

Appendix 1A-1: Overview of the Peer-Review Process for the 2008 South Florida Environmental Report – Volume I

Stacey Ollis and Garth Redfield

HIGHLIGHTS OF THE PEER-REVIEW PROCESS

The draft *2008 South Florida Environmental Report – Volume I* was prepared during summer 2007 and posted in September 2007 for external peer and public review on the District's web site at <http://www.sfwmd.gov/sfer/>. In accordance with the Everglades Forever Act requirement for scientific peer review [Subparagraph 373.4592(4)(d)5, F.S.], an expert panel received this draft report. The external review was organized in accordance with (1) typical scientific review practices, (2) the independent panel review process required by Florida Statutes for evaluating Minimum Flows and Levels [Subsection 373.042 (4), F.S.], and (3) Government in the Sunshine provisions of the Florida Statutes. The panel reviewed this report independently and then interacted with each other and the public over a WebBoard linked to the District's web site and through public hearing.

A Statement of Work (SOW) was prepared for the specific tasks and roles assigned to the SFER panel as part of this year's peer-review process. The Volume I chapters and special reviews and their associated levels of review were defined in the panel's assignment matrix in the SOW (see **Tables 1** through **3**). Through a purchase order, the 2007 panel provided the following services, as outlined in the SOW:

- **Read assigned final 2007 report chapters and review authors' responses in the final 2007 SFER.** In response to the 2006 panel's recommendation in their final report, this year's panelists read the author's responses to panel comments on the draft 2007 SFER (see 2007 SFER – Volume I, Appendix 1A-4), portions of the final 2007 SFER to which comments apply, and relevant portions of the panel's final report (see 2007 SFER – Volume I, Appendix 1A-5). This follow-up review by the panel was conducted using the assignments outlined in **Table 1**.

In July 2007, the panelists prepared comments on the responsiveness of authors to the 2007 SFER review process and posted follow-up questions on the SFER WebBoard to be addressed by authors in their draft 2008 chapters and/or in this year's workshop presentations. This new task was completed as an early assignment in the peer-review process, so that any fundamental differences between authors' products and panel expectations are highlighted within the 2008 draft writing process and discussed at the public workshop to resolve any outstanding issues, as needed.

- **Read earlier reports as background.** Broad reading of previous consolidated reports was encouraged as general background for the draft 2008 SFER review and public hearings. These earlier reports and other agency reports were made available through the District's web site and were read, as needed, on specific issues during the review.
- **Read assigned draft 2008 report chapters.** Prior to the public hearing, panelists reviewed assigned draft 2008 Volume I chapters or sections and prepared a preliminary written review, including questions to be addressed by SFER authors and District staff. As part of the District's continued efforts to streamline its reporting and to provide expert peer review for other agency documents, as needed, the SFER panelists also reviewed appended material for special review topics presented in Appendices 2-1, 3B-2, 6-1, and 12-1 of this volume. Through a separate purchase order, three additional experts reviewed and provided comments on Appendix 2-1 for authors' consideration in preparing this special review.

As part of ongoing efforts to enhance the SFER peer review, a tri-level review was incorporated again into this year's streamlined process. As outlined on **Table 3**, each panelist reviewed assigned portions of the draft 2008 SFER according to three levels: progress review (accountability), project review (technical), and program review (integrative).

- **Participate as a panelist in public hearings.** The panel participated in a public workshop, noticed as a public meeting in accordance with Florida's Government in the Sunshine law. They interacted with authors, interested parties, and each other during the two and one-half day public workshop from October 2–4, 2007, at the District's headquarters in West Palm Beach, FL. Further information on the peer review and public workshop is available on the District's web site at <http://www.sfwmd.gov/sfer>.
- **Develop draft and final reports with conclusions and recommendations.** During the working session on October 4, 2007, the panel developed their initial conclusions and recommendations in a draft report, which was submitted to the District via the WebBoard on October 16, 2007. The panel's final report provided conclusions and recommendations and included a detailed narrative to the extent the panel deemed appropriate for each chapter. Public comments contributed before and during the hearing were considered by the panel. The panel's final report was submitted to the District via the WebBoard on October 26, 2007.
- **Panel Chair, additional responsibilities.** Further duties of the panel chair included communicating with the panelists to ensure consistent interpretation of the Statement of Work; assisting panelists to use the WebBoard for posting reviews and ensuring that panelists used this site for all communication; conducting organizational meetings to keep the review process well focused; chairing the workshops and working session; organizing the panel's preparation of draft and final reports to the District; and ensuring that the final report was well edited and delivered on schedule. The panel chair also presented the panel's key findings and recommendations on the draft 2008 SFER at the District's Governing Board meeting on November 14, 2007, held in Key Largo, FL.

