



Model Builder Application **HEATS** Up the Lake Okeechobee Watershed

Habitat Evaluation Assessment Tool

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Lake Okeechobee Watershed Project Supports The Comprehensive Everglades Restoration Plan (CERP)

Everglades Restoration Plan Passes House, With Final Approval Seen

By ERIC SCHMITT

WASHINGTON, Oct. 19 — The House approved one of the largest environmental-restoration projects in the nation's history today, voting decisively for a \$7.8 billion plan intended to revive the Florida Everglades over the next four decades.

The 394-to-14 vote, after the Senate's approval by 85 to 1 last month, cleared the way for an engineering undertaking to reverse a half century of environmental damage and revamp South Florida's water supply by capturing more rainwater and redirecting much of its flow into the Everglades.

The House approved the plan as part of a bill on water resources. Before the bill goes to President Clinton, who has pledged to sign it, differences between the Senate and House versions must be resolved.

Although lawmakers said there were no serious differences over the Everglades provisions, they warned that it might be difficult to reach agreement on some unrelated projects of the Army Corps of Engineers, which environmental advocates oppose.

If House and Senate negotiators

cannot reach compromise, lawmakers said today that they would remove the Everglades plan from the bill and attach it to a spending bill that must be passed before Congress adjourns, probably next week.

In an unusual feat of bipartisanship, the project made allies of Vice President Al Gore, his Republican rival, Gov. George W. Bush of Texas; Mr. Bush's younger brother Jeb, the Republican governor of Florida, and farmers and environmental advocates.

Florida has the fourth-largest number of electoral votes in the presidential election, and Mr. Bush and Mr. Gore are in a furious battle to sway voters there.

"This bipartisan restoration plan will undo years of neglect and misunderstanding that has brought the Everglades to the brink of disaster," said Representative Porter J. Goss, Republican of Florida.

The Everglades plan, drafted by the Army Corps of Engineers, is aimed at resuscitating the 12-million-acre "river of grass" that cuts across South Florida. The plan is also supposed to ensure an adequate supply of fresh water for cities and

Congress is trying to correct a major environmental error it made in 1948.

farms, a major concern to local governments, citrus growers, builders and Florida utilities.

The project calls for the federal government to split the \$7.8 billion cost with the State of Florida over 36 years. The initial spending would be about \$1.4 billion to finance 10 of the 68 projects in South Florida. The design and engineering phase of the first projects is to begin in January, with construction starting in 2004.

Under the corps of engineers' plan, fresh water would be captured and stored in limestone quarries and aquifers — untested methods in that area. Engineers would also remove dikes and barriers at the eastern edge of the Everglades, which abuts urban Miami, to allow the water to flow into the marshland.

This approach would permit 80 percent of the captured water to be used to restore the ecosystem, giving the Everglades half the total expanded water supply. Currently, farms and cities get 70 percent of a smaller water supply, leaving the Everglades with 30 percent.

Over the past decade, Congress has approved piecemeal more than \$1 billion to help restore the Everglades. The measure endorsed today is a blueprint for a comprehensive plan to correct more than 50 years of damage to a treasured ecosystem that lawmakers ranked with the Mississippi River, the Grand Canyon and the redwood forests of California.

Representative Sherwood Boehlert, Republican of upstate New York, who heads the House Transportation Water-Resources Subcommittee, called the bill "our best hope to save the Everglades, to protect the egrets and alligators and to restore the balance between the human environment and the natural system in South Florida."

Passage of the bill is an acknowledgment that what Congress did in 1948 was wrong. That year, the lawmakers ordered army engineers to

build levees and canals to curb flooding in South Florida, then in the first stages of a building boom. By changing the water flow, the engineers inadvertently guaranteed that the Everglades received too little water in the dry season and too much in rainy weather.

A half century is a mere instant in the history of the earth, but a long time in human reckoning — long enough for the levees and canals ordered in 1948 to destroy half the Everglades.

