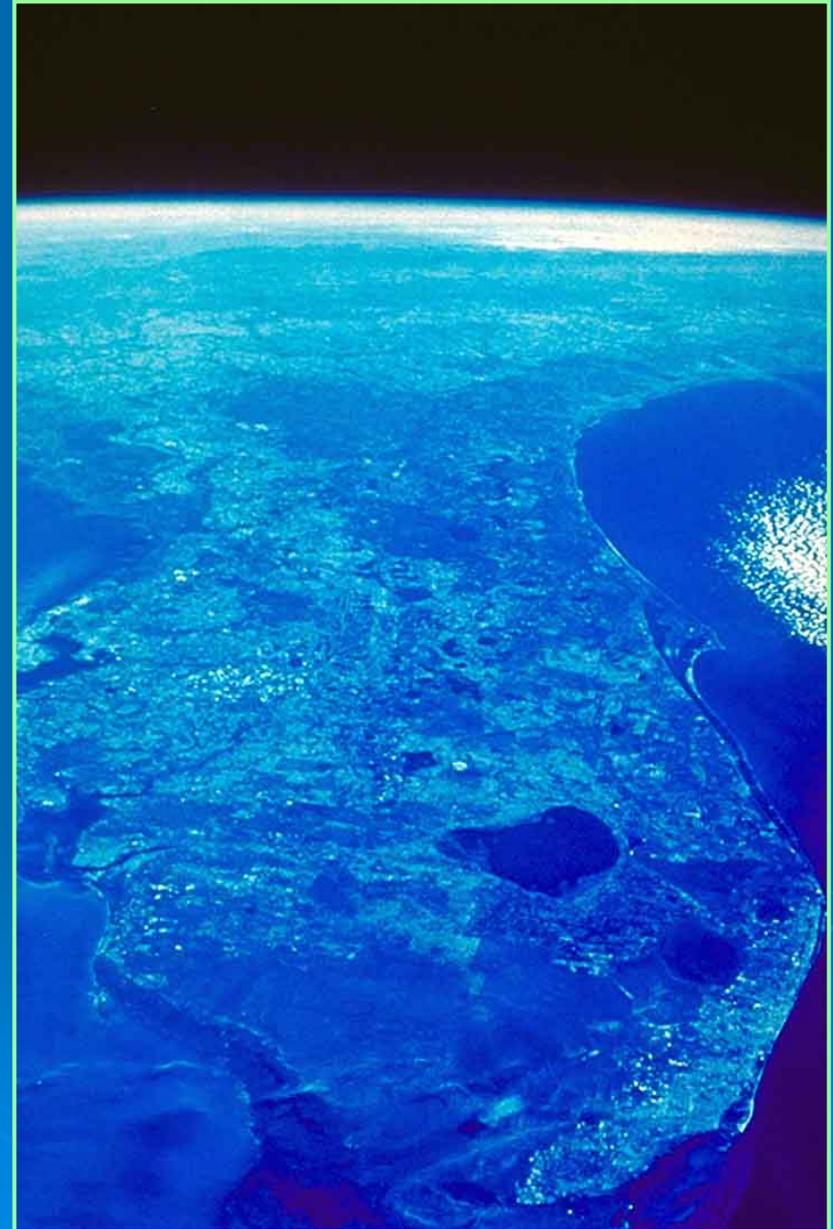
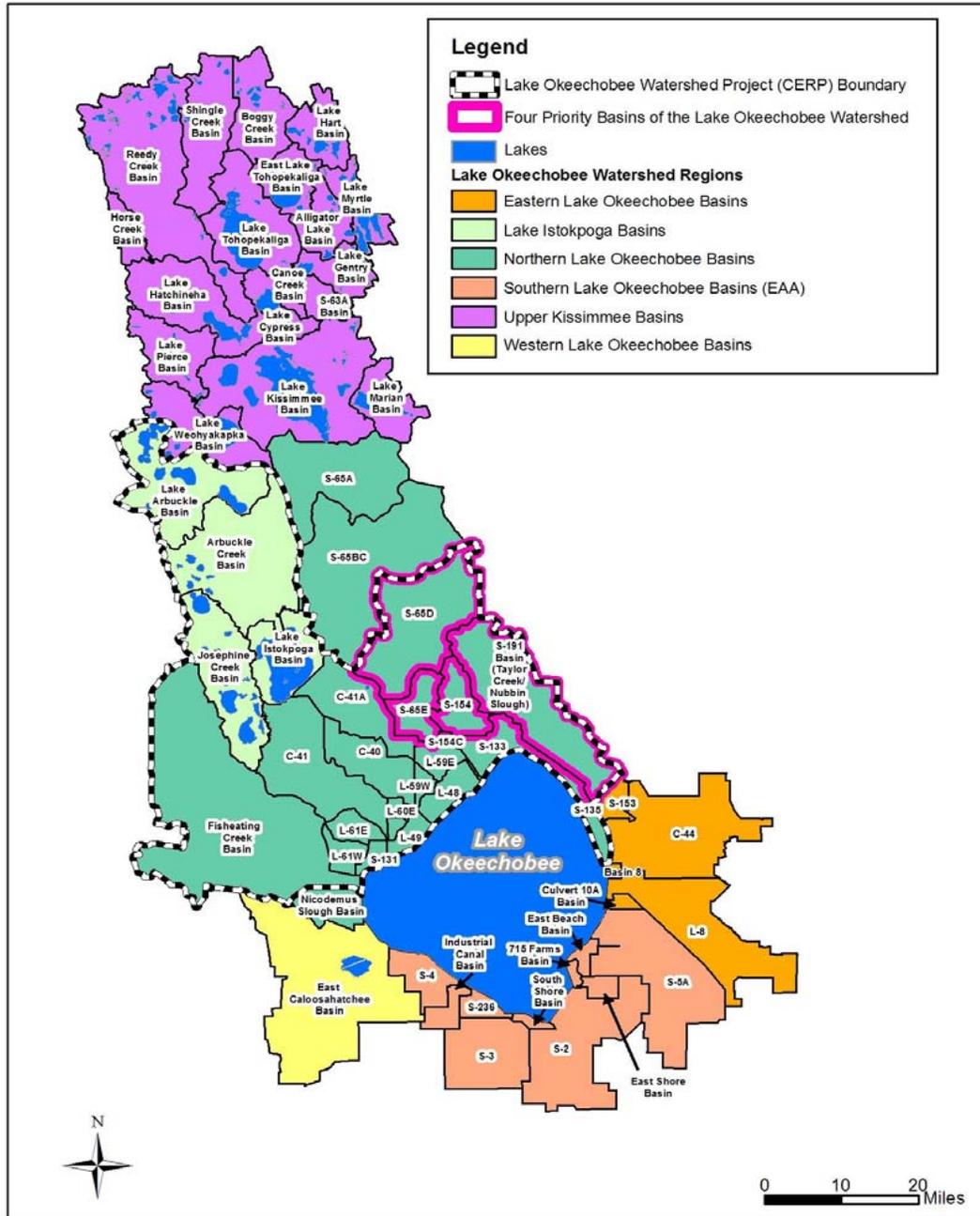


