

Evaluating the Effectiveness of Stock Rebuilding Plans of the 2006 Fishery Conservation and Management Reauthorization Act

Committee

Ana M. Parma

Co-Chair

Ana M. Parma is a research scientist with CONICET – the Argentine Council for Science & Technology of Argentina. She earned her Ph.D. in Fisheries Science in 1989 from the University of Washington, and worked as an assessment scientist at the International Pacific Halibut Commission until 2000, when she returned to Argentina, her home country. Dr. Parma's research interests include fish stock assessment, population dynamics and adaptive management of fisheries resources. The main focus of her current work is on small-scale coastal shellfish fisheries, where she is involved in the evaluation of assessment and management approaches in several fisheries in South America. For this work she received support from a PEW Fellowship in Marine Conservation in 2003, and a Guggenheim Fellowship in 2008. She has participated as an independent scientist in many scientific and policy advisory groups and review panels. She is currently a member of the advisory panel of the Commission for the Conservation of Southern Bluefin Tuna, where she coordinated the development of a management procedure designed to rebuild the southern bluefin tuna stock. Dr. Parma has also served on four NRC committees, including the Committee on Ecosystem Effects of Fishing: Phase II -- Assessments of the Extent of Ecosystem Change and the Implications for Policy, the Committee on Evaluation, Design, and Monitoring of Marine Reserves and Protected Areas in the United States, the Committee on Fish Stock Assessment Methods, and Committee to Review Northeast Fishery Stock Assessments.

Patrick J. Sullivan

Co-Chair

Patrick J. Sullivan is an Associate Professor of Quantitative Population and Community Dynamics at Cornell University's Department of Natural Resources. He earned his PhD in Biostatistics and his MS in Fisheries Science from the University of Washington. His research focuses on understanding what drives the spatial and temporal dynamics of natural populations and how these populations respond to anthropogenic influences. He also contributes to other research areas including the practical issues surrounding survey design and analysis, database management, and fisheries stock assessment as well as some more philosophical issues such as identifying what is the nature of good science, determining better ways for communicating and utilizing science and statistics, and clarifying scientific responsibility in issues of governance. Dr. Sullivan has served on several NRC committees, including chairing both the Committee on Review of Recreational Fisheries Survey Methods and the Committee on Improving the Collection and Use of Marine Fisheries Data. He also served on the Committee on Science and Its Role in the National Marine Fisheries Service.

Jeremy Collie

Member

Jeremy Collie is a professor of oceanography at the University of Rhode Island. He received his Ph.D. in biological oceanography from the joint program in oceanography with the Massachusetts Institute of Technology and Woods Hole Oceanographic Institution. He is a quantitative ecologist who specializes in fish population dynamics. Dr. Collie also studies the impacts of disturbance on benthic communities, predator-prey interactions, stock assessment and fisheries management. Furthermore, he has been a member of the Rhode Island Ocean Special Area Management Plan, Habitat Advisory Board; the U.S. National Oceanic and Atmospheric Administration, Science Advisory Board, Ecosystem Sciences and Management Working Group; and the New England Fisheries Management Council's Habitat Technical Team. Dr. Collie has served on two previous NRC committees; the Committee on Fish Stock Assessment Methods, and the Committee on Evaluating the Effects of Bottom Trawling on Seafloor Habitats.

