

Damian V. Preziosi

Principal



Education and Credentials

M.S., Biology, Bucknell University, Lewisburg, Pennsylvania, 1994

B.S., Biology and Geology, Juniata College, Huntingdon, Pennsylvania, 1991

Certified Senior Ecologist, Ecological Society of America, 2005

Professional Affiliations

American Statistical Association

Ecological Society of America

International Association for Impact Assessment

Society of Environmental Toxicology and Chemistry

Peer Reviews/Panels

Ecological Applications: Peer reviewer.

Ecological Modelling: Peer reviewer.

Environmental Toxicology and Chemistry: Peer reviewer.

Integrated Environmental Assessment and Management: Peer reviewer.

2013—EPA peer review panel: Aquatic ecosystem model, AQUATOX.

2012—FIFRA scientific advisory panel nomination: Aquatic ecological risk assessment for chlorpyrifos.

Professional Profile

Mr. Damian V. Preziosi is an environmental scientist with more than 20 years of experience in evaluating potential ecological and human health risks associated with exposures to physical, chemical, and biological hazards. He supports clients in North America, South America, Europe, and Asia for work in the energy, chemical, and mining sectors.

Specializing in the assessment, communication, and management of risk, Mr. Preziosi works with clients to develop strategic and cost-effective approaches, often predicated on multiple lines of evidence, for managing liabilities in the context of risk assessment, natural resource damage assessment (NRDA), and environmental impact assessment. His practice focuses on addressing complex environmental challenges, often involving assessment of project or release impacts to both local conditions and broader ecosystem-level scales. Often this work is performed in the context of multiple regulatory and policy frameworks. Beginning with his early career at the Library of Congress, working on science and policy matters, he has gained significant experience related to the Endangered Species Act (ESA), National Environmental Policy Act, Superfund (CERCLA), Oil Pollution Act, Clean Water Act, Marine Mammal Protection Act, and Magnuson-Stevens Fishery Act.

Mr. Preziosi's technical expertise includes risk assessment, injury assessment and causation, ecological modeling, food web analysis, weight-of-evidence analysis, and statistics. He has participated in approximately 100 ecological and human health risk assessments related to rivers, harbors, estuaries, and large marine ecosystems, as well as several types of upland sites including chemical manufacturing facilities, mines, wood-treatment facilities, metal finishing and processing sites, and power generation sites.

Relevant Experience

Risk, Impact, and Injury Assessment

Regional Marine Impacts Associated with Oil Exploration, Arctic Sea—Served as principal-in-charge and technical lead for designing and performing a metasynthesis of environmental monitoring data collected during and after exploration drilling activities. Under an NPDES general permit, assembled multiple rounds of environmental



monitoring data sets for use in the evaluation of potential impacts to the Chukchi Sea regional marine ecosystem. Collected chemical, physical, and toxicological data to address baseline and post-drilling conditions for surface water, sediment, benthic community structure, whole effluent toxicity testing, and marine mammals. Performed data synthesis using a quantitative weight-of-evidence framework, starting with hypothesis testing on individual lines. A key component of this work involved ensuring that federal and state regulators, as well as citizen stakeholder groups, were engaged in planning of the studies and in review of the findings.

Impacts to Regional Ecosystem Services for Gulf of Thailand Fisheries, Asia—Served as principal-in-charge and technical lead for a human health and ecological risk assessment in support of oil platform decommissioning. Assessed past process water discharges containing mercury, and transformation processes associated with methylation of mercury from sediments and overlying water into demersal and pelagic food webs. The risk assessment incorporated multiple lines of evidence, using over 20 years of research related to regional atmospheric and riverine contributions, mercury isotopic analysis, mercury and methylmercury geochemistry and biogeochemistry, mechanistic modeling of sediment resuspension during 100-year storm events, and platform and regional market fish data. The assessment separated platform risk relative to regional risk and used ecosystem service loss to the Thai fishery as the common risk metric. Presented a report of this work to Thai government officials and an international peer review panel with expertise on mercury in marine environments.

