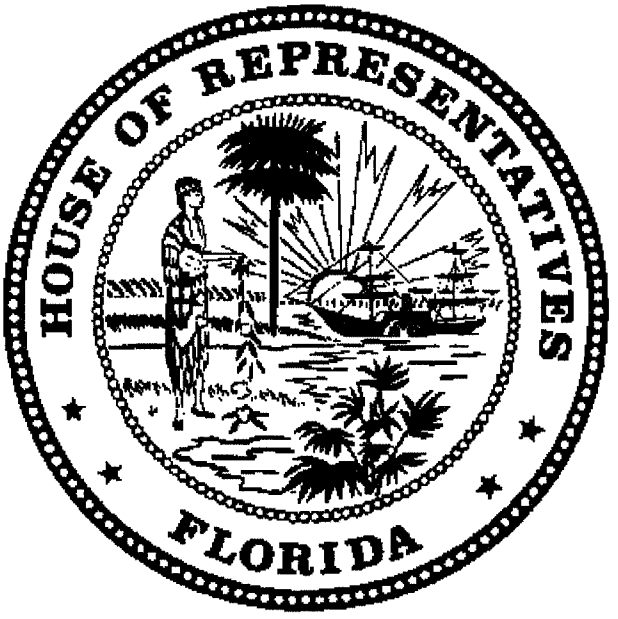


Agriculture & Natural Resources Subcommittee

Tuesday, November 1, 2011
10:00 AM
Reed Hall (102 HOB)

Dean Cannon
Speaker

Steve Crisafulli
Chair

Committee Meeting Notice

HOUSE OF REPRESENTATIVES

Agriculture & Natural Resources Subcommittee

Start Date and Time:	Tuesday, November 01, 2011 10:00 am
End Date and Time:	Tuesday, November 01, 2011 12:30 pm
Location:	Reed Hall (102 HOB)
Duration:	2.50 hrs

Presentation by the Department of Environmental Protection on Water Use and Supply

Presentation by the Department of Agriculture and Consumer Services on Water Supply and Water Quality Issues Pertaining to Agriculture

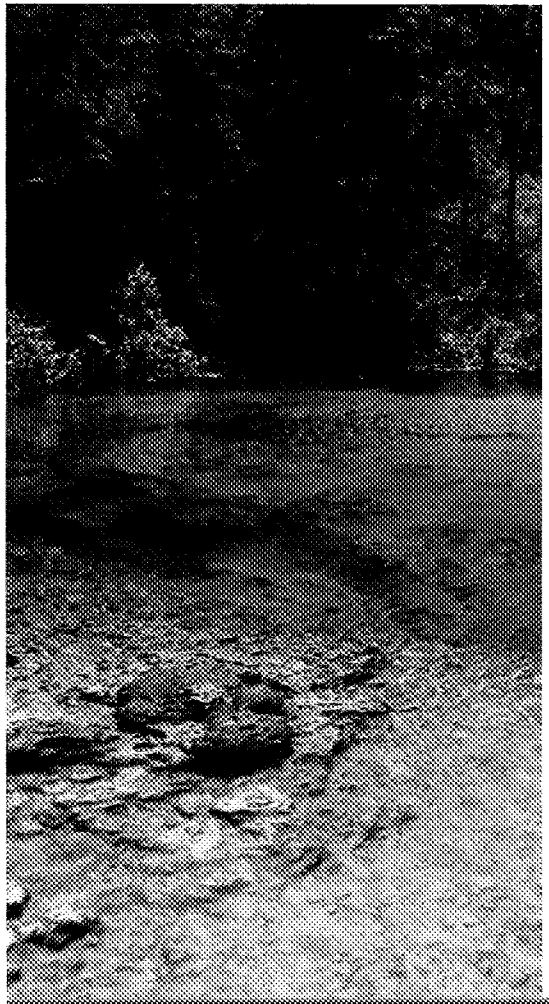
Presentation by the Everglades Foundation on Water Supply and Water Quality Issues Pertaining to the Everglades

Public Comment

NOTICE FINALIZED on 10/25/2011 15:54 by Love.John

DEP

Florida Department of
Environmental Protection



Water Use & Supply

Ann B. Shortelle, Ph.D.

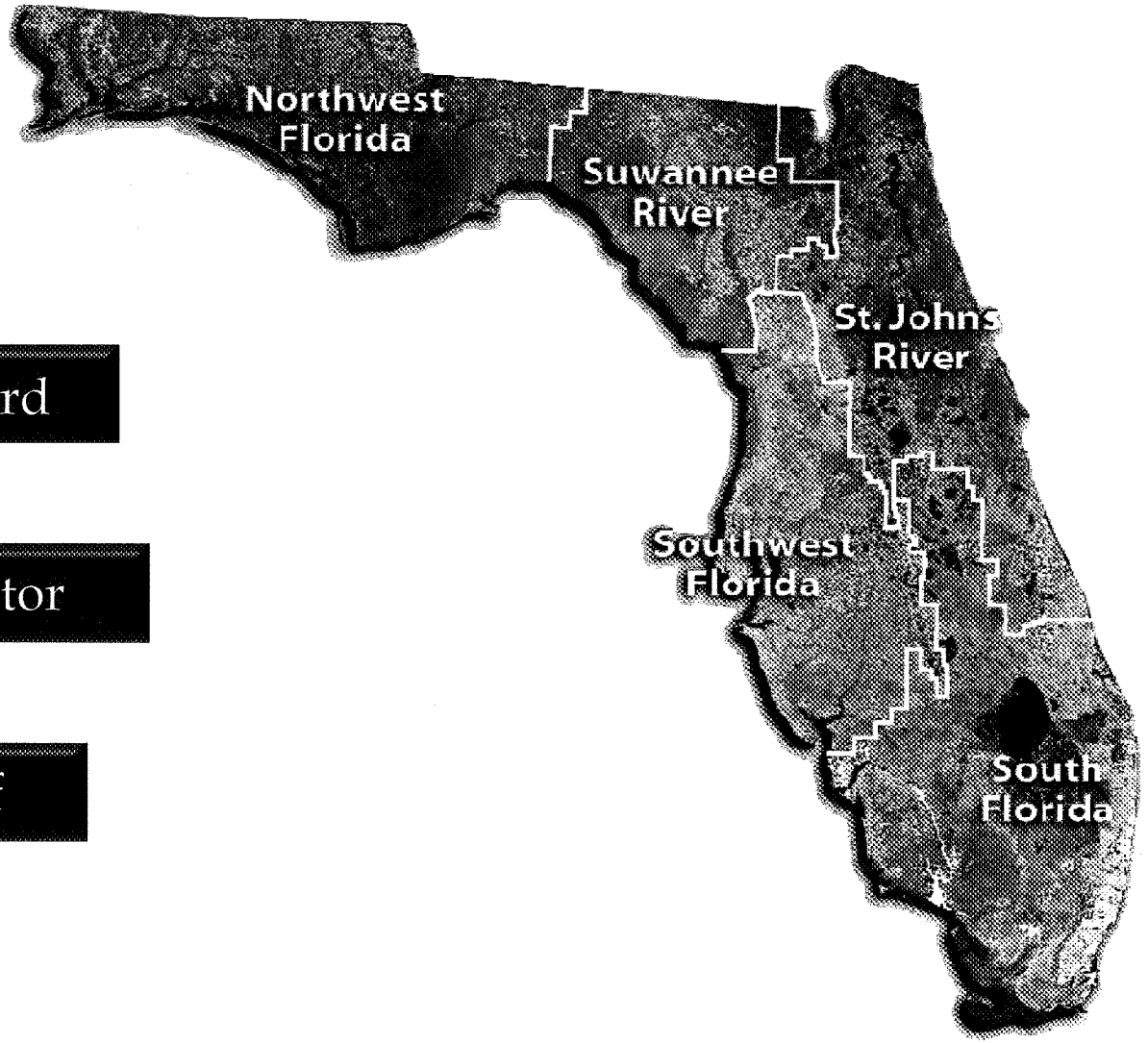
Director, Office of Water Policy

Department of Environmental Protection

November 1, 2011

The Basics

- Water Management Responsibilities
- Water Supply
  - Consumptive Use Permitting
  - Regional Water Supply Planning
  - Funding
  - Minimum Flows and Levels



Governing Board

↑

Executive Director

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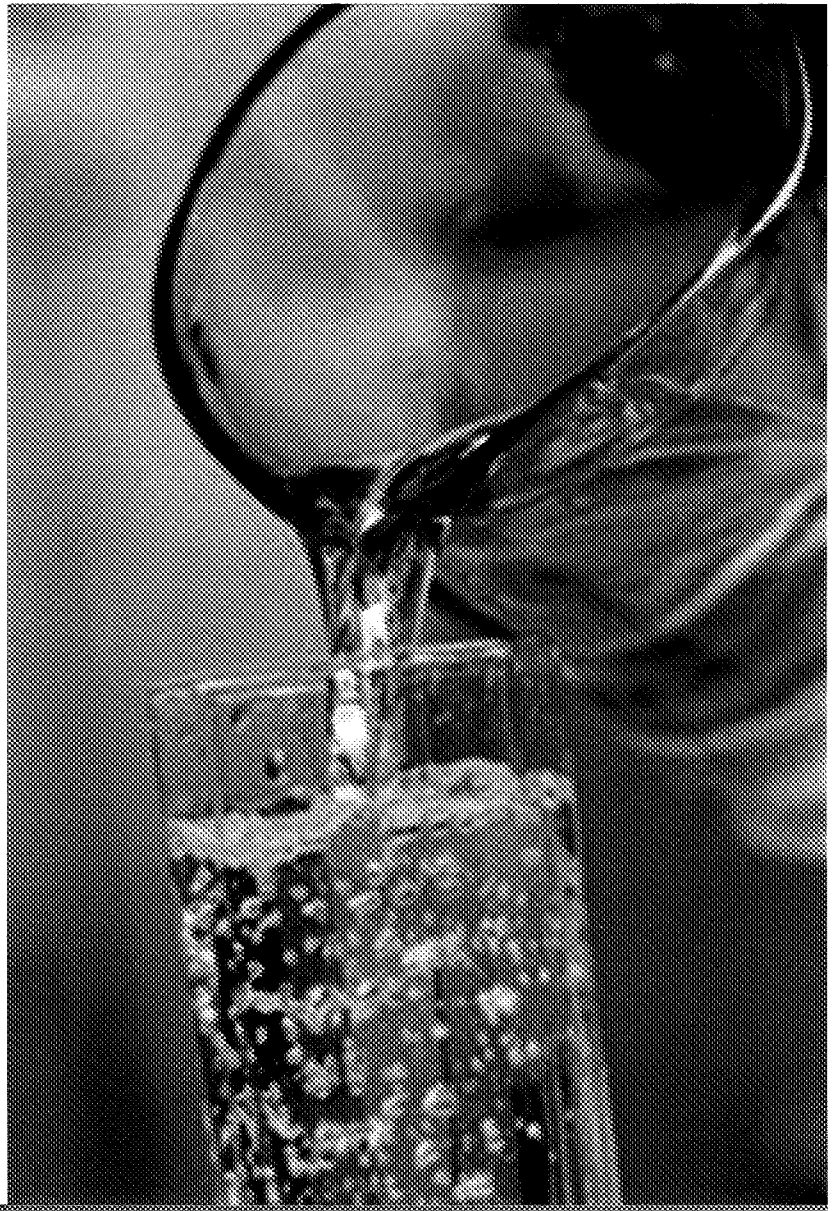
District Staff

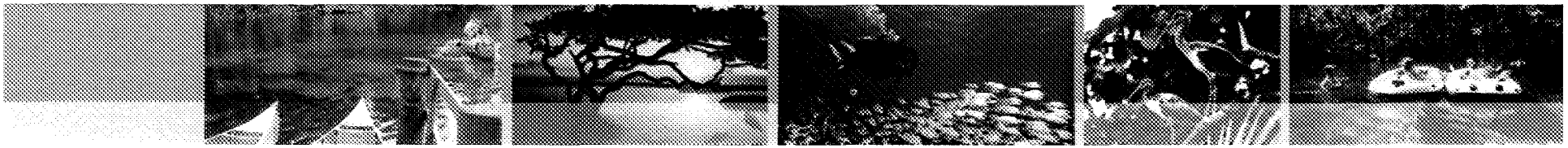
DEP Oversight of WMDs

- Section 373.026, F.S. – Gives DEP supervisory authority over the WMDs
- Rule 62-40, F.A.C. – Water Resource Implementation Rule – Guides the WMDs
- Enhanced emphasis on budget review, regulatory streamlining and statewide consistency

Consumptive Use Permitting



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Florida Water Law

- In Florida, all water is a resource of the State
- For uses other than private wells for domestic water use, Florida requires consumptive use permits. These permits limit:
  - Duration of use
  - Type of use
  - Amount to be used

Criteria for Issuance

- Sec. 373.219, F.S.
  - Consistent with objectives of the District
  - Not harmful to the water resources
- Sec. 373.223, F.S. "Three-Prong Test"
  - Reasonable-Beneficial (s. 373.019(16), F.S.)
  - Doesn't interfere with existing legal user
  - Consistent with the public interest

What is Reasonable-Beneficial?

"…the use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest."

s. 373.019(16), F.S.

How Much Water Is Allocated?

- Demonstrate need for water
- Meet water conservation/efficiency requirements
- Specific to use type
  - Public Supply
  - Agricultural Irrigation
  - Commercial/Industrial/Institutional (self supply)
  - Recreational
  - Power Generation

Alternative Water Supplies Considered?

- Reclaimed water must be used if environmentally, technically, and economically feasible
- Lowest quality of source appropriate for use
- Special requirements in resource limited areas

Permit Duration (s. 373.236, F.S.)

- Permits shall be granted for 20 years:
  - If requested
  - If sufficient data to provide reasonable assurances for permit term
- Governmental body or Public Service Corporation may receive up to 50 year duration where required for retirement of bonds for facility construction.
- Alternative water supplies shall receive a permit of at least 20 years.

Consumptive Use Permitting (CUP) Consistency Review

- CUP rules based on same statute, but have developed differently over time
- Confusing for applicants
- Problematic at borders between WMDs

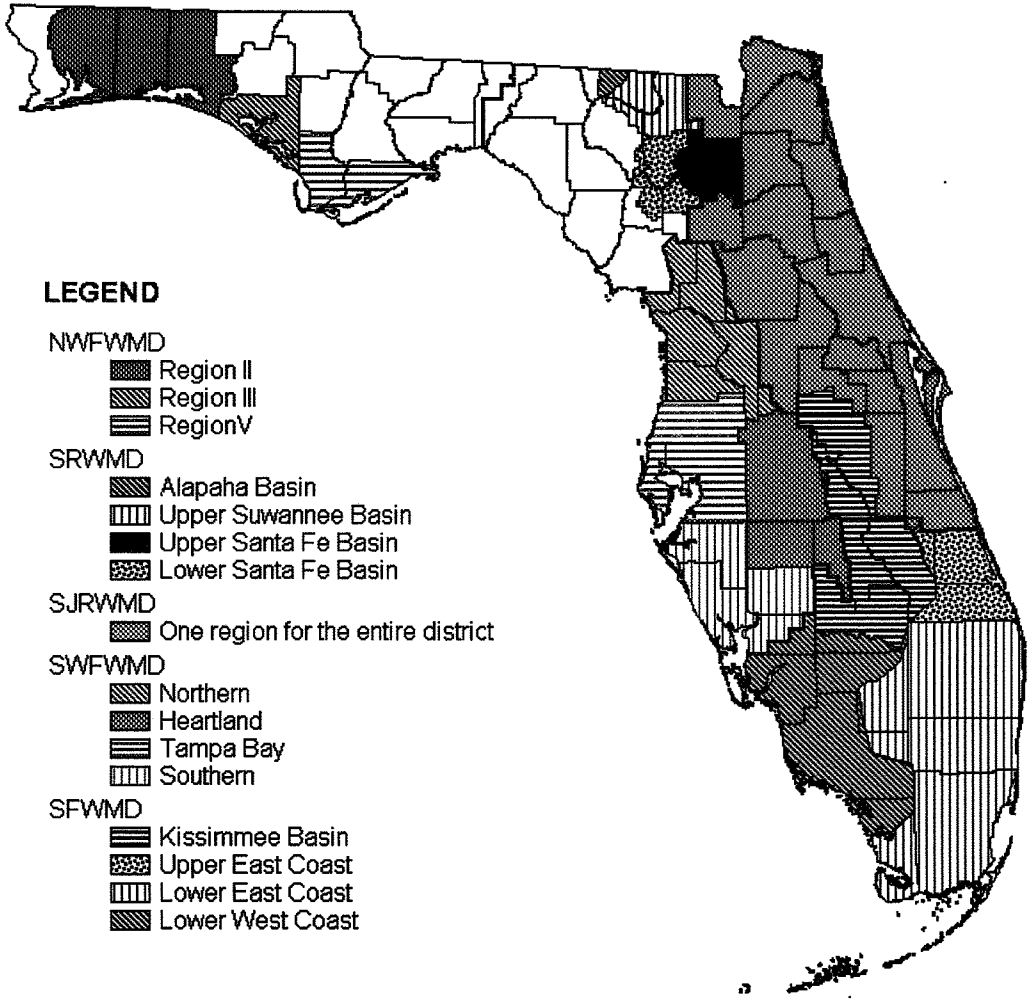
CUP Consistency Review Goals

- Make program less confusing for applicants, particularly those who work in more than one District
- Treat applicants equitably statewide
- Consistent protection of the environment
- Streamlining of the process; reduce complaints over process, not outcome
- Incentivize behavior that protects water resources, including conservation

