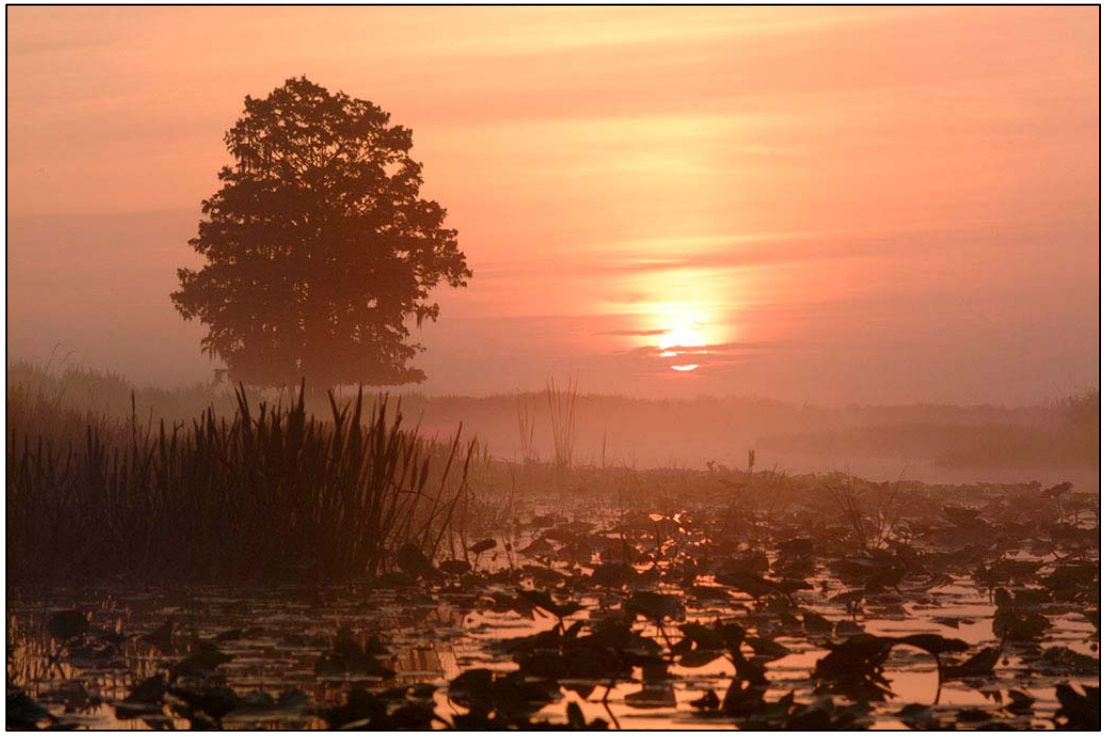
Northern Everglades & Estuaries Protection Program

Lake Okeechobee Watershed Construction Project Phase II Technical Plan

Tom Teets

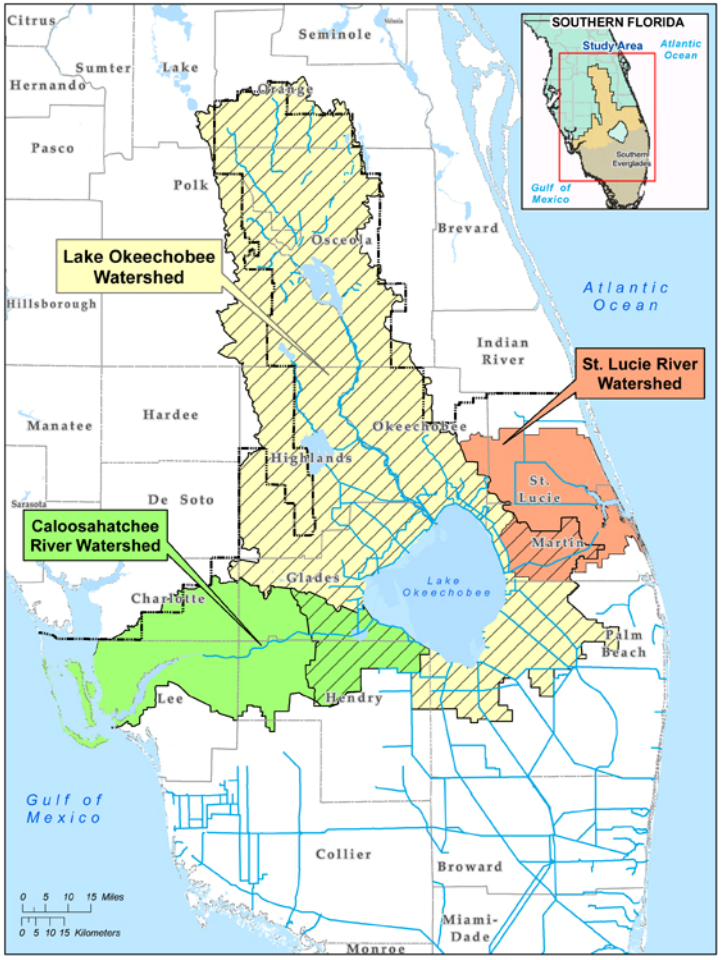
Governing Board Strategic Planning Meeting