Deepwater Horizon, Gulf of Mexico—Served as project manager and technical lead in a consulting team responding to the Deepwater Horizon accident and oil spill. Provided project management and technical support related to data collection and injury assessment.

Exxon Valdez Oil Spill, Prince William Sound, Alaska—Served as project manager and technical lead for the State of Alaska, to support a technical assessment of lingering oil impacts on natural resources originally injured in the 1989 spill. Performed a metasynthesis of trustee- and Exxon-collected technical research assembled over approximately 20 years, which was the primary mechanism for determining the recovery status of injury resources. In October 2015, the State of Alaska and federal government chose to end the pursuit of additional damages under a reopener clause, citing that resources such as harlequin ducks and sea otters had either recovered or recovery was no longer impeded by lingering oil.

Rulemaking and Policy Review, Outer Continental Shelf (OCS)—As principal-in-charge and technical lead, provided support for the development of technical comments for a legal-team submittal within the public comment cycle for proposed rulemaking and policy related to oil/gas exploration and production activities in the U.S. OCS. Comments were developed to improve the assessment of potential impacts to endangered or otherwise protected marine mammals, including the Pacific sea lion, gray whales, and bowhead whales, as well as subsequent potential impacts to a variety of subsistence users.

Remedial Investigation and Natural Resource Damages, Delaware River, Delaware—Served as principal-in-charge and technical lead for a concurrent remedial investigation and



NRDA performed for a steel slag fill and biosolids site located along the Delaware River. Initial efforts on the project involved development of a strategic liability analysis for environmental investigation, remediation, restoration, and settlement condition costs, incorporating both transactional and alternative litigation costs. The analysis was used to optimize paths forward for client engagement with state regulators and trustees. Remedial investigation and NRDA data collection efforts were combined through a cooperative assessment agreement, with focus on data collection to support risk assessment, injury assessment, and restoration planning.

Regional-Scale Risk Assessment, Former Mill and Mine Sites, Illinois—Principal-in-charge and technical lead for a human health and ecological risk assessments of multiple historical mills and mines throughout southeastern Illinois. Evaluated residential and recreational human health risks principally associated with soil, sediment, and surface water exposures to lead, cadmium, chromium, zinc, mercury and cyanide. Also evaluated ecological risks associated with former mill tailings and leachate ponds, encompassing several hundred acres, at a site-specific and regional level. Examined potential fate and transport and attendant risks for overland and surface water pathways reaching large river system and floodplain areas, with concentrations of lead at percent levels in sediment. A chief consideration in this work involved establishing pre-operation baseline conditions in a region with mining dating back to the early 19th century, with exposed deposits present. Another principal consideration was incorporation of bioavailability and bioaccessibility factors for inorganics, as significant mitigators of exposure and risk for both human health and ecological receptors.

Regional Environmental Impact Assessment, Mosquito Control Management, Suffolk County, New York—Served as technical and project lead for a regional ecological risk assessment of mosquito control agents used to manage mosquito nuisance and disease transmission. Evaluated potential effects of mosquito control adulticides and larvicides on marshland and estuarine habitats, with a focus on potential impacts to lobster larvae recruitment in Long Island Sound. Characterized individual-based and population-level ecological risks under short-term and pulsed exposure scenarios for both site-specific and regional ecosystem scales. The ecological risk assessment was applied in a comparative risk analysis framework along with the findings of a human health risk assessment and an epidemiological assessment of the probability of contracting West Nile virus. The results of this work were included in an environmental impact assessment report and communicated to the public, county and state environmental officials, and the office of the New York Attorney General.

Pesticide Risk Assessment for the Cotton Belt, United States—Conducted a probabilistic avian risk assessment to support FIFRA registration of a newly developed insecticide/miticide for use in cotton fields in multiple south-central and eastern states throughout the U.S. cotton belt. The probabilistic model was used to evaluate the intrinsic uncertainty and variability associated with avian exposure to the product in the field, such that both the magnitude and likelihood of effects could be determined. Important exposure parameters included the likelihood that the product would be used (based upon county-, state-, and regional-level product market estimates) and the likelihood that birds will forage in areas of application. Identifying these parameters was



paramount in developing and communicating potential mitigation and risk management efforts for the product during the registration process.

