

Governing Board Meeting
December 13, 2012

The South Florida Environmental Report

**Background on the Report and
Peer-Review Findings on the 2013 Draft
Volume I**

Garth Redfield, Ph.D.
Chief Scientist, Water Quality Bureau



2013 SFER Overview

Report History

The Everglades Forever Act requires reporting on: Everglades water quality; Source controls; Research and Stormwater Treatment Area

- **Volume I** summarizes annual monitoring, and research for Everglades Forever Act, the Lake, River and Northern Everglades
- **Volume II** is eight reports done statewide (e.g., Capital Improvement Plan; Florida Forever Work Plan; also, online project database)
- **Volume III** compiles permit reports, can expand for new projects
- **Together**, the SFER consolidates over 75 individual reports into a single publication completed March 1 each year



Peer-Review Process – Volume I

Specified by the Everglades Forever Act

“...issue a peer-reviewed report... that summarizes all data and findings.”

Peer Review Essentials

Peer review is a documented evaluation of a product or program by ***qualified and independent*** experts

- A streamlined process continues for the 2013 SFER
- The SFER review is documented on a web-board, available to the public
- The Review Panel focuses on key aspects from a technical or accountability viewpoint, but is not restricted

Constructive criticism is great for quality assurance & improvement

General Questions for the Panel

- **Technical Review:**

- *Is the report a defensible scientific account of data and findings supported by the ‘best available information’?*

- **Accountability Review:**

- *Is the Report a logical tracking of data and findings that is complete and appropriate?*

**The Panel can comment substantively
on any aspect of the Report**

2013 SFER Peer-Review Panel

2013 Review Process

– Panelists are well qualified in basic & applied science

Dr. Walter Dodds, *Kansas State University, KS*

Dr. Peter Dillon, *Trent University, Ontario, Canada*

Dr. Vladimir Novotny, *Northeastern University, MA*

Dr. Otto Stein, *Montana State University, MT*

Peer-Review Panel: Findings & Recommendations



Chapters and the science behind the writing continue to be complimented by reviewers:

- *'...straightforward, very clearly written and easy to read.'* (Ch. 5, STAs)
- *'...impressive in that it describes a very complex set of measurements and experiments in a limited amount of space.'* (Ch. 6, Ever. Res.)
- *'...is well-written, with clear and concise writing.'* (Ch. 9, KRR)
- *'District scientists should be strongly encouraged to contribute additional syntheses'..... 'their often pioneering contributions are important to wetlands science, restoration, and management not only locally, but nationally and internationally.'*
(2012 SFER- Ch.6, Ever. Res.)
- *'...are highly knowledgeable about mercury methylation, have collected a superior data base and contribute significantly, year after year, to the state of the art of this difficult issue.'*
(Ch. 3B Mercury & Sulfur)



Peer-Review Panel: Findings & Recommendations

The Panel repeatedly recognized the authors for their responsiveness:

- *'...provided satisfactory and thoughtful responses...'* (Ch. 3A, W.Q.)
- *'...done an excellent job of addressing the concerns...'* (Ch. 8, L.O.)
- *'...provided detailed and reasoned to our comments'* (Ch. 9, KRR)
- *'...author's responses to reviewer comments present a thorough and scientific discussion of issues and suggestions.'* (Ch. 3B Mercury & Sulfur)

Peer-Review Panel:

Findings & Recommendations

- Overall, the review process worked as intended for authors and reviewers
- This presentation highlights outstanding issues identified in the Panel's final comments
- Some findings and recommendations were beyond District and FDEP resources or agency missions



Panel Findings & Recommendations



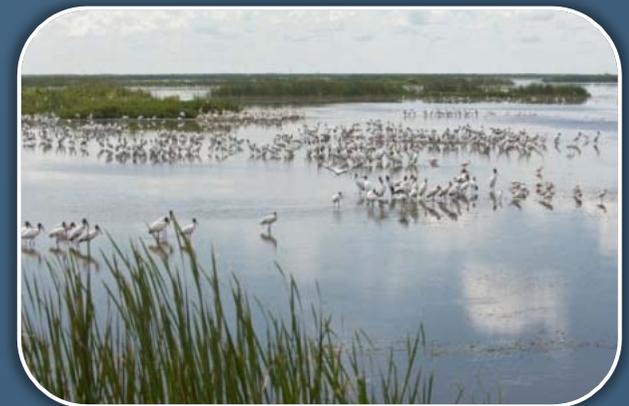
Everglades Water Quality and Nutrient Controls