CUP Consistency Review Schedule

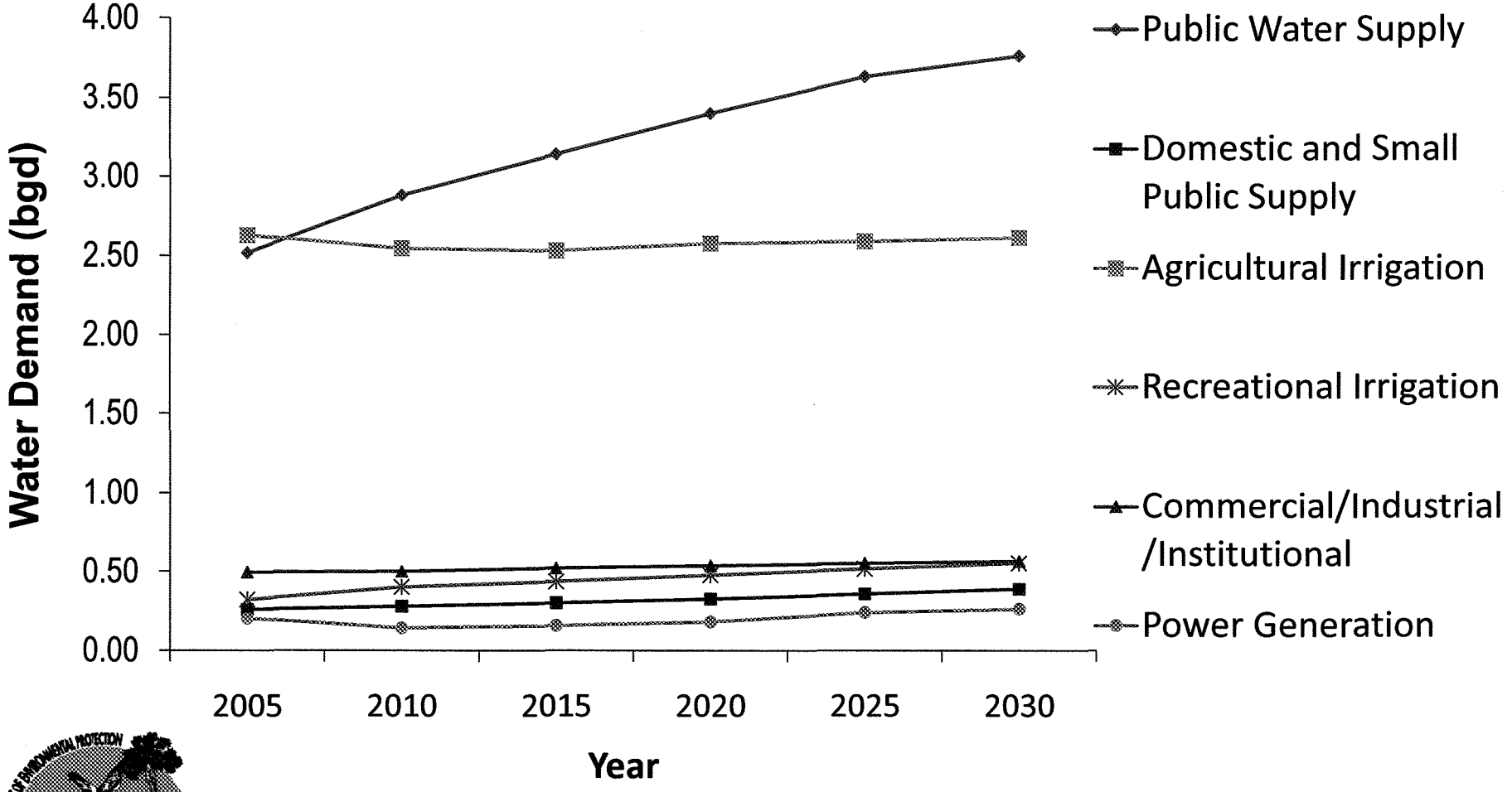
- October, 2011 – January, 2012
  - Conduct stakeholder input process
  - Prioritize identified inconsistencies/issues
- February, 2012 – September, 2012
  - Develop policies to resolve inconsistencies, codify by rule as needed, develop any legislative concepts for 2013 session.

Regional Water Supply Planning



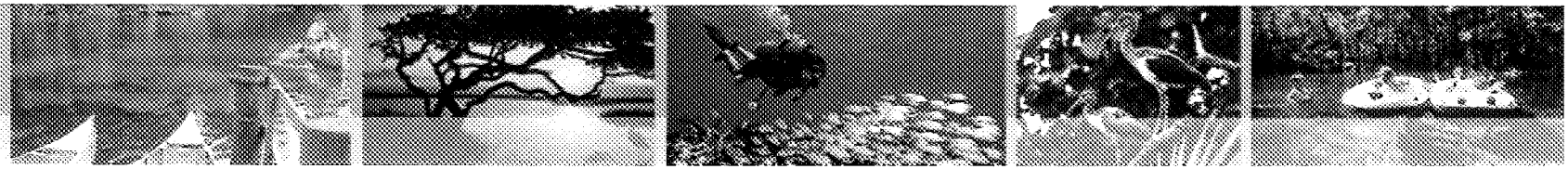
Planning Regions in Florida

Fresh Water Demand & Use

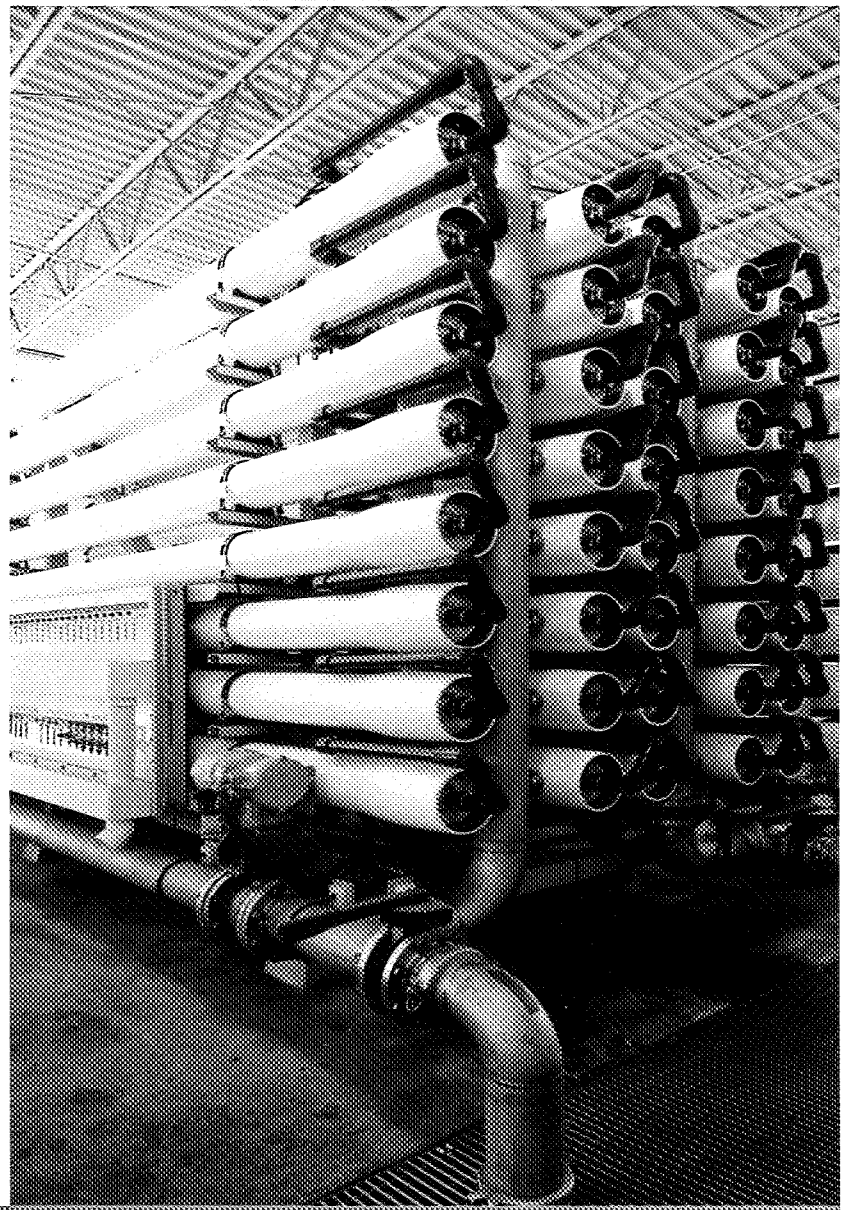


How to Meet Future Demand?

- Develop more water supplies
  - Reclaimed water
  - Surface water supplies
  - Treatment of brackish groundwater/sea water
  - Increase storage (reservoirs and ASR)
- Conservation
  - Increased water use efficiency
    - Delays the need for water supply development



Water Protection & Sustainability Program



DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA

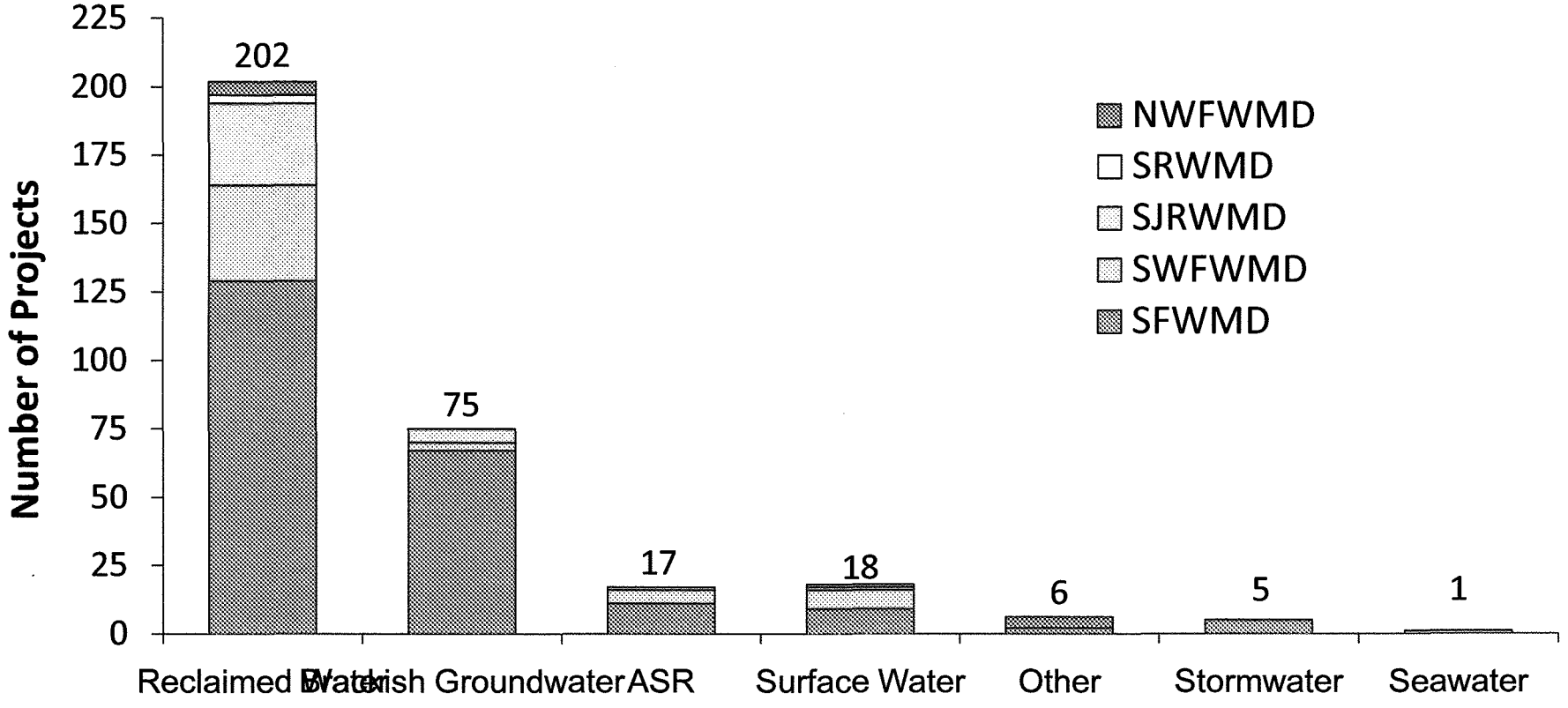
Water Protection & Sustainability Program

- Program established by the legislature to fund:
  - Alternative Water Supply Projects
  - Surface Water Improvement and Management (SWIM)
  - Total Maximum Daily Loads (TMDLs)
  - Disadvantaged Small Community Wastewater Program

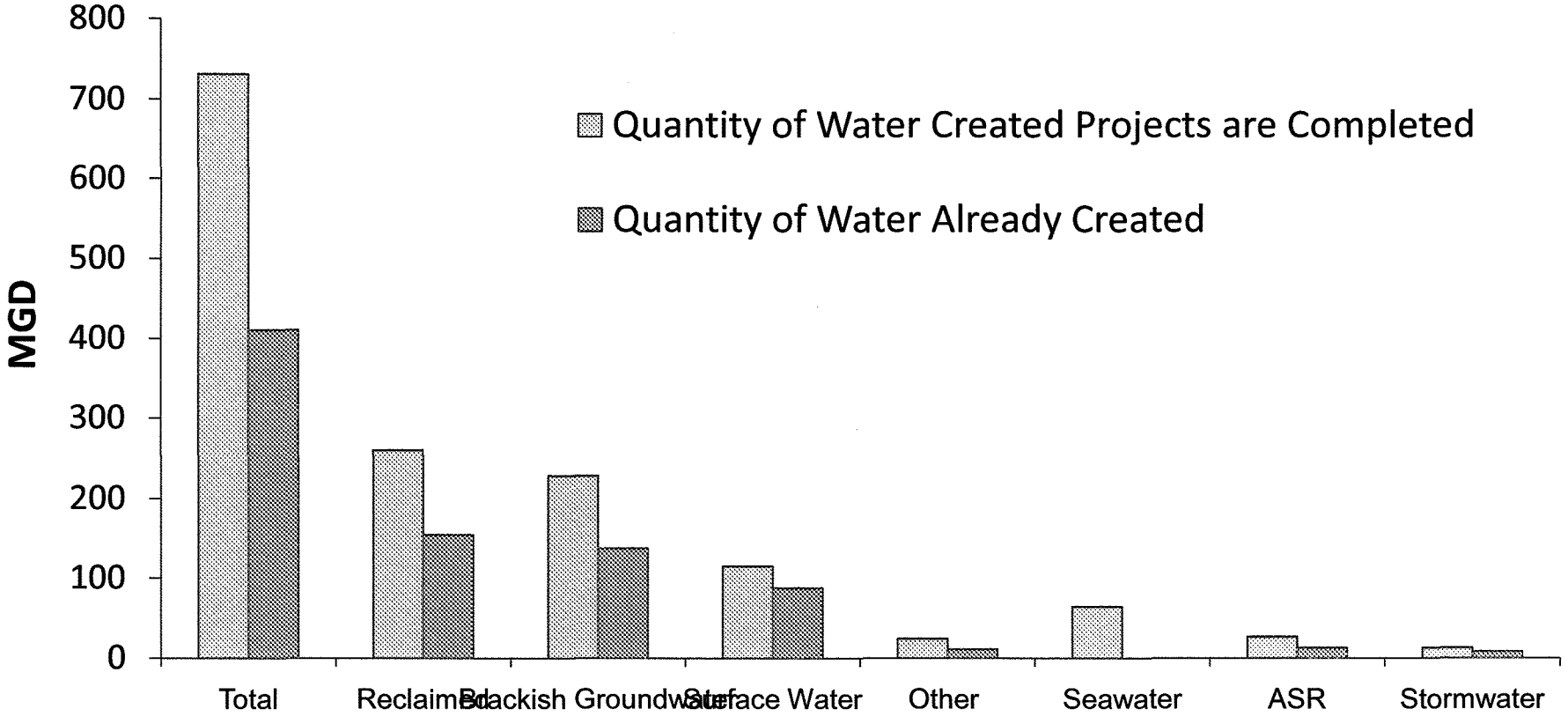
Alternative Water Supply Funding

WMD	FY 2005-2006 Funds	FY 2006-2007 Funds	FY 2007-2008 Funds	FY 2007-2008 Funds
South Florida	$30 million	$18 million	$15.6 million	$4.25 million
Southwest Florida	$25 million	$15 million	$13 million	$ 0.75 million
St. Johns River	$25 million	$15 million	$13 million	0
Suwannee River	$10 million	$6 million	$5.2 million	$ 0.27 million
Northwest Florida	$10 million	$6 million	$5.2 million	$ 0.27 million
Total	$100 million	$60 million	$52 million	$5.54 million