Troy W. Hartley

Member

Troy W. Hartley is a Research Associate Professor of Marine Science and Public Policy at the Virginia Institute of Marine Science (VIMS) and the Thomas Jefferson Public Policy Program, The College of William & Mary. He is a public administration/public policy scholar and his research considers the theory and practice of governance networks and collaboration, particularly in ecosystem-based management, fisheries management, and regional coastal and marine governance—primarily in the U.S. Northeast and Mid-Atlantic, and Canadian east coast. Dr. Hartley has conducted research on the design, implementation, stakeholder attitudes, and benefits of collaborative fisheries research, and is examining the role of collaborative research in social, ecological, and economic sustainability and resiliency. Dr. Hartley is the Director of Virginia Sea Grant, Past-President of the socioeconomic section of the American Fisheries Society (having served as its president for five years until 2011), and a member of the Commonwealth of Virginia's advisory Coastal Policy Team. He has advised the National Oceanic and Atmospheric Administration (NOAA) on measuring NOAA's societal impacts, setting the research agenda of ecosystem-based management, and understanding the land-sea governance network interactions for the Chesapeake Bay Program. Prior to joining VIMS in 2008, Dr. Hartley administered the Northeast Consortium, a collaborative fisheries research organization serving the Gulf of Maine and Georges Bank. He has a Ph.D. in environmental and natural resource policy from the University of Michigan, an M.A.I.S. in environmental dispute resolution from George Mason University, and a B.S. in zoology from the University of Vermont.

William Heyman

Member

William Heyman is an associate professor in the Department of Geography at Texas A&M University, College Station. He is a marine ecologist by training and received his Ph.D. in marine science from the University of South Carolina. Dr. Heyman's research focuses on the conservation and sustainable management of tropical coastal and marine resources. A core area of his research centers on the reproductive ecology of reef fish spawning aggregations and strategies for their conservation and management. He has worked in the Bahamas, Turks and Caicos Islands, the Marshall Islands, Honduras, Guatemala, Mexico, the Cayman Islands, Venezuela, and most extensively in Belize over the past 20 years. Given his position in TAMU's Geography Department, Dr. Heyman also studies the relationship between humans, their resource use patterns, and their environment and utilizes multi-disciplinary approaches to study these interactions. In addition to the science, he is dedicated to generating practical and useful guidance for natural resource managers and local conservationists. In order to generate relevant information for managers, Dr. Heyman collaborates with colleagues from a wide set of disciplines including hydrology, oceanography, fisheries and marine ecology, physical geography, anthropology, economics, and utilizes tools of remote sensing and GIS.

Robert Johnston

Member

Robert Johnston is Director of the George Perkins Marsh Institute and Professor of Economics at Clark University. He has a PhD in the economics of marine resources from the University of Rhode Island and a BA in economics from Williams College. Dr. Johnston's research addresses such topics as the valuation of non-market commodities and aquatic ecosystem services; benefit transfer and meta-analysis; and the management of aquatic resources, fisheries, and tourism. Over the past two decades he has authored hundreds of articles, chapters, books and other scientific and policy papers. He has worked with numerous international organizations, government agencies and non-profit organizations to assist in the appropriate use of economic information to guide natural resource policy development. His work has contributed to national, state and local policy in the US, Canada and elsewhere. Among other appointments on advisory, scientific and review committees, Dr. Johnston currently serves on advisory boards for the Marine Resource Economics Foundation, the Charles Darwin Foundation, the Communication Partnership for Science and the Sea, the Gulf of Maine Regional Ocean Science Council, Connecticut Sea Grant, and New York Sea Grant.

Andre E. Punt

Member

André E. Punt is a professor and current associate director for the School of Aquatic & Fishery Sciences at the University of Washington. Dr. Punt is a mathematician with a B.Sc., M.Sc. and Ph.D. degrees in applied mathematics from the University of Cape Town, South Africa. He and his lab develop approaches to providing quantitative scientific advice for fisheries management. His research is primarily focuses on new methods for assessing fish and marine mammal populations and includes Bayesian assessment and risk analysis methods. Dr. Punt also is involved in evaluating the performance of existing methods for assessing and managing renewable resource populations. He has published nearly 200 peer-reviewed articles on a spectrum of fisheries related subjects including population modeling, fisheries management, stock assessment methodologies, assessment models, and quantitative ecology of marine resources.