The public and panel review resulted in many written comments and suggestions to the report's authors. Comments from the peer-review panel on the final 2007 SFER and draft 2008 SFER, as posted on the SFER WebBoard, are provided in Appendices 1A-2 and 1A-3, respectively. Public comments posted to this WebBoard are provided in Appendix 1A-4. The authors' responses to comments in Appendices 1A-2 through 1A-4 are provided in Appendix 1A-5. Appendix 1A-6 contains the 2007 panel's final report, reproduced verbatim, and the authors' responses to these final panel comments and recommendations are presented in Appendix 1A-7. Advice from the SFER panel and from other reviewers provided guidance to the Volume I authors through revisions while preparing the final 2008 report.

Table 1. Chapter-specific assignments of the 2007 peer-review panelists.

Panelists	Ch. 1	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7	Ch. 8	Ch. 9	Ch. 10	Ch. 11	Ch. 12
Dr. Jordan, Chair	AA 1A	B		AA			A	A				B
Dr. Armstrong		AA		A				B		B		AA
Dr. Burger		B	AA 3B		B	A			AA		A	
Dr. Burkholder	B					AA			B	B	AA	A
Dr. Meganck	A			B			AA	AA	B	A	B	
Dr. Stein	B	A	A 3B		AA	B		B				
Dr. van Donk			B		B	B			A	AA	A	
Dr. Ward	AA 1B		AA 3A & 3C		A		B				B	B

“AA” indicates a primary reviewer for a chapter or section responsible for writing the review, providing questions to staff and responding to comments from other reviewers and outside parties. “A” indicates a primary reviewer to provide specific comments and questions to staff. “B” indicates a reviewer to provide general comments.

Table 2. Special review assignments of the 2007 peer-review panelists.

Panelists	<i>Appendix 2-1: Hydrological Monitoring Network of the South Florida Water Management District</i>	<i>Appendix 3B-2: Sulfur as a Regional Water Quality Concern in South Florida</i>	<i>Appendix 6-1: Environmental Responses to Water Management in the Everglades: A Strategic Research Plan</i>	<i>Appendix 12-1: Coastal Ecosystems Science Plan</i>
Dr. Jordan, Chair			A	B
Dr. Armstrong	A			B
Dr. Burger		A	AA	
Dr. Burkholder		B		AA
Dr. Meganck		A		B
Dr. Stein	B	AA	B	
Dr. van Donk		B	A	A
Dr. Ward	AA		B	

“AA” indicates a primary reviewer for a chapter or section responsible for writing the review, providing questions to staff and responding to comments from other reviewers and outside parties. “A” indicates a primary reviewer to provide specific comments and questions to staff. “B” indicates a reviewer to provide general comments.

Table 3. Review levels associated with the SFER assignments of the 2007 peer-review panelists.

Chapter/Section	Level of Panel Review		
	Accountability	Technical	Integrative
Ch. 1A – Introduction to the 2008 South Florida Environmental Report - Volume I	Primary		X
Ch. 1B – Development of Water Quality Monitoring Strategy for South Florida		Primary	X
Ch. 2 – Hydrology of the South Florida Environment	Primary		X
Ch. 2 Appendix – <i>Special Review</i> , Hydrological Monitoring Network		Primary	X
Ch. 3A – Status of Water Quality in the Everglades Protection Area	Primary		X
Ch. 3B – Mercury and Sulfur Monitoring, Research and Environmental Assessment in South Florida		Primary	X
Ch. 3B Appendix – <i>Special Review</i> , Sulfur as a Regional Water Quality Concern		Primary	X
Ch. 3C – Status of Phosphorus and Nitrogen in the Everglades Protection Area	Primary		X
Ch. 4 – Phosphorus Source Controls for the Basins Tributary to the Everglades Protection Area	Primary		X
Ch. 5 – STA Performance, Compliance and Optimization	Primary	X	
Ch. 6 – Ecology of the Everglades Protection Area		Primary	X
Ch. 6 – <i>Special Review</i> , Everglades Strategic Research Plan		X	Primary
Ch. 7A – Comprehensive Everglades Restoration Plan Annual Report	Primary		X
Ch. 7B – Update on RECOVER Implementation and Monitoring for CERP	Primary		X
Ch. 8 – Implementation of the Long-Term Plan for Achieving Everglades Water Quality Goals	Primary		X
Ch. 9 – The Status of Nonindigenous Species in the South Florida Environment	Primary		X
Ch. 10 – Lake Okeechobee Protection Program - State of the Lake and Watershed	X	Primary	
Ch. 11 – Kissimmee River Restoration and Upper Basin Initiatives	Primary	X	
Ch. 12 – Management and Restoration of Coastal Ecosystems	Primary		X
Ch. 12 Appendix – <i>Special Review</i> , Coastal Ecosystems Science Plan		X	Primary