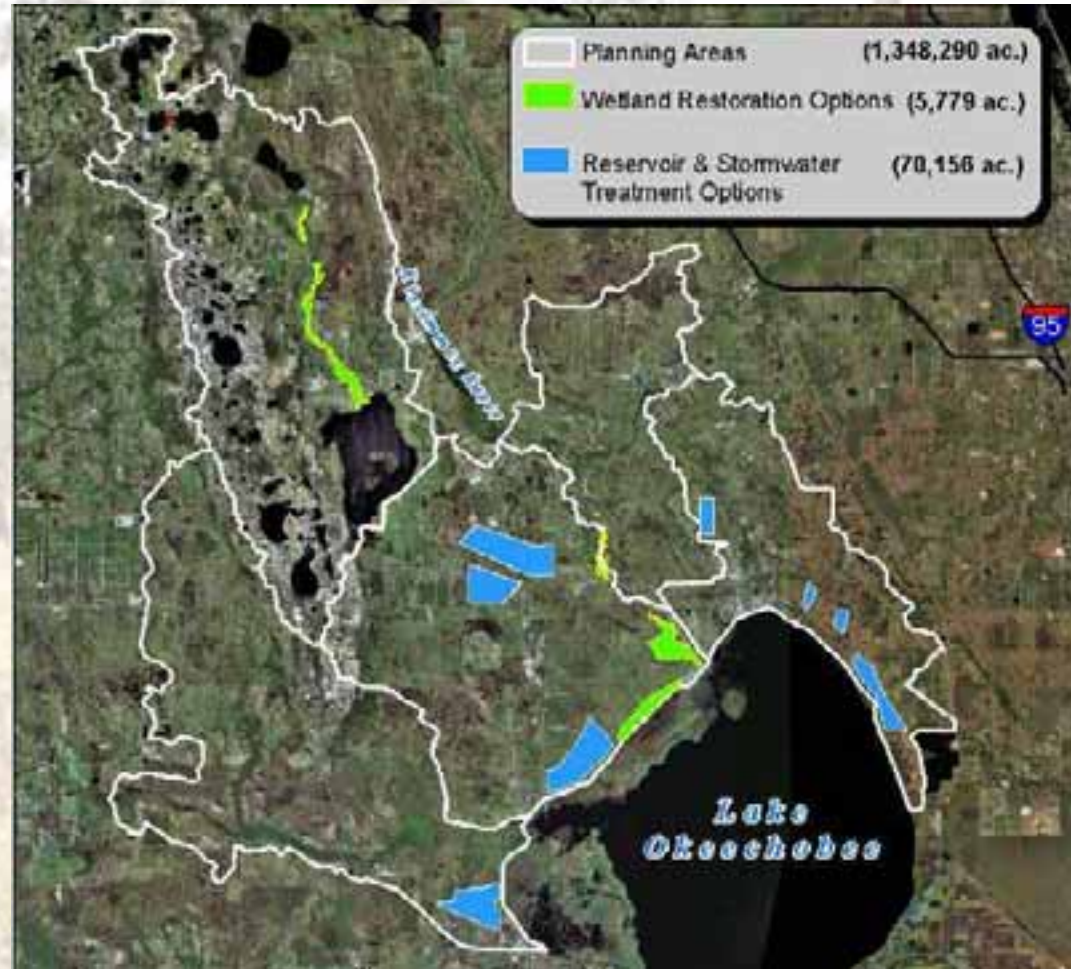
The complexity and scope of the environmental restoration plan is unrivaled, supporters said. To keep tabs on the program, Congress will mete out financing year by year. No individual project can go 20 percent over budget without an explanation to Congress.

In debate just before the vote today, Representative Peter Deutch, Democrat of Florida, said, "We are about to pass the largest ecosystem restoration project in the world."

