species and bioassays appropriate for evaluating potential impacts in estuarine environments.



Bioassessment Plan Design at Munitions Facility, Missouri—Developed bioassessment plan to investigate potential ecological impacts associated with past disposal of process wastewater from a munitions manufacturing facility. The bioassessment plan included bioassays using surface water and sediment from the adjacent creek system and residue analysis of soil invertebrates inhabiting uplands adjacent to former wastewater treatment ponds.

Environmental Impact Assessments

Ecological Impact Assessment, Canada—Directed an ecological impact evaluation of a proposed landfill development in Canada. Evaluation included chemical fate and transport modeling, bioaccumulation, exposure, and risk assessment in aquatic, terrestrial, and agricultural ecosystems. Potential ecological impacts associated with hypothetical transportation accidents were evaluated using Monte Carlo simulation. Identified and described cumulative impacts, resource recovery, and mitigation measures, as necessary.

Mining Wastewater Ecological Assessment, Western United States—Evaluated potential ecological risks associated with discharge of treated wastewater from a mining operation. Assessment included evaluation of the adequacy of the specified wastewater chemical discharge limits, as well as an evaluation of potential impacts in the event of an accident.

Ecological Assessment of Groundwater Treatment System, California—Evaluated potential ecological impacts associated with the failure of a proposed groundwater treatment system and the subsequent discharge of contaminated groundwater to surface water in a coastal area of central California. Potential impacts were evaluated for three rare amphibian species known to breed in surface waters at the site. Toxicity was estimated using quantitative structure activity relationship analysis.

Ecological Impact Assessment of Timbering Operations, Maryland—Evaluated potential ecological impacts associated with timbering in upland hardwood forests of coastal and piedmont Maryland. The focus of the assessment was potential impacts of forest fragmentation on neotropical migrant bird species breeding in the area. Impacts on the local plant and wildlife communities and endangered species of the area also were evaluated.

Endangered Species Evaluation, Desert Tortoise, Nevada—Evaluated the status and viability of desert tortoise populations in the Las Vegas Valley, a part of the Mojave Desert in Nevada. The analysis focused on the habitat suitability of the Las Vegas Valley and the current stresses placed on the tortoise population within the Valley. The probability of extinction for the Valley population was evaluated based on concepts derived from conservation biology and extinction theory.

Endangered Species Impact Assessment, Ohio—Evaluated the potential population level effects of organochlorine pesticides upon the endangered Indiana bat (*Myotis lucifugus*). Analysis focused on organochlorine accumulation and biomagnification via aquatic and terrestrial insect vectors. Specific analysis involved an evaluation of optimal foraging habitat and seasonal distribution of the Indiana bat. Transmission of organochlorine pesticides through successive trophic levels was assessed and potential effects on the bat populations evaluated.



Wetlands Assessments, Maine—Conducted wetlands evaluations at a hazardous waste site. Task involved field delineation of wetland boundaries based on vegetation, soil, hydrological characteristics, and evaluation of wetland functional values.

Ecological Impact Assessment of Mining Operations, Nationwide—Evaluated potential ecological impacts associated with mining activities, including impacts on wetlands, national forests, and endangered species habitats.

Risk Assessment, North Slope, Alaska—Performed qualitative risk assessment of effects of oil drilling fluids and their discharge on fish and waterfowl habitats in the North Slope of Alaska.

Bioassessment/Sampling Plan Development

Post-remediation Monitoring, Sediment Site, New Jersey—Technical lead for biological elements of a post-remediation monitoring plan to assess system response to remediation efforts.

Food-Web Investigation at an Estuary, New Jersey—Designed and implemented a study to elucidate aquatic food web structure in an estuary to support assessment of mercury and PCB transfer and bioaccumulation. Study elements included stable isotope analysis and gut content analysis of the top predators.

Benthic Community Assessment at an Estuary, New Jersey—Designed and implemented a study to evaluate benthic community composition and the potential effects of mercury and other metals, PCBs, and nonchemical stressors in a tidal estuary.

Estuarine River Sediment and Biota Sampling, New Jersey—Designed a study to examine bioaccumulation and trophic magnification in a New Jersey estuary. Plan included sampling for chemical residues in resident biota, stable isotopes to define food web structure, and fish gut content analysis to support understanding of key prey items in resident fish.

Marsh Productivity and Remote Sensing, Mid-Atlantic Region—Principal-in-charge for remote sensing study designed to assess variability in marsh productivity and composition in wetlands.