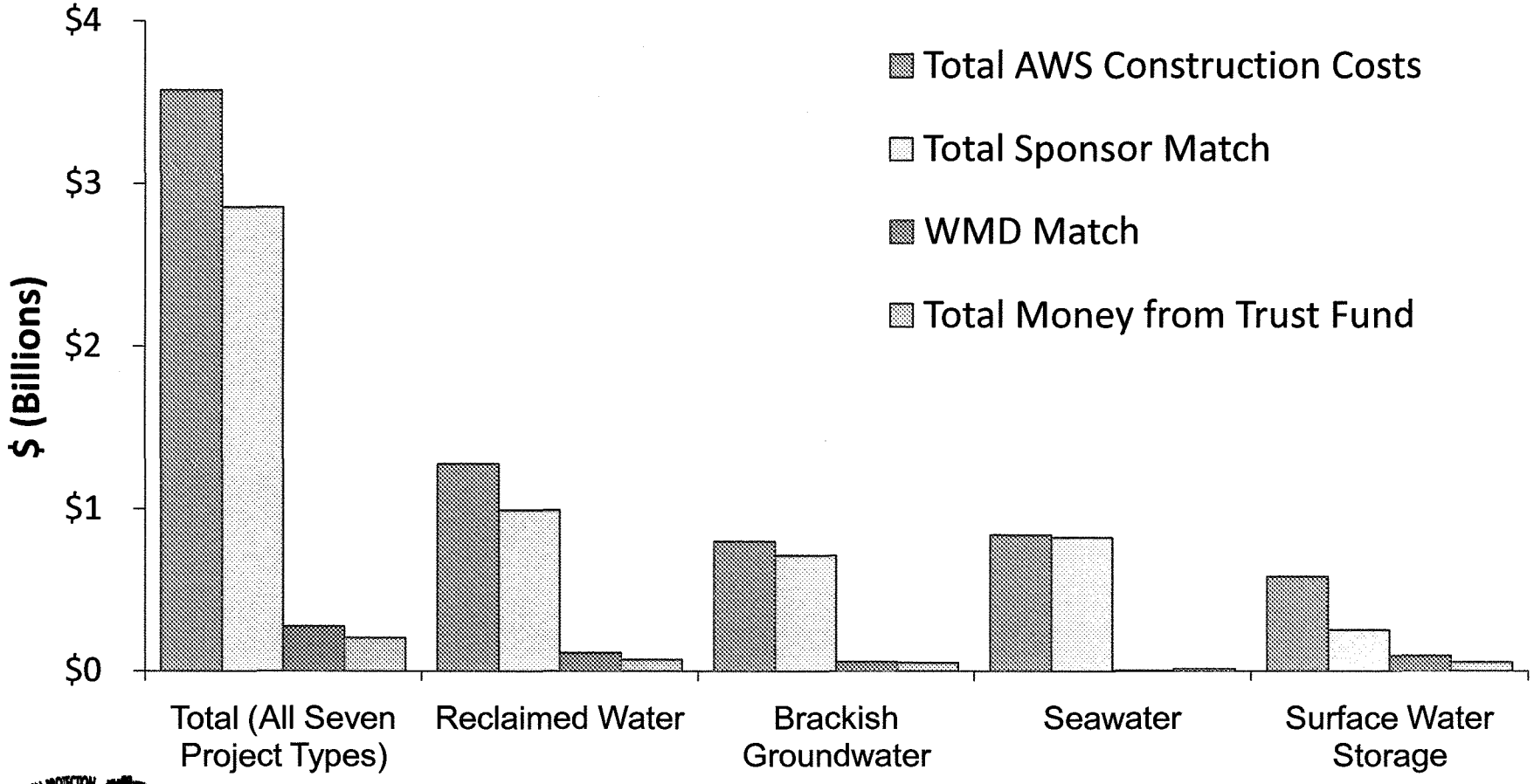
AWS Project Types Funded



How Much Water Will Projects Provide?



How Much Will the Projects Cost?

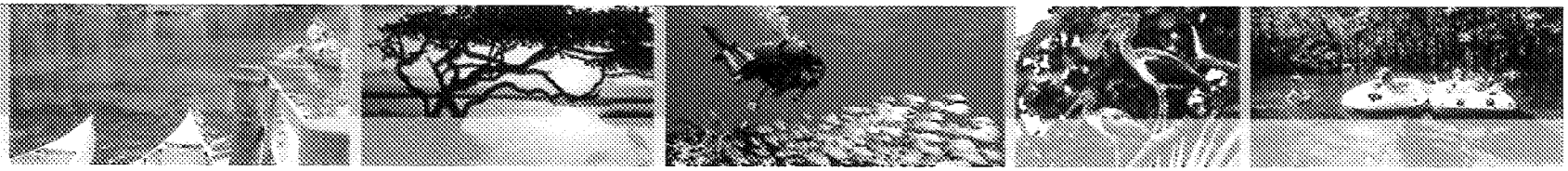


Minimum Flows & Levels

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA

Why Do We Need MFLs?

- Environmental Effects of Excessive Water Use
  - "Drying out" wetlands and lakes = loss of habitat
  - Salt Water Intrusion = degrade water quality
  - Changes in salinity of estuary = loss of oysters and grass beds
  - Reduced spring and river flows = loss of fish and wildlife habitat and diminished recreational values



Wetlands Damaged by Excessive Water Use in Southwest Florida

Photo credit: Southwest Florida Water Management District

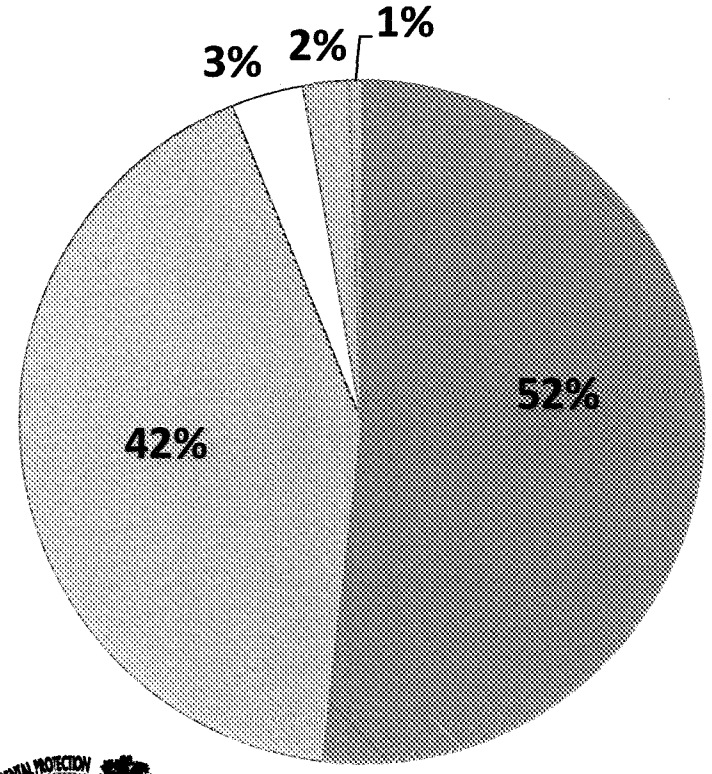
DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA

How are MFLs Used to Manage Water Resources?

- Planning
  - Identify regional impacts of existing and future withdrawals
  - Determine when a regional water supply plan is needed
  - Developing the recommendations of a regional water supply plan
- Permitting
  - Identify site specific impacts of proposed withdrawal

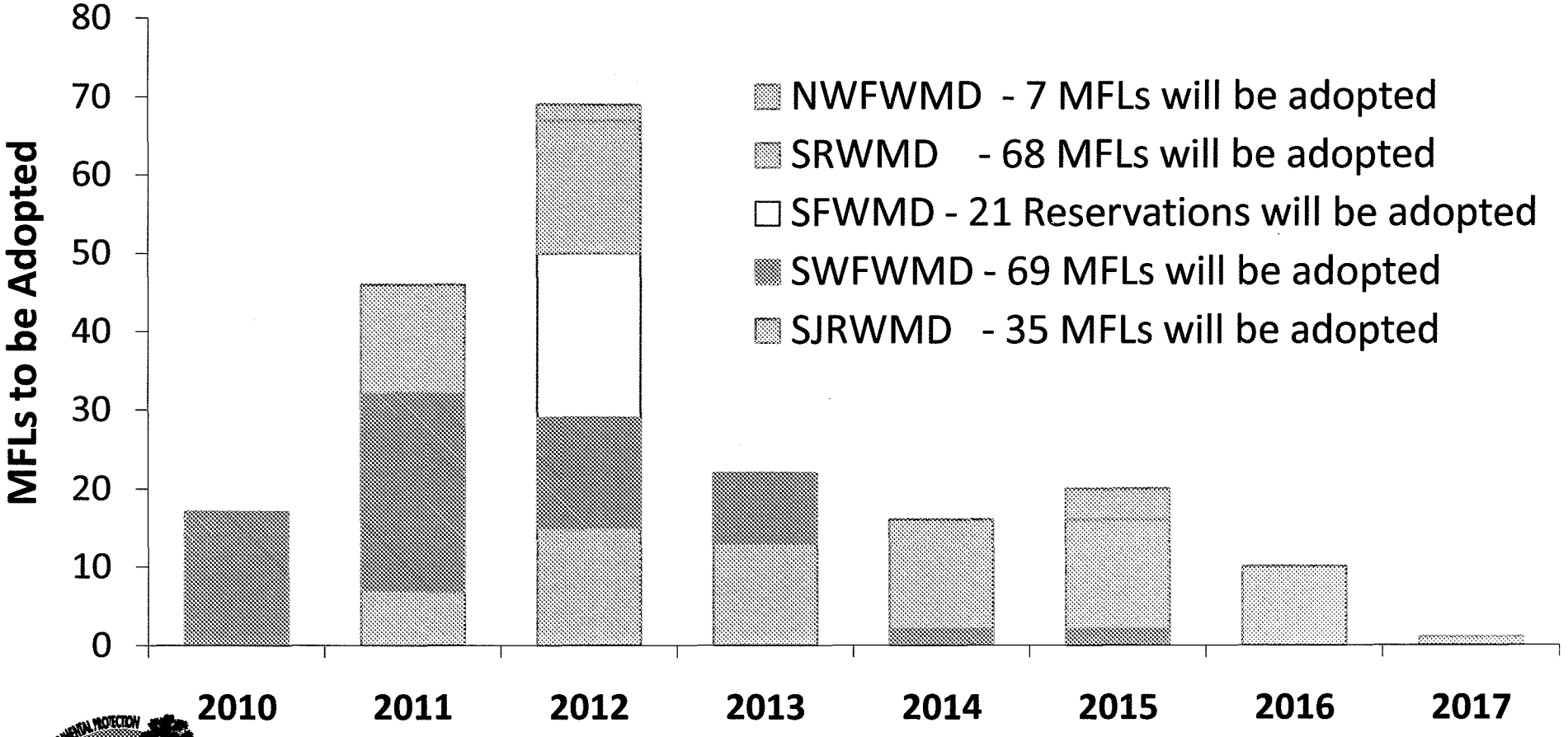
MFLs Adopted by Water Management Districts

Total MFLs or Reservations adopted since 1992 = 322



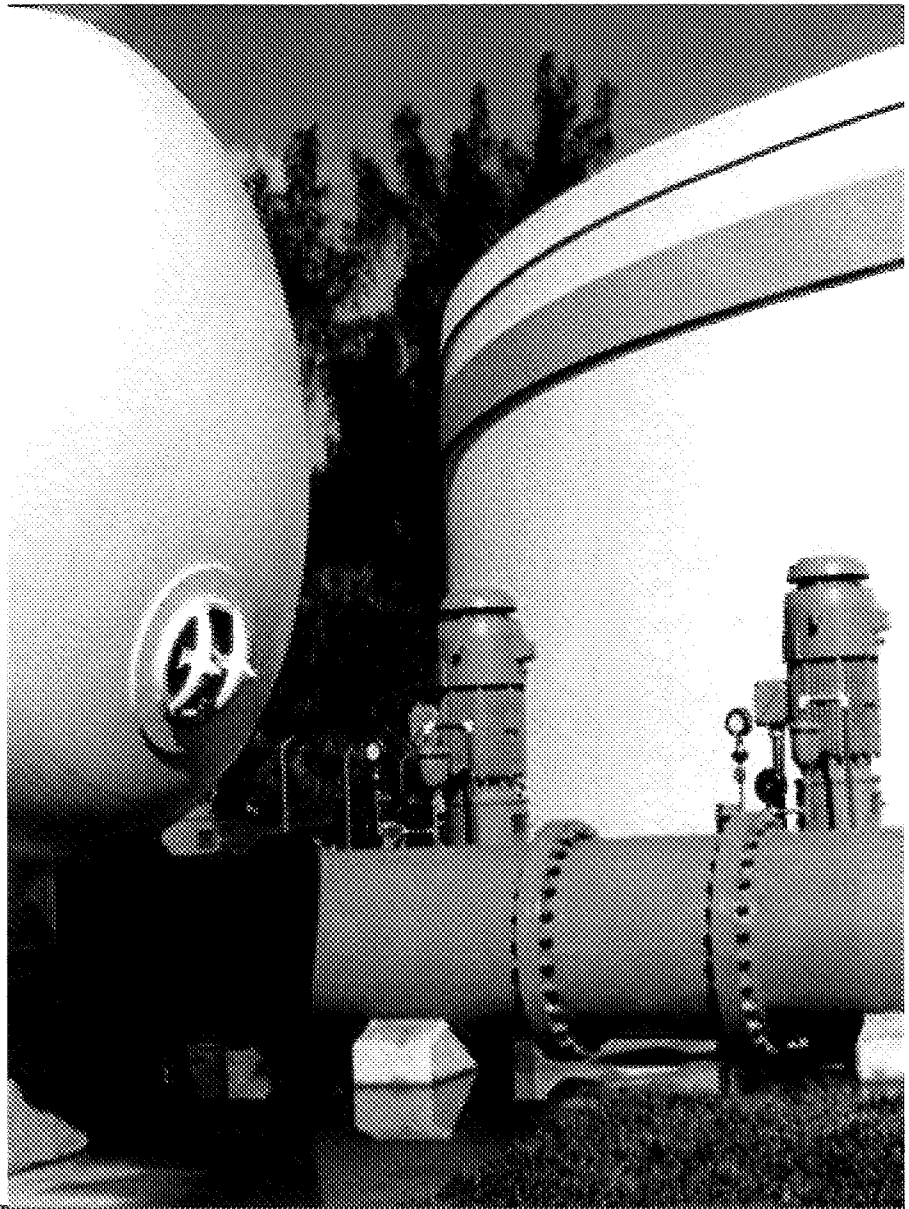
- SWFWMD = 167 Adopted
- SJRWMD = 135 Adopted
- SFWMD = 9 MFLs and 2 Reservations Adopted
- SRWMD = 7 Adopted
- NWFWMD = 2 Reservations Adopted

Number of Additional MFLs or Reservations to be Adopted by Each WMD



Additional MFLs or Reservations to be Adopted by 2014 = 200

Reclaimed Water & CUP Policy



DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA

Reclaimed Water Is:

- Regulated by DEP under NPDES program to ensure proper domestic wastewater treatment and disposal
- Regulated by the WMDs as a potential water source
- Viewed by reclaimed water utilities as both a disposal method and a commodity for sale

Interested Parties

- DEP
- WMDs
- Florida Water Environment Association – Utility Council
- American Water Works Association
- League of Cities
- Association of Counties
- Individual Utilities

Reclaimed Water Working Group

OBJECTIVE:

To optimize the use and continued development of reclaimed water as an alternative water supply to the extent environmentally, technically, and economically feasible in order to meet water supply demands

Working toward Consensus

- Regulatory authority
- Impact offsets and substitution credits
- Mandatory Reuse Zones

