Participant Biographies
Assessing Gaps and Needs for Invasive Species Management in a Changing Climate

Susan Asam is a Senior Associate at ICF Consulting, where she has worked principally on projects involving adaptation to climate change, land use and climate change, the quantification of greenhouse gas emissions and sinks, and the development of climate change outreach materials. She is currently supporting a USEPA project to inventory and analyze climate sensitive ecosystem protection and water quality management decisions within the Chesapeake Bay region. Prior to working at ICF Consulting, Ms. Asam worked for the Rocky Mountain Institute on a variety of projects related to climate change, energy efficiency, and the nexus between the two. She also worked on international climate change issues at the U.S. Department of State in the Office of Global Change. Ms. Asam holds a Master of Environmental Management and a Master of Public Policy from Duke University and a bachelor's degree in American Studies and Studies in the Environment from Yale University.

Janette Baxter is the Senior Science Policy Advisor for the U.S. Environmental Protection Agency's Region 9.

Britta Bierwagen, Ph.D. is a scientist in the U.S. Environmental Protection Agency's Global Change Research Program in the Office of Research and Development. Her research focuses on climate and land use change effects on invasive species, bioindicators, non-point source pollution, and ecosystem services, with an emphasis on developing adaptation options for managers. Dr. Bierwagen has a B.S. in Chemistry and Biology and a Ph.D. in Environmental Science and Management.

Kim Bogenschutz has worked as a Fisheries Management Specialist for the Minnesota Department of Natural Resources, a Fish and Wildlife Biologist for the U.S. Fish and Wildlife Service, an Ecologist for the Iowa Department of Transportation, the Environmental Review Coordinator for the Iowa Department of Natural Resources (IDNR), and a Wildlife Diversity Biologist for the IDNR. Since 2000, Ms. Bogenschutz has been the Aquatic Nuisance Species Program Coordinator for the IDNR. She is a member of the Mississippi River Basin Panel on ANS (Prevention and Control Committee Chairman), Missouri River ANS Work Group, ANS Task Force Asian Carp Work Group, Midwest Invasive Plant Network, Mississippi River Mussel Coordination Team (Zebra Mussel Control Subgroup), Iowa Invasive Species Work Group, American Fisheries Society (Introduced Fish Section), and Aquatic Plant Management Society.

James (Jeb) Byers, Ph.D. studies marine community and population ecology, with a particular emphasis on biological invasions. Dr. Byers is broadly interested in topics with conservation applications, including the modification of ecological interactions by parasites and the development of biological indicator species. He is an assistant professor in the Zoology Department at the University of New Hampshire.

Joan Cabreza has been the U.S. Environmental Protection Agency, Region 10 Invasive Species Coordinator since 2001. Ms. Cabreza's interest in invasive species started in 1993 when she became a Washington Native Plant Steward and Master Gardener and noticed that invasive

species displaced native species and that the large majority of garden weeds tended to be invasive exotics. She is also the chair of the Washington State Aquatic Nuisance Species Committee and represents the EPA on the Western Regional Panel, the 100th Meridian Group, and other similar interagency groups.

James T. Carlton, Ph.D. is Professor of Marine Sciences at Williams College (Williamstown, Massachusetts) and Director, Williams-Mystic, The Maritime Studies Program of Williams College and Mystic Seaport (Mystic, Connecticut). His research is on global marine bioinvasions (their ecosystem impacts, dispersal vectors, and management strategies) and on marine extinctions in modern times. Dr. Carlton is the founding Editor-in-Chief of the international journal "Biological Invasions". He is a 1996 Pew Fellow in the Environment and Conservation, a Fellow of the American Association for the Advancement of Science, and a Distinguished Research Fellow of the University of California. In 1999 he was the first scientist to receive the U.S. Government's interagency "Recognition Award for Significant and Sustained Contributions to the Prevention and Control of Nonindigenous Species in America's Aquatic Ecosystems". He was Co-Chair of the Marine Biodiversity Committee of the National Academy of Sciences, which produced *Understanding Marine Biodiversity: A Research Agenda for the Nation* (1995). He has testified eight times on invasive species issues before the United States Congress (Senate and House subcommittees). Dr. Carlton's current research on marine bioinvasions focuses on the waters of the northwest Atlantic Ocean (Bay of Fundy to mid-Atlantic), the northeast Pacific (San Francisco Bay to British Columbia), and the Hawaiian Islands.