Progress Review (Accountability): This level of review targets progress in District programs and projects and is aimed at chapters and sections that are of a more routine nature, reporting in a similar format and content from year to year.

Project Review (Technical): This level of review is a more traditional peer review aimed primarily at projects and products and associated methodology and findings and provides detailed input on science and engineering.

Program Review (Integrative): This level is programmatic in nature exploring cross-cutting themes and the connections between research and projects and is applicable to many chapters and sections of the report.

THE 2007 PEER-REVIEW PANELISTS

The selection of panelists for the 2008 SFER review was primarily based on the success of preceding consolidated report reviews. Consistent with these earlier reviews and with routine practice in scientific peer review, professional expertise and experience in the major subject areas covered by this report were the primary criteria used for selecting the 2007 panelists. Knowledge of environmental management and decision making was also an important consideration. To ensure their independence, panelists continued to be free of any professional connection to interests or organizations in South Florida. Based on these considerations, seven panelists from last year's review process, as well as one new panelist, were gathered for the SFER review. Biographical sketches for these panelists along with specific strengths brought to this year's process are provided below.

Expert 1: Chair: Dr. Jeffrey L. Jordan, Professor, Department of Agricultural and Applied Economics, University of Georgia, Griffin, Georgia

With more than 15 years of post-doctoral experience in agricultural economics and water resource policy, Dr. Jeffrey Jordan is recognized for his work in modeling water demand and allocation, conservation planning, survey design, and other aspects of water resource analysis. His notable experience in water-related economic and policy analyses is demonstrated in more than 35 peer-reviewed articles, 45 miscellaneous publications, one book, and several book chapters authored during his productive career with the University of Georgia. Dr. Jordan is well acquainted with general environmental and water quality issues that South Florida faces today. He fulfilled all contract requirements very effectively as panel chair for the peer review of the 2000–2004 Everglades Consolidated Reports and the 2005–2008 South Florida Environmental Reports. Earlier, he served on the peer-review panel for the Lake Okeechobee Minimum Flow and Levels, the Spalding County Water Authority, and the Georgia Water Wise Council. His background and record of accomplishment proved to be invaluable for dealing effectively with the wide-ranging topics and issues associated with the SFER review. Together, these qualities made him ideally suited to continue to serve as the panel chair.

Expert 2: Dr. Neal E. Armstrong, Vice Provost for Faculty Affairs and Zarrow Centennial Professor in Engineering, University of Texas at Austin, Austin, Texas

Through an engineering career spanning more than three decades, Dr. Neal Armstrong has held a suite of positions with increasing responsibility and authority in engineering and science. His experience base is quite varied and includes numerous academic committees, many assignments from professional societies, many consultancies often related to water quality, and dozens of research projects involving water pollution ecology, eutrophication, and water quality modeling and analysis. His expertise is well suited for dealing with the array of challenges facing South Florida regarding water quality. Dr. Armstrong is also highly experienced in peer review for applied science and engineering, serving on the Florida Bay Oversight Panel from 1994–1999, on the panel to review phosphorus control strategies for Lake Okeechobee in 1995, and on the peer-review panel for the 2005–2008 South Florida Environmental Reports.

Expert 3: Dr. Joanna Burger, Professor, Division of Life Sciences, Rutgers University, Piscataway, New Jersey

Dr. Joanna Burger has a distinguished research and teaching career that spans three decades. She has contributed greatly to our understanding of water-bird ecology and behavior and the effects of metals and other toxic substances on animals. Her research and scholarly activities have been extremely diverse and numerous and have recently included aspects of ecological risk assessment, a subject of emerging importance in South Florida. She is a highly productive research scientist with more than 70 books and book chapters and about 400 refereed publications. Similar to Dr. Burger's participation in peer review of the 2000–2004 Everglades Consolidated Reports and the 2005–2008 South Florida Environmental Reports, the unusual depth and breadth of her experience as a biologist, ecologist, and toxicologist have allowed her to contribute greatly to the review of the SFER. Her unique understanding of wading bird ecology has also been a valuable asset to this review.