March 12, 2009



Northern Everglades and Estuaries 2007 Legislation

- Required development of Plans to identify water quality and storage projects in three northern watersheds
  - Lake Okeechobee Watershed Construction Project Phase II Technical Plan-by Feb 1, 2008
  - Caloosahatchee and St. Lucie Rivers Watershed Protection Plans-by Jan 1, 2009
- Required plan updates
  - Annual Status Reports
  - Triennial Plan Updates



Key Objectives

- Meet Lake Okeechobee Total Maximum Daily Loads
- Manage Lake Okeechobee water levels within an ecologically desirable range
- Meet desirable salinity ranges for the St. Lucie and Caloosahatchee Estuaries
- Identify opportunities for alternative surface water supply sources in the watershed

Water Quality – Defining the Magnitude of the Problem

- Phosphorus TMDL for Lake Okeechobee
  - 140 metric tons 5-year rolling average
  - 35 metric tons attributed to rain and wind
  - 105 metric tons allowable from all surface water inflows
- Phosphorus Load (annual avg)
  - Current analysis 1991–2005 = 514 metric tons
  - Lake Okeechobee Protection Plan update based on 1991–2000 = 433 metric tons
  - Annual Average Phosphorus loading will vary as period of record is updated

Water Quantity – Defining the Magnitude of the Problem

- Analyses performed to determine amount of water needed to be stored in watershed to:
  - Improve lake stage management
  - Reduce excess damaging freshwater releases to estuaries
  - While meeting other water related needs
- Analyses indicate there is a breakpoint between 900,000-1.3 million acre-ft
- Plan identifies a water quantity storage goal with an upper ceiling of approximately 1.3 million acre-ft

Overview of the Plan

- Water Quality (measures toward meeting 105 metric ton Total Phosphorus TMDL)
  - Source Control
  - Stormwater Treatment Areas
  - Deep Injection Wells
  - Innovative Nutrient Control Technologies
- Water Quantity (measures toward meeting 900,000-1,300,000 ac-ft storage goal)
  - Alternative water storage on public and private lands
  - Storage need could be met by reservoirs and ASR

Plan Implementation Stages

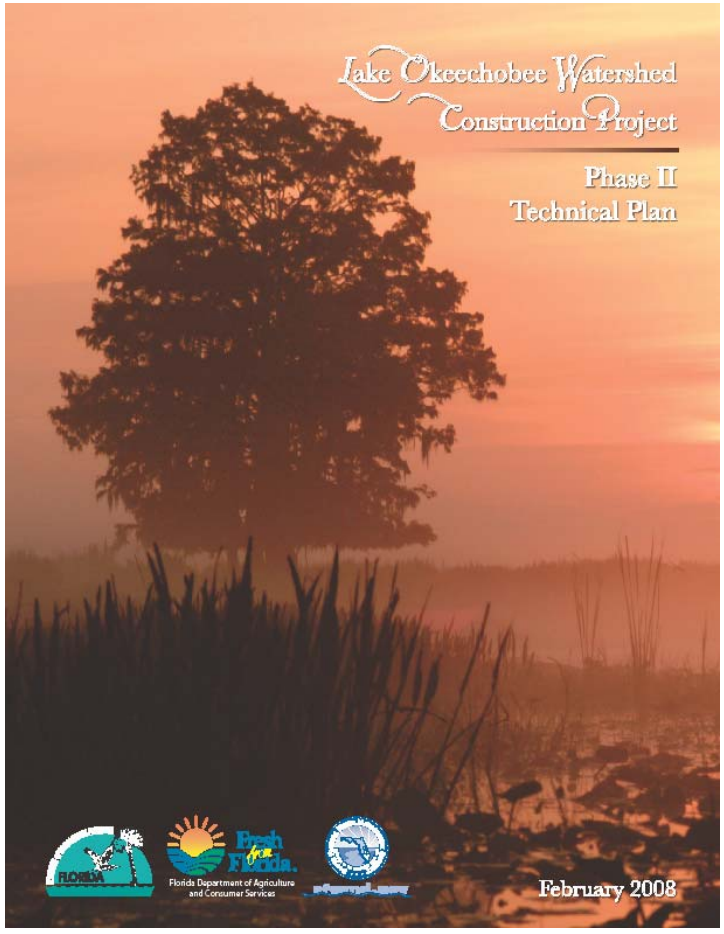
- Initial Implementation Measures
  - Projects initiated from 2008 - 2011
- Mid-Term Implementation Measures
  - Projects initiated 2012 - 2015
- Long-Term Implementation Measures
  - Projects initiated beyond 2015