Bert Drake, Ph.D. is a plant physiologist at the Smithsonian Environmental Research Center, in Edgewater, Maryland. Dr. Drake has been studying the impact of elevated atmospheric CO_2 and climate change on a wetland on the Chesapeake Bay for the past 20 years. This is the longest running experiment of its type ever undertaken, has resulted in more than 100 publications and involved more than 70 collaborators, post doctoral fellows and graduate students from many foreign countries and the U.S. In addition to his research, he has also served as Guest Professor at the Institute for Plant Physiology at the University of Vienna and Guest scientist at the University of Paris, Gif Sur Yvette, France, Adjunct Professor in the College of Marine Studies at the University of Delaware in Newark, and Adjunct Professor of Botany at American University and George Washington University. Dr. Drake has given testimony on the effects of rising atmospheric CO_2 before the Senate Committee on the Environment and served on the editorial boards for *Plant Cell and Environment*, *Vegetatio*, *Crop Science* and *Global Change Biology*. His long record of research and public outreach was recently recognized by being designated the 2005 Distinguished Science Lecturer by the Smithsonian Institution**.**

Jeffrey Dukes, Ph.D. is an Assistant Professor in the Department of Biology at the University of Massachusetts. Dr. Dukes has worked on a wide range of issues, most of which relate to human impacts on the planet and its living organisms. Much of his work has examined how environmental variables affect the success and impacts of invasive plant species. He has also studied how ecosystems respond to increasing atmospheric CO_2, warming, precipitation change, and increased nitrogen pollution. Some of his current work focuses on the response of invasive

species to these forms of global environmental change. Recently, his estimates of the amount of ancient photosynthetic matter needed to create fossil fuels appeared widely in the international media. He is originally from northern California, and received his A.B. from Brown University and his Ph.D. from Stanford University. He joined the Department of Biology at the University of Massachusetts, Boston, in 2004.

Katherine Glassner-Shwayder is the Senior Project Manager, Resource Management Great Lakes Commission. Ms. Glassner-Shwayder has worked as an environmental policy analyst for the Great Lakes Commission since 1992 in the program area of Resource Management. Her primary responsibility involves project management of the nonindigenous aquatic invasive species (AIS) issue for the Commission. She also provides staff support to the Great Lakes Panel on Aquatic Nuisance Species, a multijurisdictional entity established under federal legislation (1990) to advance AIS prevention and control in the Great Lakes-St. Lawrence region. Over the past number of years, she has worked on a variety of initiatives to advance regional program coordination and collaboration regarding invasive species issues focused in areas of information and education, research coordination; and policy and legislation. Currently, she is working on the advancement of state ANS management plans in the Great Lakes region and development of a model rapid response plan to address aquatic invasions in the region. Ms. Glassner-Shwayder holds a master's degree in water resources management from the University of Wisconsin, Gaylord Nelson Institute for Environmental Studies where she specialized in limnology. She holds a BA in biology from Oberlin College.

Iris Goodman, Ph.D. is a program manager for the STAR grants program at the U.S. Environmental Protection Agency's National Center for Environmental Research.

Jessica Hellmann, Ph.D. is Assistant Professor in the Department of Biological Sciences at Notre Dame University. Dr. Hellmann and her research laboratory examine the effects of global change on population dynamics and species distributions. Her group currently is focused on the potential for local adaptation to constrain geographic range shifts under climate change. She has previously shown that regional climate change can cause population extinctions and that resource diversity can buffer higher trophic levels from the impacts of regional warming. She also found that both extinction and resource availability were strongly affected by invasion of exotic species. Her group typically uses butterflies and their host plants as focal study species as well as theoretical populations that are perturbed by climate change in computer simulations. Dr. Hellmann earned her Ph.D. from Stanford University and held postdocs at Stanford and the University of British Columbia. She currently is an Assistant Professor at the University of Notre Dame.

Cynthia Kolar, Ph.D. is the assistant program coordinator of the U.S. Geological Survey Invasive Species Program where she helps coordinate research on invasive species at USGS Science Centers across the country. Previously, Dr. Kolar was at the USGS Upper Midwest Environmental Sciences Center in La Crosse, Wisconsin, where she led the Center invasive species research team for 3 years. She has been involved in invasive species issues for 15 years, particularly with issues around Asian carps and nonnative fishes in the Great Lakes, is a past-president of the Introduced Fish Section of the American Fisheries Society, a member of the

Asian Carp and Snakehead Work Groups, and co-chairs the Risk Assessment Committee of the National Invasive Species Council.