Expert 4: Dr. JoAnn M. Burkholder, Professor and Director, Center for Applied Aquatic Ecology, North Carolina State University, Raleigh, North Carolina

Since 1999, Dr. Burkholder has served as the director and professor at the Center for Applied Aquatic Ecology at the North Carolina State University. In a career spanning three decades, Dr. Burkholder has proven to be a highly productive researcher on eutrophication of freshwater and estuarine ecosystems; assessment of nutrient and associated pollutant loadings; the biology, ecology, and impacts of harmful algae; and the physiological ecology of seagrasses. With many distinguished honors, she has authored more than 150 technical reports and publications in the peer-reviewed literature as well as numerous scientific presentations and workshops. She participated in peer review of the 2006–2008 South Florida Environmental Reports and has provided very constructive and thoughtful review comments.

Expert 5: Dr. Richard A. Meganck, Rector, United Nations University for Water Science and Education, Delft, the Netherlands

Dr. Richard Meganck is highly experienced in planning for sustainable development and natural resource management internationally. Since receiving a doctorate in Natural Resource Management in 1975, he has authored dozens of refereed articles and papers in conference proceedings on park planning, international development, ecological restoration, and sustainable development. Dr. Meganck is very experienced in dealing with various audiences and interests through his work with the Organization of American States, the United Nations Environment Program, and as a private consultant in environmental management. His resource-planning experience is exceptionally diversified and unique, particularly his extensive work on park management and sustainability. He participated in peer review of the 2000–2004 Everglades Consolidated Reports and the 2005–2008 South Florida Environmental Reports and has proved to be very thoughtful and innovative in his review comments.

Expert 6: Dr. Otto R. Stein, Professor, Department of Civil Engineering, Montana State University, Bozeman, Montana

Following degrees in resource management, agronomy, and civil engineering, Dr. Otto Stein has served as a professor in the Department of Civil Engineering at Montana State University since 2006 and has more than 15 years of experience in civil engineering and water resources. He received a doctorate in Civil Engineering in 1990 and has authored dozens of refereed articles and other published works on constructed wetlands, water resources, and hydrological science. He has demonstrated substantial experience in the design and performance of constructed wetlands, including their hydrology, hydraulics, chemistry, and water quality. His specific knowledge of sulfur cycling and its role in constructed wetlands is notable, and he also has valuable experience in habitat improvement projects, soil erosion, soil-water interactions, and sedimentation processes. With a strong blended background in research, teaching, and publication, Dr. Stein is extremely well-suited to serve as a new member of this year's SFER panel on constructed wetlands, water quality, hydrology, and other regional issues facing South Florida.

Expert 7: Dr. Ellen van Donk, Professor and Department Head for Food Web Studies, NIOO Centre for Limnology, Netherlands Institute of Ecology, the Netherlands

Dr. Ellen van Donk has more than 20 years of experience as an aquatic researcher and department head at the Netherlands Institute of Ecology. She has served on a variety of editorial boards and peer review panels, including providing review comments on the Lake Okeechobee Minimum Flow and Level determination in 1998 and the 2005–2008 South Florida Environmental Reports. Dr. van Donk has worked with scientists in Europe and the United States on studies concerning basic limnology, planktonic food webs, lake restoration and management, wetland ecology, and ecotoxicology. Her experience with complex interactions involving food webs, nutrients, and plant community structure has been gained through publication of more than 90 papers in the peer-reviewed literature and has been extremely valuable for the SFER review panel. She is also well versed in the management and restoration of shallow lakes.

Expert 8: Dr. Robert C. Ward, Director and Professor Emeritus, Colorado Water Resources Research Institute, Colorado State University, Fort Collins, Colorado

Dr. Robert Ward is highly experienced in the science of water quality assessment, including the design of information systems and water quality monitoring networks, application of data to decision making, and communication of water quality information to the public. Since receiving a doctorate in Agricultural Engineering in 1970, he has authored dozens of refereed articles and two books on water quality monitoring. Dr. Ward is well acquainted with peer review, having served on many panels and review committees. He is also familiar with South Florida's technical issues and science through his participation in panels that reviewed the phosphorus control program in the Lake Okeechobee watershed, Everglades Consolidated Reports since 1999, and the 2005–2008 South Florida Environmental Reports. In addition, he is experienced in dealing with diverse audiences through his work with students, educational initiatives, and professional societies. His quantitative experience with water quality monitoring data is extensive, and his knowledge of monitoring program design is exceptional.