Bayou Bioaccumulation Study, Texas—Designed a study to examine bioaccumulation and trophic magnification in a Texas bayou. Study findings were supplemented by food web modeling to characterize overall accumulation in the system.

River Sediment Sampling Program, Maryland/Virginia—Designed a sediment sampling program to characterize chemical concentrations in a large tidal river adjacent to a hazardous waste site. Purpose of the study was to determine if chemicals present in the river were due to the site or other regional sources. Study design was complicated by the presence of multiple point and non-point discharges throughout the watershed. Designed statistical protocol to evaluate effects of multiple chemical sources, as well as the influence of sediment physico-chemical characteristics on concentration.



Biomonitoring Plan for Mercury, Oklahoma—Developed a biomonitoring plan for mercury to satisfy a permit requirement for a facility that burned hazardous waste as fuel. Plan focused on bioaccumulation of mercury in fish in representative ponds within the study area. Plan specified sampling, analytical, and statistical procedures for data collection and analysis.

Chesapeake Bay Estuary Biological Assessment, Maryland—Headed a team of scientists tasked with developing comprehensive field and laboratory studies to evaluate ecological impacts associated with hazardous waste sites located on Chesapeake Bay in Maryland. The study area consisted of more than 80,000 acres of relatively undeveloped coastal plain uplands, wetlands, and estuary. The biological assessment program was designed to evaluate potential impacts at various trophic levels within both aquatic and terrestrial communities. Five basic types of bioassessment techniques were incorporated into the program: 1) toxicity tests, 2) residue analyses, 3) histological studies, 4) community analyses, and 5) harvest surveys.

San Francisco Bay Estuary Bioassessment, California—Assisted in the development of a sampling and bioassessment plan to evaluate hazardous chemical contamination at a hazardous waste site in San Francisco Bay. Provided recommendations regarding sample type, number, location, and the timing of sampling events. Recommended specific species and bioassays appropriate for evaluating potential impacts in estuarine environments.

Bioassessment Plan Design, Missouri—Developed bioassessment plan to investigate potential ecological impacts associated with past disposal of process wastewater from a munitions manufacturing facility. The bioassessment plan included bioassays using surface water and sediment from the adjacent creek system and residue analysis of soil invertebrates inhabiting uplands adjacent to former wastewater treatment ponds.

Ecological Assessment and Stream Survey, New York—Developed bioassessment plan to investigate potential benthic community impacts in a stream in New York. Plan included stream surveys to characterize benthic community composition and bioassays to characterize potential toxicity of stream sediments.

Litigation Support

Expert Witness, Mining Site, Western United States—Selected as technical expert to address potential natural resource damage claims from historical mining operations.

Expert Witness, Coal Ash Release, Confidential Location—Selected as technical expert to evaluate potential ecological risks associated with selenium and arsenic.

Expert Witness, Hanford Nuclear Facility, Washington—Selected by Department of Justice to serve as expert in natural resource damage assessment proceedings.

Consulting Expert, Manufacturing Site, Virginia—Selected as consulting expert to address natural resource damages at a former manufacturing site. Constituents include zinc and PCBs.



Consulting Expert, Mine Release, Western United States—Selected as consulting expert to address health and environmental damage associated with a release of mine wastes to a river.

Consulting Expert, Oil Production Sites, Toxicology and Risk Assessment, Confidential International Location—Served as consulting expert in a case related to alleged environmental releases surrounding oil production facilities at an international location.

Consulting Expert, Oil Production Sites, Toxicology and Risk Assessment, Confidential Location in Gulf Coast—Served as consulting expert in a case related to alleged environmental releases surrounding oil production facilities at a location along the U.S. Gulf Coast.

Expert Witness, Forensics Assessment, Confidential Location—Served as expert witness in case involving mercury, dioxin, and PCB contamination in sediment. Evaluations were focused on examining potential sources of these chemicals in a southern estuary. Tools included visual and statistical forensic techniques. Case settled.

Consulting Expert, Oil Spill—Served as consulting expert on fate and effects of oil as part of damage/injury assessment for an oil spill.

Pesticides and Shellfish—Provided technical support to counsel to address alleged effects of pesticide runoff from farming operations on survival and growth of shellfish in an aquaculture facility. Case settled.

Radiological Assessment—Evaluated potential human health and environmental risks associated with tritium emissions from a national testing laboratory. Evaluation included derivation of risk-based air concentrations based on new modeling of radiological risk. Case settled.