# The Lake Okeechobee Protection Plan Evaluation Update

December 6, 2006





# Lake Okeechobee Watershed and Basins



# Progress to Date

- Lake Okeechobee Protection Act passed in 2000 (Sec. 373.4595, F.S.)
- Required the development of the Lake Okeechobee Protection Plan along with other activities
- The Lake Okeechobee Protection Plan provided to the Governor and Legislature on January 1 2004
- The Act requires an evaluation every three years of any further phosphorus load reductions necessary to achieve compliance with the Lake Okeechobee TMDL

# Plan Characteristics

- Reduce External and Internal P Loads Through Phased Program
- Initial Reductions Based on District Technical Publication 81-2 and Long-term Based on TMDLs
- Based on Availability of Technology and Cost
- Include Source and Regional Level Reductions
- Maximize Federal Cost Sharing, Opportunities for Pollutant Trading/Credits and Partnerships with Private Sector
- Achieve Full Compliance with the Lake Okeechobee TMDL by 2015

# Base Case or “Without Project”

- Period of Record from 1991 to 2000
- Land use data from 2000
- Economic data from studies by Hazen & Sawyer, NRCS, and BMP implementation projects
- Estimates of BMP performance from FDACS, SFWMD, and Del Bottcher & Harvey Harper (2003).