Pesticide Ecological Risk Modeling, European Union—Served as principal-in-charge and technical lead for designing and performing ecological modeling of potential risks associated with pesticide products in support of EU registration activities. The models developed were designed to mimic traditional laboratory experiments involving single species. Through a series of refinements, the models were scaled up to accommodate data from mesocosm and other field studies to characterize aquatic ecosystems under the European Food Safety Authority methodology for pesticide risk assessment. The findings of this work were included among the registration material submitted to various member state authorities. The work was additionally subject to peer review and was presented at international scientific meetings, including the Society of Environmental Toxicology and Chemistry and the International Society for Ecological Modelling.

Multi-stressor Regional Risk Assessment of Delaware Estuary—Identified, analyzed, and ranked the impacts of various stressors on overall ecological health in the Delaware estuary. Served as project manager and technical lead for this regional-scale assessment. Various physical (e.g., salinity, sedimentation, wetland loss), biological (e.g., invasive species, shellfish disease), and chemical (e.g., petroleum, PCBs, mercury) stressors were evaluated. The results of this project were used to inform the need for remediation near the client’s facility and to develop targeted restoration projects, if needed, that have the potential to improve overall regional conditions in the estuary.

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

Critique of Biological Opinion (BiOp) under ESA Section 7, Salmon and Pesticides—Served as principal-in-charge and technical lead for an industry coalition–funded BiOp critique. Performed a critical review of the population viability analysis model used in the National Marine Fisheries Service (NMFS) BiOp on the effects of chlorpyrifos, malathion, and diazinon on protected species of Pacific salmonids and their habitats. The population matrix model used by NMFS was obtained under the Freedom of Information Act and was reconstructed to evaluate potential sources of uncertainty and unsupported assumptions in the model. Critical assumptions related to life history characteristics, including shifts in prey preference and population density dependence, were identified as critical drivers in the model with high degrees of uncertainty. Prepared a manuscript describing an alternate matrix model and submitted it to a peer-refereed journal for publication.

Peer Review of EPA-Developed Ecosystem Model—Served as one of three national experts on ecosystem modeling to conduct a peer review of enhancements to EPA’s AQUATOX Release 3, a personal-computer-based ecosystem model that simulates the transfer of biomass and chemicals



from one compartment of an ecosystem to another. AQUATOX is used to model the environmental fate and ecological effects of stressors in aquatic ecosystems. The model is currently being considered by EPA for use in various regulatory applications, including pesticide registration, Superfund risk assessment, and development of total maximum daily loads (TMDLs) and ambient water quality criteria.

Groundwater–Surface Water Interactions, Patrick Bayou, Texas—As project manager, performed a weight-of-evidence ecological evaluation of the potential interaction between Patrick Bayou surface water and sediment and the groundwater at an adjacent chemical manufacturing facility. Evaluated lines of evidence including chemical correspondence, chemical mass loading, spatial analysis of benthic sediment toxicity, and predictive benthic invertebrate risk assessment. The overall approach was predicated on the need for a site-specific groundwater dilution factor for groundwater management. A significant component of the effort involved organizing and leading technical work group meetings with state and federal regulators, which ultimately led to consensus on findings of no impact and no need for a groundwater remedy. The success of the project resulted in an approximate \$10 million savings to the client.

McKay Bay Estuary, Florida—Conducted a multipathway ecological risk assessment for metals at a public refuse-to-energy and ash management facility along McKay Bay. Chemicals of interest included mercury, arsenic, chromium, and cyanide, potentially leaching from retention ponds to adjacent surface waters of McKay Bay. Provided a detailed review of former and current incinerator practices and a detailed evaluation of the surrounding bay and the estuary's flora and fauna. Evaluated benthic macroinvertebrate community exposures and migratory bird exposures to metals present in onsite sediments, relative to baseline conditions present in the bay. Assessed potential risks to the benthic community using multiple lines of evidence, such as sediment bulk chemistry, community metrics, and simultaneously extracted metals and acid-volatile sulfide analyses. Used both single-point and probabilistic techniques to assess exposure and risk for migratory birds. Developed performance standards and remedial alternatives for onsite sediments as part of the overall risk management approach for the site.