Regulatory Authority

- Balance needed between operational flexibility and need to meet future water demands
- WMD shall:
  - Require use of reclaimed water when feasible

Regulatory Authority (2)

- WMD shall not:
  - Require a permit for reclaimed water (may include reuse-related conditions on ground or surface water permit)
  - Specify which user a utility must provide reclaimed water
  - Restrict the use of reclaimed water

Impact Offsets & Substitution Credits

Use of reclaimed water to allow additional ground or surface water allocation

- Impact Offset - prevents impact that would otherwise occur
- Substitution Credit - In "capped" area replace traditional source with reclaimed water

Contact

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Director, Office of Water Policy

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DACS

Office of Agricultural Water Policy

Agriculture and Water Resources

Florida Department of Agriculture
and Consumer Services
Adam H. Putnam, Commissioner

Richard Budell, Director

Global Agriculture

- World's largest industry employing over one billion people
- Occupies 50% of the Earth's habitable land
- Uses 69% of the planet's available fresh water
- Projected population growth from 7 to 9 billion by 2050
- Food production will have to increase 70%
- Water available for agriculture will decrease

Florida Agriculture

- Occupies over 18 million acres
  - approximately 52% of the state's total land use
  - most land is unimproved, only 8.2% irrigated
- Consists of 47,000 private farms
  - generates $100 *billion* in farm-related economic activity
  - 750,000 associated jobs
- Provides for biological diversity, aquifer recharge, flood control, wetland preservation, wildlife habitat
- Farmland provides net economic benefit to the public
  - For every $1.00 paid in property tax agriculture only requires $0.29 in public services
  - Generates $3.5B annually in state and local tax revenues

** To continue to provide these benefits, agriculture needs sufficient & stable water supply

Water Quantity

- Agricultural irrigation returns 40 to 50 % of pumped water to surface water or aquifer
- 80% of water used is for food production
- Water use estimates decreased by 4% between 2000 and 2005
  - During the same time period, production has increased
- Tapped into alternative water supplies
  - Storm water and irrigation capture and reuse
  - Use of reclaimed water
- Commitment to efficient use
  - Work with public & private sector to find solutions to water supply and quality challenges
  - Implementation of Best Management Practices

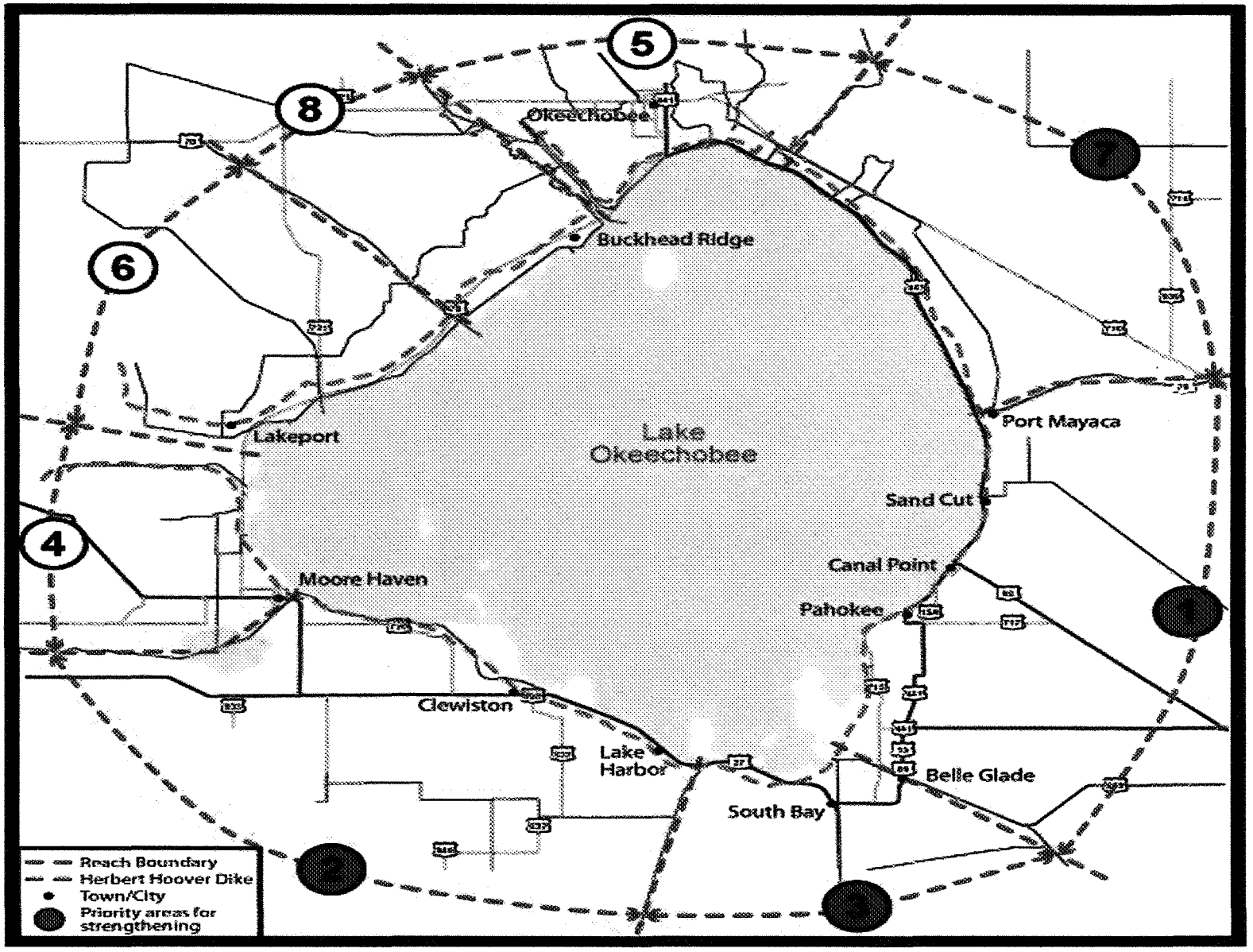
Policy Challenges

- Agriculture is a "self-supplier" of water and cannot pass on the cost of wells, pumps etc.
- By 2012, domestic supply will likely overtake agriculture as the largest water user
- By 2025 domestic supply demand will increase by 49% - agricultural supply demand will increase by only 6%
- Competition issues
  - Dover/Plant City
  - Central Florida Water Initiative
  - Lake Okeechobee
  - SRWMD/SJRWMD

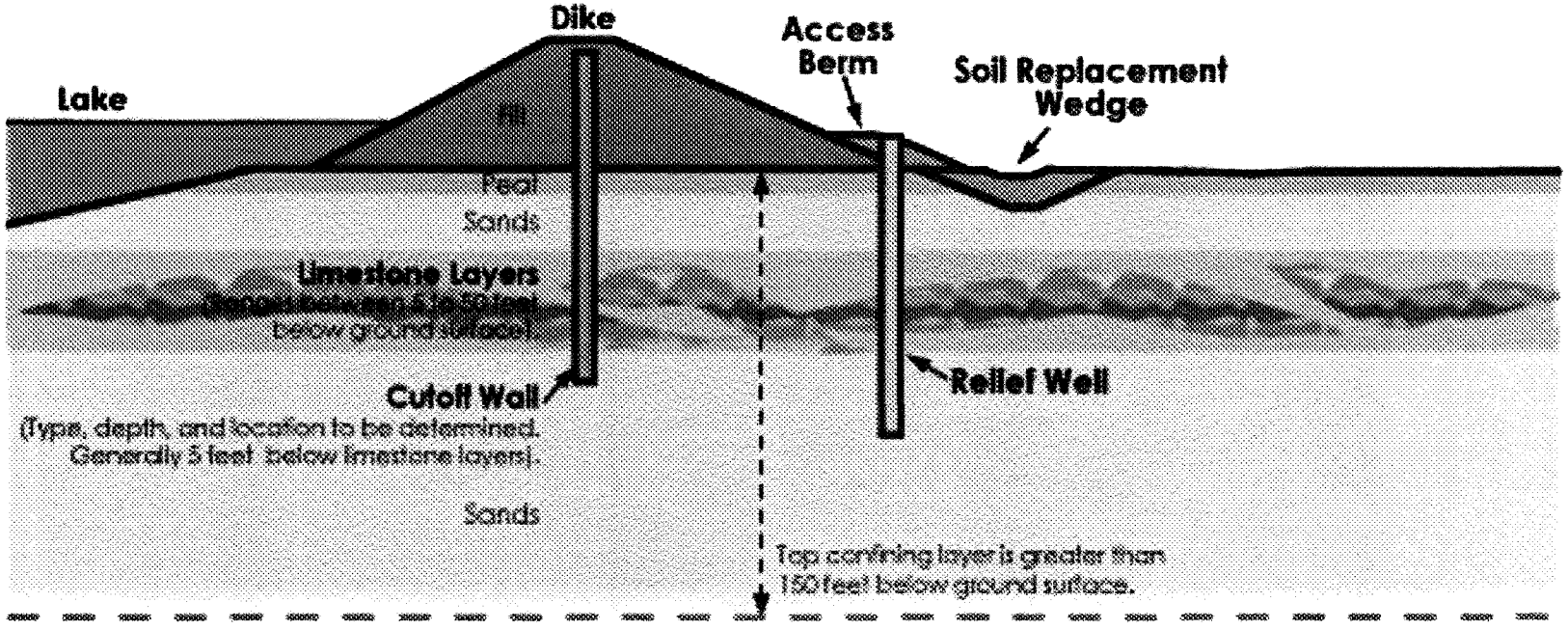
Lake Okeechobee Challenge

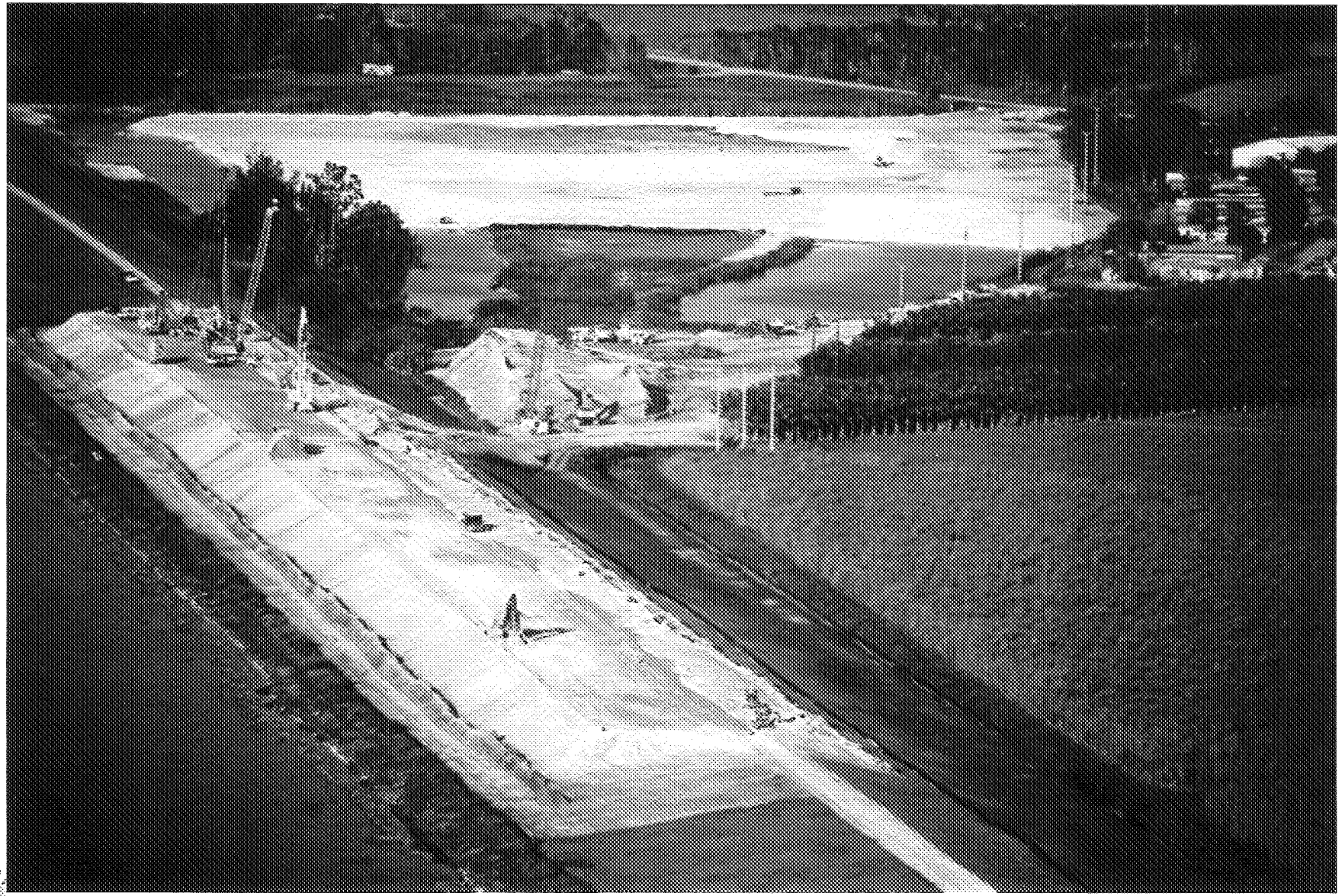
- Critical water source for public supply, environment and agriculture
- 2008 Lake Okeechobee Regulation Schedule
- Herbert Hoover Dike rehabilitation
  - 143 miles of levee
  - Dozens of spillways, culverts, locks & pump stations
  - No overflow capacity

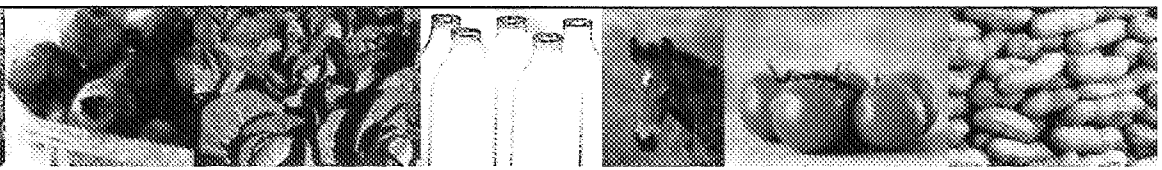
Herber Hoover Dike Rehabilitation Project



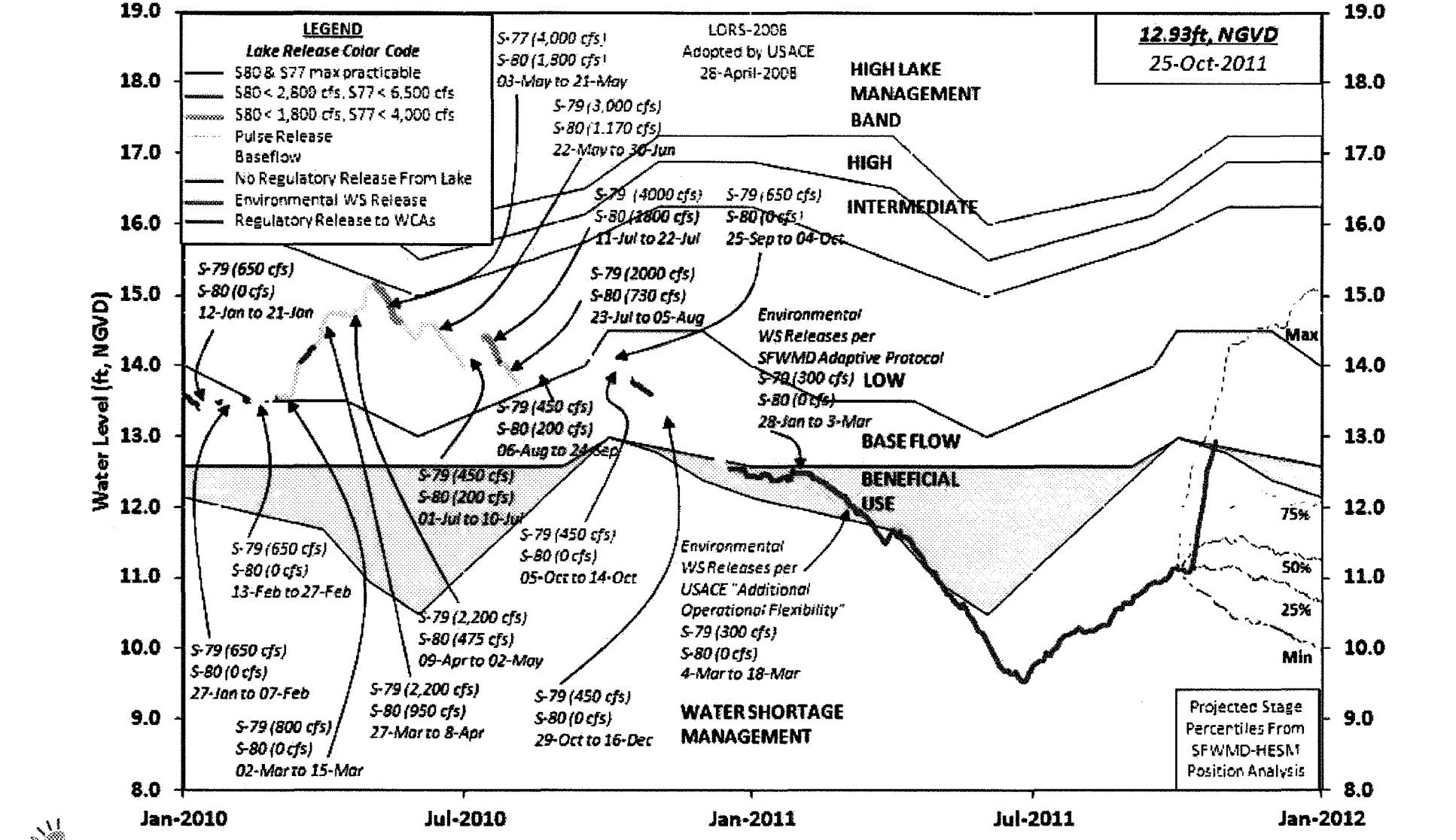
HERBERT HOOVER DIKE
Rehabilitation Concept
Relief Wells with Soil Replacement







Lake Okeechobee Water Level History and Projected Stages



Water Supply Challenges

- We won't run out of water, but we will run out of cheap water.
- We are using water (particularly groundwater) at a rate beyond the natural system's ability to supply it.
- We must figure out a way to sustain funding for alternative water supply development.