# Base Case (cont.)

- Load reduction estimates from non-Lake Okeechobee projects obtained from CERP, Kissimmee River Restoration Evaluation studies, and ECP permits.
- Load reduction estimates for alternative technologies from projects south of Lake, demonstration studies north of Lake, and literature.

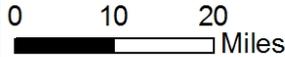
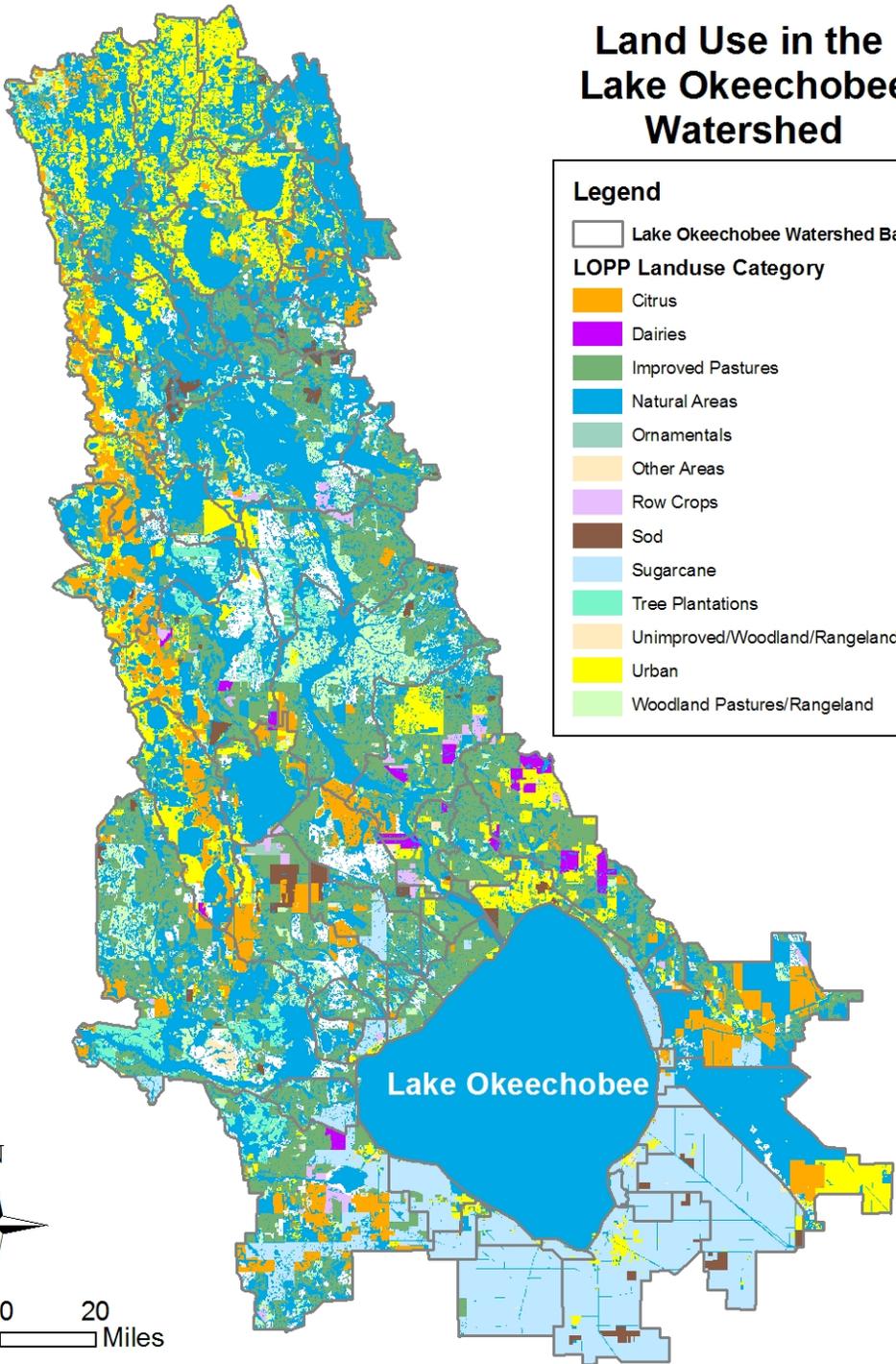
# 2007 Evaluation Report