St. Johns River, Florida—Performed an ecological risk assessment of creosote-contaminated sediments in the St. Johns River ecosystem. The area of contaminated sediments was associated with a former wood-treating facility located along the immediate shoreline. A portion of the contaminated area extended into the main shipping channel of the river. Assessed risks for the benthic community based on sediment bulk chemistry, benthic surveys, and bioassays. Developed remedial alternatives in concert with the Florida Department of Environmental Protection and the U.S. Army Corps of Engineers (USACE) to address *in situ* options and upland placement of sediments dredged as part of maintenance of the shipping channel.

Baltimore Harbor TMDLs, Maryland—Participated as a member of the technical stakeholder advisory group, selected by the Maryland Department of the Environment, for Baltimore Harbor TMDLs. Overall activities included development of assessment endpoints and goals for the harbor; assessment of legacy-related, nonpoint, and point sources of metals, PCBs, suspended solids, and nutrients to the harbor; critical review of the tools and models used to derive TMDLs; and



evaluation of the effectiveness of proposed TMDLs relative to the stated goals for the harbor. Through technical analyses of baseline historical mass loading data and relative toxicity, it was determined that priority should be placed on legacy contaminant TMDLs and not water quality parameters, such as suspended solids, occurring within the historical baseline study area.

Select Historic Area Remediation Site (HARS), New York Bight—Conducted a critical review of a proposed USACE and EPA Region II risk-based standard for PCBs. The proposed standard was developed for evaluating PCB bioaccumulation potential in dredged material considered for placement at the HARS disposal area. In developing the proposed standard, Region II and USACE made highly conservative and unsupported assumptions regarding potential exposures to PCBs in fish caught from the HARS, and the agencies did not follow standard EPA risk assessment guidance and practice. For example, the standard was based on steady-state food chain modeling that did not consider important factors such as longevity of fish species, foraging range, habitat size, and seasonal abundance. It was further demonstrated that a stochastic evaluation of exposure-driving assumptions could result in a standard an order of magnitude greater than that proposed.

New Jersey–New York Harbor Sediments—Performed Tier I through Tier IV evaluations under EPA and USACE for dredged sediments proposed for ocean placement (including the New York Bight HARS). Evaluations included sampling plan design, statistical evaluations of bulk sediment and water-phase sediment contaminants relative to background and reference sample data, statistical analysis of bioassay data, interpretation of and comparison to risk-based regional levels, assessment of baseline conditions, and recommendations for placement.

Chemical and Radiological Risk Assessment, Suffolk County, New York—Performed an ecological risk assessment, as project manager and technical lead, to evaluate potential chemical and radiological exposures in fish, wildlife, and other ecological receptors inhabiting the Peconic River and adjacent floodplain environments in the vicinity of the Brookhaven National Laboratory. Evaluated ecological risks principally for mercury, PAHs, PCBs, pesticides, and radiological constituents. Potential exposure conditions were based on both historical monitoring data and multitrophic-level food chain modeling. Ecological receptors evaluated in the assessment included fish, aquatic invertebrates, amphibians, and piscivorous wildlife.

Greens Bayou and Houston Ship Channel, Coastal Texas—Served as technical lead and task manager for an ecological and human health risk assessment of contaminated sediments in the Greens Bayou and Houston Ship Channel. Developed an aquatic-based food web model for the bayou based on the environmental chemistry work of Gobas, and performed statistical and chemometric analyses of chemical residues in fish and sediment. This work was conducted in preparation for litigation.