Numeric Nutrient Criteria

- Florida is a national leader in the collection of water quality data – 34% of all water quality data in the EPA national data base comes from Florida
- Florida has the most advanced urban storm water and agricultural BMP programs in the country
- EPA NNC methodology not peer reviewed and was criticized by their own Science Advisory Panel
- EPA NNC are not site-specific resulting in many biologically healthy waters being designated as impaired

Numeric Nutrient Criteria

- EPA's assertion that agriculture is not affected by NNC is naive in light of other recent developments (Chesapeake Bay, Agricultural Certainty Framework)
- EPA Implementation uncertainty
  - Will EPA accept TMDLs as SSACs?
  - Will EPA accept biological confirmation?
  - Will Florida adopt EPA criteria?

Numeric Nutrient Criteria

- Agriculture supports FDEP effort to adopt state NNC
- Cause and effect linkage is critical
- Recognition of diversity of water bodies
- Predictable implementation through existing state law

"We live in a highly industrialized and urban culture, but it is important to remember that there is no such thing as a post-agricultural society. Policy decisions concerning agriculture, our environment, water supply and land use need to reflect this fundamental truth."

- Timothy Weiskel 1990

Everglades
Foundation

Everglades Restoration

Securing Florida's Water Supply

The Everglades Foundation

- Support efforts to restore and protect the greater Everglades ecosystem through:
  - -Science
  - -Education
  - -Partnership

The 3 Most Important Things to Know About Everglades Restoration

- The central objective of Everglades restoration is to expand the water supply for south Florida.
- Much of the state's economy depends on a clean & healthy Everglades and the water it provides.
- Significant progress has been made on key projects; work will continue over several decades.

The Central Objective of Everglades Restoration is to Expand the Water Supply for South Florida.

- 1 in 3 Floridians depend on the Everglades for their daily supply of fresh drinking water.
- Under current flood control & water management system, we dump an average 3.5 billion gallons of water out to sea every day.
- Key goal of Everglades restoration is to store much of this water for use during dry seasons & drought years.

Significant progress has been made on key projects. Work will continue over several decades.

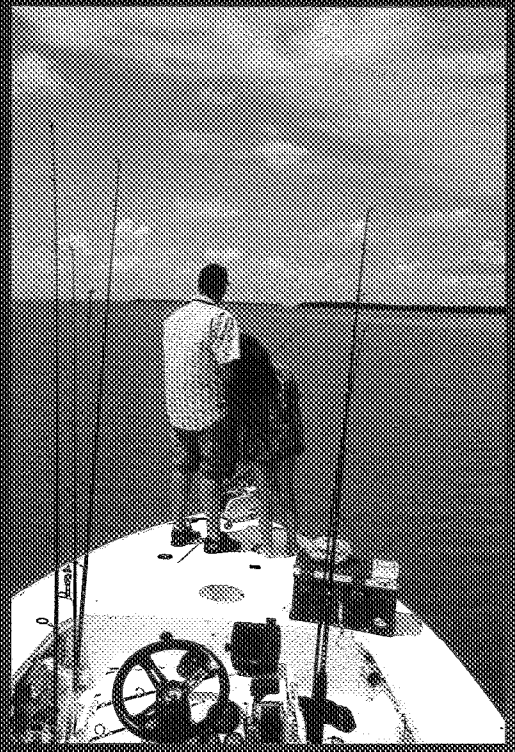
- Six Comprehensive Everglades Restoration Plan Projects are now under construction.
- Kissimmee River Restoration and Tamiami Trail bridge construction are well underway.
- Everglades restoration projects are creating thousands of jobs in the construction, engineering, equipment and aggregate industries.

Much of the state's economy depends on a clean & healthy Everglades and the water it provides.

Everglades-related Tourism, Fishing, Boating, and Hunting:
Big Business for Florida

EVERGLADES FOUNDATION

Tourism Industry Depends on the Everglades & Our Natural Resources

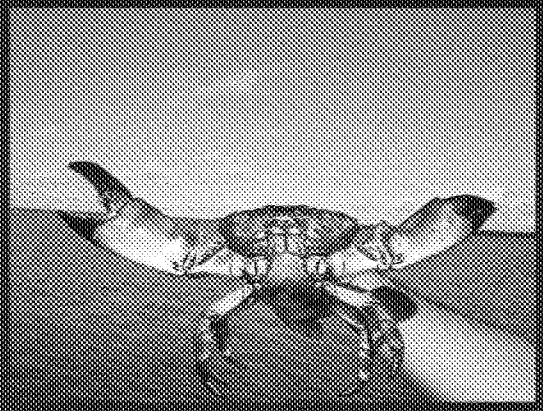


- Roughly 5.5 million people annually engage in Everglades recreational activities
- $935 million in Direct Spending
- $912 million in Indirect Spending

EVERGLADES FOUNDATION

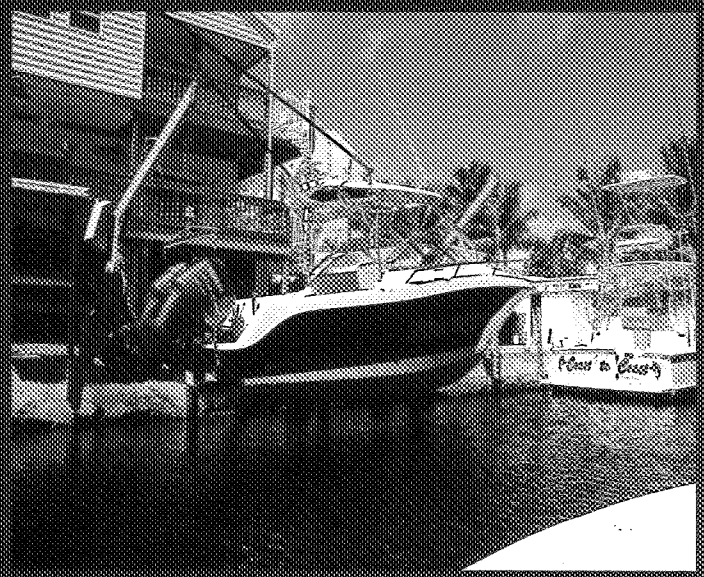
Commercial and Recreational Fishing Industry Directly Dependent on the Everglades

- 417,868 Recreational fishing licenses were issued in the Everglades watershed.
- Florida's Everglades and water bodies support a $5 billion commercial & recreational fishing industry.
- Florida leads U.S. with 500+ seafood processing businesses & an additional 800 dockside fish buyers, wholesale brokers, importers & exporters.
- Fish populations like grouper, snapper, bonefish and tarpon continue to decline because of declining water quality and altered water flow.



EVER GLADES FOUNDATION

Boating Industry Can't Survive Without Clean Waterways & Estuaries



Marine Industries Contribution to FL

Manufacturing	$ 2,951,096,717
Wholesale Trade	$ 3,134,906,150
Retail Trade	$ 6,826,814,922
Dockage	$ 2,213,769,916
Marine Services	$ 3,320,812,466
Total	$18,447,400,171

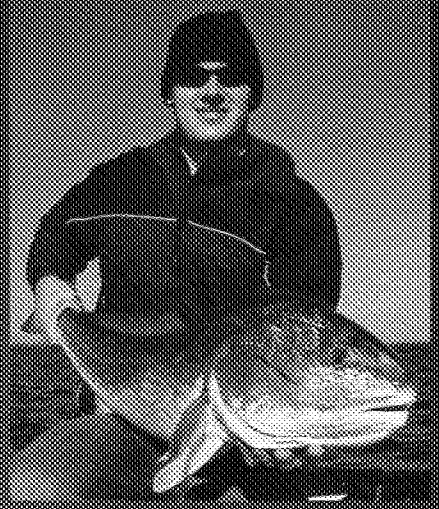
* based on 2005 $10.5 billion in direct output, $7.9 billion indirect output

377,240 Vessel Registrations in the 16 SFWMD Counties

EVER GLADES FOUNDATION

Estuaries Generate Huge Economic Activity in our Coastal Communities

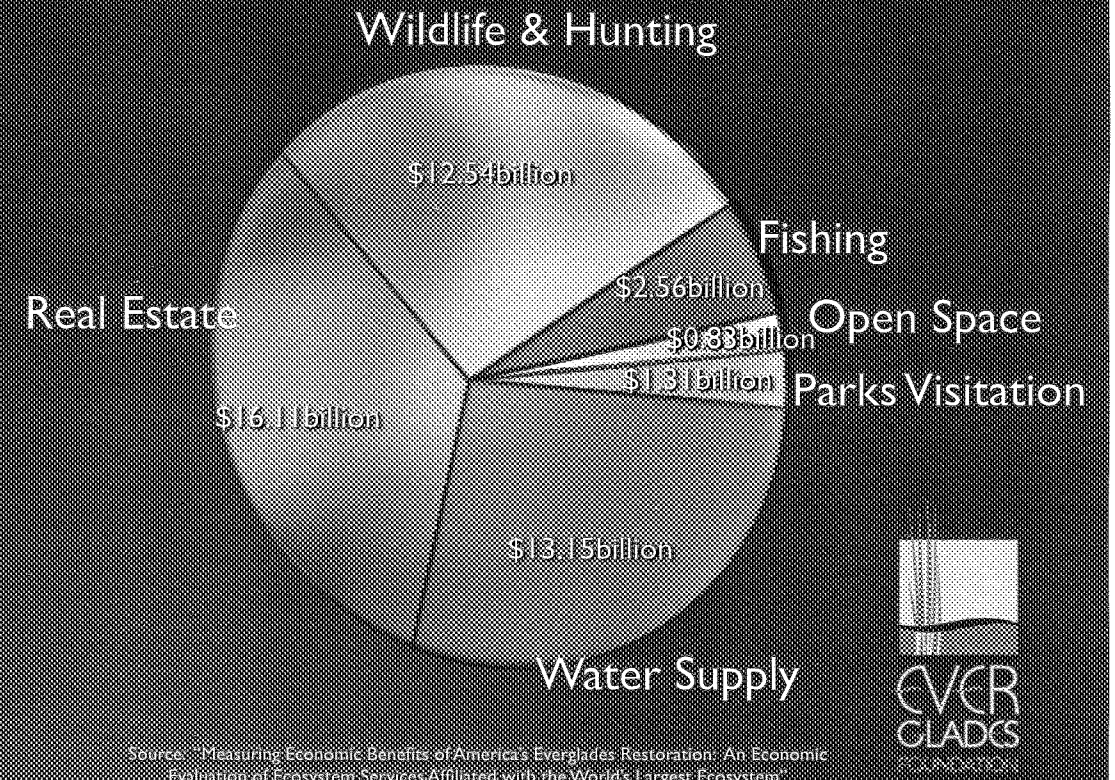
- Indian River Lagoon/St. Lucie River generates $2.96 billion in annual expenditures on recreation, lodging, food
- Biscayne Bay contributes $2.1 billion
- SW FL/Caloosahatchee Estuary benefits from $2.9 billion in annual tourism expenditures



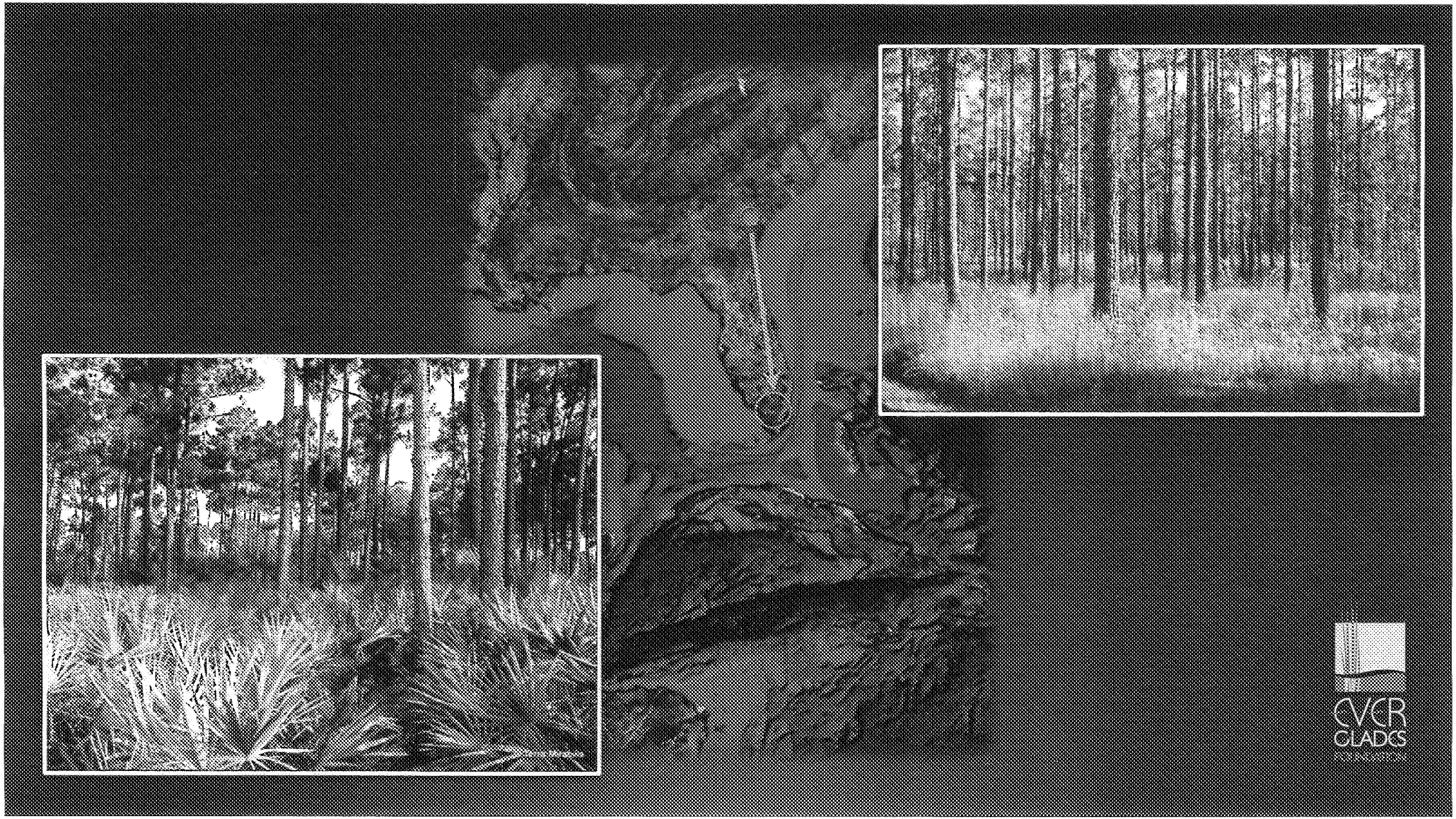
EVER GLADES FOUNDATION

Economic Benefits of Restoration

- Benefits will accrue across many sectors:
  - #1: real estate
  - #2: water supply
- Benefit to Cost ratio is 4:1
- Total benefit: $46.5 billion