Initial Implementation Measures

		Water Quality	Water Quantity
Projects	Agricultural and Urban BMPs and Regulatory Programs	✓	✓
	LOPP Phosphorus Source Control Projects	✓	✓
	Local Government Initiatives	✓	✓
	Florida Ranchlands and Environmental Services Projects	✓	✓
	LOER Alternative Water Storage Projects	✓	✓
	LOER Stormwater Treatment Areas	✓	✓
	CERP ASR Pilots	✓	✓
	CERP Lake Okeechobee Watershed Project	✓	✓
Technology and Model Refinement	BMP Research and Refinement	✓	
	Chemical Treatment Feasibility Study	✓	
	Water Quality Model Development	✓	
	ASR Feasibility- Pilot Cycle Testing, ASR Regional Study, ASR Optimization Analysis		✓
	Hydrologic Model Refinement		✓
	Sub-Watershed Conceptual Planning	✓	✓

Plan Submittal and Ratification

- Delivered to Legislature on Feb 1, 2008
- No action was taken during session- therefore plan is deemed approved and may be implemented
- Process Development and Engineering process is moving forward

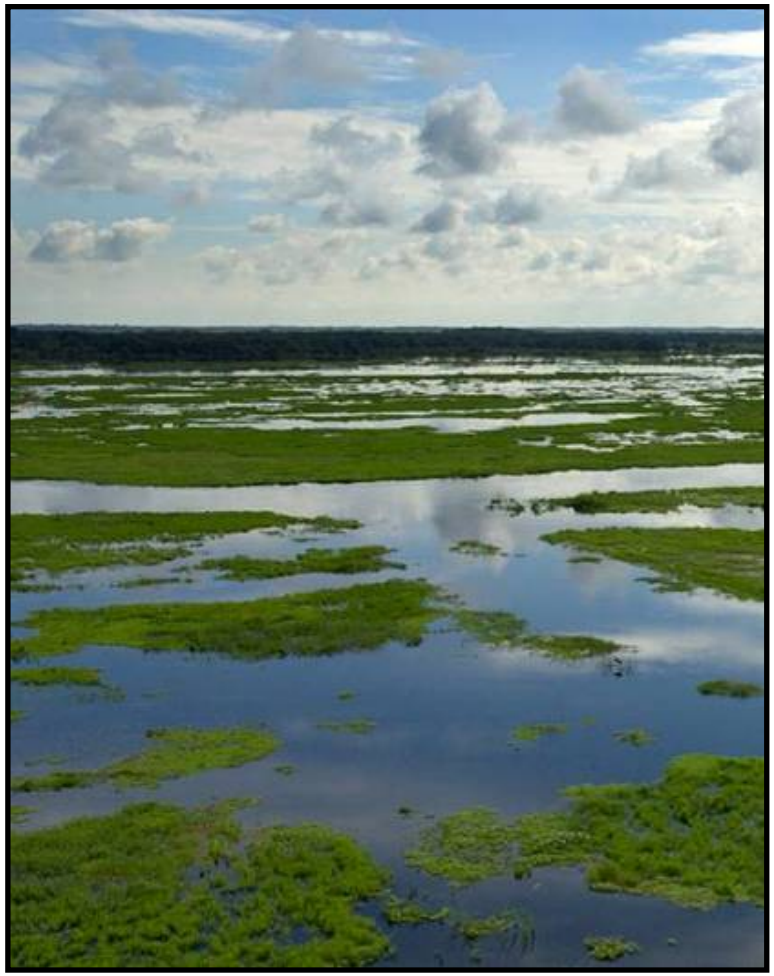


On-Going Projects

- Lake Side Ranch STA
- Fisheating Creek Feasibility Study
- Chemical Treatment Pilot Project
- Taylor Creek Algal Turf Scrubber
- Hybrid Wetland Treatment Technology Projects
- Alternative Water Storage Projects/Florida Ranchlands and Environmental Services Projects
- Lake Okeechobee Watershed Water Quality Model Development

Emerging Issues

- Legacy Phosphorus
- Tributary Total Maximum Daily Loads (TMDLs)



Questions?