

Independent Science Board Members

Brief Biographies
(updated February 18, 2005)

Richard Adams, Ph.D.

Fellow, American Agricultural Economics Association and Professor of Agricultural and Resource Economic, Oregon State University

His research for the past two decades focuses on the interface between agriculture and the environment. Specific resource areas include economic analyses of climate effects on agriculture and agricultural resources, water resources management (quantity and quality), effects of environment degradation such as air quality on crops and forests, the design of regulatory policies to correct agricultural externalities, and the valuation of non-market goods. Dr. Adams has published over 150 journal articles, book chapters, and other peer-reviewed publications. He has served on numerous governmental panels and committees addressing agricultural and environmental issues. He holds a PhD from the University of California, Davis.

Ken Cummins, Ph.D.

Senior Advisory Scientist, California Cooperative Fisheries Unit, and Adjunct Professor, Humboldt State University.

An expert in stream, river and wetland ecology, Dr. Cummins currently is a member of the Independent Science Board for the CALFED Ecosystem Restoration Program. He has done extensive research on aquatic ecosystems and land-water interactions, including sources and concentrations of organic carbon. He has served on several national science advisory committees and previously held the post of distinguished scientist for the South Florida Water Management District's Ecosystem Restoration Department, and is a member of the Science Advisory Board for USEPA. He earned his doctorate in zoology / limnology from the University of Michigan, Ann Arbor.

Thomas Dunne, Ph.D.

Professor, Donald Bren School of Environmental Science and Management and of Geological Sciences, University of California Santa Barbara

Dr. Dunne currently studies hydrology and fluvial geomorphology in the Andes Mountains of Bolivia, the Amazon River basin of Brazil, and the Sacramento River basin. He has practiced research and consultation in many parts of the world, and expressed that experience in teaching, advising government agencies, publishing journal articles, and co-authoring two textbooks. He is a member of the National Academy of Sciences, American Academy of Arts and Sciences, and California Academy of Sciences. He served on a number of National Research Council committees, the CALFED Ecosystem Restoration Program Science Board; and chaired the University of California Committee on Prediction of Cumulative Watershed Effects. He received a doctorate in geography from the Johns Hopkins University.

David Freyberg, Ph.D.

Associate Professor, Department of Civil & Environmental Engineering, Stanford University

Dr. Freyberg's research interests include surface and subsurface hydrology, ephemeral channels, wetlands and sediment management in small reservoirs. He is an expert in hydrology, hydrogeology, and water resources engineering, and has served as a member of the Environmental Water Account review panel for the California Bay-Delta Program. He is a past chair of the National Research Council's Water Science and Technology Board, and co-author of the widely used text, Water-Resources Engineering. He earned his doctorate in engineering from Stanford University.

William Glaze, Ph.D.

Professor, Department of Environmental and Biomolecular Systems, Oregon Health and Science University

Current chair of the U.S. Environmental Protection Agency's Science Advisory Board, Dr. Glaze is an expert in water quality and drinking water treatment. He serves on the National Academy of Sciences Board of Environmental Studies and Toxicology, and is a former chair of EPA's Drinking Water Committee. He received his doctorate in physical chemistry from the University of Wisconsin.

Helen Ingram, Ph.D

Professor of Social Ecology, University of California, Irvine

With her research focus on water resources and equity issues, Dr. Ingram has participated in numerous science conferences and symposia convened by the California Bay-Delta Authority. She is considered an expert in environmental and water policy design and implementation, and has done extensive research into institutional change and the impact of policy on democracy and public participation. She is a member of the National Academy of Sciences and Technology Board and, since 2001, has served on the review panel for CALFED's Environmental Water Account. She received her doctorate in public law and government from Columbia University.

Jack Keller, Ph.D.

Principal, Keller-Bleisner Engineering, and Professor Emeritus, Utah State University

A member of the National Academy of Engineering, Dr. Keller is an international advisor on agricultural water use. He is considered an expert in irrigation, water conservation, and water resources planning in irrigated regions. He serves as an advisor and lead scientist to the California Bay-Delta Authority's Water Use Efficiency Program. Dr. Keller has a degree in civil engineering and earned his doctorate in agricultural and irrigation engineering at Utah State University.

Samuel Luoma, Ph.D.

Senior Research Hydrologist with the U.S. Geological Survey

Dr. Samuel N. Luoma served as the first Lead Scientist for the CALFED Bay-Delta program between August 2000 and November 2003 where he helped establish peer review, developed approaches to using scientific experts as advisors, and improved the credibility and clarity of the science CALFED uses in its decisions. His research interests include the effects of pollutants in aquatic environments, and in practical applications of adaptive management to water policy. He has worked in San Francisco Bay since 1974 and has authored more than 180 peer-reviewed publications. He wrote the textbook, *Introduction to Environmental Issues*, in 1984. He is a Fellow in the American Association for the Advancement of Science and was awarded the U.S. Department of Interior's Distinguished Service Award in 1986. He has participated nationally and internationally as an expert or advisor, including advising the USEPA's Science Advisory Board on sediment quality criteria and the NAS/National Research Council's Committee on the Bioavailability of Contaminants in Soils and Sediments. He was one of four people who originally designed USGS' successful National Water Quality Monitoring Assessment. He is presently serving as a William J. Fulbright Distinguished Scholar studying "International approaches to applying "best available science" in water pollution issues" in collaboration with colleagues at the Natural History Museum in London.