Source: "Measuring Economic Benefits of America's Everglades Restoration: An Economic Evaluation of Ecosystem Services Affiliated with the World's Largest Ecosystem"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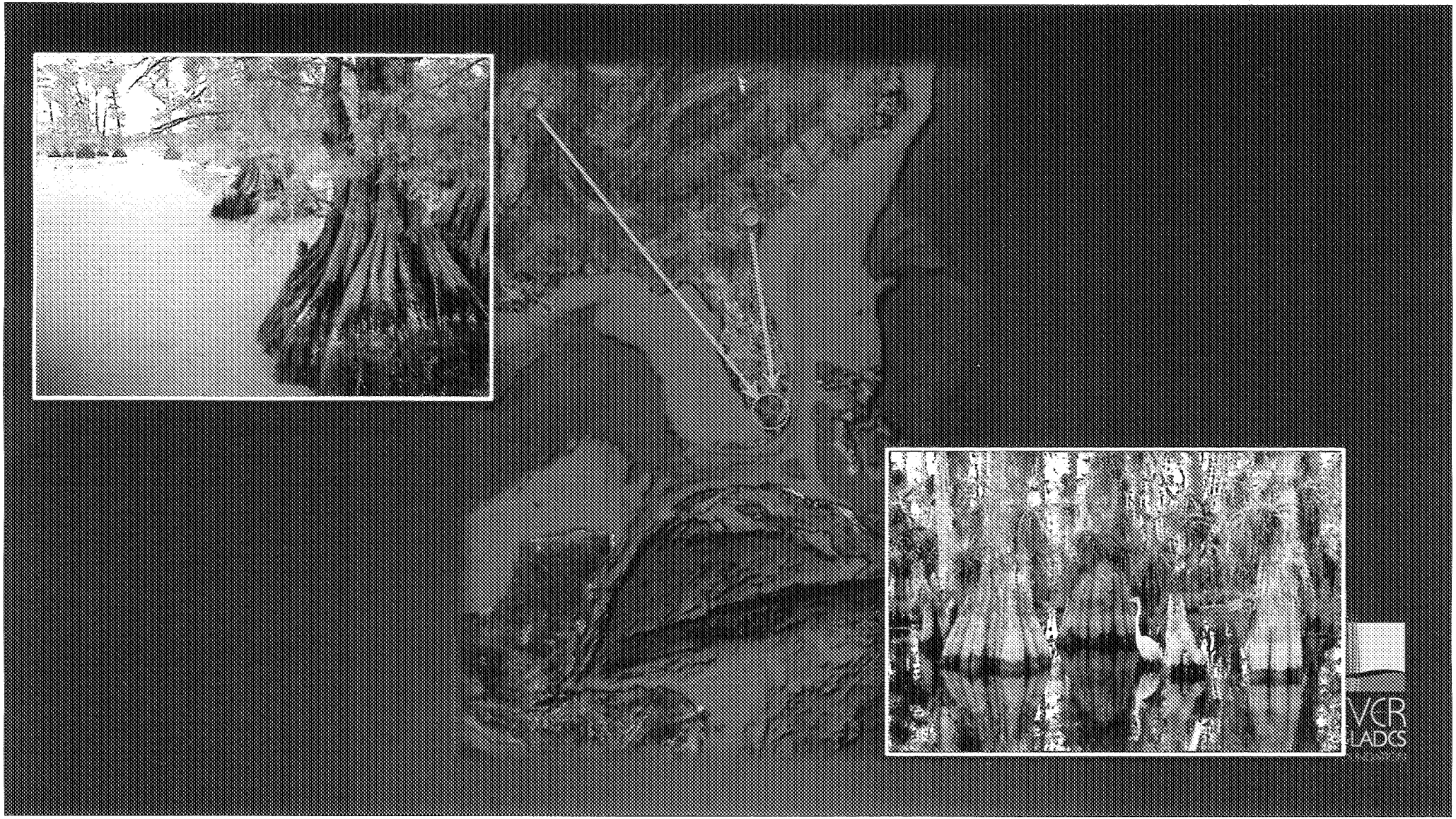
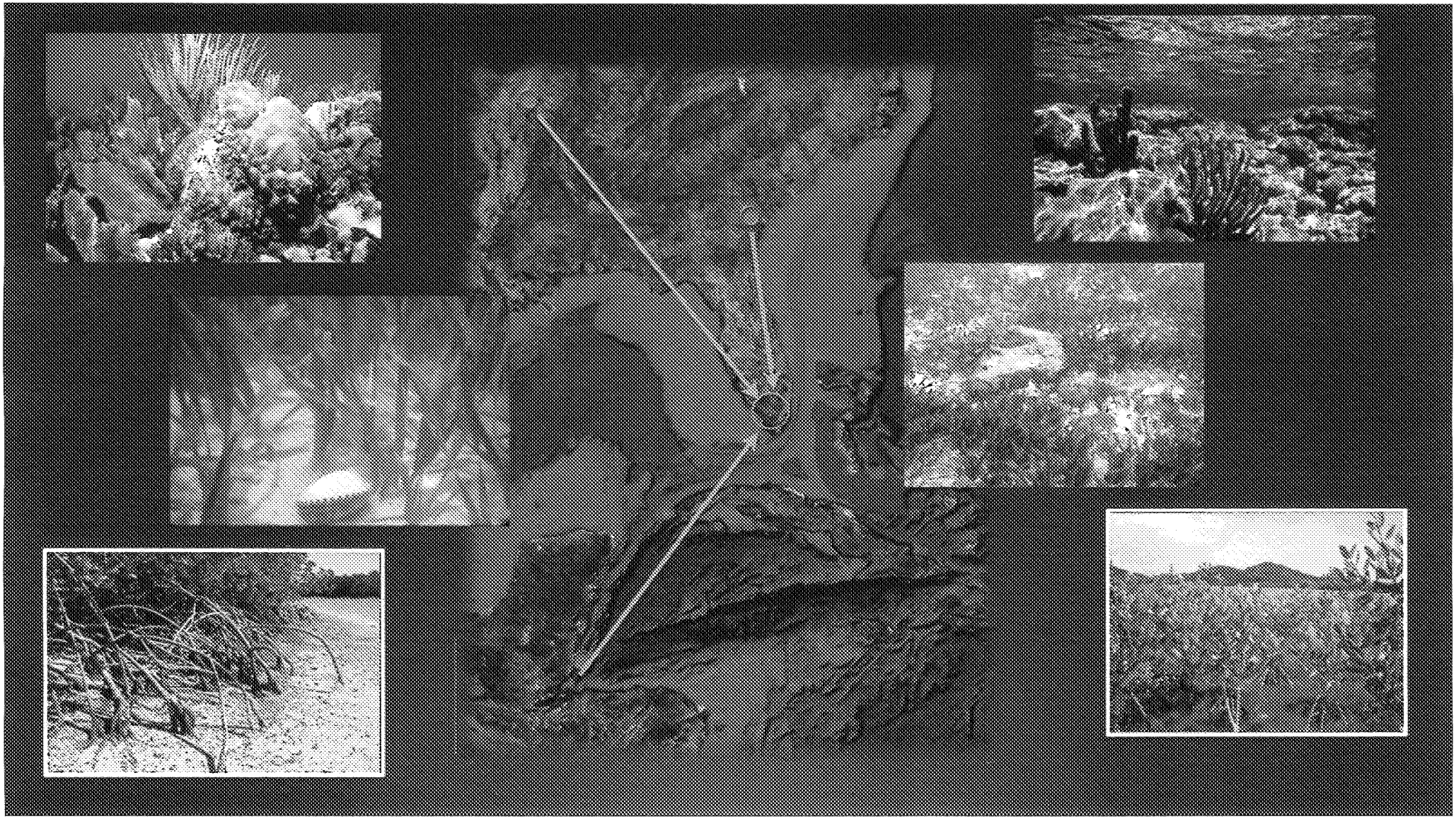


Monday, October 31, 2011



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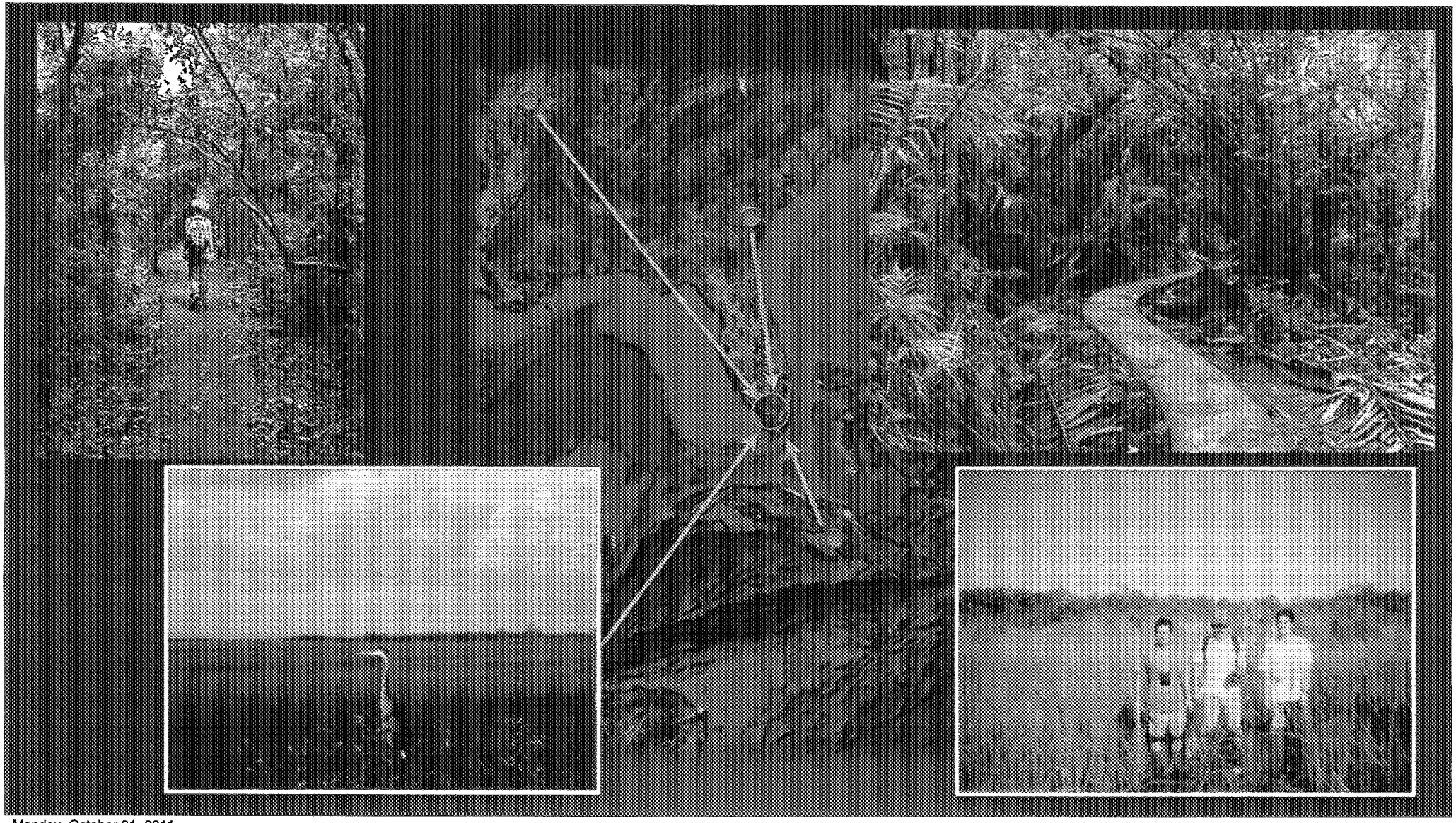
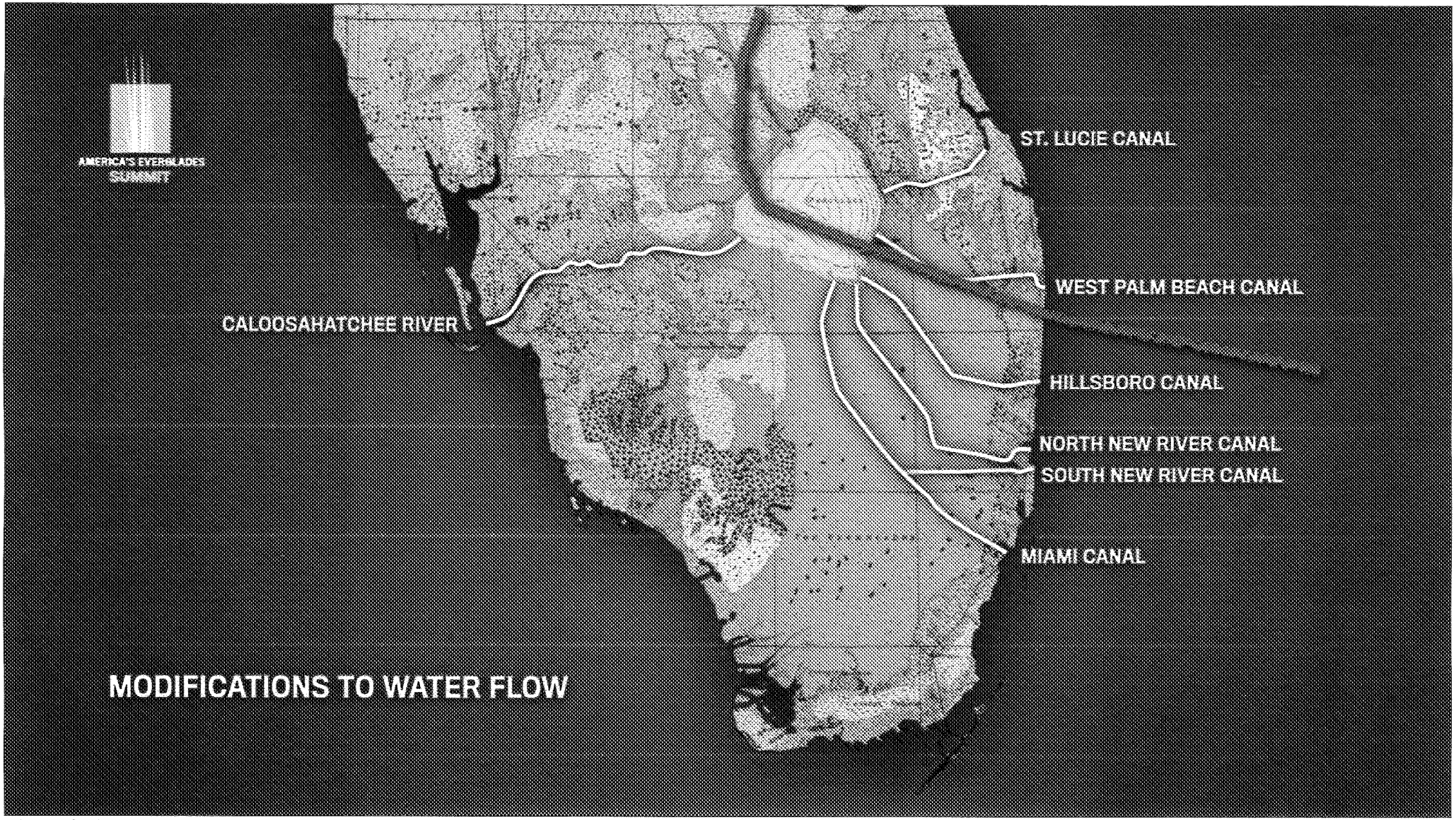
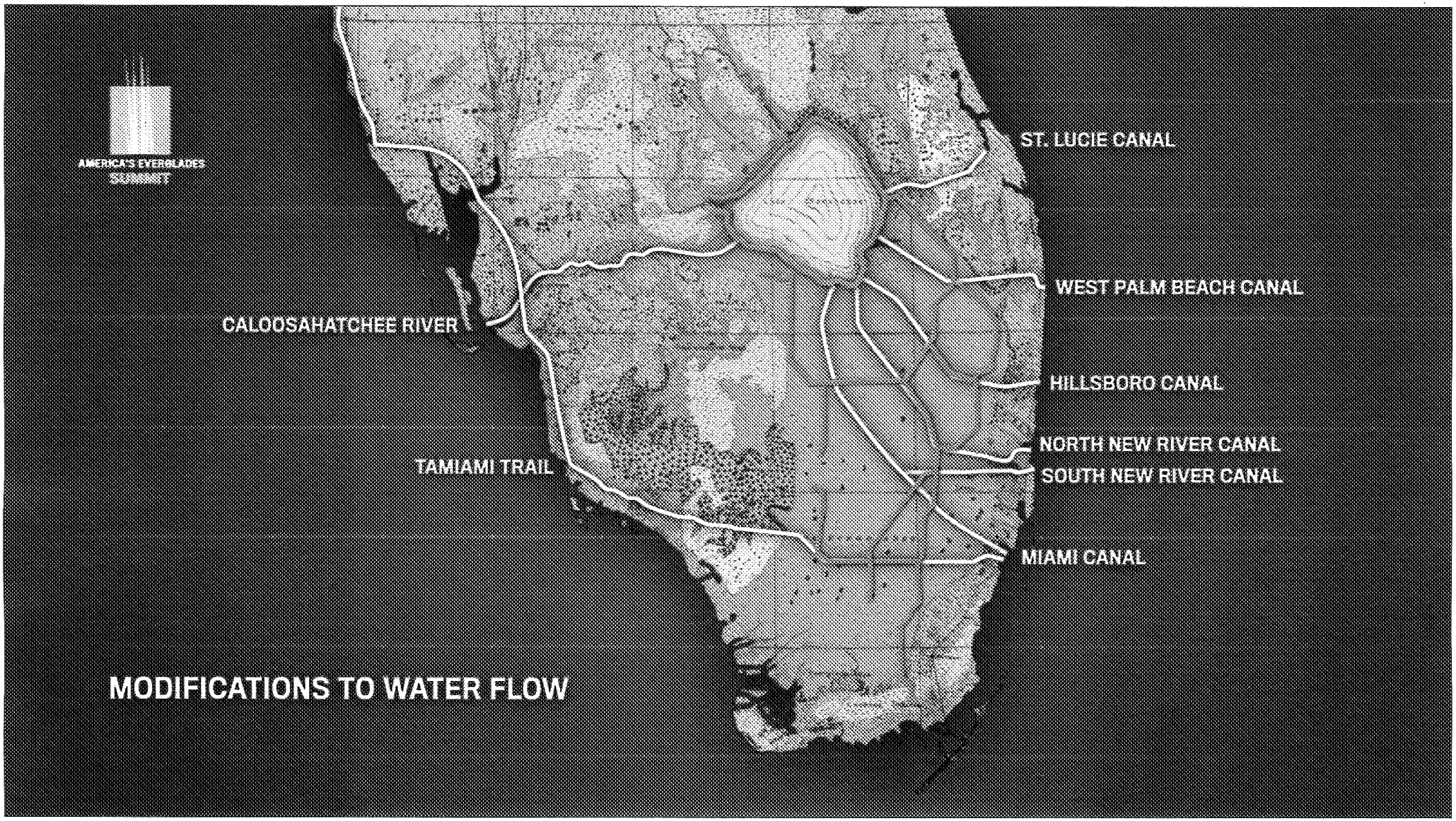
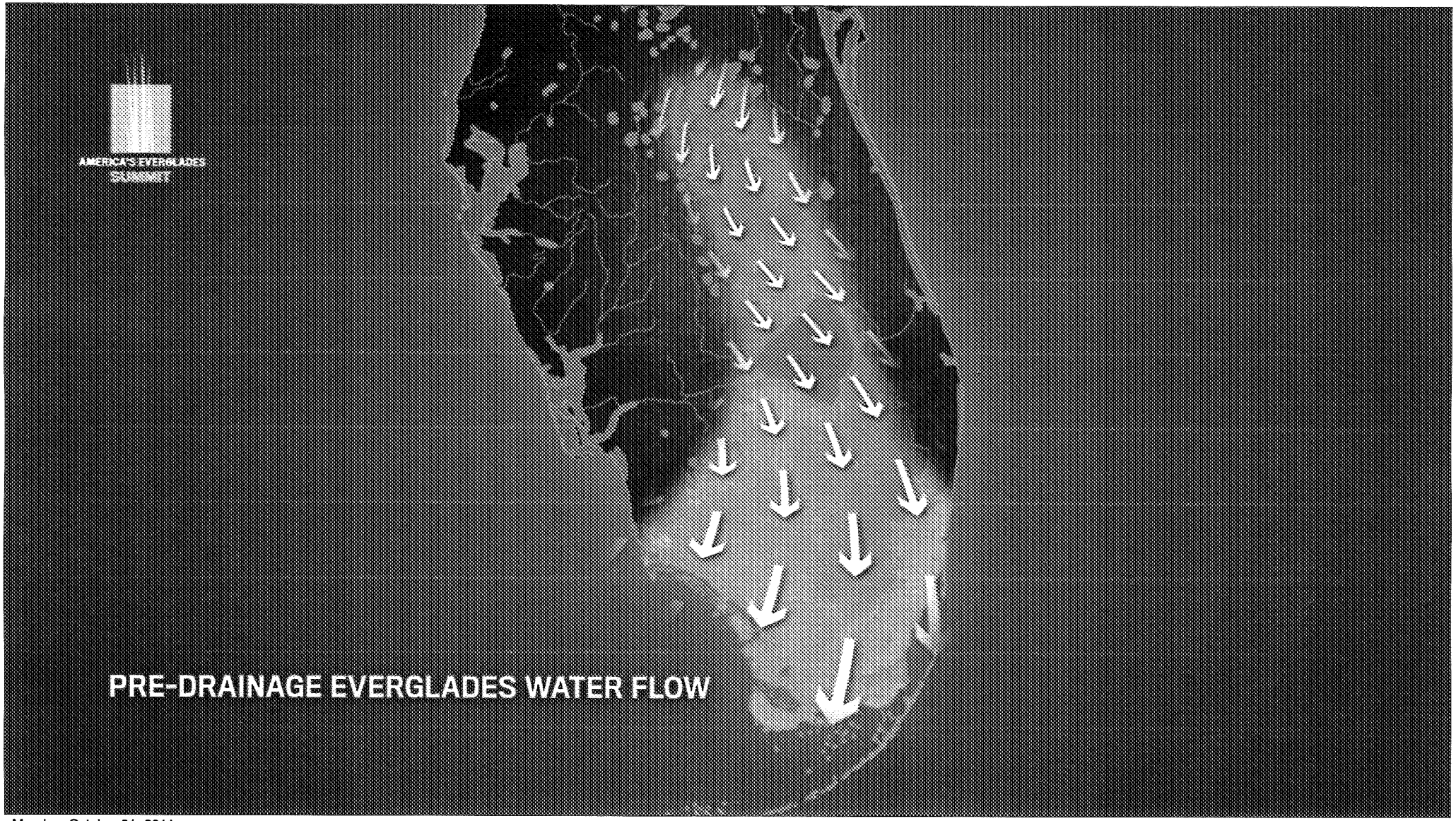


