

Forum on Translational Ecology

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Chris Bowser is the Science Education Specialist for the NYSDEC Hudson River Estuary Program and Hudson River Research Reserve, in partnership with the Water Resource Institute of Cornell University. His professional experience includes working as a Peace Corps reforestation volunteer in Mauritania, serving as Education Director for the Hudson River Sloop Clearwater, mapping river shorelines for the Research Reserve, and teaching at Marist College's Environmental Science department. He earned a Masters degree in Environmental Science and Policy from Clark University, and a Bachelors degree in Biology from Rutgers University.

Chris's current work with the NYSDEC focuses on environmental education and citizen science in the Hudson River Valley. He coordinates an annual estuary-wide monitoring day involving 2500 students at over 50 shoreline sites, and leads teacher training workshops on incorporating Hudson River topics into existing curriculum. He also designs programs for the Norrie Point Environmental Center, and implements a citizen-science project where high schools and watershed groups collect daily information on migrating juvenile American eels into Hudson River tributaries. Contact information: chbowser@gw.dec.state.ny.us; (845) 264-5041

Mark Mardon presently serves as editor for Forests Forever, a California-focused nonprofit organization dedicated to forest and watershed protection. His credits include more than eight years as a staff editor and writer at Sierra Magazine, the Sierra Club's flagship publication. There he reported on a wide array of local, national and international issues, worked closely with such movement leaders as David R. Brower and Edgar Wayburn, and edited the work of acclaimed writers including Brower, Wallace Stegner, Page Stegner, Wendell Berry, Anne and Paul Ehrlich, and T.H. Watkins. Mark also served stints as publications manager at Earth Island Institute's ReThink Paper Project (advocating alternatives to wood pulp in paper making), and as a field writer for Mountain Travel Sobek's TerraQuest: Virtual Galápagos expedition. Mark is the author of *Into the Wilderness: An Artist's Journey* (Artisan/The Greenwich Workshop, 1995), an exhibit-format book featuring the artwork and personal story of Yosemite landscape and wildlife painter Stephen Lyman. Mark graduated in 1981 with a Bachelor of International Studies degree in environmental issues and intercultural communications from the School for International Training in Brattleboro, Vermont.

Dr. Richard S. Ostfeld is Senior Scientist at the Cary Institute of Ecosystem Studies, a not-for-profit research institution in Millbrook, New York, dedicated to providing the science behind environmental solutions. He is also Adjunct Professor at Rutgers University and the University of Connecticut. His training was at the University of California-Berkeley (PhD) and University of California-Santa Cruz (BA). He has published >160 peer-reviewed articles and co-edited 4 books, including a Princeton University Press volume on Disease Ecology (2008). His research focuses on ecological determinants of human risk of exposure to infectious diseases, emphasizing Lyme and other tick-borne diseases as well as West Nile Virus. His lab group has discovered novel mechanisms by which biodiversity protects human health by reducing rates of pathogen transmission. His research has been covered on National Public Radio, Time and Newsweek magazines, the *New York Times*, *USA Today*, The Associated Press, Reuters, the *Los Angeles Times*, the *Boston Globe*, BBC World Service, Oregon Public Broadcasting, among others. He sits on the editorial boards of *Ecology Letters* and *Vector-borne and Zoonotic Diseases*. Ostfeld has recently established, with William Schlesinger, a new series of scholarly review articles called *The Year in Ecology and Conservation Biology*, which is published under the *Annals of the New York Academy of Sciences* in partnership with Wiley-Blackwell. His new book *Lyme Disease: The Ecology of a Complex System* was published by Oxford University Press in 2011.

Donna Light-Donovan teaches AP Biology/AP Environmental Science and coordinates the Science Research Program at Croton-Harmon High School, Croton-on-Hudson, New York (1995-present). Her experiences as an electron microscopist at Yale Medical School (1975-1986), biology/research teacher in the South Bronx (1990-1995), and as a teacher researcher in the laboratory/field station of the Rockefeller University neurogenesis researcher Fernando Nottebohm (1992-1997), have had a tremendous influence on her teaching.

Donna has received funding to adapt research concepts into lesson plans from the National Institutes of Health, the American Society of Biochemistry and Cell Biology, American Association of University Women (Eleanor Roosevelt Fellowship), the Howard Hughes Institute, and the Croton-Harmon Education Foundation. In turn, she has shared this work in presentations at the American Museum of Natural History, American Association of University Women conferences, the Coalition of Essential Schools Fall Forum, Art & Science Collaborations Inc.'s ArtSci2002, and New York University's Faculty Resource Network, among others.

In 2007, Light-Donovan completed a certificate in Landscape Design from the Institute of Ecosystem Studies, Millbrook, New York. During the 2009 summer she participated in the SENSE IT project at the Beacon Institute of Rivers & Estuaries, Beacon, New York. She has a B.A. from Bennington College and an M.S. in Science Education from Columbia University Teachers College.

