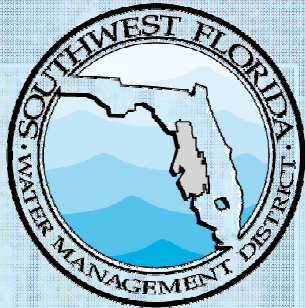


Peace River Cumulative Impact Study

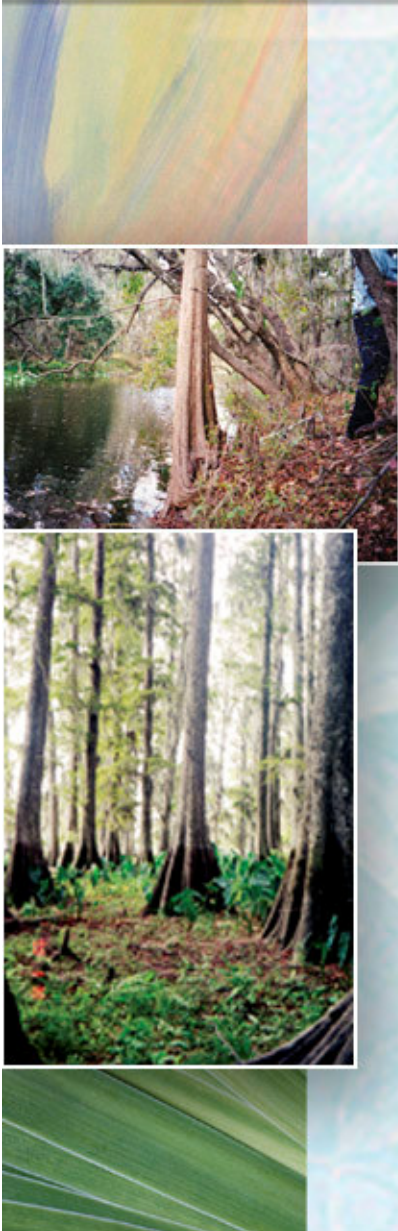


July 26, 2006
Public Information Workshop

Legislative Mandate

**Address cumulative impacts
from changes in:**

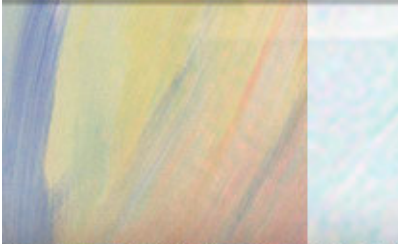
- **Land Form**
- **Hydrology**



Study to Look at . . .

Cumulative Effects on:

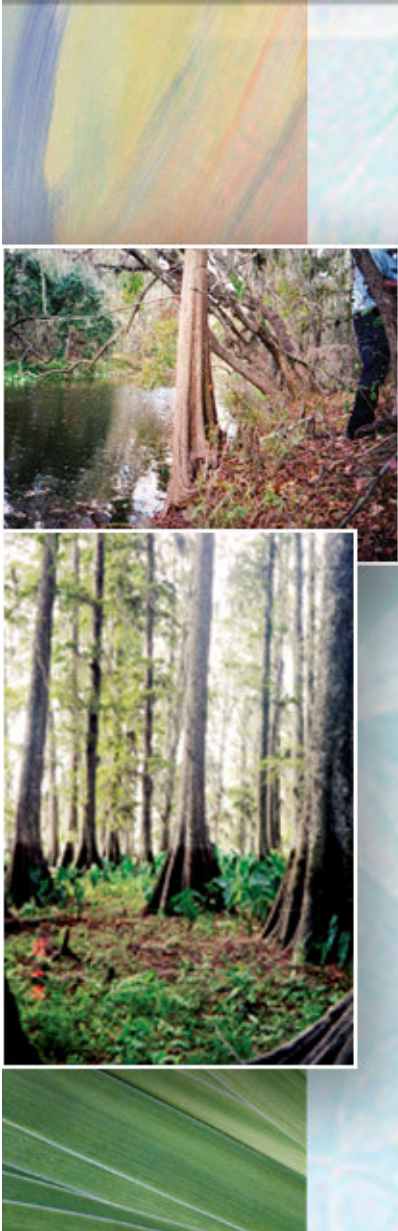
- **Surface waters**
- **Ground waters**
- **Fisheries**
- **Aquatic & estuarine habitats**
- **Water supplies**



Next Step: The Resource Management Plan

The Peace River Basin Resource Management Plan:

- Must identify **both regulatory and non-regulatory** actions to minimize cumulative impact.
- There is no bright line distinction between regulatory and resource management programs.
- This study considers relevant **regulatory and non-regulatory** programs.

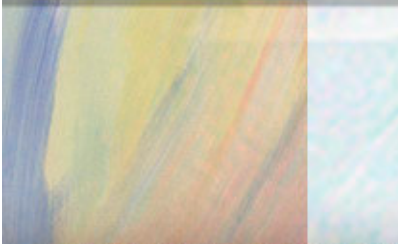


Data Inadequacies

We already know . . .

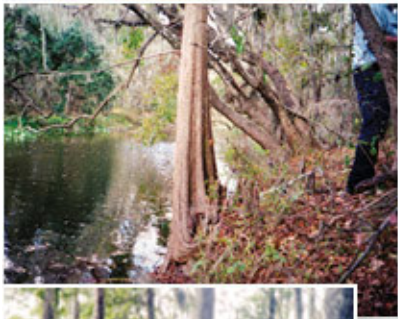
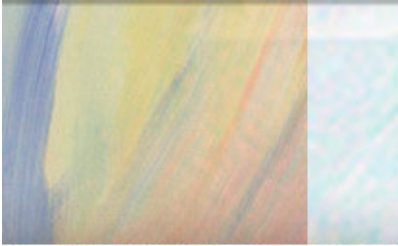
- Historical data incomplete
- Regulatory history sketchy
- Inferences will not be airtight

Nevertheless, the study can
provide good **direction** for the
Resource Management Plan

