

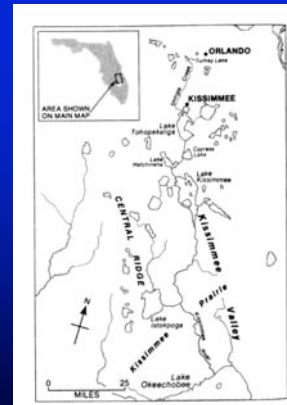
## Everglades

excerpts of a talk  
by Fritz Davis  
2004

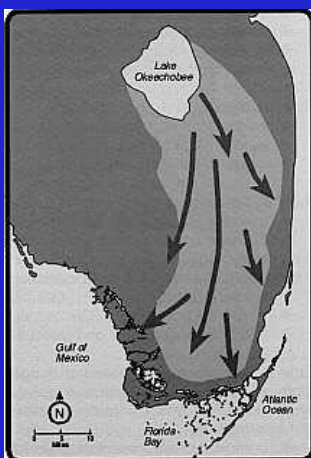


## John Kunkel Small "The Keys"

- Lower keys
- Upper keys
- Miami Rocklands (Everglades Keys)
- Sea of saw grass.
- Sea of pine trees
- "sea" of tropical hardwoods.
- Mangroves stood at the margin.



## The Source of the Everglades?



## Dominant Ecosystems of the Everglades before drainage

- Custard Apple Swamp.\*
- Sawgrass Marshes.
- Miami Rockland Pine and Mixed Hardwood Forests.\*
- Mangrove borders.

\*virtually gone

## Custard Apple Swamp

- Reminded explorers of cathedrals.
  - Gourd vines, giant ferns, and beautiful epiphytes.
- Uninhabitable for Europeans.
- Indians promoted the growth of the custard apple swamp.

## Custard Apple Swamp



## Custard Apple Swamp



## After Clearing



## Sawgrass

- Another virtually impenetrable barrier
- Travel slowed to as little as a mile and a half per day.
- Healthful place?



**Sawgrass**  
*Cladium jamaicense*

## Sawgrass Detail



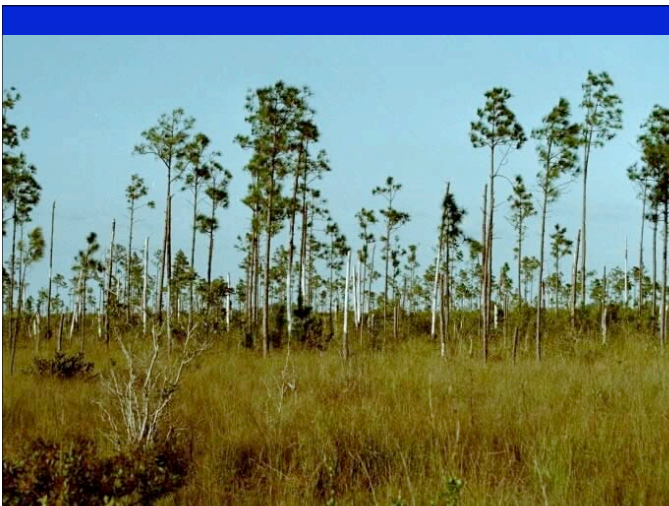
## The River of Grass



## Pine Forest

covered 90% of the Miami rocklands.

- The transverse glades.
- Banana Holes
- Logged (low quality pine).
- Hardwood hammocks.



## Red Mangrove (*Rhizophora mangle*)

- Dense stands.
- Unique prop root system = exotic and challenging landscape.
- "Walk" by sending out roots.
- Only plume hunters visited.
  - Breeding sites for marine animals and wading birds.



## Red Mangroves



## Red Mangroves



## Reclamation of the Everglades

- For Progressives: a worthy challenge.
- "Reclamation:"
  - "Reclaim:" sounds worthy
  - Actual meaning: drainage and conversion to farmland.

## Buckingham Smith

- 1847: First drainage reconnaissance of the Everglades: \$300,000 to \$500,000.
  - Florida's first senator J.D. Westcott: "health hazard from dying fish and vegetation."
- Swamp Lands Act of 1850
- Internal Improvement Fund (IIF)
  - "reclamation."

## 1881

- Governor William D. Bloxham arranged to sell Hamilton Disston 4 million acres of Florida land for \$1 million.
- Disston could claim half of the land he drained and "reclaimed."
  - Dug a canal from the Caloosahatchee River to Lake Okeechobee.

## Canals

- Richard J. Bolles (December 23, 1908).
- \$1 million for 500,000 acres of Everglades land.
- Trustees agreed to spend \$1.50 of each \$2.00 per acre on 5 canals.