NRDA at a Former Wood-Treatment Site, Delaware—As principal-in-charge and technical lead, conducted an NRDA at a former wood-treatment facility located within the Delaware estuary. The site, which is prominently located within a region of unique ecological significance, has undergone significant industrial use; as a result, a chief challenge was the establishment of baseline conditions.



Remedy development activities were coordinated to meet management objectives for completion of the injury assessment and potential compensatory activities.

Upper Potomac River Basin Contaminant Trend Analysis, Maryland—Served as project manager and technical lead in the regional watershed assessment of sediment residue data on organochlorine pesticides, PAHs, and metals for the upper Potomac River basin. Compiled data from 14 sediment residue databases and evaluated them statistically to construct spatial and historical contaminant trends throughout the river basin. Basin-wide contaminant trends that were evaluated relative to a Superfund site ultimately diffused EPA Region III demands for extensive ecological study of the site.

Natural Resource Damage Evaluation at DDT Waste Site, Alabama—Provided technical review of natural resource damage studies conducted by the U.S. Fish and Wildlife Service (USFWS) at a DDT Superfund site in Alabama. On behalf of a PRP, provided third-party review and comment 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 intended to prevent USFWS use of invalid and uncertain data that could adversely affect the PRP.

Terrestrial Ecological Risk Assessment, West Virginia—Performed a baseline terrestrial ecological risk assessment for a former chemical manufacturing facility. Production-related chemicals included aniline, nitrobenzene, methylene dianiline, dinitrotoluene, toluenediamine, and toluene diisocyanate. Non-process-related chemicals included PAHs, metals, and PCBs. Risk evaluations focused on potential current and future exposures to chemicals in soils and sediments present onsite. Developed response action alternatives and site-specific remediation levels to address dinitrotoluene, PAHs, mercury, and PCBs.

DDT Bioaccumulation Assessment, Alabama—Performed a third-party literature review and data analysis on the biological accumulation of DDT and its metabolites in aquatic and terrestrial systems. Prepared a database of sediment-to-organism and organism-to-organism bioaccumulation factors for multiple species across trophic levels. Compiled data to quantify DDT accumulation from abiotic and biotic media through terrestrial and aquatic food webs. Data were ultimately compiled to support stochastic (i.e., Monte Carlo) evaluation of DDT accumulation in terrestrial and aquatic food webs for use as remediation performance standards.

Benzene Hexachloride (BHC) Environmental Fate Assessment, Florida and New York—Performed a literature review and analysis to characterize the likely fate of BHC in groundwater and surface water. Conducted analyses 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.

DDT Stochastic Ecotoxicological Evaluation, Southeastern United States—Compiled toxicity data related to the effects of DDT and its metabolites on aquatic organisms. Data were used to generate



probability density function plots of both environmental concentrations and toxicity of DDT to assess potential risk to an aquatic ecosystem.

Mirex and Kepone Ecotoxicological Evaluation, Ohio and Pennsylvania—Assisted in a critical review of ecotoxicological and fate literature regarding two organochlorine pesticides, mirex and kepone. The evaluation included comprehensive review and critique of relevant *in situ* and laboratory chemical accumulation studies to assess the impact of organochlorine pesticides on both terrestrial and aquatic food webs.

Bioassessment, Biological Survey, and Sampling Plan Development

River Sediment Sampling Program, Texas—Designed a sediment sampling program to characterize chemical concentrations in a large tidal river. The purpose of the study was to determine if chemicals present in the river were associated with agricultural practices or other regional sources; the study design was complicated by the presence of multiple-point and nonpoint discharges throughout the watershed. Designed a statistical protocol to evaluate effects of multiple chemical sources and the influence of sediment physicochemical characteristics on concentration.

Commercial Clam Bed Assessment, Brewster, Massachusetts—In conjunction with the Sea Pines Association of Brewster, conducted a feasibility assessment of a proposed commercial clam bed operation in the vicinity of two public beaches. The assessment included a habitat suitability evaluation of the proposed areas, as well as a determination of potential impacts to near-shore ecology and economy for the town's public beaches.