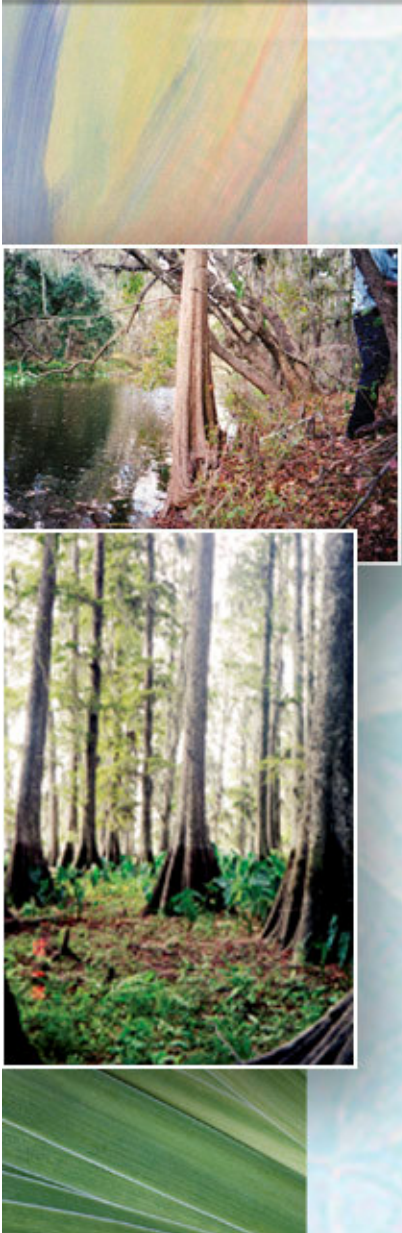


HISTORICAL TIMELINE

A Quick Review



Early Regulatory History



1953 – Artesian Waters Act

1957 – Water Resources Act

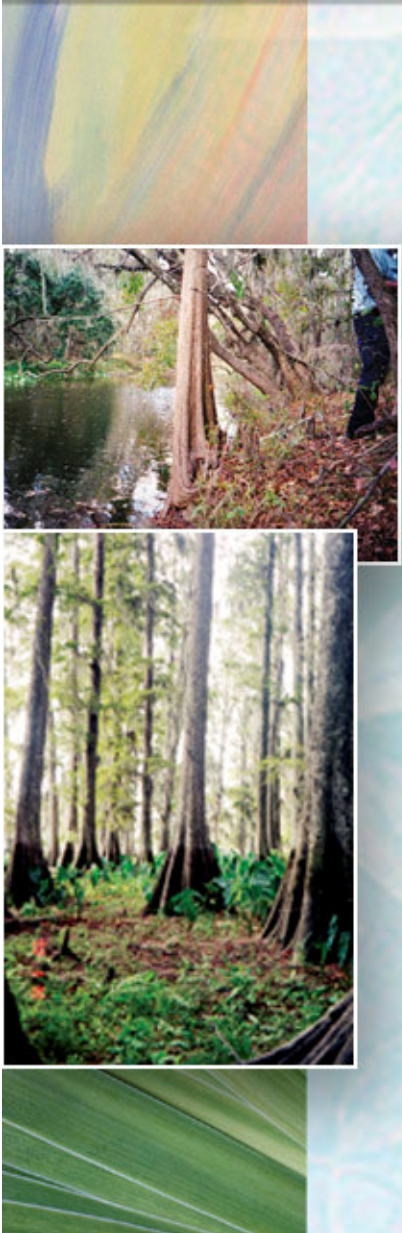
1961 – SWFWMD created

**1967 – Air & Water Pollution
Control Act**

**1968 – Public Trust Doctrine
adopted in Florida Constitution**

**1969 – Department of Natural
Resources and Water Pollution
Control Commission created**

Regulatory Ramp-up



1972 – Water Resources Act (373)

**1972 – Environmental Land &
Water Management Act (380)**

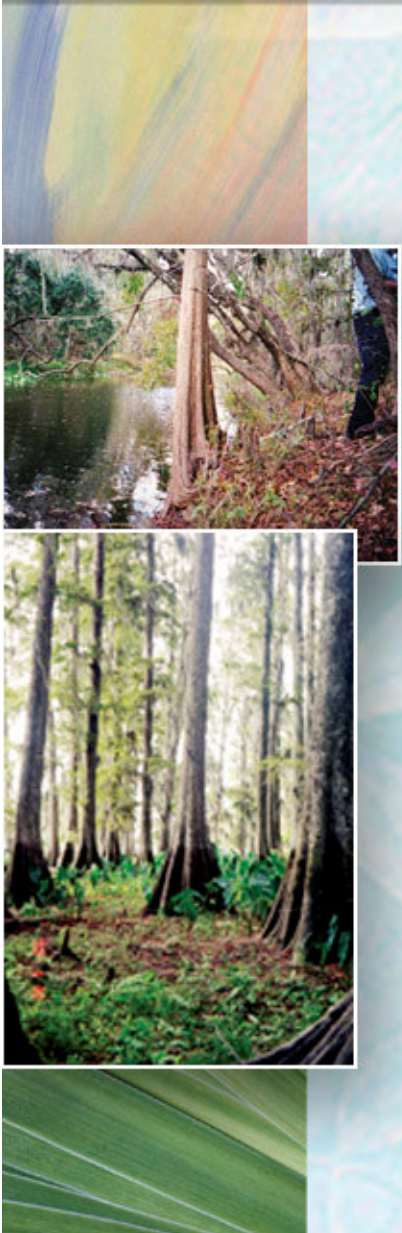
1974 – SWFWMD regulatory rules

1975 – DER & ERC created

**1975 – Mandatory reclamation of
mined lands**

**1982 – Groundwater Resource
Availability Inventories mandated
(the legislative birth of SWUCA)**

Regulatory Ramp-up (cont.)



1983 – Water Quality Assurance Act (stormwater permitting)

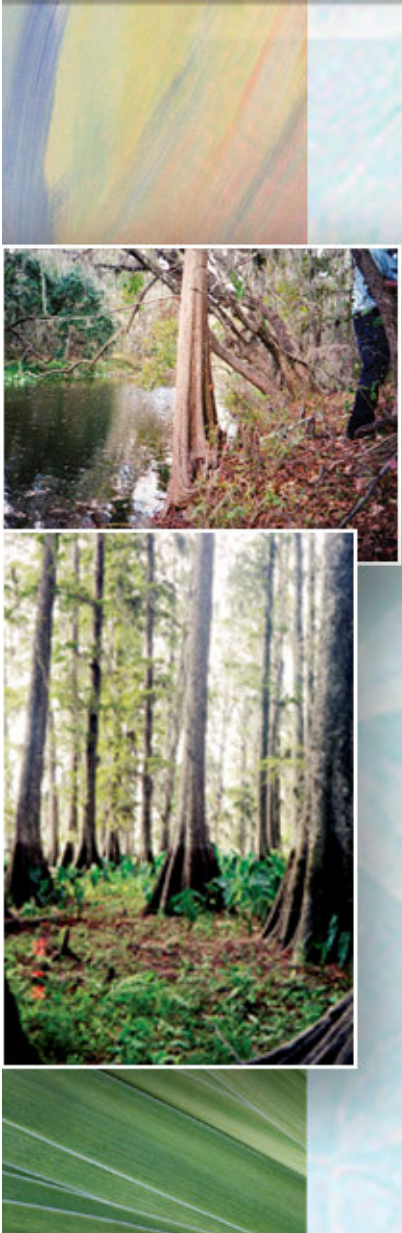
1984 – Nonmandatory (pre-1975) reclamation program

1984 – Warren S. Henderson Wetland Protection Act

1986 – Phosphate Land Reclamation Act

1986 – SWFWMD conditionally exempts phosphate mining from MSSW permitting

Regulatory Ramp-up (cont.)



**1987 – Isolated wetlands subject to
MSSW rules**

**1989 – Revised Water Use
Permitting rules**

Water Resources Act of 1972

- **Legislative Foundation for Chapter 373, F.S.**
- **Based on Model Water Code**
- **Designated Water Management Districts (originally six)**
- **Required establishment of minimum flow and levels**
- **Required permits and established criteria for consumptive use and alteration to surface waters**
- **Provided exemptions**
- **One year delay taking effect**

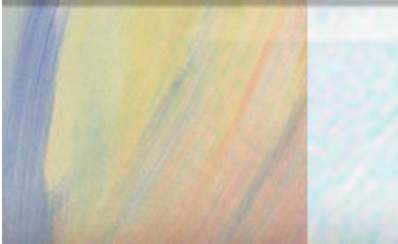


Groundwater Resource Availability Inventory

- Enacted in 1982
- Develop information to share with local governments & RPCs.
- Future growth plans should “reflect the limitations of the available groundwater or other available water supplies”.
- Initiated Water Resource Assessment Projects (WRAPs).

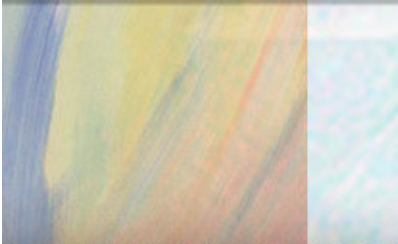


Watershed Wetlands Protection Legislation



- Water Quality Assurance Act – 1983
- Warren Henderson Act – 1984
- Established additional criteria for public interest beyond water quality
- SWFWMD conditionally exempted phosphate mining from rules regulating MSSW – 1986
- SWFWMD revamped management and storage of surface waters (MSSW) rule to include **isolated** wetlands – 1987