Susan Julius is the Team leader for the Aquatic Ecosystems Focus Area in the U.S. Environmental Protection Agency's Global Change Research Program. Her research and assessment work encompasses the effects of global change on ecosystem services, watersheds and endangered species. She is a former co-chair of the Ecosystems Interagency Working Group in the Climate Change Science Program (CCSP) and is leading a Synthesis and Assessment Product on the effectiveness of adaptation options for climate sensitive ecosystems and resources, which focuses on federally managed lands and waters in the U.S. She has a B.S. and a M.S. from Carnegie Mellon in Public Policy.

John McPhedran directs the Maine Department of Environmental Protection's Invasive Aquatic Plant Program. He has a long-standing connection to Maine lakes, first from summer vacations on Little Sebago as an Atlanta, Georgia native and later living year-round on 1600-acre Maranacook Lake, just west of Augusta in Maine. Mr. McPhedran's work background includes municipal and regional land use planning in New Hampshire and Vermont, and lake water quality monitoring and watershed management in Maine. His graduate work in botany at the University of Vermont led to his current position at Maine DEP. As Director of the Invasive Aquatic Plant Program, he conducts aquatic plant inventories, manages plant control projects, and oversees the state's plant monitoring and boat inspection programs.

Fredrika Moser, Ph.D. is the Assistant Director for Research at the Maryland Sea Grant College. Dr. Moser received a Ph.D. in 1997 from Rutgers University, where she studied at the Institute for Marine and Coastal Sciences. She held a post-doctoral appointment at the Bermuda Biological Station for Research focusing on biodiversity and ocean and human health issues. From 1999 – 2001, Dr. Moser represented the U.S. Department of State on the Aquatic Nuisance Species Task Force and was a member of the U.S. Delegation to the International Maritime Organization where she helped negotiate an international agreement on ballast water management. Since 2001, she has been the Assistant Director for Research at Maryland Sea Grant. During her first year at Sea Grant she received a grant from the U.S. Environmental Protection Agency's Chesapeake Bay Program Office (CBPO) to organize, facilitate and produce a final report for a workshop on "Invasive Species in the Chesapeake Bay." The workshop laid the foundation for the development of six species-specific management plans. Dr. Moser participated in the CBPO's subcommittee on invasive species. While there she contributed to the development of the Mid-Atlantic Regional Panel (MARP) of the Aquatic Nuisance Species Task Force and continues to participate with the panel.

Julian D. Olden, Ph.D. is an Assistant Professor in the School of Aquatic and Fishery Sciences at the University of Washington. His research focuses on the conservation biogeography of freshwater fishes and the smart prevention and management of species invasions in aquatic ecosystems.

Ms. Toney Ott works for the Ecosystems Protection Program in the U.S. Environmental Protection Agency's Region 8.

Robert Piorkowski, Ph.D. is a Scientific Program Manager at the Alaska Department of Fish and Game-Commercial Fisheries, Headquarters. Dr. Piorkowski was born and raised in New Britain, Connecticut and practiced for a future subsistence life in Alaska by trapping and hunting in the local parks, cemeteries, and golf courses. He went to Alaska at age 17 to study wildlife management at the University of Alaska and worked on a number of outdoor jobs including a wolf study in Mt. McKinley Park and Dall sheep movements and caribou behavior in the Alaska Range. When the Alaska native land claims were settled and homesteading was again allowed, he dropped out of school, claimed land and moved out to the bush to live a subsistence lifestyle with his wife for the next 15 years living 100 miles from the closest road. After experiences as a park ranger, commercial fishermen, heavy equipment operator, hunting guide, lodge owner and alternative energy dealer to name a few, Dr. Piorkowski returned to school in the late 1980's to earn both a B.S. and a Ph.D. studying the effects of salmon carcasses on watersheds. After a post doc looking at the effects of placer mining on streams, Dr. Piorkowski started a career with the Alaska Department of Fish and Game. His work has included coordinating the state mariculture program, administering the Commercial Fisheries catch information Program, and developing/running the state's invasive species program. Dr. Piorkowski is attending this workshop as a private citizen and not as a representative of any organization.