- Continued research on the complex role of sulfur in the mercury problem is recommended
- Sulfur loads from ancient seawater and agricultural operations should be better quantified
- FDEP should develop a site-specific criterion and adaptive management plan for sulfate
- Discharges high in conductivity merit specific modeling and management attention
- Information on sources of atmospheric phosphorus would help guide future regional source controls
- A cohesive summary of past achievements in source controls would be valuable in the report

Panel Findings & Recommendations

Everglades Stormwater Treatment Areas

- STA science plan is needed; Restoration Strategies Science Plan is being actively developed
- Consider more controlled experimentation
- Role of dry conditions on STA performance merits continuing data collection and analysis



Panel Findings & Recommendations

Everglades Ecology

- Better prediction of local climate change is needed
- Estimates of sediment nutrient fluxes should be improved
- Control of exotic species remains vital for restoration
 - Research on biological controls needed
 - Funding for control is essential



Panel Findings & Recommendations

Lake Okeechobee Protection Program

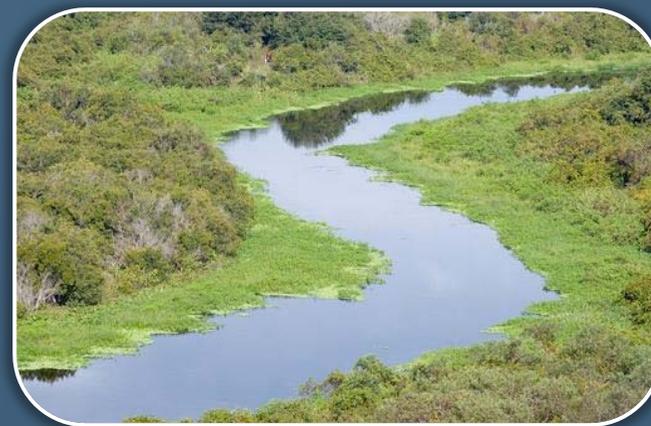
- A plan for additional load reduction is needed
- Revisit control of internal lake TP loading
- Improve modeling of lake responses to changes in external loads
- Study the frequency and severity of rare hydrologic events for the lake and river (N. Everglades)



Panel Findings & Recommendations

Kissimmee River Restoration & Basin Initiatives

- Floodplain storage of phosphorus merits more study and may assist in source controls throughout the watershed
- Quantify factors driving low oxygen levels after large rainfall events
- Sediment and soil phosphorus analyses are a priority for next year's report



Panel Findings & Recommendations

Coastal Priorities

- Reviewers supported the format adopted in this year's coastal chapter
- Estuarine monitoring should support a real-time management model for lake discharges
- Source control programs need to be tailored to nutrient responses in the downstream coastal waters

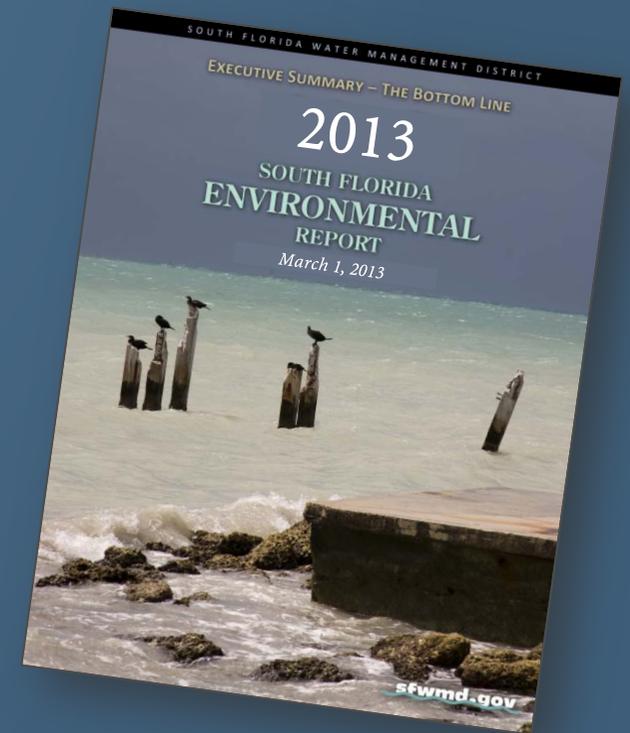


Next Steps

By March 1, 2013, the ~3000 page report and Executive Summary will be published on the web

Executive Summary provided to the Governing Board

(www.sfwmd.gov/sfer)



Acknowledgments

The monumental contributions of the highly professional SFER authors and the Production Team are responsible for the success of this report. Their efforts are gratefully recognized and applauded.