Municipal Sludge Application—Conducted risk and exposure analyses to assess degree of risk posed by land application of municipal sludge. Both chemical and pathogenic risks considered. Evaluated potential for impacts on local residents from sludge-associated odors. Case settled.

Waste Site Litigation—Provided technical risk assessment support to litigation team. Addressed potential human health and ecological risks associated with alleged chemical release. Case settled.

Insurance Claims Litigation—Assisted counsel in evaluating the validity of cost claims made for remedial investigation and cleanup activities at waste sites. All cases settled.

Health Assessment in Mining Litigation—Critically analyzed plaintiffs' medical records to evaluate validity of health claims and to determine potential for alternate causes for alleged health effects. Case settled.

PCB Litigation—Provided technical support to counsel to address cost allocation and liability issues at a former manufacturing facility where PCBs had been released. Addressed similar issues for litigation involving PCB sites in South Carolina and Illinois. Cases settled.



Pharmaceutical Site Litigation—Provided technical support to counsel to address cost allocation and liability issues at an operating pharmaceutical manufacturing facility where hazardous wastes had been disposed. Cases settled.

Pesticide and Petroleum Site Litigation—Provided technical support to counsel to address cost allocation and liability issues at a site where pesticide- and petroleum-containing consumer products were blended and packaged. Case settled.

Consumer Product Safety Evaluations

Talc Risk Assessment and Regulatory Support—For an international trade group, provided technical review and comment on proposed regulation of talc products in Canada. Evaluated the validity of the potential human health exposure, toxicology, and risk profile prepared by the Government of Canada. Prepared detailed technical reports rebutting Canada’s position.

Short-Chained PFAS—For a trade group, principal-in-charge for ongoing support to assess the safety of short-chained PFAS used in consumer product manufacturing. Support includes compilation, review, analysis, and reporting on toxicology, fate and transport, and health effects data.

Phthalate Endocrine Modulation Risk Assessment—Conducted risk assessment to evaluate safety of phthalates in food and consumer products. Assessment included detailed reviews of the reproductive, endocrine, and developmental toxicology of phthalate esters along with characterization of exposures in food and consumer products.

Phthalate Quantitative Structure Activity Evaluation for Endocrine Modulators—Evaluated reproductive toxicity and endocrine modulating effects of phthalate esters and the relationship to chemical structure.

Food Packaging Safety Evaluation for Endocrine Modulators—Assisted in design of laboratory study to examine potential transport of chemicals from food packaging materials to the food. Directed statistical data evaluation of study results.

Microbiological Risk Assessment of Food Safety—Conducted risk assessment to evaluate potential for human disease from exposure to zoonotic pathogens in food. Assessment included evaluations of microbial ecology, dose-pathogen response assessments, and analysis of exposure pathways along commercial food distribution networks.

Medical Device Safety Evaluation—Evaluated safety of medical device containing residual amounts of solvents after manufacture. Conducted toxicological and exposure assessments and designed testing protocol to determine solvent release during use. Used these data to refine estimates of potential patient exposure and risk. The product was determined to be safe.

Pharmaceutical Product Evaluation—Evaluated safety of pharmaceutical product inadvertently released to groundwater. Conducted detailed reviews of clinical, epidemiologic, toxicity, and



pharmacokinetic data to establish acceptable groundwater concentration limits. Relied on dose-response and incidence data to develop a probability-based concentration limit.

Expert Panel Review—Served on two expert panels reviewing potential risks associated with chemicals used in plastics manufacture.

U.S. Fish and Wildlife Service

Previously, Ms. Durda was employed as a wildlife biologist with USFWS. Her responsibilities primarily encompassed biological and ecotoxicological impact assessment of hazardous waste sites, wetlands development projects, and federally permitted wastewater discharges. She received a Special Service Award for her contributions while at the USFWS. Her experience at USFWS includes the following:

Natural Resource Damage Assessment—Assessed existing and potential fish and wildlife impacts of National Priority List hazardous waste sites.

Wetlands Assessments—Reviewed Section 404 Clean Water Act dredge and fill permits to identify and mitigate development-related impacts to wetlands and fish and wildlife habitats.

Ecological Assessment of Wastewater Discharges—Evaluated potential fish, wildlife, and wetland impacts of National Pollutant Discharge Elimination System wastewater discharges.

Ecotoxicological Evaluations—Reviewed summarized toxicity data for hazardous chemicals and fish and wildlife resources. Prepared white paper assessing ecological toxicity of toxaphene.

Environmental Assessment Report Reviews—Reviewed environmental assessments and environmental impact statements. Developed options to mitigate impacts when necessary.