Shorebird Biological Survey, Massachusetts—Participated in a USFWS annual survey and census tracking of shorebird species residing within coastal marsh and estuary environments throughout Cape Cod National Seashore. Monitored reproductive habits and recorded species abundance, diversity, and richness, through visual observation and banding.

Marine Groundfish Resource Survey, North Pacific Ocean and Bering Sea—Under the National Marine Fisheries Service, conducted biological surveys of benthic and pelagic fishes. Assessed abundance and distribution of species; results were applied to the creation and ultimate implementation of federal fisheries quota regulations.

Freshwater Ecosystem Survey, Pennsylvania—In cooperation with the Pennsylvania Department of Natural Resources, performed central regional stream and lake surveys of vertebrate and invertebrate assemblages over a 3-year period. Additional physicochemical aquatic system profile data were collected and analyzed. Taxonomic identification and distribution results were applied toward the creation of a dichotomous key to the freshwater fishes of central Pennsylvania.

Human Health Risk Assessment and Consumer Product Safety Evaluations

Site Risk Assessment, Nationwide—Conducted and managed site-specific risk assessments for Superfund and other hazardous waste sites in West Virginia, Florida, Ohio, Virginia, Illinois, Maryland, Montana, California, New York, New Jersey, Tennessee, Texas, and Michigan. The sites evaluated included chlor-alkali processing facilities, former wood-treating facilities, rail yards,



railroad equipment manufacturing facilities, hazardous waste landfills, incinerators, cement kilns, and miscellaneous brownfields and mixed industrial waste sites.

Phthalate Endocrine Modulation Risk Assessment—Performed a risk assessment to evaluate the safety of phthalates in food and consumer products. The assessment included detailed reviews of toxicology of phthalate esters along with probabilistic exposure analysis for food and consumer products.

Microbiological Risk Assessment of Food Safety—Performed a risk assessment to evaluate the potential for human disease from exposure to zoonotic pathogens in food. Evaluated microbial ecology, assessed dose-pathogen responses, and performed probabilistic analyses of exposure pathways along commercial food distribution networks.

Site Remediation Support

Probabilistic Techniques Applied to Derivation of Performance Standard, Southeastern United States—Developed a probabilistic exposure analysis model 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 approach 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 range of performance standards based on plausible exposure, assessed through a quantification of the inherent variability and uncertainty in biological attributes of wading birds.

Development and Application of a Habitat Valuation Tool, Alabama—Developed and applied a quantitative ecosystem model to evaluate competing risks from chemical residuals with those associated with invasive site remediation. The model, referred to as the adaptive ecosystem rehabilitation approach (AERA), assessed the value of an ecosystem's functions and components such that the cost (e.g., alteration of the natural setting during remediation) and benefit (e.g., removal of chemical risk) of a remedial alternative could be selected. The results of the AERA in this case were used to develop a remedial strategy whereby invasive remediation was limited because removal of contamination was demonstrated to have greater ecological impact than *in situ* chemical risk.

Statistical Evaluation of Background Arsenic Levels, West Virginia—Performed a multiple-phase statistical evaluation of arsenic as a background inorganic constituent in soil at a Superfund site. The initial phase of evaluation consisted of the development of a sampling plan for soils throughout onsite and offsite adjacent locations. Applied statistical techniques to determine sufficient numbers of samples required to generate reliable statistical results. Applied a variety of parametric and nonparametric techniques to soils data to test for differences between onsite and offsite arsenic concentrations. The statistical evaluation demonstrated that arsenic was a background constituent at the site. The results of the evaluation were accepted by EPA Region III, and the areal extent of remediation required was greatly reduced. Similar statistical evaluations have been successfully applied at a variety of other sites involving background analysis of metals and PAHs in terrestrial and aquatic settings.



