Appendix 1-1: Overview of the Peer-Review Process for the *2010 South Florida Environmental Report – Volume I*

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HIGHLIGHTS OF THE PEER-REVIEW PROCESS

The draft *2010 South Florida Environmental Report* (SFER) – *Volume I* was prepared during summer 2009 and posted in September 2009 for external peer and public review on the South Florida Water Management District's (SFWMD or District) web site at www.sfwmd.gov/sfer/. In accordance with the Everglades Forever Act requirement for scientific peer review [Subparagraph 373.4592(4)(d)5, Florida Statutes], 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), Florida Statutes], and (3) Government in the Sunshine provisions of the Florida Statutes. The panel reviewed this report independently and then interacted with each other over the public-accessible SFER WebBoard 1 linked to the District's web site (www.sfwmd.gov/webboards).

An overview of the 2010 SFER peer-review process is presented in **Table 1**. 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. Volume I chapters and their associated levels of review were defined in the panel's assignment matrix in the SOW (see **Tables 2** and **3**). Through purchase orders, the 2009 panel provided the following services per the SOW:

- **Read assigned draft 2010 report chapters**. Broad reading of previous consolidated reports was encouraged as general background for the draft 2010 SFER review, as appropriate. These earlier reports and other agency reports were made available through the District's web site and were read, as needed. Panelists reviewed their assigned draft 2010 SFER – Volume I chapters and prepared chapter-specific written reviews including comments and questions to be addressed by SFER authors. Panel comments were submitted to the District via the SFER WebBoard 2 by September 23, 2009.

  To enhance the SFER peer review, a tri-level review was incorporated again into this year's streamlined process. As outlined in **Table 2**, each panelist reviewed assigned portions of the draft 2010 SFER according to three levels: progress review (accountability), project review (technical), and program review (integrative).

- **Develop a final report with conclusions and recommendations.** Following the written review provided by the panelists as well as public comments, the SFER authors posted their responses to comments on the SFER WebBoard 2 by October 13, 2009. Subsequently, the panelists reviewed these responses and prepared their final conclusions and recommendations for each chapter, representing a final report. Public comments contributed during the review on the SFER WebBoard 2 were also considered by the panel. The panel's final comments were submitted to the District via the SFER WebBoard 2 by October 23, 2009.
- Dr. Joann Burkholder, selected as the panel representative, presented the panel's key findings and recommendations on the draft 2010 SFER – Volume I at the District's Governing Board workshop on November 12, 2009, in Key Largo, FL.

During the 2010 SFER peer-review process, 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 draft 2010 SFER – Volume I, as posted on the SFER WebBoard 2, are provided in Appendix 1-2. Public comments posted to this WebBoard are provided in Appendix 1-3. The authors' responses to these initial comments are provided in Appendix 1-4. Appendix 1-5 contains the 2010 panel's closing comments and recommendations, representing its final report. Advice from the SFER panel and from other reviewers provided guidance to the Volume I authors through revisions while preparing the final 2010 report.

Table 1. Draft *2010 South Florida Environmental Report – Volume I* (SFER) chapter assignments of the peer-review panelists.

1. Post *Draft* 2010 SFER on Web

Production Team web-posts draft chapters/appendices for panel/public review & comment

Aug. 28

(Production Team)

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2. Review *Draft* 2010 SFER & Post Discussion and Comments on WebBoard(s)

Panelists review assignments & web-post discussions; AA reviewers assemble & web-post comments; District web and FAW notices will reflect public review & comment period from Aug. 31 - Sep. 23

(Appendix 1-2)

Aug. 31 - Sep. 23

(Panelists / Public)

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3. Prepare Responses to Panel/Public Comments & Post on WebBoard

Lead authors coordinate with District staff/managers to assemble, review & web-post responses [Note: SFER Production Team to provide authors with some guidelines & tips on preparing responses, but responses are authors sole responsibility to prepare, coordinate/review, finalize and web-post]

(Appendix 1-3)

Sep. 24 - Oct. 13

(Lead Authors)

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4. Review Authors Responses to Comments & Post Closing Comments on WebBoard(s)

Panelists review responses & web-post discussions and also consider web-posted public comments; AA reviewers assemble & web-post closing comments/recommendations (including highlighted items for Governing Board presentation), which will be assembled by the SFER Production Team as the panel's final report

(Appendix 1-4)

Oct. 14 - 23

(Panelists)

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5. Prepare *Final* 2010 SFER Chapters and Appendices

Lead authors work with agency staff/managers to prepare & finalize chapters/appendices, with consideration of public/panel's closing comments/recommendations, and submit final documents to SFER Production Team

Oct. 14 - Nov. 10

(Authors & Contributors)

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6. Panel Summary of Key Findings/Recommendations Presented to Governing Board

From panel's final report, designated panelist prepares & presents high-level summary of key panel findings & recommendations at Governing Board meeting in November; other panelists assist with review/clarifications of presentation via e-mail, as needed

(Appendix 1-5)

Oct. 26 - Nov. 13

(Designated Panelist)

Table 2. Draft 2010 SFER – Volume I chapter assignments of the peer-review panelists.

Panelists	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7	Ch. 8	Ch. 9	Ch. 10	Ch. 11	Ch. 12
R. Ward		AA 3A				A	AA		A		A
N. Armstrong	A		A			AA 7A, 7B			A		AA
O. Stein	AA	A		AA			A				
J. Burger		AA 3B		A	A			AA		A	
E. van Donk		A	AA		A			A	AA		
J. Burkholder				A	AA					AA	A

Table 3. Peer-review levels associated with the draft 2010 SFER – Volume I assignments.

2010 SFER – Volume I Chapter	Level of Panel Review		
	Accountability	Technical	Integrative
Ch. 2 – Hydrology	Primary		**X**
Ch. 3A – Water Quality	Primary		**X**
Ch. 3B – Mercury		Primary	**X**
Ch. 4 – Source Control Programs	Primary	X	
Ch. 5 – STA Performance	X	Primary	
Ch. 6 – Everglades Ecology		Primary	**X**
Ch. 7A – Everglades Restoration	Primary		**X**
Ch. 7B – RECOVER	Primary		**X**
Ch. 8 – Long-Term Plan	Primary		**X**
Ch. 9 – Exotic Species		X	**Primary**
Ch. 10 – Lake Okeechobee	X	Primary	
Ch. 11 – Kissimmee Basin		Primary	**X**
Ch. 12 – Coastal Ecosystems		Primary	**X**

Progress Review (Accountability): This level of review targets progress in District programs and projects and is aimed at chapters and sections that are 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.

2009 PEER-REVIEW PANELISTS

The selection of panelists for the draft 2010 SFER – Volume I 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 2009 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, six of the eight panelists from last year's review process were gathered for this year's SFER review. Biographical sketches for these panelists along with specific strengths brought to this year's process are provided below.

Expert 1: 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. Armstong 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 2005–2010 South Florida Environmental Reports.

Expert 2: 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 the District's 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 2005–2010 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 3: 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 2006–2010 South Florida Environmental Reports and has provided very constructive and thoughtful review comments. Dr. Burkholder also served as the panel representative that presented the panel's closing comments and recommendations to the District's Governing Board in November 2009.

Expert 4: 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 qualified to serve as a member of this year's SFER panel on constructed wetlands, water quality, hydrology, and other regional issues facing South Florida. His insight on these key topics has been very helpful during his participation in the peer review of the 2008–2010 South Florida Environmental Reports.

Expert 5: 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 2005–2010 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 6: 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 2005–2010 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.