John Melack, Ph.D.

Professor, Donald Bren School of Environmental Science and Management, and Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara

An international advisor on lake ecosystems, freshwater ecosystems and climate change, Dr. Melack conducts research programs in limnology, biogeochemistry and remote sensing. He serves on the National Academy of Sciences panel on geophysical and environmental data, and is an advisor to NASA on uses of remote sensing. He is a member of the In-Delta Storage Science Review Panel for the California Bay-Delta Authority. Dr. Melack earned his doctorate in biological sciences from Duke University.

Judith Meyer, Ph.D.

Distinguished Research Professor of Ecology, University of Georgia

A nationally recognized expert on aquatic ecology and rivers, Dr. Meyer is past president of the Ecological Society of America and has been Director of the River Basin Science and Policy Center at the University of Georgia. She is the 2003 recipient of the Award of Excellence in Benthic Science and chaired the Technical Selection Committee for the California Bay-Delta Program's 2002 Ecosystem Restoration Program grant selection process. She earned her doctorate at Cornell University.

Jeff Mount, Ph.D.

Professor, Department of Geology, University of California, Davis

Dr. Mount's research program focuses on the geology, geomorphology and restoration of lowland river systems. Dr. Mount is also involved in the integration of science and policy in the management of California's rivers. Author of the acclaimed book, California Rivers and Streams, Dr. Mount currently holds the Roy. J. Shlemon Endowed Chair in Applied Geosciences at UC Davis and is the Director of the UC Davis Watershed Center. He serves as a member of the California Reclamation Board and is a member of the National Academy of Sciences Committee on the Klamath River. He received his doctorate in Earth Sciences from the University of California, Santa Cruz.

D. Warner North, Ph.D.

President and Principal Scientist of NorthWorks, Inc., and Consulting Professor, Department of Management Science and Engineering, Stanford University.

Over the past thirty years Dr. North has carried out applications of decision analysis and risk analysis for electric utilities in the U.S. and Mexico, for the petroleum and chemical industries, and for government agencies with responsibility for energy and environmental protection. He has served as a member and consultant to the Science Advisory Board of the U.S. Environmental Protection Agency since 1978, and as a Presidentially appointed member of the U.S. Nuclear Waste Technical Review Board (1989-1994). Dr. North is a co-author of many reports dealing with environmental risk for the National Research Council of the National Academy of Sciences, including "Risk Assessment in the Federal Government: Managing the Process" (1983), "Improving Risk Communication" (1989), "Science and Judgment in Risk Assessment" (1994), and "Understanding Risk: Informing Decisions in a Democratic Society" (1996).

Duncan Patten, Ph.D.

Research Professor, Montana State University

With expertise in plant biology and riparian ecology, Dr. Patten has conducted extensive research into ecological processes and restoration of western riparian and wetland ecosystems. He was a senior scientist with the Bureau of Reclamation's Glen Canyon Environmental Studies, overseeing research on the effects of operations of Glen Canyon Dam on the Colorado River riverine ecosystem. He has served on National Science Foundation panels, has been a member of various committees, boards, and commissions of the National Research Council and has been an officer in the Ecological Society of America. He received his doctorate from Duke University.

Denise Reed, Ph.D.

Professor, Department of Geology and Geophysics, University of New Orleans

Dr. Reed's current research focus includes sediment dynamics and wetlands restoration in the Sacramento-San Joaquin Delta, Louisiana and the Columbia River estuary. She is considered an expert in wetlands geomorphology and has helped develop restoration plans for coastal Louisiana for the past five years. Dr. Reed currently serves on the Ecosystem Restoration Program Science Board for the California Bay-Delta Program. She earned her doctorate in geography from the University of Cambridge in England.

Kenneth Rose, Ph.D.

*Professor, Department of Oceanography & Coastal Sciences/Coastal Fisheries Institute,
Louisiana State University*

With expertise in fish ecology and population models, Dr. Rose has published numerous articles and served on many national advisory panels regarding fish and water policy. His current research involves mathematical and computer modeling of aquatic populations, communities, food webs and ecosystems. In addition, Dr. Rose currently serves on the review panel for the Environmental Water Account of the CBDA. He received his doctorate from the University of Washington.

Robert Twiss, Ph.D.

*Professor, Graduate Center for Environmental Design Research, University of California,
Berkeley*

As an expert in environmental and regional planning, Dr. Twiss has been involved in all levels of planning and research for local, regional state and federal agencies as well as the United Nations. He serves as co-chair of the California Bay-Delta Authority's Ecosystem Restoration Program Science Board. He also serves as consultant to the California Attorney General's Office, and is a member of the Independent Science Panel for the North Coast Regional Water Quality Control Board and Humboldt County Watersheds. He received his doctorate in conservation from the University of Michigan.