Lake Okeechobee Watershed Project Addresses the Headwaters of the Everglades



Lake Okeechobee Watershed Project Has Four Main Goals



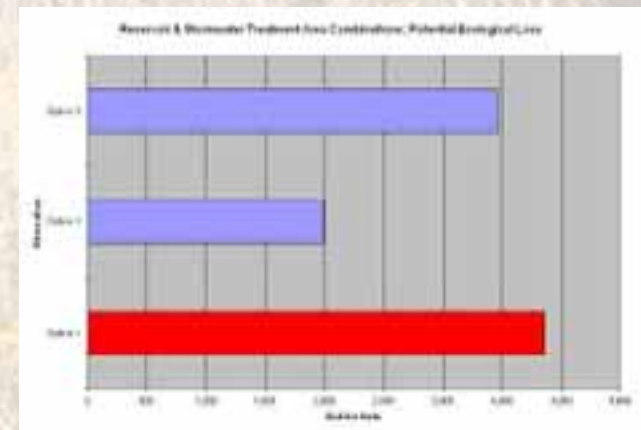
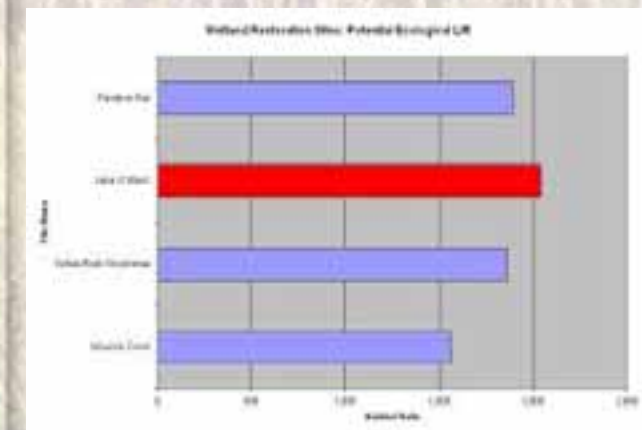
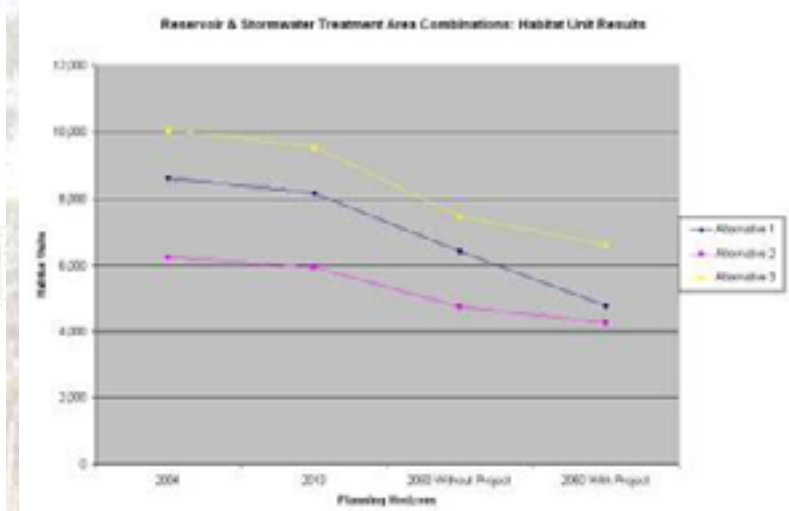
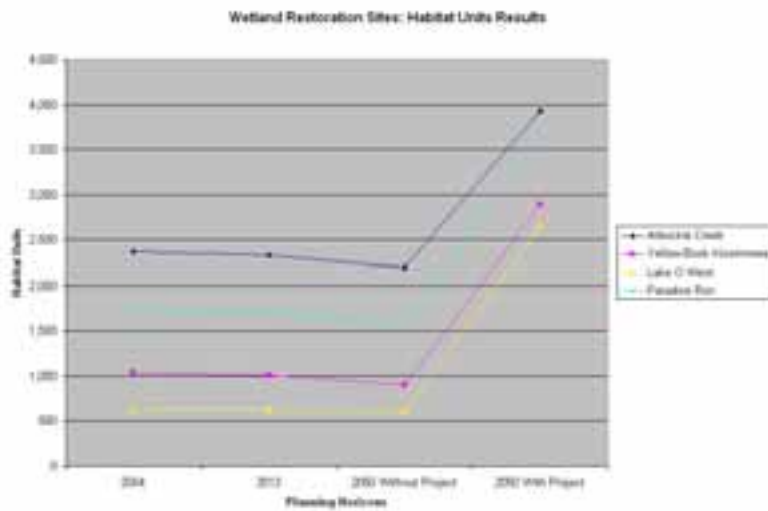
➤ Improve Water Quality