Ecological Assessments of Development Projects—Evaluated habitat impacts of large-scale Corps of Engineers flood control projects and Soil Conservation Service stream dredging projects.

Bioassessment Plan Design—Designed and conducted field surveys of biotic resources to assess the existing degree of contamination in wetland habitats.

Invited Participant, Expert Panels, and Workshops

- SETAC Pellston Workshops—The Influence of Global Climate Change on the Scientific Foundations and Applications of Environmental Toxicology and Chemistry
- Contaminated Sediment Management—Toward a New Paradigm, Sediment Management Work Group
- Expert Consultation of the Risk of Emerging Chemicals in the Great Lakes, International Joint Commission
- SETAC Pellston Workshops—Nexus between Ecological Risk Assessment and Natural Resource Damage Assessment



Publications

Paulik, B.L., R.E. Keenan, and J.L. Durda. In press. The case for effective risk communication: lessons from a global pandemic. *IEAM* doi: 10.1002/eiam.4312

Luz, A.L., J.K. Anderson, P. Goodrum, and J. Durda. 2019. Perfluorohexanoic acid toxicity, part I: Development of a chronic human health toxicity value for use in risk assessment. *Regul. Toxicol. Pharmacol.* 103:41–55.

Anderson, J.K., A.L. Luz, P. Goodrum, and J. Durda. 2019. Perfluorohexanoic acid toxicity, part II: Application of human health toxicity value for risk characterization. *Regul. Toxicol. Pharmacol.* 103:10–20.

Durda, J. 2017. Uncertainties and regional variations in emerging contaminant regulations create challenge and opportunity for Integral Consulting. *Environmental Business Journal XXX(7/8):28–29.*

Wood, C.M., J.L. Durda, and S. Rahaim. 2017. Defending ecosystem damage claims. *For the Defense.* October:26–35.

Guttman, J.S., and J. Durda. 2017. Beware the litigation risks of emerging contaminants. *Toxic Torts*, the Newsletter of the Toxic Tort and Environmental Law Committee, Defense Research Institute. 20(2).

Bradley, A.E., J.L. Shoenfelt, and J.L. Durda. 2016. Carcinogenicity and mode of action evaluation for alpha-hexachlorocyclohexane: Implications for human health risk assessment. *Regul. Toxicol. Pharmacol.* 76(2016):152–173.

Landis, W., J. Durda, M. Brooks, P. Chapman, C. Menzie, R. Stahl, and J. Stauber. 2013. Ecological risk assessment and global climate change. *Environ. Toxicol. Chem.* 32(1):79–92.

Iannuzzi, T.J., J.L. Durda, D.V. Preziosi, D.F. Ludwig, R.G. Stahl, Jr., A.A. DeSantis, and R.A. Hoke. 2010. Development of a preliminary relative risk model for evaluating regional ecological conditions in the Delaware River Estuary, USA. *IEAM* 6(1):164–179.

Gouget, R., D. Charters, L. Champagne, M. Davis, W. Desvougues, J.L. Durda, W.H Hyatt, Jr., R. Jacobson, L. Kapustka, and R.M. Longoria. 2009. Effective coordination and cooperation between ecological risk assessment and natural resource damage assessment: A new synthesis. *IEAM* 5(4):523–534.

Durda, J.L., J.R. Sampson, and L.G. Williams. 2007. A call for scientific rigor in the development of critical body residues: A case study. *IEAM* 3(4):561–562.

Preziosi, D.V., J. Durda, and L. Brzuzu. 2007. Use of chemical correspondence analysis to evaluate groundwater contributions to Patrick Bayou, TX sediment toxicity. Proceedings of the Fourth International Conference on Remediation of Contaminated Sediments, January 22–25. Battelle Press, Savannah, GA.



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- Chrostowski, P.C., J.L. Durda, and H. Estreicher. 1999. Endocrine-modulating chemicals as a case study of science in the courtroom. *Int. J. Toxicol.* 18:201–207.
- Preziosi, D.V., and J.L. Durda. 1998. The adaptive ecosystem rehabilitation approach (AERA), a new habitat valuation approach for remedial alternative selection. *Society of Environmental Toxicology and Chemistry News* 18(1):24–25.
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- Chrostowski, P.C., J.L. Durda, and K.C. Edelman. 1991. The use of natural processes for the control of chromium migration. *Remediation* 1:341–351.
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- Norton, S., M. McVey, J. Colt, J.L. Durda, and R. Hegner. 1988. Review of ecological risk assessment methods. EPA OPPE. EPA/230-10-88-041; NTIS PB 89-134357.
- Nofsinger, R., and J. Durda. 1985. Fish and wildlife management plan for Dare County Air Force Range, North Carolina, for the plan period August 1985 to August 1990.