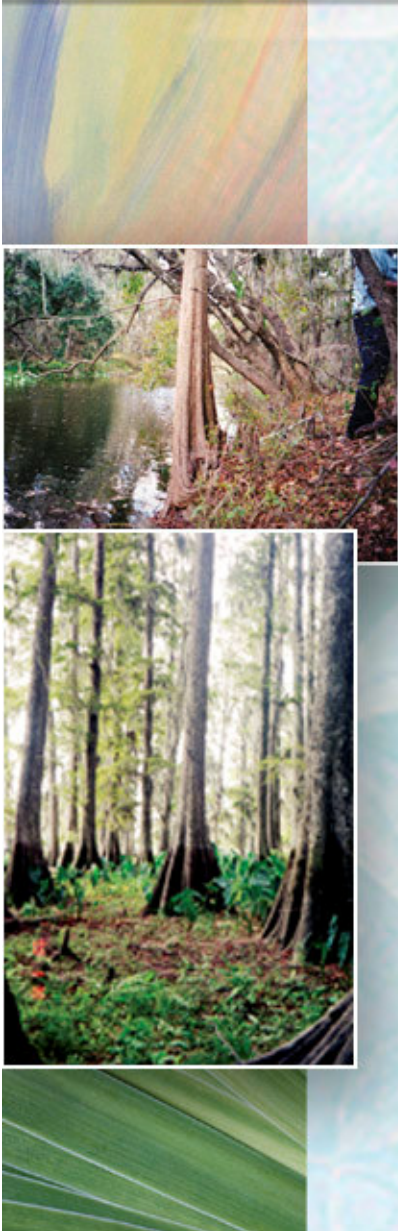
SWFWMD Revised Water Use Permitting Rules – 1989



- **Adopted current 14 criteria**
- **Adopted revisions to take into account on-site environmental impacts of permit decisions.**
- **Required the 14 criteria be met on an “individual and cumulative basis.”**
- **Water use cannot cause “adverse environmental impacts” to wetlands, lakes, streams, estuaries, fish and wildlife, or other natural resources.**

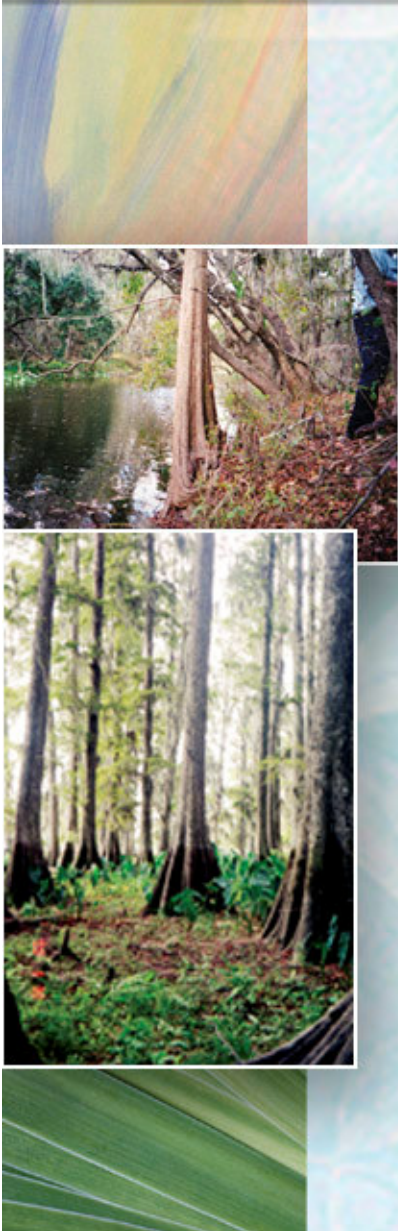
Status Summary Entering the 1990's

- **Regulatory framework in place**
 - Chapters 373, 378, and 403, F.S.
 - SWFWMD, DER, DNR
 - Water Use Permitting, Reclamation, Wetland Resource Permitting, and Management and Storage of Surface Waters
- **Minimum levels established for controlled lakes, but no minimum flows for Peace River**



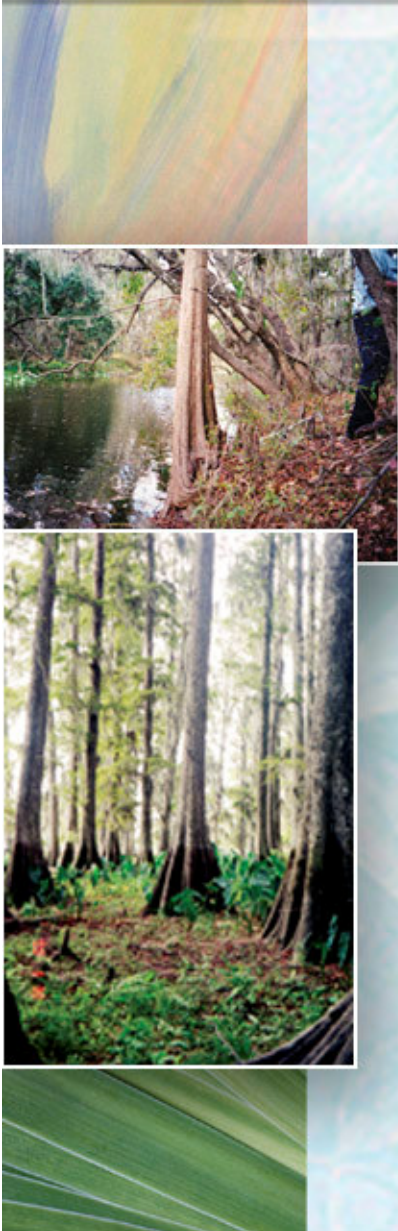
Status Summary Entering the 1990's

- Groundwater Resource Availability Inventories/Southern Water Use Caution Area
- Phosphate Mining Regulations
 - Mandatory Reclamation
 - SWFWMD conditional exemption from MSSW including isolated wetlands
 - DER regulates “waters of the state”
 - No state agency regulates mining operations, *per se*



Consolidation in the 1990's . . .

- Environmental Resource Permit legislation and rules
- Regulatory Streamlining (new division of responsibilities)
- Southern Water Use Caution Area management plan & rules
- Chapter 373 amendments refine the role of WMDs
- Mitigation rules
- DNR + DER = DEP

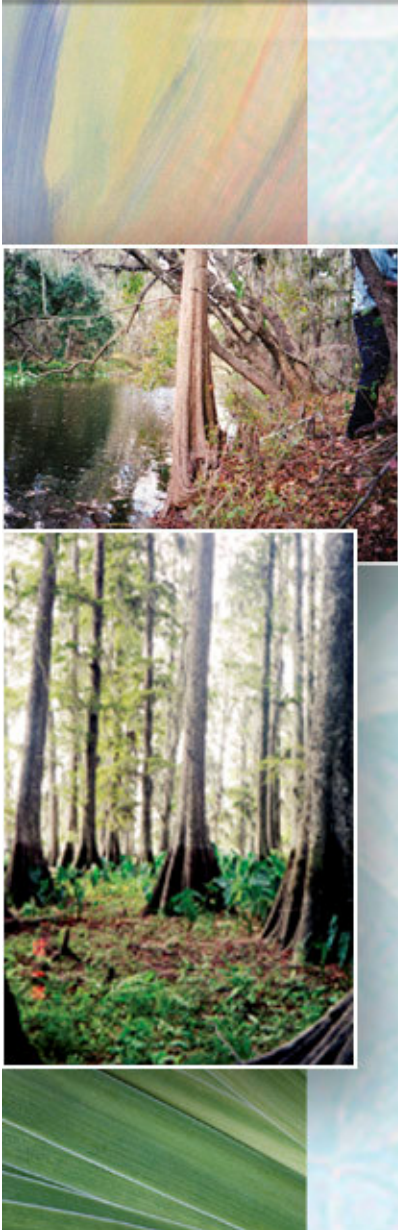


What is ERP?

In 1993, Legislature consolidated environmental regulation

- **Water Management Districts had managed surface waters**
- **DER had managed water quality and dredging and filling in state waters**

**Combined into ERP
(Environmental Resource
Permitting)**

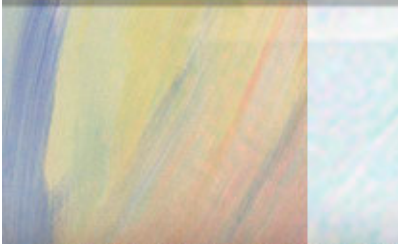


But nothing's simple . . .