Statistical Relationship Study Using X-Ray Fluorescence, Tennessee—Conducted a statistical correlation study to determine if a relationship existed between total lead and toxicity characteristic leaching procedure (TCLP) extractable lead in solid residuals at a former rail-yard site. Used X-ray fluorescence screening to select sampling locations, in an effort to obtain data across a broad range of total lead concentrations in areas of differing histories at the site. Analyzed a subset of samples for TCLP-extractable lead. Applied statistical techniques found in EPA guidance, to test the hypothetical relationship between total lead and TCLP-extractable lead. The results of the statistical analysis demonstrated that different areas across the site are statistically unique and therefore should be managed separately. This conclusion, as well as the successful use of X-ray fluorescence screening, served to greatly reduce remediation costs.

Exposure Assessment and Air Quality Monitoring

Air Quality Modeling, Ontario, Canada—Performed air quality modeling and exposure assessments for a proposed and existing landfill. Used an estimation of emission rates and detailed site-specific population data to evaluate population exposure and risks.

Atmospheric Transfer Model, United States, Europe, Asia—Participated in a multiyear project involving environmental fate and transport of wood-treatment chemicals. This work included the development and application of a large-scale, transboundary, atmospheric transfer model and a mass transfer model for preservative volatilization from wood.

Litigation Support

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

Municipal Sludge Application, Ohio—Participated in risk and exposure analyses to assess the degree of risk posed by land application of municipal sludge. Considered both chemical and pathogenic risks. Evaluated the potential for impacts on local residents, from odors associated with sludge. Case settled.

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

Environmental Policy Analysis

Natural Resources Policy Analysis—At the Congressional Research Service of the Library of Congress, Environment and Natural Resources Division, provided nonpartisan, objective analysis of federal and international environmental policies to members of Congress and staff. Conducted extensive reviews and analyses of policies concerning forests, wetlands, and fisheries. Provided research, consultation, presentation, and report writing services.



Publications

Rudnick, D.A., S.J. Ryan, P. Beir, S.A. Cushman, F. Diffenbach, C.W. Epps, L.R. Gerber, J. Hartter, J.S. Jenness, J. Kintsch, A.M. Merelender, R.M. Perkl, D.V. Preziosi, and S.C. Trombulak. 2012. The role of landscape connectivity in planning and implementing conservation and restoration activities. *Issues in Ecology* 16:1–20.

Pastorok, R.A., and D.V. Preziosi. 2011. Beyond qualitative assessment of ecosystem services. *IEAM* 7:693–695.

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.

Pastorok, R.A., D. Preziosi, and D. Rudnick. 2008. Ecotoxicological models of populations, ecosystems, and landscapes. pp. 1165–1186. In: S.E. Jorgenson and B.D. Fath, eds. *Encyclopedia of Ecology, Volume 2*. 5 vols. Oxford: Elsevier Publishers, Amsterdam.

Preziosi, D.V., and R.A. Pastorok. 2008. Ecological food web analysis for chemical risk assessment. *Sci. Tot. Environ.* 406:491–502.

Preziosi, D.V., P. Jensen, R.A. Pastorok, and J. Stark. 2008. Framework for tiered population modeling for pesticide risk assessment. In: Proceedings from the 2008 Society of Environmental Toxicology and Chemistry, Warsaw, Poland.

Preziosi, D.V., and J.L. Durda. 2002. The concentration term in ecological risk assessment. *Society of Environmental Toxicology and Chemistry (SETAC) Globe* 3(6):20–21.

Durda, J.L., and D.V. Preziosi. 2000. Data quality evaluation of toxicological studies used to derive ecotoxicological benchmarks. *Hum. Ecol. Risk Assess.* 6(5):747–765.

Durda, J.L., and D.V. Preziosi. 1999. Where is the population in your risk assessment? *Society of Environmental Toxicology and Chemistry (SETAC) News* 19(6):19–20.

Durda, J.L., and D.V. Preziosi. 1998. Data quality considerations in the derivation of ecological benchmarks. *Society of Environmental Toxicology and Chemistry (SETAC) News* 18(4):15–17.

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 (SETAC) News* 18(1):24–25.