Presentations/Posters

Durda, J. 2019. Obstacles to resolving natural resource damage claims—A path forward. Invited Speaker. State of the Practice Concerning Natural Resource Damage Assessment and Restoration. *Ad-Hoc* Industry Natural Resource Management Group, Washington, DC. October 16.

Durda, J. 2019. Preliminary remediation goals in remedial design: Uncertainties and utility to risk management. Platform presentation at Tenth International Conference on the Remediation and Management of Contaminated Sediments, New Orleans, LA. February 11–14.

Opdyke, D., J. Benaman, J. Anderson, and J. Durda. 2019. An introduction to PFAS at contaminated sediment sites: Scientific and regulatory overview. Short course at Tenth International Conference on the Remediation and Management of Contaminated Sediments, New Orleans, LA. February 11–14.

Whitehead, K., N. Swanson, T. Martin, and J. Durda. 2019. Where to draw the line: Determination of remedial areas by the numbers using changepoint analysis. Platform presentation at Tenth International Conference on the Remediation and Management of Contaminated Sediments, New Orleans, LA. February 11–14.

Sackmann, B.S., E. Revelas, K. Whitehead, D. Nielsen, C. Jones, and J. Durda. 2019. Using artificial intelligence and computer vision for cost-effective environmental monitoring and site characterization. Poster presentation at Tenth International Conference on the Remediation and Management of Contaminated Sediments, New Orleans, LA. February 11–14.

Whitehead, K., J. Durda, and D. Nielsen. 2019. Testing the applicability of BSAFs: A case study from the Berry's Creek Study Area Superfund Site. Poster presentation at Tenth International Conference on the Remediation and Management of Contaminated Sediments, New Orleans, LA. February 11–14.

Durda, J., K. Whitehead, P. Brussock, and T. Martin. 2017. The role of detritus in defining mercury uptake in an urban estuary. Platform presentation. 13th International Conference on Mercury as a Global Pollutant. July 16–21. Providence, RI.

Martin, T., G. Chang, C. Jones, and J. Durda. 2017. Use of high-frequency optically-based measurements to assess mercury cycling, transport, and fate in contaminated estuarine and riverine systems. Platform presentation. 13th International Conference on Mercury as a Global Pollutant. July 16–21. Providence, RI.

Durda, J.L. 2017. Defending ecosystem damage claims: Technical challenges, strategic response. Defense Research Institute Toxic Torts and Environmental Law Seminar. March 24. New Orleans, LA.



Durda, J., J. Anderson, and P. Goodrum. 2017. Emerging contaminants: Looming issues and lessons to be learned. Platform presentation. Ninth International Conference on Remediation and Management of Contaminated Sediments. January 9–12. New Orleans, LA.

Bradley, A., J. Lape, and J. Durda. 2017. Human health risk assessment for the Berry's Creek Study Area: A data-driven, site-specific assessment. Platform presentation. Ninth International Conference on Remediation and Management of Contaminated Sediments. January 9–12. New Orleans, LA.

Durda, J., and H. Summers. 2017. Ecological risk assessment for the Berry's Creek Study Area: Systematic assessment to support risk management. Poster presentation. Ninth International Conference on Remediation and Management of Contaminated Sediments. January 9–12. New Orleans, LA.

Whitehead, K., J. Durda, P. Brussock, and T. Martin. 2017. Defining COPC uptake in an urban estuary: A CSM-based approach. Poster presentation. Ninth International Conference on Remediation and Management of Contaminated Sediments. January 9–12. New Orleans, LA.

Durda, J. 2016. Early restoration and community input – Motivations, perspectives and possibilities. Law Seminar International – Conference on Natural Resource Damages. July. Santa Fe, NM.

Durda, J. 2016. Restoration planning: engaging stakeholders, evaluating choices. Law Seminar International – Conference on Natural Resource Damages. March. Washington, DC.

Durda, J. 2015. Use of pre-existing plans to facilitate and design and implementation of effective restoration projects. Law Seminar International – Conference on Natural Resource Damages. March. Washington, DC.

Durda, J., M. Behum, P. de Haven, and J. Wollenberg. 2015. Physical and ecological conditions in marshes: Exposure pathways, assessment, and implications for risk management. Platform presentation. Eighth International Conference on Remediation and Management of Contaminated Sediments. January 12–15. New Orleans, LA.