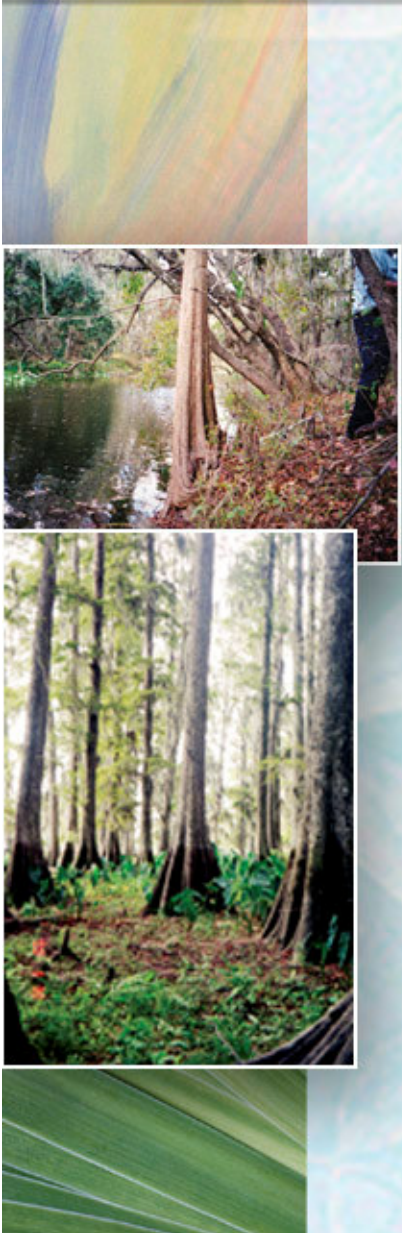
ERP rules were challenged and did not take effect until 1995

The Legislature provided more than a dozen ways to “grandfather” the old rules

Some kinds of projects are still grandfathered, but most activities are regulated under ERP, including phosphate mines and urban development



Division of Responsibility



Before 1993, DER and water management districts regulated some of the same things

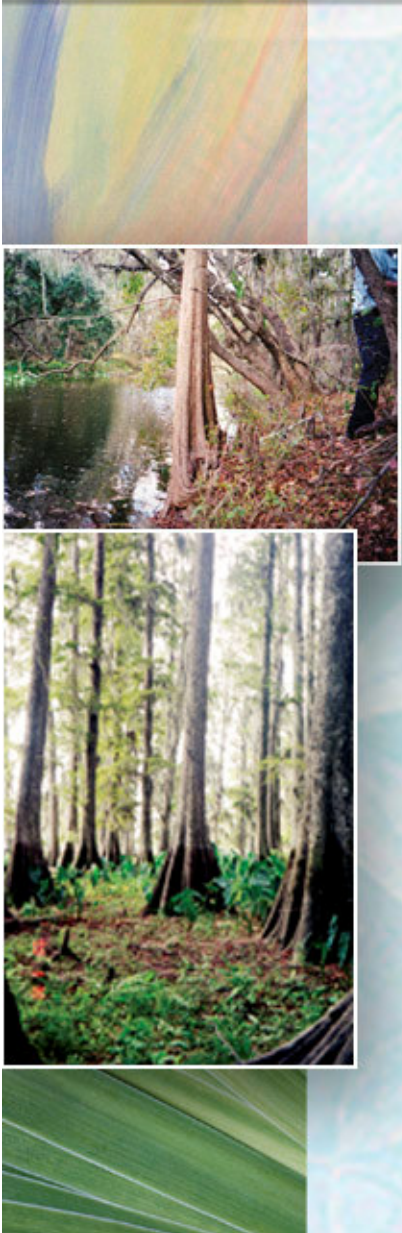
Under ERP, they divided responsibilities to administer the same statewide rule

SWFWMD – land development

DEP – industrial, mining, & marinas

DER merged with DNR to become DEP

Three themes tell the story . . .



Public Water Supply

Punta Gorda – Shell Creek WTP

Peace River WTP – DeSoto County

Southern Water Use Caution Area

Dealing with an over-allocated groundwater resource

Phosphate Mining

Changing regulatory landscapes

Public Water Supply – Punta Gorda

Shell Creek Reservoir – 1964

Sole source for Punta Gorda

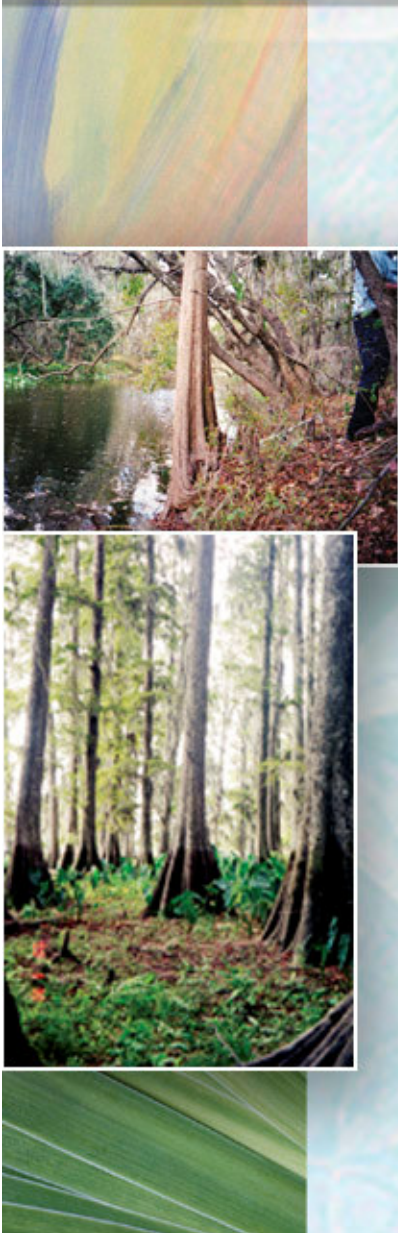
Shell & Prairie Creeks – Class I

Class I – designated for drinking

**Water quality standards adopted in
late 1970's to protect Class I waters**

**Freezes in 1980's moved the citrus
industry south into Shell and Prairie
Creeks**

**Citrus growers obtained permits from
SWFWMD to use groundwater**



Cumulative impacts occurred . . .



New groundwater wells had a cumulative impact on water quality of Shell Creek

- Rules allowed growers to use lowest quality water – deeper well yielded lower quality
- No one anticipated degradation of surface water quality
- New wells collectively interfered with an existing legal use of water by City contrary to § 373.223(1)(b), F.S.

Consequences . . .

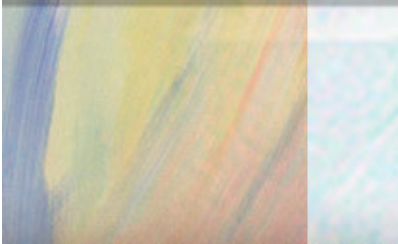
City's water became too mineralized in drought of 2000 – 2001

- Violated Class I Standards**
- Violated Drinking Water Standards**

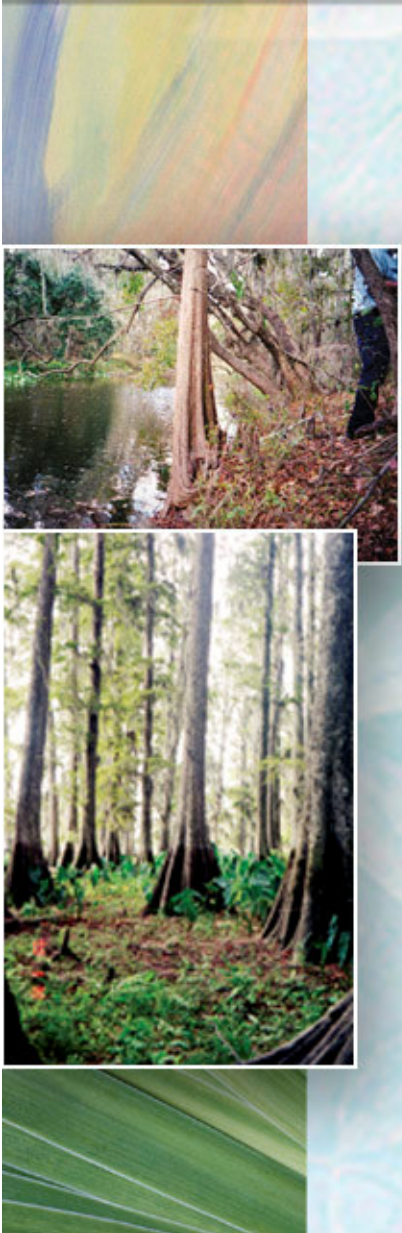
City seeks emergency order from DEP in 2001

DEP and SWFWMD work to understand the issues and address the causes

Growers are involved as partners in the solution



The solution . . .