- Update Land Use Data
  - Update BMP performance assumptions
  - Update P load reduction estimates
  - Document percent of BMP implementation
  - Identify additional load reductions, if needed
  - Include in-lake restoration components, i.e. dredging
  - Update cost estimates
- 

# Land Use in the Lake Okeechobee Watershed

**Legend**

- Lake Okeechobee Watershed Basins
- LOPP Landuse Category**
- Citrus
- Dairies
- Improved Pastures
- Natural Areas
- Ornamentals
- Other Areas
- Row Crops
- Sod
- Sugarcane
- Tree Plantations
- Unimproved/Woodland/Rangeland
- Urban
- Woodland Pastures/Rangeland



# Land Use in the Lake Okeechobee Watershed



# Phosphorous Loads to Lake Okeechobee

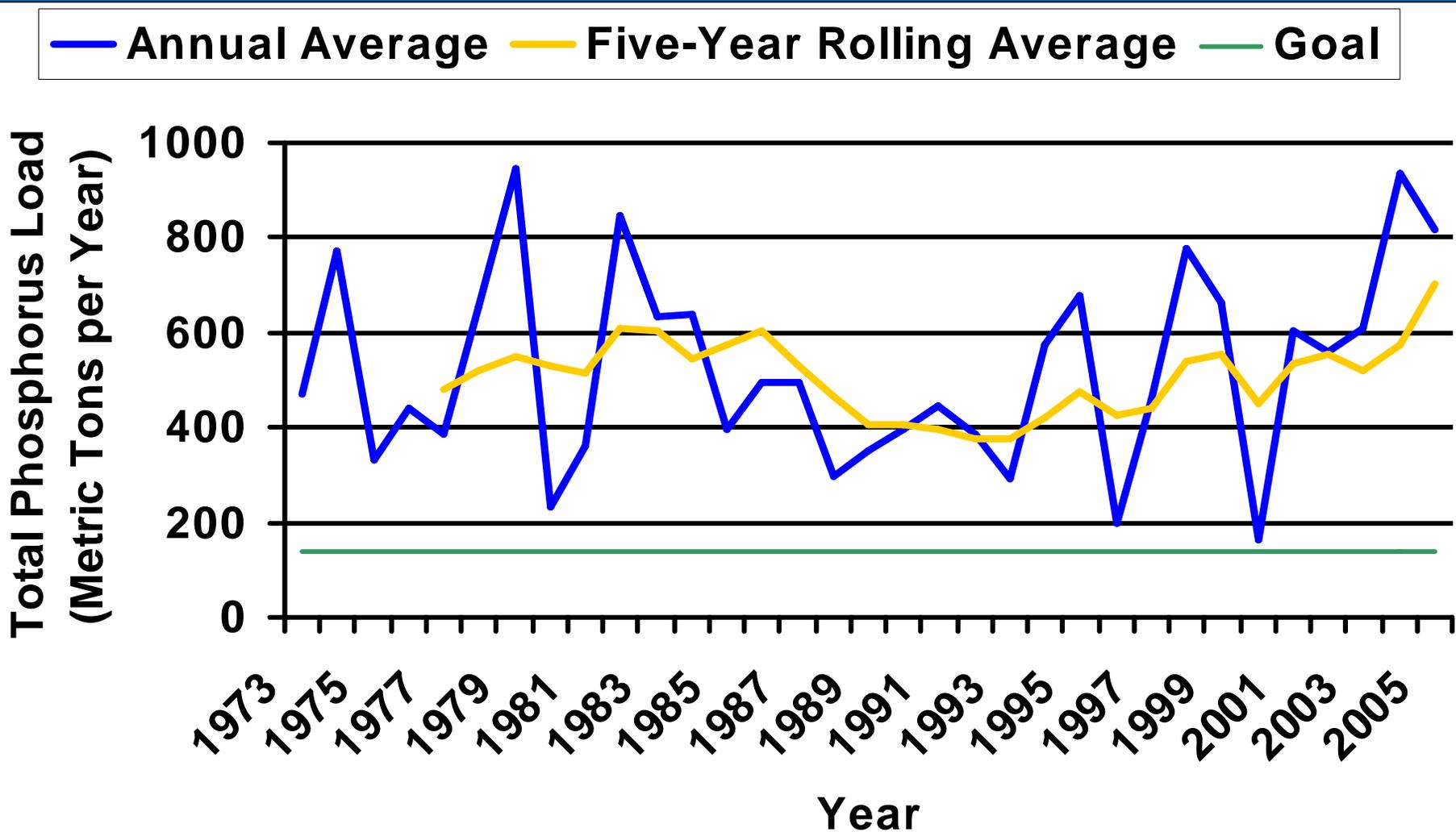


Table 1. Current phosphorus reduction activities in the Lake Okeechobee watershed, with lead agencies and the estimated total P load reduction (to meet the TMDL goal of 105 mt)

Activities	Estimated TP Load Reduction (mt)	Lead Agency
<b>Baseline P Load (1991-2000)</b>	<b>433</b>	
<b>Current Activities</b>		
Owner Implemented BMPs	35	Agriculture – FDACS Non-Ag. – FDEP
Funded Cost Share BMPs	30	FDACS
Watershed P Control Projects	30	SFWMD
Regional Public Works Project	51	SFWMD
<b>Total under current activities</b>	<b>146</b>	

**Table 2. Future phosphorus reduction activities in the Lake Okeechobee watershed, with lead agencies and the estimated total P load reduction (to meet the TMDL goal of 105 mt)**

Activities		Estimated TP Load Reduction (mt)	Lead Agency
Baseline P Load (1991-2000)		433	
Current Activities		146	
LOPP Reduction Tools	Typical Cost-Share BMPs That Require Future Funding	31	FDACS
	Additional Agricultural BMPs	30	FDACS and SFWMD