Behum, M., J. Durda, D. Himmelheber, and P. Brussock. 2015. Camera surveys to document human use in an isolated urban estuary: Update and analysis. Poster presentation. Eighth International Conference on Remediation and Management of Contaminated Sediments. January 12–15. New Orleans, LA.

Behum, M., J. Lape, J. Durda, P. de Haven, and J. Wollenberg. 2015. Air monitoring in a mercury-contaminated estuary: Support for risk assessment and risk management. Poster presentation. Eighth International Conference on Remediation and Management of Contaminated Sediments. January 12–15. New Orleans, LA.



Nielsen, D., J. Sampson, K. Whitehead, and J. Durda. 2015. Quantitative integration of multiple lines of evidence: The use of likelihood ratios in benthic community risk assessments. Poster presentation. Eighth International Conference on Remediation and Management of Contaminated Sediments. January 12–15. New Orleans, LA.

Durda, J. 2014. Contaminants of emerging concern: An introduction to technical, programmatic, and business challenges to environmental management. Presented at the Association for Environmental Health and Sciences Meeting. October 21. Amherst, MA.

Brussock, P.P., J. Durda, and J. Wollenberg. 2014. The role of reference areas in urban estuary risk analysis: A Berry's Creek case study. Platform presentation. 2014 Spring Meeting of Hudson-Delaware Chapter—SETAC, April 23–24. New York, NY.

Durda, J.L., and H. Summers. 2013. An assessment of a diet-based toxicity reference value for songbirds. Presented at the International Conference on Mercury as a Global Pollutant. July 28–August 2. Edinburgh, Scotland.

Preziosi, D.V., R. Pastorok, R., and J.L. Durda. 2013. Using ecology to assess impacts from mercury on ecosystem services. Presented at the International Conference on Mercury as a Global Pollutant. July 28–August 2. Edinburgh, Scotland.

Henry, B., D. Glaser, N. Keisal, J. Durda, et al. 2013. Mercury dynamics and bioaccumulation in the Berry's Creek Study Area, New Jersey, USA. Presented at the International Conference on Mercury as a Global Pollutant. July 28–August 2. Edinburgh, Scotland.

Durda, J.L. 2011. Ecological Damages—Anatomy of a natural resource damage case. Session in online training course sponsored by Lorman Educational Services. December 14, 2011.

Goldsmith, B.J., and J.L. Durda. 2011. Use of decision frameworks in natural resource damage assessments to expedite and promote ecosystem restoration. Poster presentation. 4th National Conference on Ecosystem Restoration. August 1–5, 2011. Baltimore, MD.

Durda, J.L., S.K. Hill, and P.P. Brussock. 2011. Measuring human activity in an estuary using an innovative camera survey. Platform presentation. Sixth International Conference on Contaminated Sediments. February 7–10, 2011. New Orleans, LA.

Brussock, P.P., J.L. Durda, and J.L. Wollenberg. 2011. Urban estuary reference areas—selection and uses. Platform presentation. Sixth International Conference on Contaminated Sediments. February 7–10, 2011. New Orleans, LA.

Durda, J.L., and R.D. Nielsen. 2010. Decision frameworks for NRDA—moving forward in the face of uncertainty. Presented at the 2010 Annual NRDAR Practitioners Meeting, December 15–16, 2010. Los Angeles, CA.



Durda, J.L. 2010. Ecological Damages—Anatomy of a Natural Resource Damage Case. Session in online training course sponsored by Lorman Educational Services. December 3, 2010.

Durda, J.L. 2009. Development of a science-based decision support approach for addressing natural resource damages. Presented at the 7th NRD Symposium—The next generation of natural resource damage assessment and restoration: Constructs and tools for identifying and managing priorities and goals. October 7–8, 2009. Fairfax, VA.

Durda, J.L., A. Bradley, and L. Brzuzy. 2009. A new weight-of-evidence framework to support risk assessment and risk management. Presented to the Sediment Management Work Group. September 30, 2009. Saratoga Springs, NY.

Durda, J.L., D.V. Preziosi, and P. Jensen. 2008. Evaluations of biomagnification in small tidal estuaries. Platform presentation. 24th Annual Spring Meeting of Hudson-Delaware Chapter—SETAC. May. South Orange, NJ.

