In the beginning



Then Came Man and tools



And we got connected to Lake O



Upgrade Action taken 1947-1972

- Okeechobee Waterway
- Herbert Hoover Dike
- Irrigation/Drainage canals through the Everglades
- Kissimmee River straightened
- Caloosahatchee was ultimately tamed by minimum width of 250 feet and depth of 8 feet
- Olga lock built to reduce saltwater intrusion and to add reliability to water supply development
- And Hicpochee water level was reduced to 9 feet, from 21 (1880 estimate)

And the land became engineered for development



And drought and fire resulted, as the tradeoff



Where are we now?

- We can travel the river (the Lake is often the navigation question)
- 2. We have reduced the severity of land flooding, but more folk have moved into even more low lying area
- 3. We have more users, and more drought (and some severe fire hazard areas)
- 4. We have saltwater intrusion, and the River has now flowed backwards through deliberate management
- 5. Wetland habitat has been severely reduced, despite NEPA

We have river problems in flow and quality

- Important Discharge Levels for the Caloosahatchee Estuary at the S--79 for Setting Optimal Flows, CFS is cubic feet per second
- 1.< 450 CFS: high salinity in upper estuary causes mortality of tape grass habitat.
- 2.>2800 CFS: low salinity causes mortality of marine organisms in the seaward portion of the estuary.
- 3.>4500 CFS: low salinity in San Carlos Bay causes mortality of seagrasses.

 - 4.>6500 CFS: low salinity plume enter Gulf of Mexico adverse impacts on SAV and WQ in Pine Island Sound
 - acre foot is 43560 cubic feet, cubic foot of water is 7 gallons+

And, BTW



Happily, there is a PLAN

- Lots of Plans, actually, developed with great effort
- A Three Goal Strategic Plan for Everglades Restoration, including Get The Water Right, Get the Natural Systems back, Keep Man from Breaking What is Left
- A Comprehensive Everglades Restoration Plan CERP
- A Series of Watershed Plans for Water Quality
- A Northern Everglades Plan
- A Kissimmee Restoration Plan
- A Lake Okeechobee Restoration Plan

The Plan Water Budget



The Plan for Us 1999

- Aquifer Storage and Recovery (ASR)
- Backpumping and Treatment into Lake O of 1/3rd of basin flow, tied to 300 cfs MFL
- A reservoir east of Ortona Lock
- Southwest Florida Feasibility Study
- Let it be recognized, "discussions ensued" regarding the Plan impact on SWFlorida

The Plan for Us, 2016

- Vastly reduced ASR, level yet not established
- No backpumping and treatment
- A reservoir West of Ortona Lock, now yclept C 43 Reservoir at LaBelle, formerly Berry Groves, with a possible treatment area
- A Completed list of projects named the Southwest Florida Watershed Plan
- A 1300 acre treatment area east of Ortona, the Boma tract
- 450 cfs MFL

Reservoir sites were examined, and one selected



Appendix F

Plan Formulation



FIGURE 7-1: THE SELECTED ALTERNATIVE PLAN

The Reservoir itself

- 10500 acres SW of LaBelle
- 2 cells, 170,000 acre feet of storage, 159.5K available
- External (dam) embankments 32-37 feet above existing grade; Soil-Bentonite slurry walls
- An internal (dam) embankment separating the two reservoir cells with an approximate height of 31 feet above existing grade, water levels 15-25 feet
- perimeter canal and perimeter canal pump station consisting of electric-powered pumps 195 cfs
- Numerous spillways, culverts, perimeter canal structures, an internal cell balancing structure, and outlet structures;
- 1500 cfs pumps (River Minimum Flow Level is 450)

Questions have been raised

- Safety: Proposal has the highest "threat" category, High Hazard Potential, drives the design and maintenance proposal,
- Spillway (s) location
- Water Quality: (next speaker)
- Cost: \$610 million, final, \$31m annual
- Only part of the water supply answer, need additional recognition and implementation of SWF Master Plan.