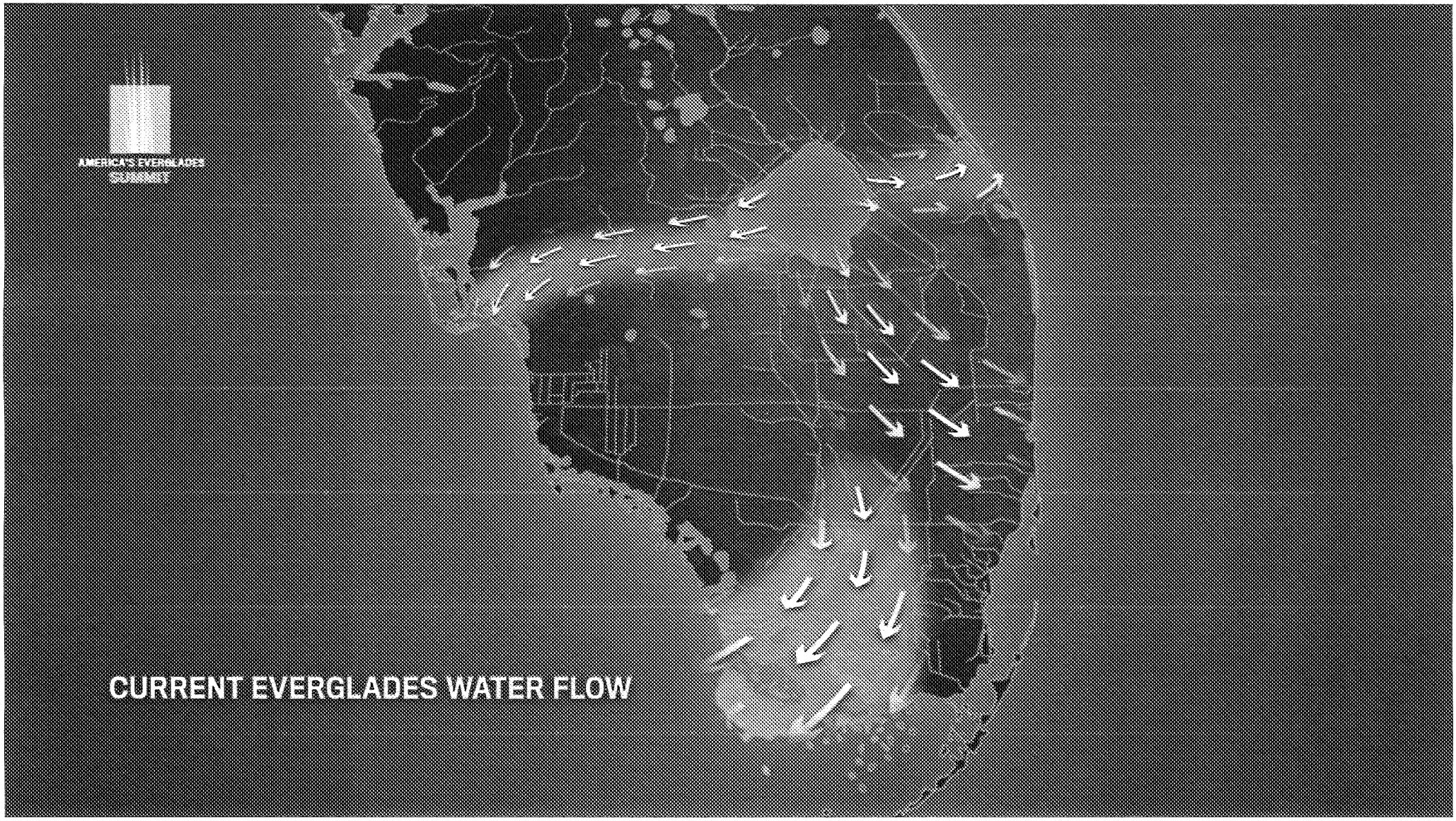
Monday, October 31, 2011

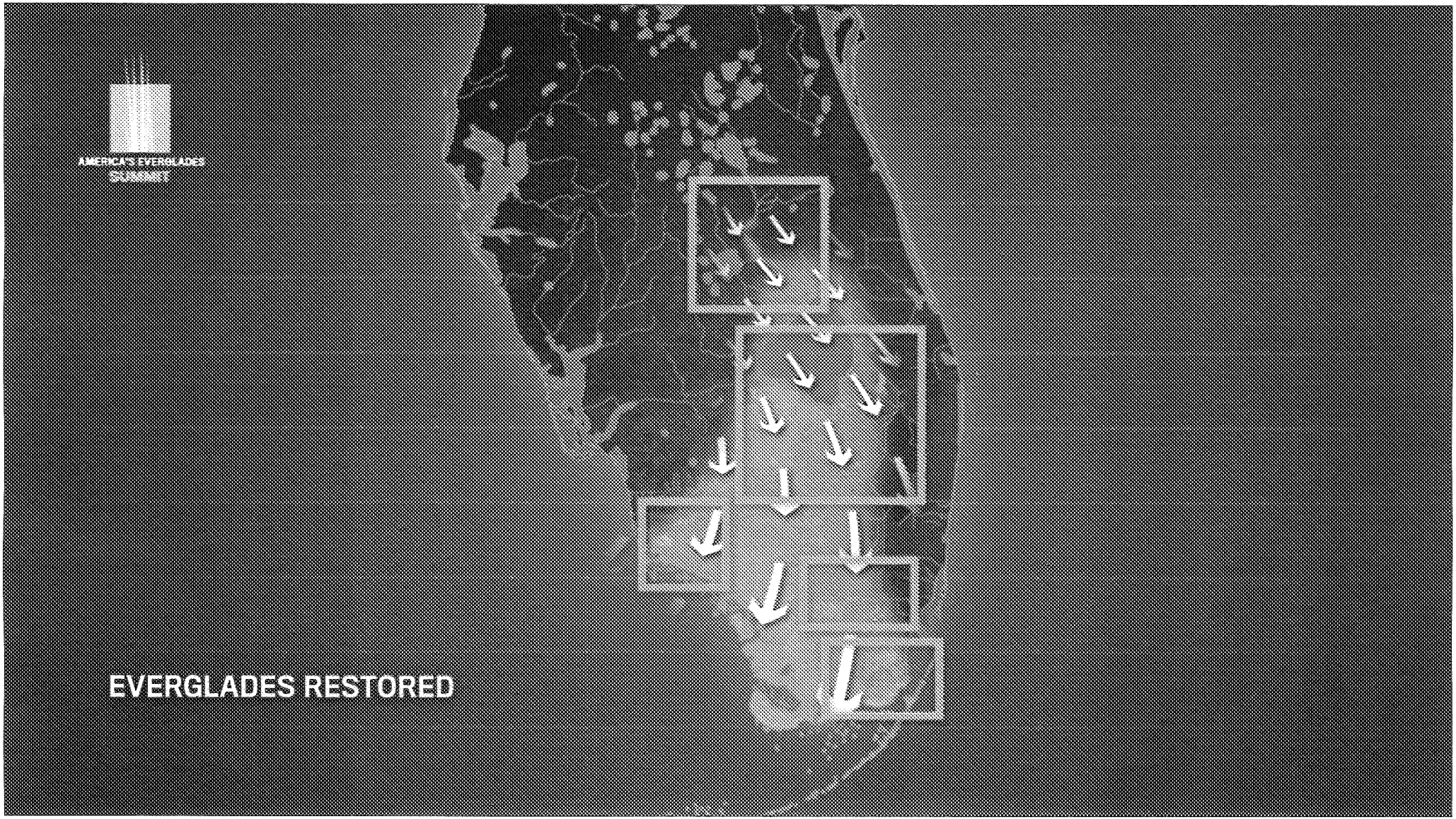
Monday, October 31, 2011


AMERICA'S EVERGLADES SUMMIT
ST. LUCIE CANAL
WEST PALM BEACH CANAL
CALOOSAHATCHEE RIVER
HILLSBORO CANAL
NORTH NEW RIVER CANAL
SOUTH NEW RIVER CANAL
MIAMI CANAL
MODIFICATIONS TO WATER FLOW


AMERICA'S EVERGLADES
ST. LUCIE CANAL
WEST PALM BEACH CANAL
CALOOSAHATCHEE RIVER
HILLSBORO CANAL
NORTH NEW RIVER CANAL
TAMIAMI TRAIL
SOUTH NEW RIVER CANAL
MIAMI CANAL
MODIFICATIONS TO WATER FLOW

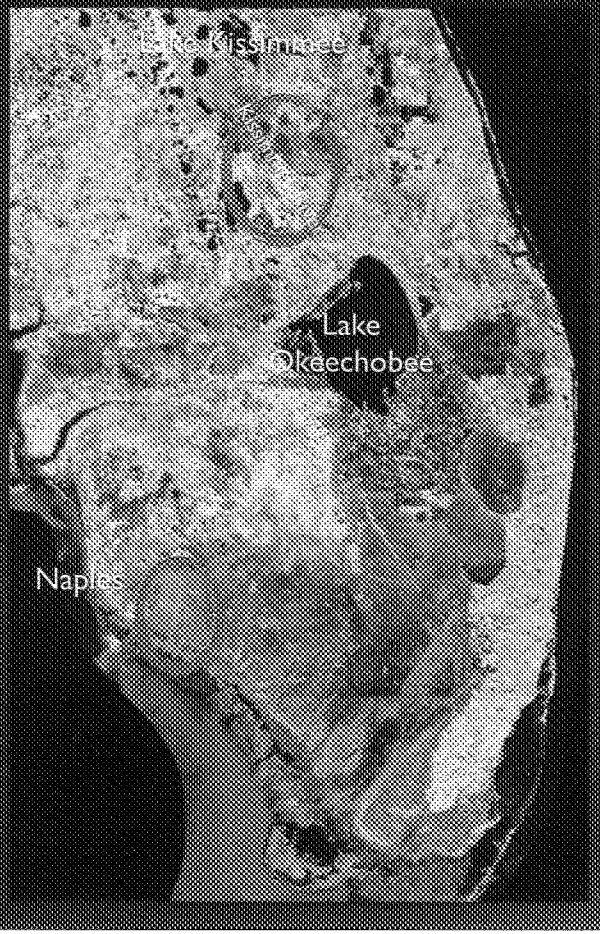

AMERICA'S EVERGLADES
PRE-DRAINAGE EVERGLADES WATER FLOW


AMERICA'S EVERGLADES
CURRENT EVERGLADES WATER FLOW



Monday, October 31, 2011

Restoration Successes

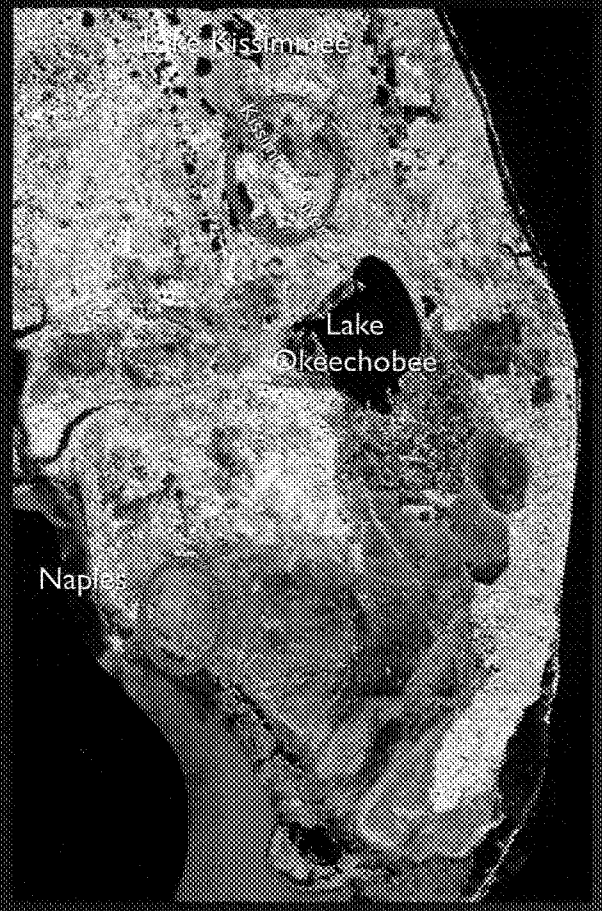


- Major projects have shown remarkable success
  - Kissimmee River Restoration
  - Picayune Strand Restoration