Durda, J.L., D.V. Preziosi, D. Nielsen, L.P. Brzuzy, P. Conwell, and J. Stevenson. 2007. Groundwater contributions to sediment toxicity: A case study of Patrick Bayou, Texas. Platform Presentation. Annual Meeting of the Society of Environmental Toxicology and Chemistry. November. Milwaukee, WI.

Durda, J.L., A. Bradley, and L. Brzuzy. 2007. A weight-of-evidence framework for reaching scientific consensus on causality. Poster presentation. Annual Meeting of the Society of Environmental Toxicology and Chemistry. November. Milwaukee, WI.

Preziosi, D.V., J.L. Durda, and L.P. Brzuzy. 2006. Groundwater contributions and sediment toxicity—Unique challenges demand savvy approaches. Platform presentation. SETAC South Central Regional Conference, May 2006. Texas.

Preziosi, D.V., J.L. Durda, R. Pastorok, D.J. Tonjes, and D. Ninivaggi. 2006. Ecological risk assessment of vector control pesticides used to combat West Nile Virus in Suffolk County, NY. Annual Meeting of the Public Health Agency of Canada, February 2006. Quebec.

Neuber, K., A. Bradley, and J. Durda. 2006. Comparative sensitivity of bird species of the Gulf Coast to environmental DDT contamination: A meta-analysis of existing dose-response data for egg residue of DDE and eggshell thinning. Poster presentation. Annual Society for Risk Analysis Meeting. December 3–6, Baltimore, MD.

Henderson, C.C., D.V. Preziosi, J.F. Lape, and J.L. Durda. 2006. Risk-based management strategies for the control of West Nile Virus. Presentation. Pacific Northwest SETAC Chapter Meeting. Fort Worden, WA.

Moshenberg, K.L., J.L. Durda, and D.V. Preziosi. 2006. Groundwater contributions and sediment toxicity—unique challenges demand savvy approaches. Presentation. Pacific Northwest SETAC Chapter Meeting. Fort Worden, WA.



Henderson, C.C., D.V. Preziosi, J.F. Lape, and J.L. Durda. 2006. Risk-based management strategies for the control of West Nile virus. Presentation. Pacific Northwest SETAC Chapter Meeting. Fort Worden, WA.

Durda, J.L., L.P. Brzuzy, and P.B. Dorn. 2005. Evaluation of groundwater contribution to sediment toxicity—a weight-of-evidence approach to risk management. Platform presentation. SETAC South Central Regional Conference. Marble Falls, TX.

Durda, J.L., J.F. Lape, and D.V. Preziosi. 2005. Human health and ecological risk assessment of mosquito control pesticides. Platform presentation. Annual Meeting of the American Mosquito Control Association. Vancouver, BC.

Durda, J.L., P.C. Chrostowski, and D.V. Preziosi. 2004. Chemometrics as a tool for sediment assessment and management: a case study of Greens Bayou, Houston, Texas. Poster presentation. Fourth SETAC World Congress. Portland, OR.

Durda, J.L., L. Williams, and D. Preziosi. 2004. Challenges to the conventional wisdom regarding biomagnification in aquatic food webs. Platform presentation. Fourth SETAC World Congress. Portland, OR.

Williams, L., J.L. Durda, D. Preziosi, and P. Sparks. 2004. Benthic ecological risk assessment: balancing environmental and chemical stressors in an estuary. Platform presentation. Fourth SETAC World Congress. Portland, OR.

Durda, J.L., D.V. Preziosi, and A. Cardenas. 2004. Risk-based management strategies for the control of West Nile virus. Presented at the 70th Annual Meeting of the American Mosquito Control Association. Savannah, GA.

Durda, J.L., D.V. Preziosi, and D. Tonjes. 2003. Risk assessment of West Nile virus incidence and control. Presented at the 24th Annual Meeting of the Society of Environmental Toxicology and Chemistry. Austin, TX.

Durda, J.L., D. Preziosi, and A. Fogg. 2003. An examination of residue effect data for organochlorine compounds and their utility in risk assessment. Presented at the 24th Annual Meeting of the Society of Environmental Toxicology and Chemistry. Austin, TX.

Preziosi, D., J.L. Durda, and P. Chrostowski. 2000. Conceptual approaches for addressing temporal and spatial scales of wading bird populations and contaminant distribution. 21st Annual Meeting of the Society of Environmental Toxicology and Chemistry. November 12–16, Nashville, TN.

Preziosi, D.V., J.L. Durda, S. McMurry, and T. LaPoint. 1998. Probabilistic calculation of a risk-based performance goal for wading birds in the southeastern United States. Poster presentation at the 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry, November 15–19, Charlotte, NC.