Emilie Hauser has been the Coordinator of the Hudson River Estuary Training Program at the NYSDEC Hudson River National Estuarine Research Reserve since 2002. She provides science-based information and trainings for local officials, resource managers, and others concerned about the Hudson Estuary. Before that, she held several positions in recycling and household hazardous waste at the Ulster County Resource Recovery Agency. She holds a combined bachelors degree in astronomy and geology from Mount Holyoke and M.S. in earth and space sciences from Stony Brook University.

She lives in Kingston, NY where she recently finished a three term as a Trustee of the Kingston Library. She is a member and recent secretary on the Mid-Hudson Region League of Women Voters and serves on the City of Kingston Climate Smart Communities Task Force. She loves the Hudson River, including walking on it, when she uses her family's antique (circa 1869) Hudson River ice yacht, *Puff*

Dr. Fred S. Lubnow is the Director of the Aquatic Programs at Princeton Hydro, and is the office manager of the Exton, Pennsylvania office. Dr. Lubnow received his Bachelor's of Science in Biology from Susquehanna University (1988), his Masters degree in Environmental Sciences (1992) from the University of California Davis and his Ph.D. in Limnology (1994) from the University of California Davis. Dr. Lubnow has been an environmental consultant for over 16 years and has worked on a variety of ecosystems throughout the Mid-Atlantic States. His areas of expertise include the identification of algae and zooplankton, the design and implementation of in-lake management strategies, the development of watershed-based management plans that focus on non-point source pollution, utilizing the Total Maximum Daily Load (TMDL) process to improve the water quality of lakes and rivers and the analysis of long-term ecological databases. Dr. Lubnow was the Region III Director of the North American Lake Management Society and the Treasurer for the Pennsylvania Lake Management Society. He has also given a number of talks through the years at the New York State Federation of Lakes Association.

Manna Jo Greene, Clearwater's Environmental Action Director since 2000 was formerly the Recycling Coordinator/Educator for the Ulster County Resource Recovery Agency for more than 10 years and a registered Critical Care Nurse since 1976. She holds an AAS in Nursing, a BA in biology (pre-med) from SUNY/New Paltz, and completed course work toward a Masters in Environmental Sciences at Bard College. A lifelong environmental professional and community activist, Manna avidly supports collaborative land use planning and problem solving. Working to promote sustainable agriculture and green building and landscaping practices, she teaches communities how to integrate environmental preservation, economic prosperity (based on quality of life indicators), and social equity using effective communication. Manna also serves as Councilwoman on the Rosendale Town Board.

Dr. Jason Cryan is the Director of the Laboratory for Conservation and Evolutionary Genetics at the New York State Museum. He travels the world to study phytophagous insects in the order Hemiptera. His research primarily deals with molecular phylogenetics: using comparative DNA sequencing to reconstruct evolutionary relationships among groups of organisms. Before arriving at the New York State Museum, Dr. Cryan completed his bachelor's degree in Zoology at the University of Vermont, his master's degree and doctorate at North Carolina State University, and a post-doctoral fellowship at Brigham Young University.

Dr. Mary Killilea is a Clinical Assistant Professor at New York University. As a Clinical Professor, her primary role is undergraduate education. She teaches a broad range of Environmental Science and Biology courses (i.e. Biogeochemistry of Global Change, Biostatistics, Environmental System Science, Ecological Analysis with GIS, Epidemiology, and the Ecology section of Principles of Biology). In addition to her work at NYU, Mary has maintained a Visiting Scientist position at the Cary Institute of Ecosystem Studies where she previously spent two and a half years as a post-doc. Her research at Cary is focused on the ecology of tick-borne diseases and is in collaboration with Dr. Ostfeld's Disease Ecology research group.

Dr. Kathleen C. Weathers, Cary Institute Senior Scientist has spent her career examining how biology affects the movement of chemical elements from air to land, land to water, and from water back to land. Her work has taken her to cities, mountains, coastal forests, lake districts, and unvegetated landscapes around the globe to examine both polluted and pristine ecosystems. She has focused on how air pollution and acid rain are distributed across mountains in response to landscape features, and how these pollutants affect ecosystems. She has also examined how clouds that enshroud mountain tops and hug coasts can create "hotspots" of very high pollution, often in the most sensitive of forest and alpine environments.

Her research with colleagues has led to a better understanding of whether Catskill Mountain watersheds—the source of drinking water for New York City—act as a buffer for air pollution that is received from both the Midwest and the metropolitan corridor. The research has shown that which tree species are present in the watershed matter to what chemicals are leaked: some forests act like a sponge and retain these chemicals, while others do not.

While scientists can observe water flow and predict how molecules form, change, move, or are retained in forests, wetlands, streams, soils, and oceans in the absence of biology, it is the interaction of these processes with biology that makes these cycles unpredictable. There has never been a more pressing time to understand the role of biology in affecting local, regional, and global cycles of water, pollutants, nutrients, metals, and pesticides.