### *Bureau of Irrigation and Drainage Investigations Engineering (Wright) Report*

- 8 canals from Lake Okeechobee through the Everglades
- Reclaim roughly 1,850,000 acres (one dollar per acre).

### Planned Canals



### Land Rush

- Three companies sold
  - 4,000 10-acre farm
  - \$20 to \$200 per acre.

### Florida Fruit Lands Company

- 8,000 farms - 10 acres
- 3,620 - 20 acres
- 40 - 250 acres
- 20 - 160 acres
- 8 - 320 acres
- 2 - 640 acres.
- 10,000 10-acre farms, sight unseen.

### Easy Living?

"Take a tent, a bag of beans, and a hoe; clear a few row in the saw grass, plant the seed, and in 8 weeks you will have an income."

- Custard apple and elder: machetes.
- Pull up the smaller brush and to cut the larger roots
- One week to clear an acre.

### More Problems

- Muck dried and formed dust storms.
- Land was not as fertile as the farmers imagined ⇒ Cattle died.
  - Lack of trace metals in the soils.



## Hoover Dike



Hoover Dike Near Moore Haven, FL  
Lake Okeechobee C. 1942



Dredge working at mouth of  
Taylor Creek Locks 1934  
Okeechobee, Florida

## Unintended Consequences

- wildfires
- soil loss
- saltwater intrusion into freshwater wells

## Everglades Agro Area

1950s EAA supported

- Winter vegetables
- sugar cane
- cattle

After 1961: **sugar**

– Cuban tension / government subsidies.



Sugar Cane

## Central and Southern Florida Flood Control District

- Established by Congress after 1947 floods.
- Army Corps of Engineers: 1600 miles of canals, levees, and spillways
  - agricultural area
  - 3 water conservation areas
  - 2 national parks
  - Straightened the Kissimee River
- Guaranteed an overland water supply for southern Miami-Dade County.

## Everglades National Park

- Also in 1947.
- Harry Truman dedicated 1.3 million acres.
- Ended 4 decades of squabbling at the local, state, and federal levels.

## South Florida Water Management District

- Controls
  - quantity,
  - quality,
  - distribution,
  - timing
- of water release into the Everglades.

## Everglades Today

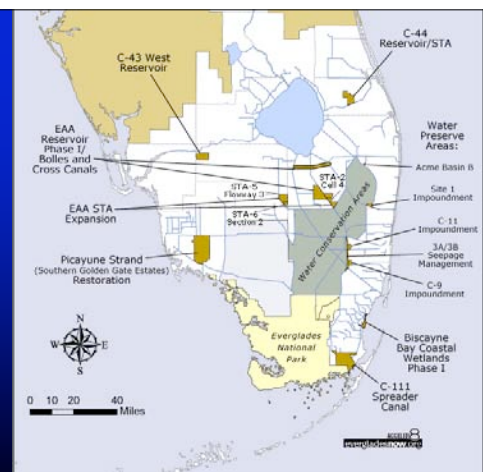


## The Comprehensive Everglades Restoration Plan

- Re-establish a more natural flow of water throughout South Florida.
  - Including The Everglades
- Ensure reliable water supplies and provide flood control.

## \$8 Billion and 50 Years

- More than 240 miles of canals and levees will be removed.
  - Most of the Miami Canal and the levee that separates the Big Cypress National Preserve from the Everglades National Park.
- 20 miles of Tamiami Trail (Route 41) will be rebuilt on a bridge to allow a freer flow of water into the Everglades National Park.
- Water will be captured and stored in new reservoirs, man-made wetlands and underground wells.



## Everglades Restoration



## Everglades Restoration

**Completed:**  
World's largest man-made wetland.

**Ahead of Schedule:**  
Advanced water quality technologies accelerated by over three years.

**Ahead of Schedule:**  
Florida has acquired more than 75 percent of the land needed for Congressionally authorized projects.

**Ahead of Schedule and Under Budget:**  
Southern Golden Gate Restoration started years ahead of schedule and at a savings of over \$50 million.

*Ahead of Schedule*  
*On Time and On Budget*



**On Schedule:**  
Ten Mile Creek project for improving the quality and quantity of flows into the St. Lucie Estuary.

**Ahead of Schedule and Under Budget:**  
East Coast water storage six years ahead of schedule and at a savings of over \$150 million through the acquisition of rock pits.

**Ahead of Schedule:**  
Meeting future long-term water quality goals in the Loxahatchee National Wildlife Refuge, three years ahead of schedule.

**Completed:** Over 42,000 acres of state land donated to the National Park Service to expand Everglades National Park.