	Regional Projects Initiated (Lemkin Creek, Nubbin Slough Expansion, Lake O Fast Track Projects, Brighton Reservoir)	22	SFWMD
	Subtotal	83	
Proposed Regional Project: CERP LOWP		60	USACE and SFWMD
TMDL (not including the 35 mt of atmospheric deposition)		105	
Remaining Load		39	

**Table 2 con't. Future phosphorus reduction activities in the Lake Okeechobee watershed, with lead agencies and the estimated total P load reduction (to meet the TMDL goal of 105 mt)**

<b>Strategies</b>	<b>Aquifer Storage and Recovery (ASR) – 10 well system</b>	<b>10</b>	<b>SFWMD</b>
	<b>Public-Private Partnership – Indian Prairie Basin</b>	<b>22</b>	<b>SFWMD</b>
	<b>Chemical Treatment</b>	<b>20</b>	<b>FDEP and SFWMD</b>
	<b>Additional Regional Storage/Treatment (TCNS, Indian Prairie Basin, Fisheating Creek)</b>	<b>21</b>	<b>SFWMD</b>
	<b>Managed Aquatic Plant Systems</b>	<b>9</b>	<b>SFWMD</b>
	<b>Deep Well Injection</b>	<b>TBD</b>	<b>SFWMD</b>
	<b>In-Lake dredging</b>	<b>TBD</b>	<b>SFWMD</b>
	<b>WOD and ERP Rule Revisions</b>	<b>TBD</b>	<b>SFWMD</b>
	<b>Soil Amendments/Stabilization</b>	<b>TBD</b>	<b>SFWMD</b>
	<b>Public-Private Storage/Treatment</b>	<b>TBD</b>	<b>SFWMD</b>
	<b>Linkages with Other Programs: alternative water supply, wetland reserve program</b>	<b>TBD</b>	<b>SFWMD</b>

# Implementation Schedule

- Complete cost-share BMPs in watershed south of S-68 and S-65 by **2009**
- Complete regional projects by **2010**
- Complete feasibility studies by **2010**
- Complete cost-share BMPs in Lake Istokpoga watershed by **2012**
- Complete LOWP by **2015**
- Complete cost-share BMPs upstream of Lake Kissimmee by **2015**
- Complete additional strategies, as needed, by **2015**