Restoration Successes

Restoration Successes

Restoration Successes



Restoration Successes

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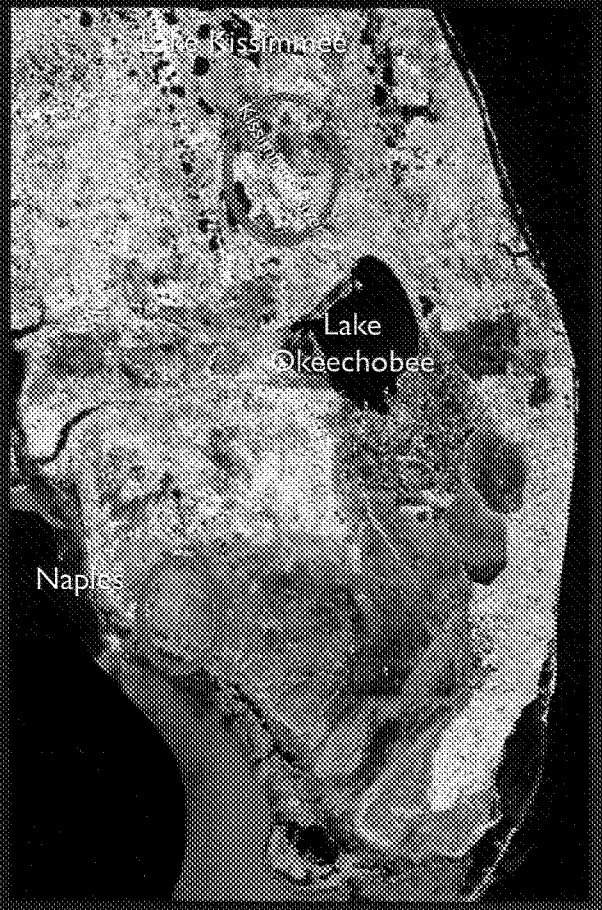
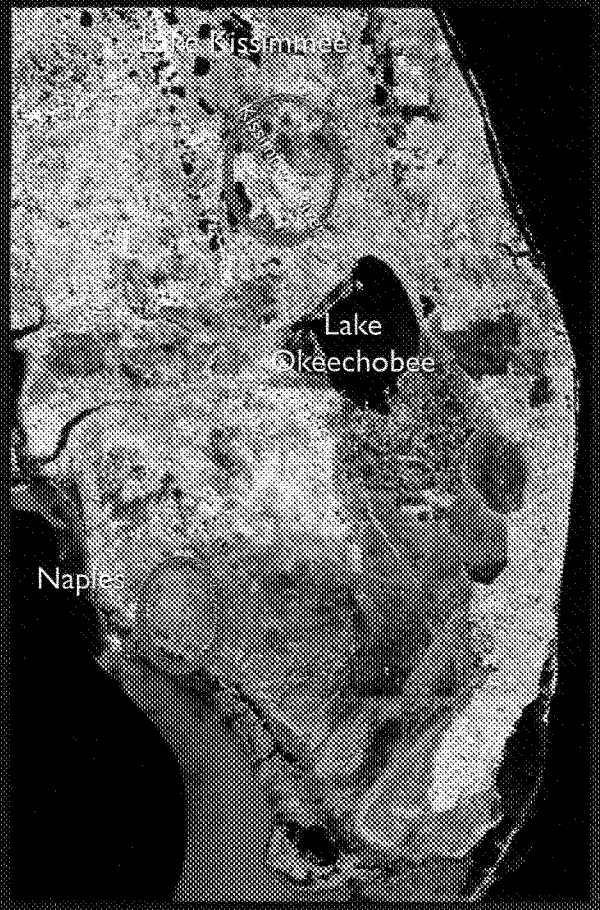


Restoration Successes



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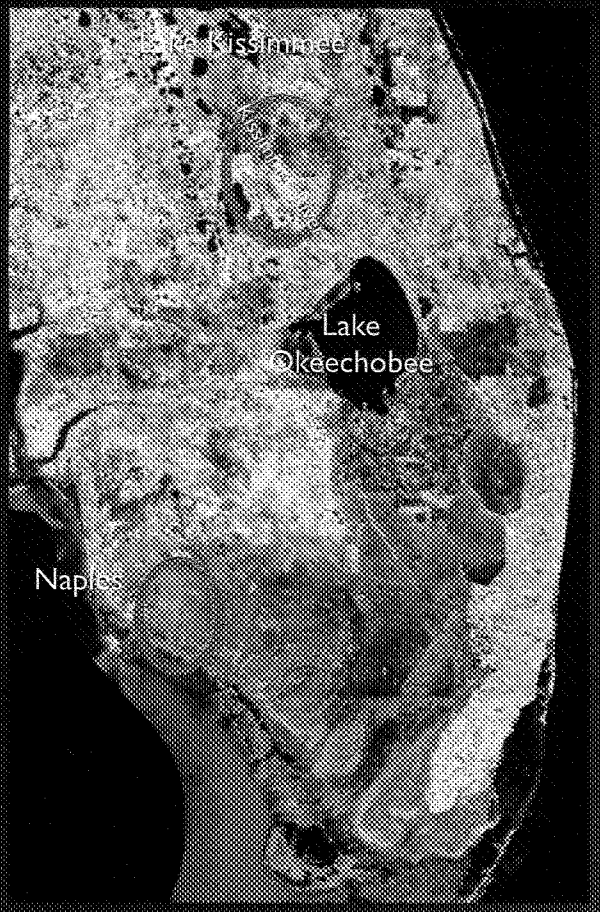
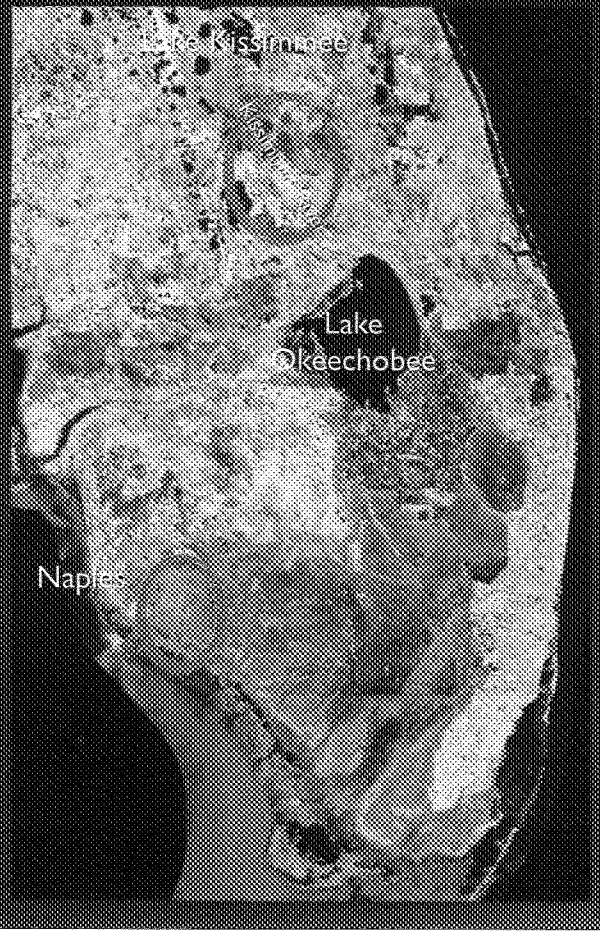
Restoration Successes



Restoration Successes



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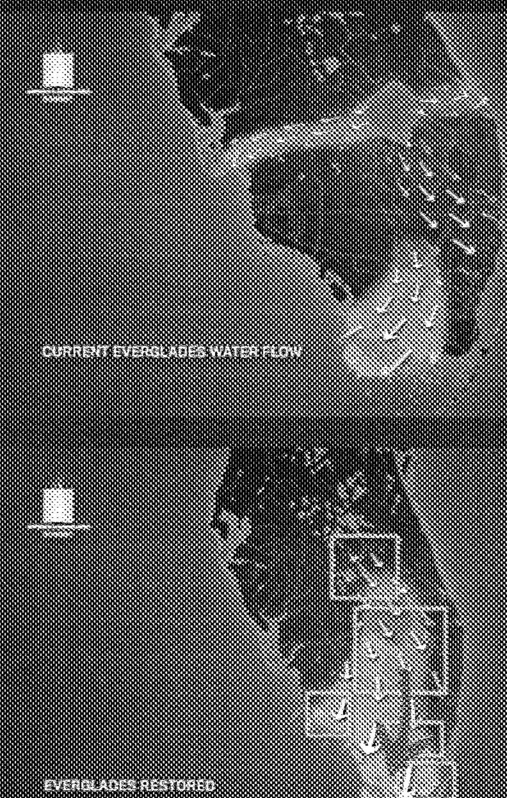
Other Restoration & Water Supply Projects Under

- Tamiami Trail
- C-111 Spreader
- Site 1 Impoundment
- L-8 Reservoir
- Biscayne Bay Coastal Wetlands
- C-44 Project

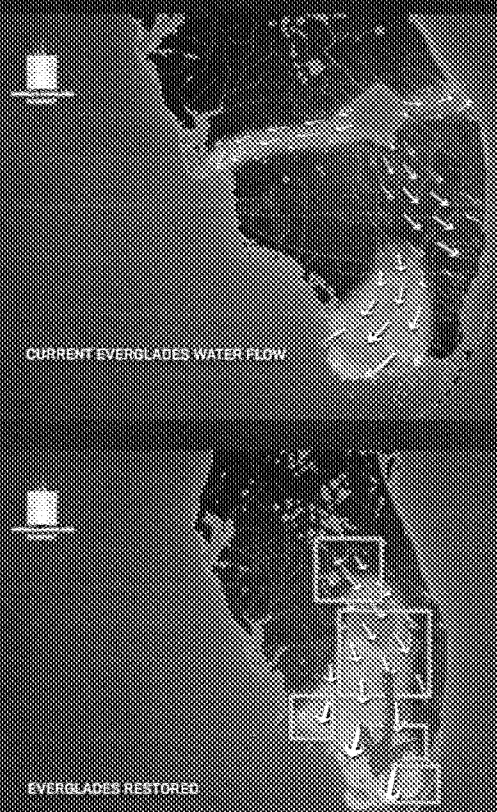
Central Everglades Initiative



"The Everglades is one of the world's largest ecosystem restoration projects, and this planning effort will provide a roadmap for the next decade on how we restore the River of Grass in perpetuity." -- **Secretary of the Interior Ken Salazar**

- To get most benefit and take biggest steps toward replumbing the Everglades, focus will be on central Everglades
- Announced October 27, 2011
- Concept is to
  - include all stakeholders
  - cut red-tape and planning delays
- Decision on next steps in 18 months

Central Everglades Initiative



"The Central Everglades planning initiative provides Florida with an opportunity to build upon the significant investments we've already made toward protecting and preserving America's Everglades. It also reaffirms the state's commitment to working collaboratively with our federal partners to pursue a solution that sustains both our economy and our natural resources." -- **Governor Rick Scott**

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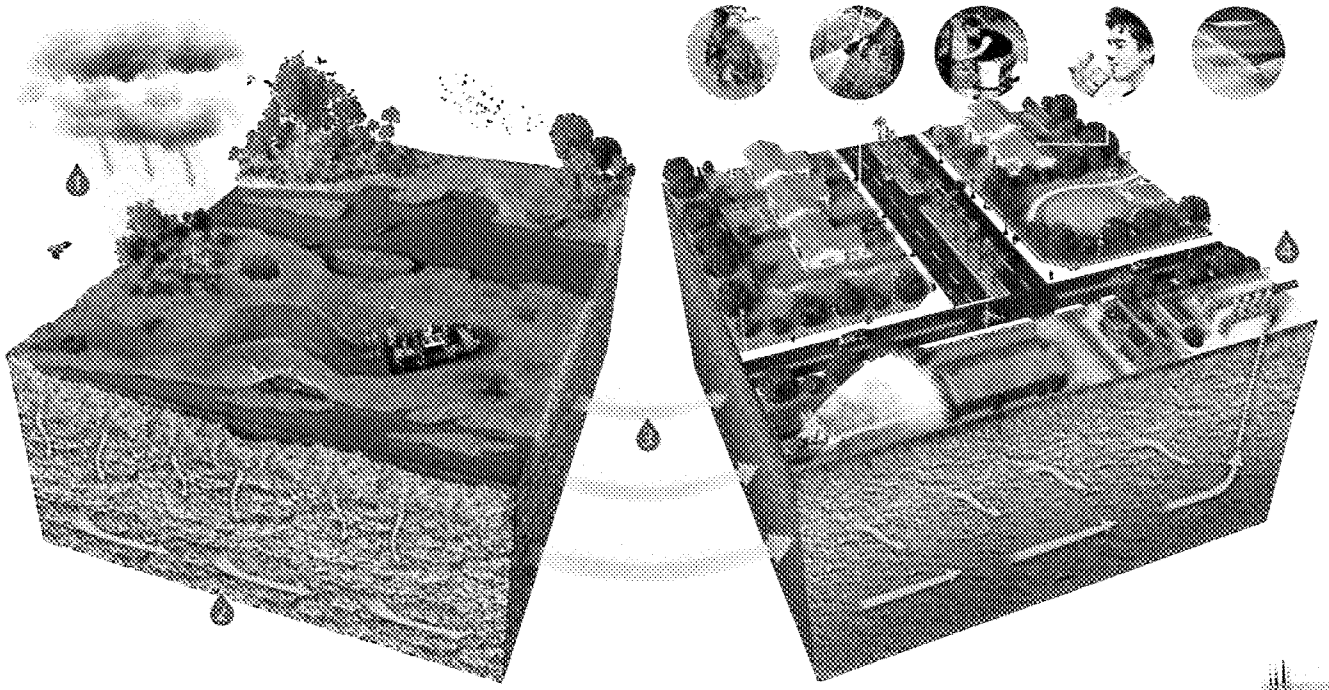
Saving the Everglades = Protecting our Water Supply

The more than 7 million residents of South Florida (about 1 out of 3 Floridians) rely on the Everglades for their water supply. The future of our state, our businesses and our homes depends on maintaining and protecting our source of clean, fresh water.



1 When rain falls on the cities of South Florida, much of it has to be drained away to protect our homes, businesses and farms. But in the Everglades, the rains fill up the grassy waters.

2 The wetlands of the Everglades act like an enormous sponge, storing up the rain that falls during the rainy season. The water stored in the Everglades gives life to a myriad of plants and animals found nowhere else on Earth.

3 When the rains stop and the dry season sets in, water seeps through a very porous aquifer, acting like an underground river, recharging the water supplies of the nearby cities, towns, and farms.

4 South Florida cities tap this underground supply with wells, and then distribute it through a network of pipes directly to homes and businesses. Each person in South Florida uses an average 150 gallons every day.

To learn more on how to protect our water supply, visit our Web site **www.evergladesfoundation.org** or call us today at **1-888-383-7452**

EVER GLADES FOUNDATION