➤ Restore Isolated Wetlands

➤ Reduce Damaging Releases to Estuary

➤ Improve Management of Lake Levels

HEAT Helps Us Find The Optimal Ecological Solution



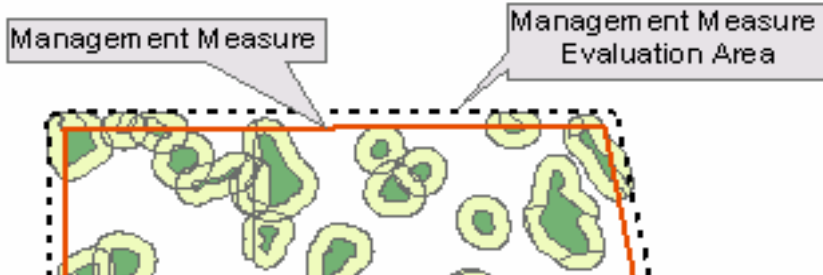
MAXIMIZE LIFT

MINIMIZE IMPACTS

HEAT Simplifies Complex Methodology

Table 8. Landscape change predictions over time for habitat quality.

Table 9. Landscape change predictions over time for Ecological Value Score, a habitat quality index beta



Vertical table with 10 rows and 1 column. Each row contains a small icon and a label: Final, Nat, Op, Div, Nat, Op, Div, Nat, Op, Div.

Final
CENTRAL AND SOUTH
COMPREHENSIVE E
DEVELOPMENT OF
PART 2 - WETLAND
LAKE OKEECHOO
U.S. Army Corps of Engin
Jacksonville District

A screenshot of the ArcMap software interface. A large blue arrow labeled 'HEAT' points from the left towards the map. A data table window is open, showing a table with columns: 'HEAT_ID', 'HEAT_CODE', 'HEAT_NAME', and 'HEAT_AREA'. The table contains 25 rows of data. To the right of the map, there are three callout boxes: 'Automated', 'Flexible', and 'Defensible', each with a right-pointing arrow.

HEAT_ID	HEAT_CODE	HEAT_NAME	HEAT_AREA
1	0430	371 282 04754	20219 890024
2	0410	324372 227088	46218 287797
4	0410	1024 0422197	16213 862419
5	0410	177024 015482	177024 212017
6	0410	338872 286888	338872 814028
7	0410	181 837 794400	181 700 432244
10	0410	48750 132874	48750 394728
11	0410	270820 372124	270820 220224
17	0430	403820 82410	381887 438286
18	0430	420186 200010	120186 781913
19	0430	342284 143881	342284 813042
20	0410	128112 628810	128112 542584
22	0430	158218 348004	78173 770822
24	0410	388121 871188	278246 705882
25	0430	881028 471408	881028 888818