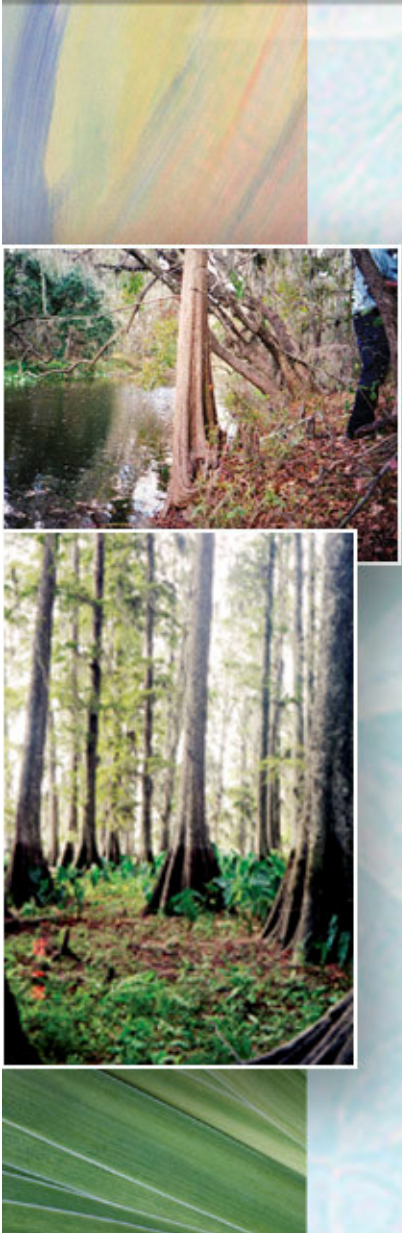
SWFWMD working with growers to shallow-up deep wells and reduce runoff of well water

Rules amended to only require “lowest quality” when environmentally appropriate

SWFWMD has prepared a Management Plan to achieve water quality goals by 2014

**Growers get better water and are helping pay for the improvements
City has sustainable water supply**

Lessons learned . . .



Cumulative impacts are subtle and not readily observed

The regulations did not prevent it, because the cause-effect was only understood “after-the-fact”

Shell Creek may be the “canary in the mine”

This study shows increased “hardness” in all watersheds

Water quality may be affecting fish in other parts of Peace River Basin

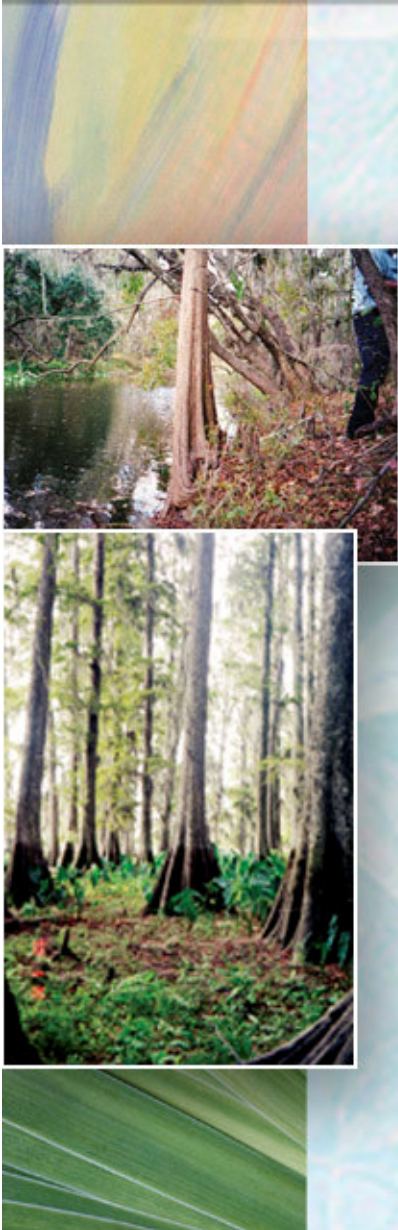
Peace River Water

**Water Plant built in DeSoto in 1980
Water Supply Authority acquired it
in 1991**

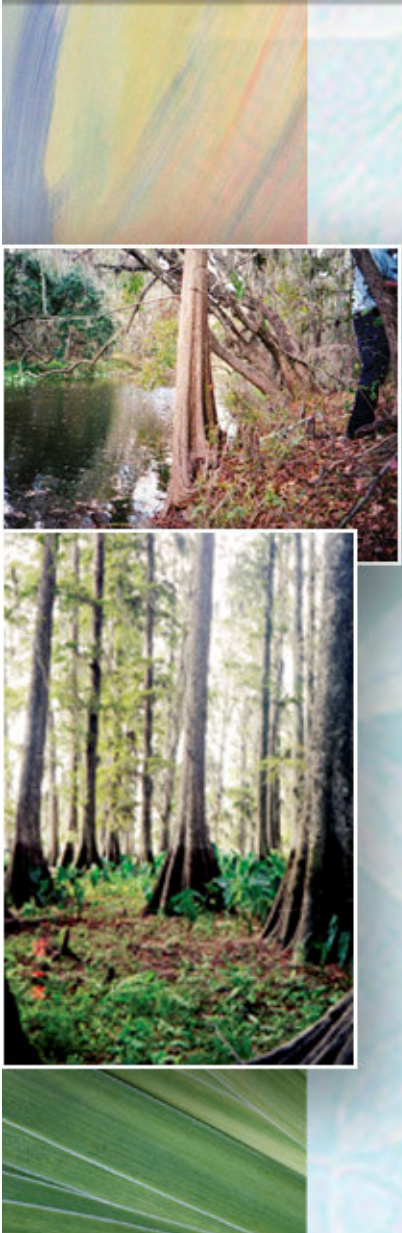
**In 1996, Authority obtained
renewal permit to withdraw:**

- for 20 years
- 90 mgd (single day)
- 32.7 mgd as a daily average

**The conditions of this permit
effectively pre-empt other
significant surface withdrawals**



How the “pre-emption” works . . .



Authority can take up to 90 mgd or about 140 cfs

Permit conditions limit Authority to no more than 10% of flow

Therefore, Authority can only take full 90 mgd when river flow is greater than 1,400 cfs

Florida Water Law prevents a new use from interfering with an existing legal use

Other withdrawals below river flows of 1,400 cfs would interfere

Base flow is the issue . . .

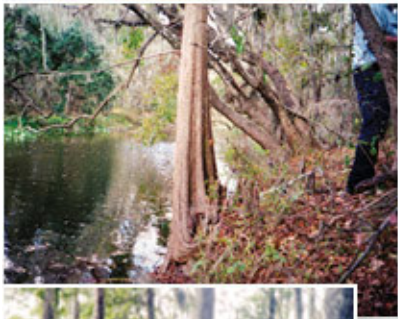
Authority cannot withdraw during low flow periods

Much invested in storage to provide water during low flows

Trends indicate that base flows *may* be declining over time

Loss of base flow means the river is becoming more “flashy” with more days below minimum flow for withdrawal

One cure: more natural storage in the watershed



The three themes

Public Water Supply

Punta Gorda – Shell Creek WTP

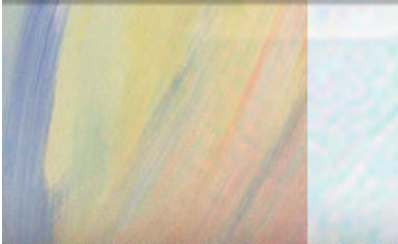
Peace River WTP – DeSoto County

Southern Water Use Caution Area

Dealing with an over-allocated groundwater resource

Phosphate Mining

Changing regulatory landscapes



The Saga of SWUCA

Groundwater Resource Availability Inventories required of each WMD in 1982 legislation:

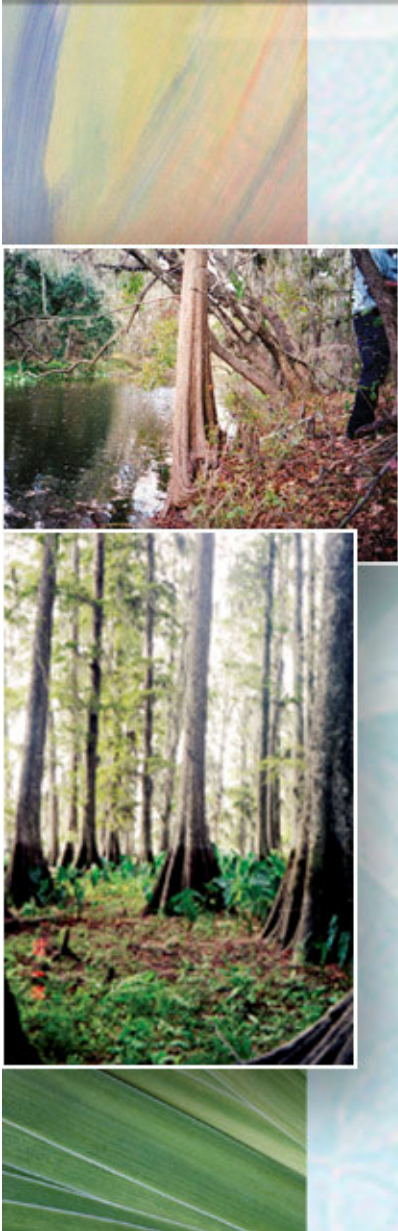
- **To develop information to share with local governments**
- **To allow future growth plans to “reflect the limitations of the available groundwater or other available water supplies.”**



Southern Water Use Caution Area (SWUCA)

SWUCA evolved with data collection and analysis:

- **Four Water Resource Assessment Projects (WRAPs)**
 - Northern Tampa Bay
 - Eastern Tampa Bay
 - Highlands Ridge
 - Peace River Valley
- **Peace River, Highlands Ridge, & Eastern Tampa Bay combined into SWUCA – 1992.**



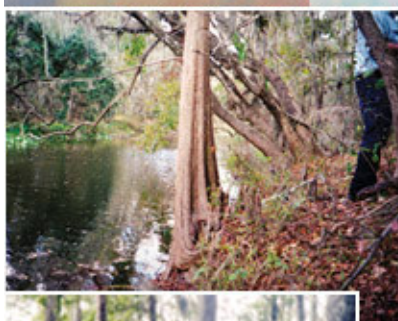
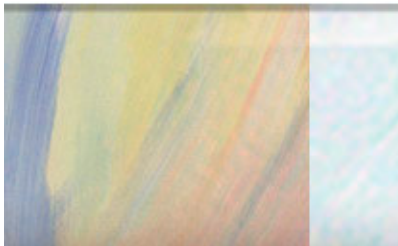
SWUCA Management Plan 1994

- **5,100 sq. miles – all of Peace River Basin**
- **Upper Floridan Aquifer over-allocated to permit holders**
- **Safe yield below current use**
- **Draft Plan September 1993**
- **After public hearings, a revised SWUCA Management Plan was released April 1994.**
- **Rules proposed in late 1994**

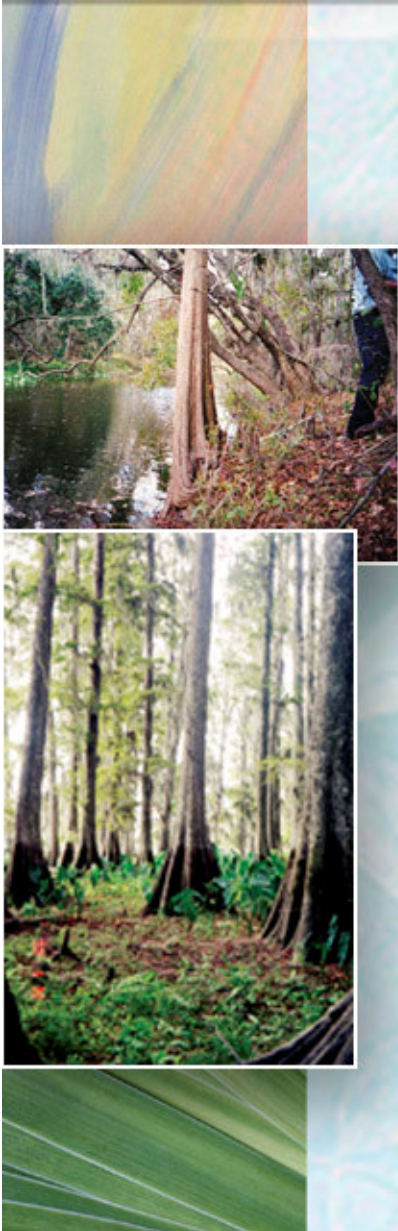


Proposed SWUCA Rules

- No new withdrawal permits until minimum aquifer levels achieved for five years.
- Applications for renewals or for reallocation of withdrawals would not be denied solely because minimum aquifer levels had not been achieved.
- Water “cushion” granted agricultural permittees for emergencies would be recalculated using “credits.”
- New users required to negotiate with existing permit holders.



SWUCA Rule Challenge 1995-1997

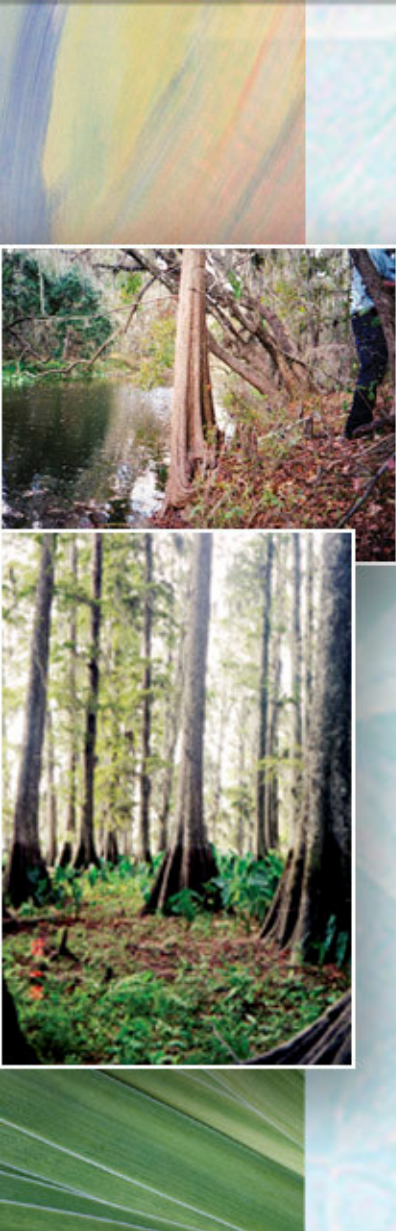


- Process and science underlying were upheld
- Need to reduce allocated use of the UFAS was confirmed
- Favored treatment of renewal permits was found **invalid** - against Chapter 373 direction to choose among “competing applications”
- Requiring new users to negotiate with existing permit holders “creates a valuable private right in a commodity that has been defined by law as a public resource”

1997 Water Legislation

Intent of Legislature:

- Sufficient water be available for all existing and future . . . uses
- Adverse effects of competition be avoided
- Districts should “take the lead” and “be responsible for securing the necessary funding . . .”
- Recovery plans must include “phasing . . . for provision of water supplies for all existing and projected . . . uses”



On the one hand . . . then on the other



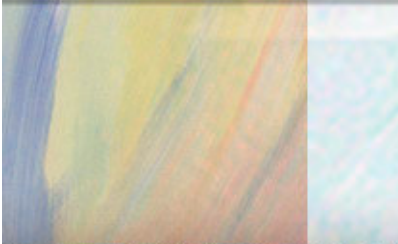
**The ALJ had cited the requirement for
“competing applications” to allocate
“a quantity of water that is adequate
for both or all”**

**Within weeks of his Recommended
Final Order, the Legislature said,**

**“adverse effects of competition should be
avoided” and District plans should have
“provision of water supplies for all existing
and projected . . . users”**

**But, the “competing applications”
procedure in Chapter 373 F.S. was not
repealed!**

SWUCA II -- the sequel



- **SWUCA II Work Group formed 1998**
- **Draft SWUCA Recovery Plan 2003**
- **SWUCA Recovery Strategy adopted by SWFWMD March 2006**
- **For upper Peace River – recovery target for minimum flows is 2025**

What's the new strategy?