Christopher Pyke, Ph.D is a scientist with the U.S. Environmental Protection Agency's Global Change Research Program. His research emphasizes the impacts of climate and land use change on aquatic ecosystems and water quality and the development of adaptation strategies associated with land management, land protection, and the built environment. Prior to joining the EPA, he was a fellow with The Nature Conservancy's David H. Smith research program while in residence at the National Center for Ecological Analysis and Synthesis at the University of California, Santa Barbara. Dr. Pyke is a member of the EPA Chesapeake Bay Program's Scientific and Technical Advisory Committee and co-chair of the US Climate Change Science Program's Interagency Human Dimensions Working Group. His recent work includes publications in journals such as *Frontiers in Ecology and the Environment*, *Conservation Biology*, *Biological Conservation*, *Ecosystems*, *Ecological Modelling*, and *Climatic Change.* Dr. Pyke received Ph.D. (2002) and M.A. (1998) degrees in Geography from the University of California, Santa Barbara and a B.S. (1996) in Environmental Geology from the College of William and Mary (magna cum laude).

Frank Rahel, Ph.D., Professor in the Department of Zoology and Physiology, has been a faculty member at the University of Wyoming for 21 years, where he teaches courses in fish biology, invasive species, and landscape ecology. His major areas of research include documenting the homogenization of aquatic biotas, identifying the sources of fish introductions, understanding the causes and consequences of habitat patchiness for stream fish assemblages, and modeling the effects of climate change on fish distributions.

Christine Ruf is an ecologist in the Watershed Branch of the U.S. Environmental Protection Agency's Office of Wetlands, Oceans, and Watersheds and is currently working on a variety of watershed issues including: invasive species and TMDL listing and development; TMDLs/storm water general permits; biological/ecological policies affecting the TMDL program; and watershed implementation and measurement via EPA's Strategic Plan. Ms. Ruf also has

experience in developing and applying methods to characterize the non-monetized ecological benefits associated with ecosystem restoration and protection at the watershed level.

Don Schmitz is a Research Program Manager at the Florida Department of Environmental Protection, Bureau of Invasive Plant Management. Mr. Schmitz is a leading expert on invasive nonindigenous species in Florida. He has co-edited a book, "Strangers in Paradise: Impact and Management of Nonindigenous Species in Florida (with D. Simberloff and T. C. Brown)," coauthored several publications concerning national policy towards invasive species, and coauthored numerous publications and book chapters about the ecological impact of invasive nonindigenous plant species in Florida. He initiated and organized the process that led to a Presidential Executive Order that created our nation's first Invasive Species Management Plan and also the National Invasive Species Council, was a member of Congress's Office of Technology Assessment Panel on Harmful Nonindigneous Species, is a former chair of the Florida Exotic Pest Plant Council, a present Co-Chair of the Florida Invasive Animal Task Team which is part of the South Florida Ecosystem Restoration Working Group, and he serves as a staff member to the state's Invasive Species Working Group. Mr. Schmitz currently manages a $2 million a year invasive plant research program for the Bureau of Invasive Plant Management.

Michael (Mike) Slimak, Ph.D. is beginning his 29th year of service at the U.S. Environmental Protection Agency. Located in Washington, D.C., Dr. Slimak is currently the Associate Director for Ecology of the National Center for Environmental Assessment, one of five major research units at EPA. He is responsible for developing and implementing assessment programs in a number of important areas such as ecological risk, conservation biology, global climate change, invasive species, and water quality. During his tenure at EPA he has worked in a variety of programs and has been involved with a number of critical environmental issues. He is currently EPA's Policy Liaison to the National Invasive Species Council.

Scott Smith has a B.S. in Marine Biology from the University of North Carolina and a M.S. in Fisheries from the University of Idaho. Mr. Smith is the Aquatic Invasive Species Coordinator for Washington State and has worked in the Fish Management Program of the Washington Department of Fish and Wildlife for the past fourteen years. He serves as the Washington State representative for the Western Regional Panel on Aquatic Nuisance Species and chaired the panel for two years. He is responsible for implementing the Washington State ballast water management program. He coordinated the drafting of the Washington State Aquatic Invasive Species Management Plan, and assisted with the drafting of 5 state aquatic invasive species management bills. Mr. Smith also serves on several regional and national committees that address ballast water and other invasive species issues.

Jake Vander Zanden, Ph.D. is an Assistant Professor at the University of Wisconsin, Madison, Center for Limnology. He finished a Ph.D. in Biology from McGill University in 1999, and a David H. Smith Postdoctoral Fellowship at University of California - Davis (1999-2001). Research interests include invasive species, food web ecology, limnology, aquatic conservation.