Steve Schubert's (USFWS) Methodology



8
Calculate and copy acreage into a new field *evaluation acreage*

28
"Clip" layer to an individual AMM layer

34
Calculate and copy acreage into a new field *evaluation acreage*

50% loss only occ
FLUCCS code:
1900s,2120,2130,3000
and 7410 so select
FLUCCS code:

```
Field_management(Wetland_Results__39_, "A04WHU3", "[A04WHU2] * [EVAL_AC]", "VB", "")

select Degradable Land Use Types...
erByAttribute_management(Wetland_Results__40_, "NEW_SELECTION", "( [LUCODE3] >= 1900 AND [LUCODE3] < 21

calculate "A13WHU1" Field (Final)...
Field_management(Wetland_Results__42_, "A13WHU1", "[P_LU] * .1 * [WET_FWO]", "VB", "")

calculate "A13WHU2" Field (Final)...
Field_management(Wetland_Results__43_, "A13WHU2", "[P_LU] * .9 * [WET_O4]", "VB", "")

select (4)...
erByAttribute_management(Wetland_Results__44_, "NEW_SELECTION", "([LUCODE3] < 1900) OR ([LUCODE3] >= 1900) AND ([LUCODE3] < 2120) AND ([LUCODE3] < 2130) AND ([LUCODE3] < 3000) AND ([LUCODE3] < 7410)", "VB", "")

calculate "A13WHU3" Field (Final)...
Field_management(Wetland_Results__45_, "A13WHU3", "[P_LU] * [WET_O4]", "VB", "")

clear Selection (5)...
erByAttribute_management(Wetland_Results__46_, "CLEAR_SELECTION", "")

calculate "A13WHU4" Field (Final)...
Field_management(Wetland_Results__47_, "A13WHU4", "[A13WHU1] + [A13WHU2] + [A13WHU3]", "VB", "")

frequency (3)...
_analysis(Wetland_Results__48_, wetlands_freq_13, "WHDR_ID", "A13WHU4")

add Join (3)...
_management(Wetland_Results__48_, "WHDR_ID", wetlands_freq_13, "WHDR_ID", "KEEP_ALL")

calculate "A13WHU5" Field (Final)...
Field_management(Wetland_Freq_Join__2_, "Wetland_Buffers_Dissolve_Cop.A13WHU5", "[wetlands_freq_13.A13WHU4] * [wetlands_freq_13.A13WHU5]", "VB", "")
```



Non-Degrading Land Use Analysis

polygons that are not affected by the 50% loss and calculate *percent LU* x BPJ column 2004 wetland value into new field *weighted EVS_sub3* (this value will be zero for the degradable FLUCCS polygons)

HEAT Expedites Project Timeline



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Flexibility Accommodates Changing Variables

Calculate "A13WHU2" Field (Final)

Input Table
Wetland_Results (43)

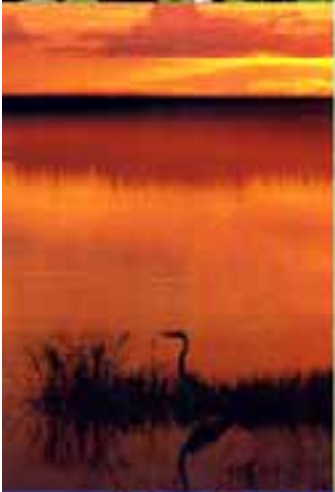
Field Name
A13WHU2

Expression
[P_LU] * .9 * [WET_04]

Expression Type (optional)
VB

Code Block (optional)