Recovery Goals:

- Achieve MFL's by 2025
- Ensure sufficient water supplies

Regulatory Strategy:

- Renew existing permits
- Self-relocation
- Require new quantities to:
 - Use “alternative” supplies,
 - Demonstrate a net benefit, or
 - Compete with other applications

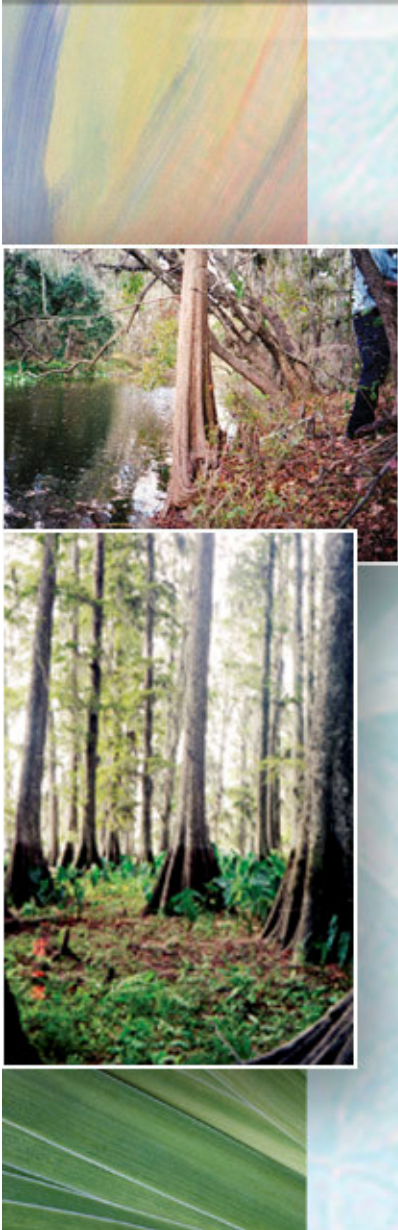


How do net benefits work?

Net Benefits only required if new withdrawal impacts an MFL

Net Benefit Options include:

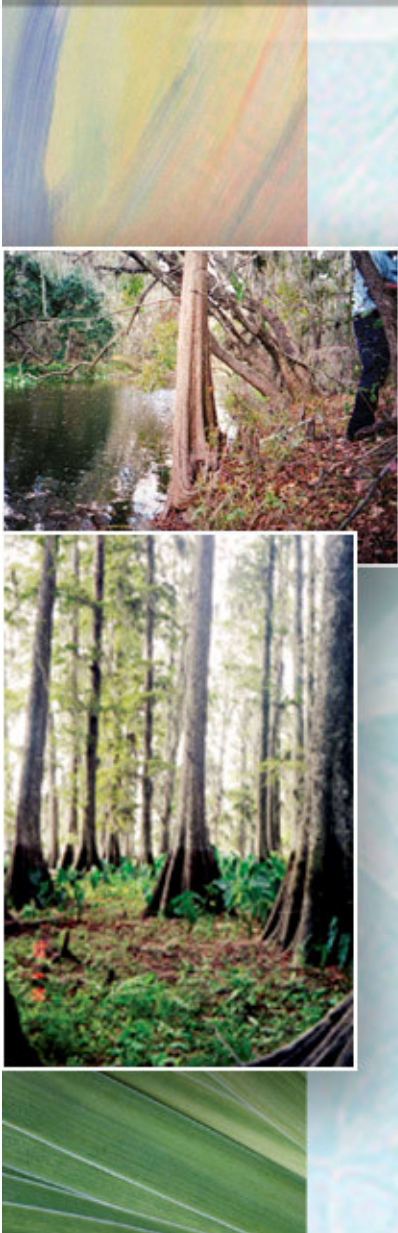
- **Groundwater replacement credit**
 - Offsetting through re-use
- **Participation with District in Water Resource Projects**
 - Work with District on new water
- **Mitigation Plus Recovery**
 - Market-driven strategies



Examples of Market-driven strategies

When converting agricultural land to urban uses and reducing the use of groundwater:

- **Local government can condition a development order to require transfer of (less) water rights to developer or utility, or**
- **Permits can be transferred with sale of land with appropriate use reductions.**



The three themes

Public Water Supply

Punta Gorda – Shell Creek WTP

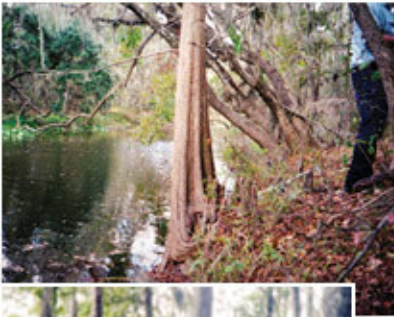
Peace River WTP – DeSoto County

Southern Water Use Caution Area

Dealing with an over-allocated groundwater resource

Phosphate Mining

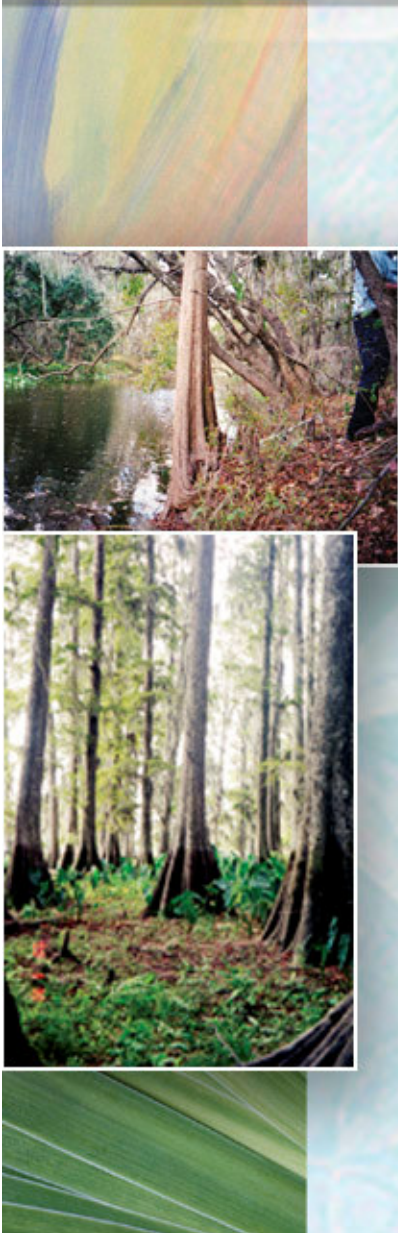
Changing regulatory landscapes



The growth of phosphate regs

Review of Phosphate Regulation:

- 1975: mined land has to be reclaimed
- 1984: reclamation can be mitigation
- 1986: State requires return to type, nature, and function of ecosystem prior to mining
- 1986: SWFWMD exempts mandatory reclamation land from MSSW rules
- 1986: Legislature sets reclamation standards, but withholds *permitting authority* over mine operations

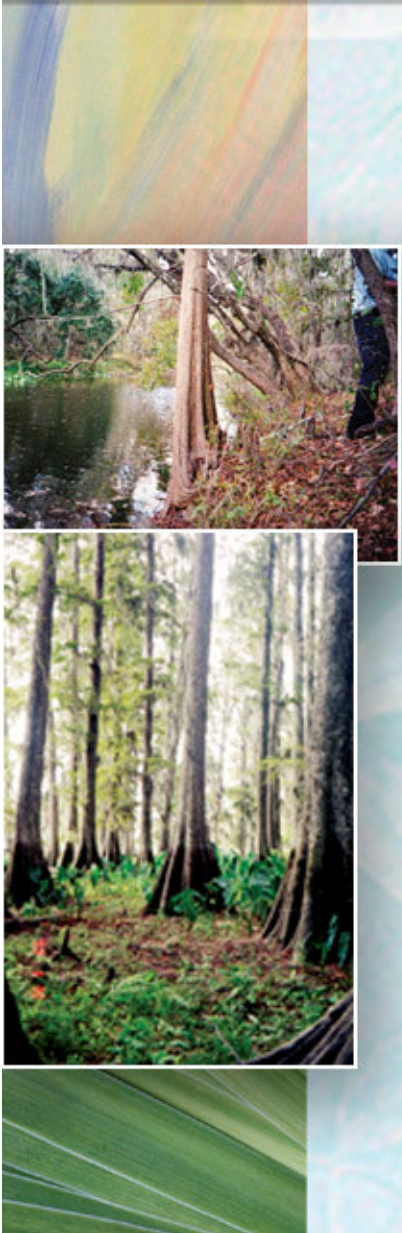


Regulations continue to grow . . .