Durda, J.L., L. Kowalski, D. Preziosi, and P.C. Chrostowski. 1997. Ecological risk assessment of landfill air emissions from a hazardous waste management facility in Ontario. In: Proceedings of the 90th Annual Meeting and Exhibition of Air and Waste Management Association, June 8–13, Toronto, Ontario, Canada.



Foster, S.A., P.C. Chrostowski, D.C. Smegal, J.F. Lape, and D. Preziosi. 1997. Stochastic odor impact analysis for a hazardous waste landfill. In: Proceedings of the 90th Annual Meeting and Exhibition of Air and Waste Management Association, June 8–13, Toronto, Ontario, Canada.

Buck, E.H., and D.V. Preziosi. 1995. Federal agency programs in living aquatic resources and aquatic habitat protection. Congressional Research Service Report for Congress. #95-937ENR. Library of Congress, Washington, DC.

Buck, E.H., and D.V. Preziosi. 1995. Overcapitalization in the U.S. marine commercial fishing industry. Congressional Research Service Report for Congress. #95-296ENR. Library of Congress, Washington, DC.

Preziosi, D.V. 1994. Systematics and distribution of five skate species (Chondrichthyes, Rajoidei) of the western Aleutian Archipelago, with comments on family population trends. p. 195. Master's thesis, Bucknell University, PA.

Raschi, W.G., D.V. Preziosi, and G.A. Walters. 1993. Distribution and abundance of skates in the eastern Bering Sea, Aleutian Islands region, and the Gulf of Alaska. In: Proceedings from the 10th Annual Indo-Pacific Fisheries Meeting Bulletin 18:26–48.

Selected Presentations/Posters

Preziosi, D., B. Sackmann, Y. Atalay, R. Pastorok, J. Davies, and N. Galic. 2019. Multi-model framework for assessing pesticide risk across ecological hierarchies. Poster presentation at SETAC Europe Annual Meeting, Helsinki, Finland. May 26–30.

Preziosi, D., B. Sackmann, E. Mendelsohn, and R. Pastorok. 2018. Beyond population modeling for endangered species risk assessment. Poster presentation. 39th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Sacramento, CA. November 4–7.

Preziosi, D., and R. Pastorok. 2017. Food web models and sediment cleanup—Are we asking too much? Platform presentation. 38th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Minneapolis, MN. November 12–16.

Preziosi, D.V., R.A. Pastorok, D.A. Rudnick, Y. Bramley, E. Farrelly, D. Huggett, and P. Thorbek. 2016. Development of an AQUATOX ecosystem model for assessing effects of an herbicide on aquatic food webs in Europe. Invited special session platform presentation. International Society for Ecological Modelling Global Conference, Towson University, Baltimore, MD. May 8–12.

Preziosi, D.V., R.A. Pastorok, M. Ammann, and R. Dunford. 2014. Balancing business needs with measures of ecological services. ACES 2014 – A Community on Ecosystem Services Linking Science, Practice and Decision Making, Washington, DC. December 8–12.



Preziosi, D.V., and R.A. Pastorok. 2013. Ecological modeling for mega scale risk assessment—can the gestalt conquer the chaos? Invited special session platform presentation. SETAC North America 34th Annual Meeting, Nashville, TN. November 17–21.

Pastorok, R.A., D.V. Preziosi, D.A. Rudnick, E. Farrelly, Y. Bramley, D. Huggett, and P. Thorbek. 2012. Development of an AQUATOX ecosystem model for assessing effects of an herbicide on aquatic food webs. Poster presentation. 6th Society of Environmental Toxicology and Chemistry (SETAC) World Congress/SETAC Europe 22nd Annual Meeting, Berlin, Germany. May 20–24.

Preziosi, D.V., R.A. Pastorok, D.A. Rudnick, E. Farrelly, Y. Bramley, D. Huggett, and P. Thorbek. 2012. Applying an AQUATOX aquatic ecosystem model with focus exposure scenario to assess pesticide effects. Platform presentation. 6th Society of Environmental Toxicology and Chemistry (SETAC) World Congress/SETAC Europe 22nd Annual Meeting, Berlin, Germany. May 20–24.