Menning, R., M. Harrass, C. Pittinger, and J.L. Durda. 1998. Ecological risk assessment simulation and education. Panel presentation at the annual meeting of the Society for Risk Analysis. Phoenix, AZ.

Foster, S.A., D.V. Preziosi, and J.L. Durda. 1998. Potential ecological risks from copper in surface water: a case study using Monte Carlo Simulation. Poster presented at the 20th Annual International High Technology, Safety, Industrial Hygiene, and Environment Conference, April 14–17, San Antonio, TX.

Durda, J.L., and D.V. Preziosi. 1998. Integration of habitat considerations and residual risks in selecting remedial alternatives. Platform presentation at the 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry, November 15–19, Charlotte, NC.

Chrostowski, P.C., S. Foster, J.L. Durda, and D. Preziosi. 1998. Good ecological risk assessment practice. Poster presentation at the 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry, November 15–19, Charlotte, NC.

Biddinger, G., R. Brown, J.L. Durda, W. Gala, M. Harrass, C. Pittinger, and R. Stahl. 1998. Environmental risk management: the road less traveled. Platform presentation at the 19th Annual Meeting of the Society of Environmental Toxicology and Chemistry. Charlotte, NC.

Durda, J.L. 1997. Integrating ecological risk assessment into business decisions. Platform presentation at the American Industrial Health Council Annual Meeting, December 3, Washington, DC.

Durda, J.L., and P.C. Chrostowski. 1997. Phthalate ester estrogenic activity: Similarities, differences, and implications for risk assessment. Platform presentation at the Estrogens in the Environment Conference on Linking Fundamental Knowledge, Risk Assessment, and Public Policy. July 20–23, Alexandria, VA.

Durda, J.L., and D. Preziosi. 1997. Data quality considerations in the derivation of ecological benchmarks. Platform presentation at the 18th Annual Meeting of the Society of Environmental Toxicology and Chemistry, November 16–20, San Francisco, CA.

Chrostowski, P.C., and J.L. Durda. 1997. Estrogenic activity: Does chemical structure provide any clues? Poster presentation at the International Society of Regulatory Toxicology and Pharmacology, Assessing the Risks of Adverse Endocrine-Mediated Effects, January 13–14, Research Triangle Park, NC.

Neubauer, R.J., L. Thebeau, J.L. Durda, and J. Paul. 1993. The bioassessment of a subestuary of the Chesapeake Bay in the vicinity of U.S. Army Aberdeen Proving Ground, Maryland. Poster presentation. 14th Annual Meeting of the Society of Environmental Toxicology and Chemistry, November 14–18, Houston, TX.



Lias, M.C., J.L. Durda, L. Thebeau, and J. Paul. 1993. Ecological risk assessment of the Canal Creek area at Aberdeen Proving Ground, Maryland. Poster presentation. 14th Annual Meeting of the Society of Environmental Toxicology and Chemistry, November 14–18, Houston, TX.

Durda, J.L. 1993. Invited speaker. 20th Annual Aquatic Toxicity Workshop. Sponsored by Environment Quebec, Environment Canada, and University of Quebec. Topic: Ecological risk assessment for the terrestrial environment.

Durda, J.L. 1993. Invited Speaker. Workshop on ecological risk assessment. Water Environment Federation. Topic: Designing an ecological risk assessment under the Superfund Program.

Durda, J.L. 1992. Invited speaker. Annual meeting of the Air and Waste Management Association. Topic: Techniques for evaluating ecological impacts at hazardous waste sites.

Durda, J.L. 1990–1992. Guest Lecturer, Johns Hopkins University. School of Hygiene and Public Health. Topic: Risk assessment and risk management under CERCLA.

Durda, J.L., and P.C. Chrostowski. 1991. Integration of ecological risk assessment and biological assessment in risk management: The Aberdeen experience. Platform presentation at the 12th Annual Meeting of the Society of Environmental Toxicology and Chemistry, November 3–7, Seattle, WA.

Chrostowski, P.C., and J.L. Durda. 1991. Effects of air pollution on the desert tortoise: An ecological risk assessment. Platform presentation at the 12th Annual Meeting of the Society of Environmental Toxicology and Chemistry, November 3–7, Seattle, WA.

Wade, M., and J. Durda. 1989. Development of exposure criteria for silver. Presented at the Society of Toxicology 28th Annual Meeting, February 27–March 3, Atlanta, GA.