Betsy Von Holle, Ph.D. is an American Association for the Advancement of Science (AAAS) Environmental Fellow for the U.S. Environmental Protection Agency, Office of Research and Development.

John Young is a Research Biologist at the US Geological Survey's Leetown Science Center. He received his B.A. and M.S. degrees in Geography from Virginia Tech in 1987 and 1992 respectively. His research focuses on applying GIS, remote sensing, and spatial modeling tools to enhance understanding and management of trust species and their habitats. From 1991-1994 Mr. Young worked at the US Forest Service's Pacific Northwest Research Station assisting in landscape ecology research examining forest management effects on wildlife biodiversity. Since 1994, he has led efforts at the USGS's Leetown Science Center to incorporate spatial analysis into research examining landscape influences on aquatic and terrestrial biota. His past research has focused on land use impacts on fish and amphibian communities, impacts of eastern hemlock decline on stream fish communities, and development of an invasive species tracking system for the State of Delaware. Currently, he is leading research examining the structuring of forest vegetation in Shenandoah National Park in relation to ecological gradients, and in the development of predictive spatial models to determine the potential range of plant species at risk to poaching in Shenandoah, Blue Ridge Parkway, and Great Smoky Mountains National Parks. The USGS and National Park Service currently fund Mr. Young's research, and past outputs have included journal articles, government research reports, and presentations at research symposia.

Environmental Law Institute Staff

Lisa Goldman is a Staff Attorney and General Counsel at the Environmental Law Institute, where she works on research and policy projects under the Africa, Inter-America, Community Education and Training, Endangered Environmental Laws, and State Biodiversity (Invasive Species) Programs. She helped design and implement workshops for participants from Cameroon and Chile on oil pipeline management, hardrock mine reclamation, and sustainable forest management tools. She is also working on a review of Liberian biodiversity laws and institutions and assisting with trainings on environmental justice and alternative dispute resolution. She graduated from Stanford University in 1994 with a major in Human Biology and received her JD in 2001 from the University of Pennsylvania Law School. She received an LL.M. from the Georgetown University Law Center in 2004, where she spent two years as a staff attorney litigating domestic environmental cases with the Institute for Public Representation, a law student clinic. Prior to law school, she spent three and half years working on natural resource management as a Peace Corps Volunteer in Niger, West Africa.

Austin Kane is a Science and Policy Analyst at the Environmental Law Institute. She works on the Invasive Species Project and on projects under the State Biodiversity Program. Before working at ELI, Ms. Kane was as an assistant planner for Hawaii's Division of Aquatic Resources where she helped develop and write the freshwater and marine sections of Hawaii's Wildlife Action Plan. Prior to this position, she worked for the Hawaii Army National Guard Environmental Office on endangered species, invasive species, and natural resource restoration projects. She received a Master of Environmental Management in Resource Ecology from Duke University and a B.A. in Biology from the University of Virginia.

Kathryn Mengerink, Ph.D., Director of the Ocean Program at the Environmental Law Institute, is a marine biologist and environmental lawyer. She has published and participated in meetings

on a range of marine biology and ocean law topics. Dr. Mengerink's major research focus is bridging the gaps among science, law, and policy. Her current work includes examining the use of the Clean Water Act, Total Maximum Daily Load Program to address aquatic invasive species; identifying research needs and management options for prevention and control of aquatic invasive species in the context of global climate and land-use change; assessing the cost of environmental mitigation in the U.S.; and developing of a "Legal Drafter's Handbook for Conservation and Sustainable Use of the Marine and Coastal Environment," which examines regional and national laws and programs related to Integrated Coastal Zone Management, among other topics. She holds a Ph.D. in Marine Biology from the Scripps Institution of Oceanography, University of California, San Diego and a law degree with a Certificate of Specialization in Environmental Law from Boalt Hall School of Law, University of California, Berkeley. While in law school, Dr. Mengerink served as research associate for three years at the Law of the Sea Institute. She holds a B.S. (*summa cum laude*) in Zoology from Texas A&M University.

Roxanne Thomas is a Science and Policy Analyst at the Environmental Law Institute and works primarily within the Wetlands Program, State Biodiversity Program, and Invasive Species Project. Prior to coming to ELI, Ms. Thomas worked in numerous areas of environmental policy, including climate change and developing countries, economic valuation of recreation in the nation's parks and forests, and solid waste disposal in North Carolina. She holds a Master of Environmental Management in Resource Economics and Policy from Duke University and a B.S. in Atmospheric and Environmental Science from McGill University.