OK Cancel Apply Show Help >>



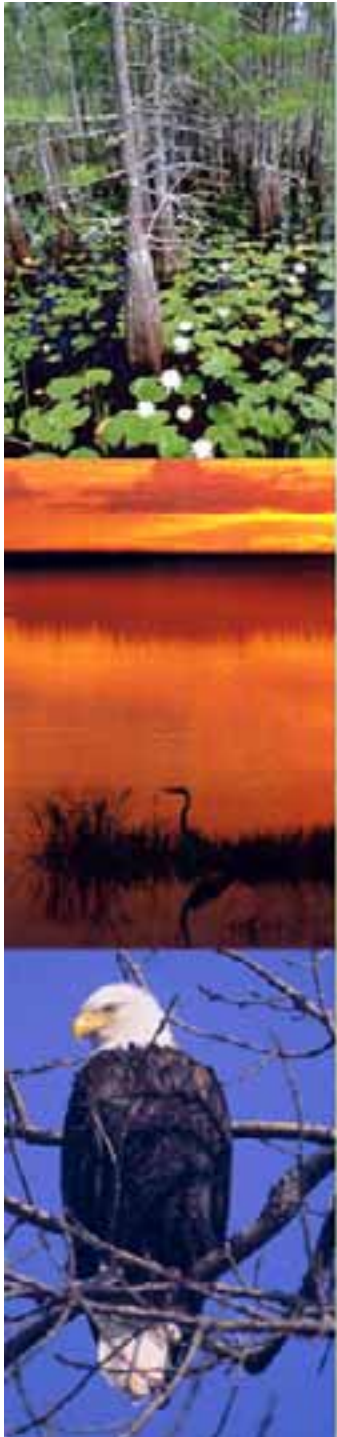
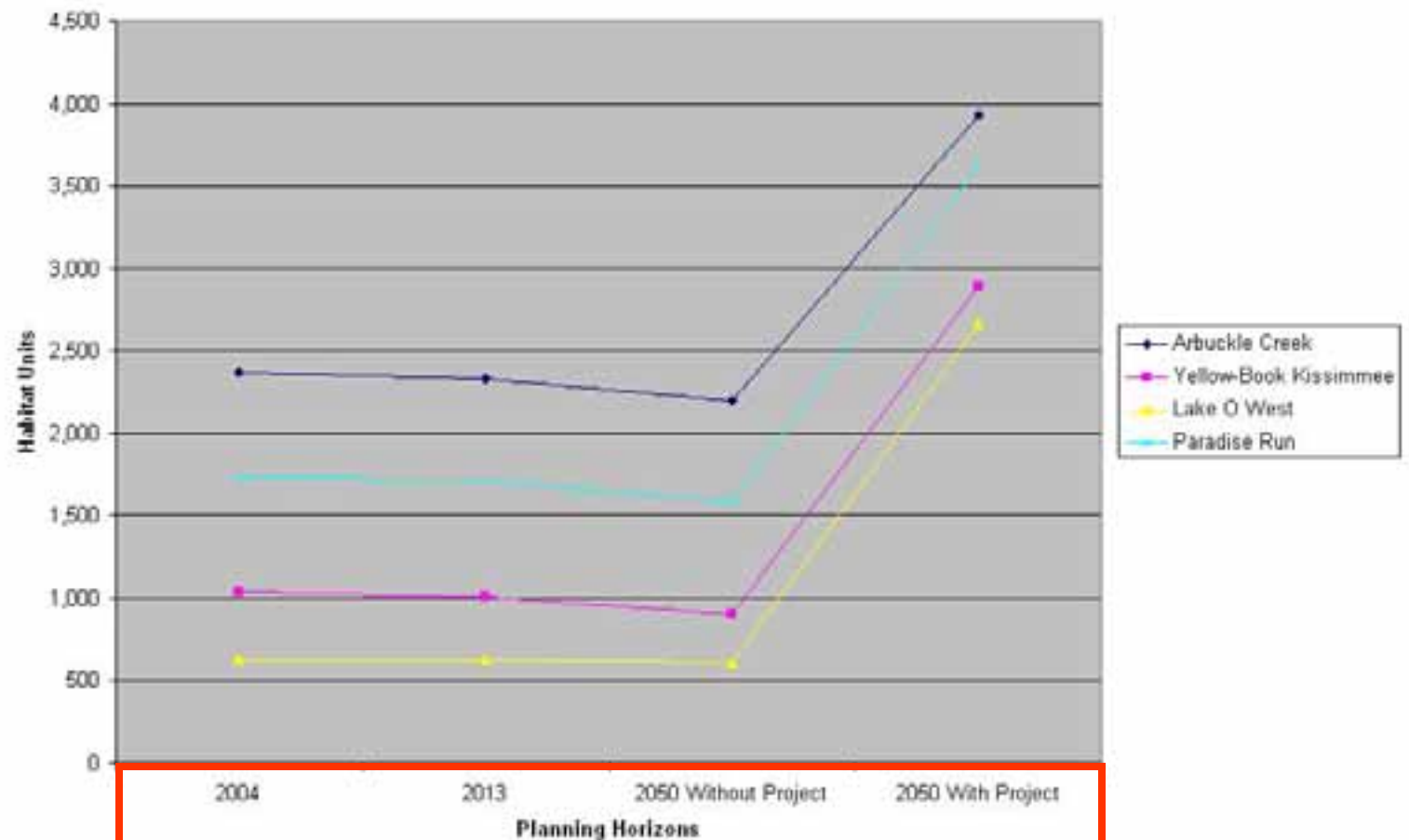
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The Best Defense is a Good Offense

Wetland Restoration Sites: Habitat Units Results



HEAT Supports the Everglades Restoration Plan

Automated

HEAT

Flexible

Defensible