Kenneth A. Rose

Member

Kenneth A. Rose is the E. L. Abraham Distinguished Professor in Louisiana Environmental Sciences in the Department of Oceanography and Coastal Sciences at Louisiana State University. He earned his Ph.D. in Fisheries from the University of Washington. Dr. Rose's research interests include developing and applying mathematical and simulation models to better understand and forecast the effects of natural and anthropogenic factors on aquatic populations. Other interests include the use of models in resource management, fisheries stock assessment and risk assessment. He has published extensively on the challenges of modeling fish population dynamics and their relationship to resources, stressors, site-specific factors and life history characteristics. He has served in a number of capacities with the Gulf of Mexico Fisheries Management Council since the late 1990s. Dr. Rose has also served on a recent NRC study Committee on Sustainable Water and Environmental Management in the California Bay-Delta.

James Sanchirico

Member

James Sanchirico is a professor in the Department of Environmental Science and Policy at the University of California, Davis. Dr. Sanchirico is a natural resource economist by training, having earned his PhD in Agricultural and Resource economics from UCD. His research applies quantitative methods to study the design and evaluation of policy instruments for the conservation of natural resources. Specifically, he has worked on the management of marine populations and habitats, land-use, biodiversity conservation, invasive species management, provision of ecosystem services, and the design of market based policies, such as individual fishing quota systems. Dr. Sanchirico employs a variety of tools that include optimal control theory, differential equations, constrained optimization, household surveys, spatial statistics, and time series and cross-sectional econometric techniques. Some of his most recent work involves the design and analysis of catch share programs. Dr. Sanchirico has served as a reviewer for several NRC studies and also served on the NRC Committee to Review JSOST U.S. Ocean Research Priorities Plan.

Michael P. Sissenwine

Member

Michael P. Sissenwine is the former Director of Research and Chief Science Advisory of the National Marine Fisheries Service (2002-2005). He was responsible for about 30 Laboratories and 1,400 staff. NMFS provides the scientific basis for conservation and management of marine living resources and ecosystems. During his 30 year career with the Agency, he also served as a research scientist, Director of the Northeast Fisheries Science Center (1996-2002), and the Agency's Senior Scientist (1990-1996). He was the President of the International Council for Exploration of the Sea (2004-2006) and chair of the committee which advises European countries on ocean issues (2008-2010). He is currently a Visiting Scholar at the Woods Hole Oceanographic Institution and a marine science consultant. He earned a Ph.D. in oceanography from the University of Rhode Island. Dr. Sissenwine has authored over 100 scientific papers on a wide range of topics. He serves on the Scientific and Statistical Committee of two Fisheries Management Councils, and he has served on, or led, numerous delegations to international scientific and management organizations. Dr. Sissenwine is the recipient of several prestigious awards including a Presidential Meritorious Rank Award and ICES and American Fisheries Society lifetime achievement awards. He has served on the OSB and BISO Boards, on four NRC or NAS committees (Coastal Ocean Science, Ecosystem Management for Sustainable Marine Fisheries, International Capacity Building for the Protection and Sustainable Use of Oceans and Coasts, National Committee for the Pacific Sciences Association as chair), and he has lead Delegations on behalf of the NAS.

George Sugihara

Member

George Sugihara is a professor and department chair at SIO at the University of California, San Diego. He earned his Ph.D. in Mathematical Biology from Princeton. His diverse research interests include complexity theory, nonlinear dynamics, food web structure, species abundance patterns, conservation biology, biological control, empirical climate modeling, fisheries forecasting, and the design and implementation of derivative markets for fisheries. One of his most interdisciplinary contributions involves the work he developed with Robert May concerning methods for forecasting nonlinear and chaotic systems. This took him into the arena of investment banking, where he took a five-year leave from SIO to become Managing Director for Deutsche Bank. There he made a successful application of these theoretical methods to forecast erratic market behavior. Most of Dr. Sugihara's early work was motivated exclusively by pure science and the later work more by pragmatic utility and environmental concerns. Nearly all of it is based on extracting information from observational data (turning data into information). His initial work on fisheries as complex, chaotic systems led to work on financial networks and prediction of chaotic systems. Dr. Sugihara serves on the Board on Mathematical Sciences and their Applications here at the NRC and also served on the Planning Committee for a Workshop on Technical Capabilities Required for Regulation of Systemic Risk.