- **1987: Isolated wetlands regulated under MSSW, but phosphate mining exempt by SWFWMD**
- **1987: Mandatory Reclamation Rule required wetland reclamation type-for-type and acre-for-acre**
- **1993: Environmental Reorganization Act consolidates and streamlines agencies and responsibilities**
- **1995: ERP rules adopted statewide; require mitigation for isolated wetlands impacted by mining**

Patchwork of rules, is everything covered?



Mining operations currently mitigate wetland impacts like all land development projects

In addition, mining has to replace acre-for-acre and type-for-type on the mined land

Disparate financial assurance requirements between ERP and Reclamation Rule

Altman Tract Litigation

**2,367 acres at the headwaters of
Horse Creek in Manatee County**

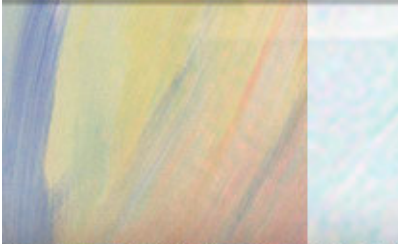
Permits filed October 5, 2000

**Hearing held; permit denied in
September 2003**

**Permits re-submitted; DEP Intent
to Issue November 2005**

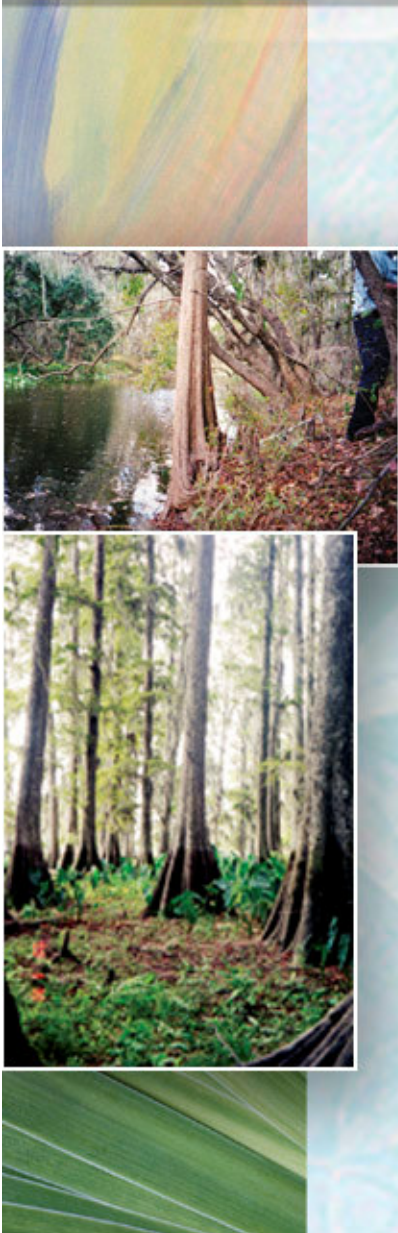
**Charlotte County settles with
Mosaic May 2006**

**DEP agrees to additional permit
conditions**



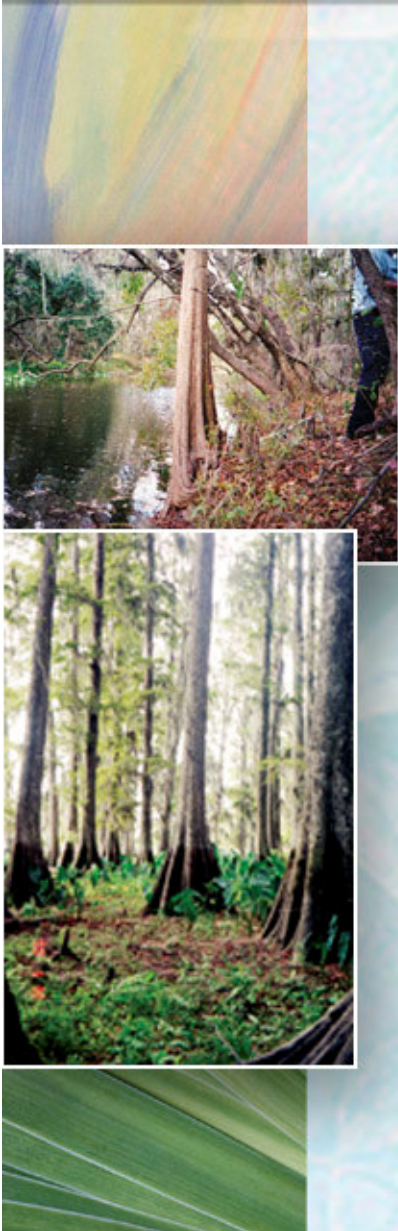
What did Altman accomplish?

- **DEP reconsidered its application of ERP standards and procedures for permitting mines**
 - Ona mine re-assessed by DEP
 - Ona mine reduced from 20,675 acres to 4,197 acres
- **Headwaters, including the “Central Marsh,” not mined**
- **No-mine areas increased from 149 to 560 acres**



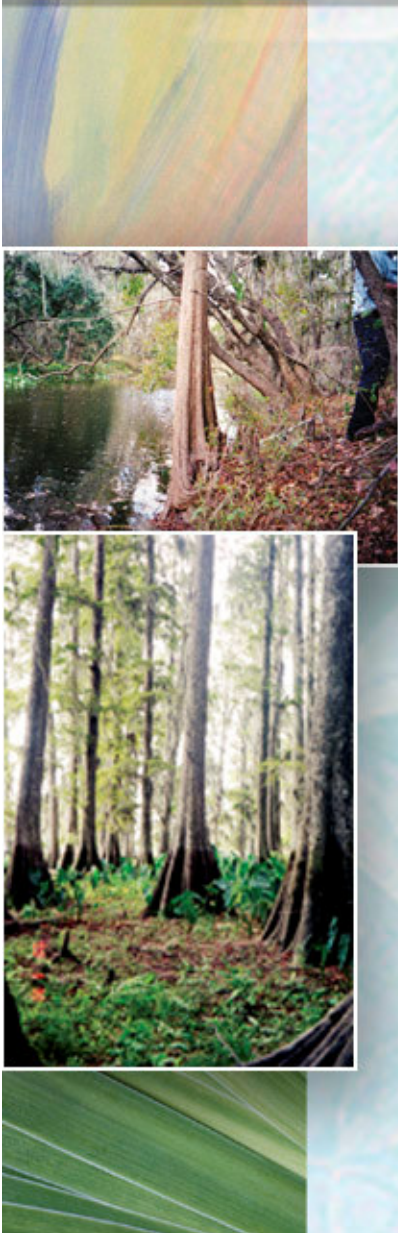
Ona Mine Timeline

- 1997 – 2001 Team Permitting
- 2000 ERP permit submitted
- 2003 Intent to Issue Challenged
- DEP Re-assessment after Altman
- Revised Application
 - Reduced from 20,675 to 4,197 acres
- Feb 2004 Revised Intent to Issue
- May – July 2004 Admin. Hearing
- May 2005 Recommended Order



Where do we stand?

- Phosphate mining continuing under ERP permitting rules
- Mining in natural streams is much harder to get approved
- Preserving larger wetlands may now be more economical than mining (and mitigating impacts)
- Reclamation requirements seem to limit some wetland mitigation options



WRAP-UP

Laws and rules have accumulated over the decades

- **Clarification is needed about the rights of existing water use permit holders and the allocation of limited water resources**
- **Inconsistencies exist between reclamation and mitigation requirements for mined lands**
- **Cumulative impacts have not been eliminated**

