SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Bird Drive Basin

Background and Current Status

April 30, 2012

sfwmd.gov

Presentation Outline

- Central and Southern Florida Project (“Restudy”)
  - Project Purpose and Concept
- Comprehensive Everglades Restoration Plan
  - Project Delivery Team Project Plan Formulation
  - USACE and SFWMD Leadership Recommendation
  - Conveyance/Seepage Collection/Recharge Concept
  - Further Detailed Investigations
- Next Steps

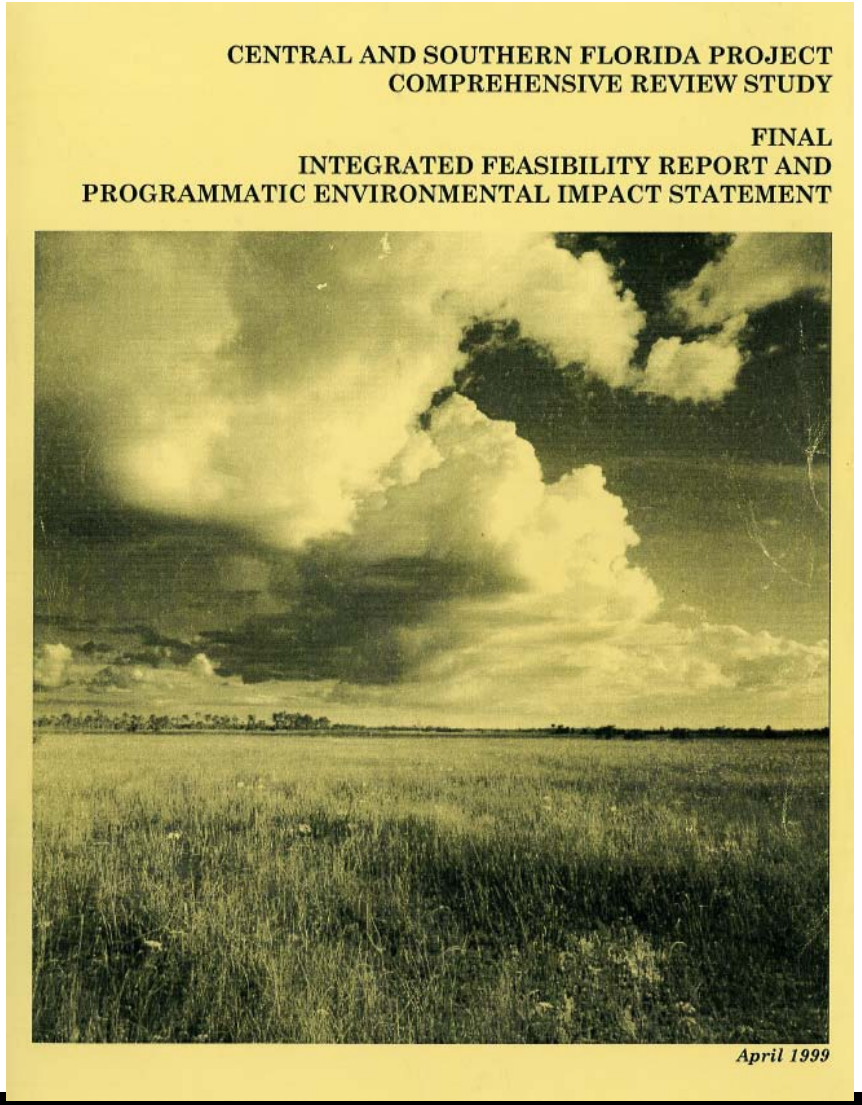
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Bird Drive Basin

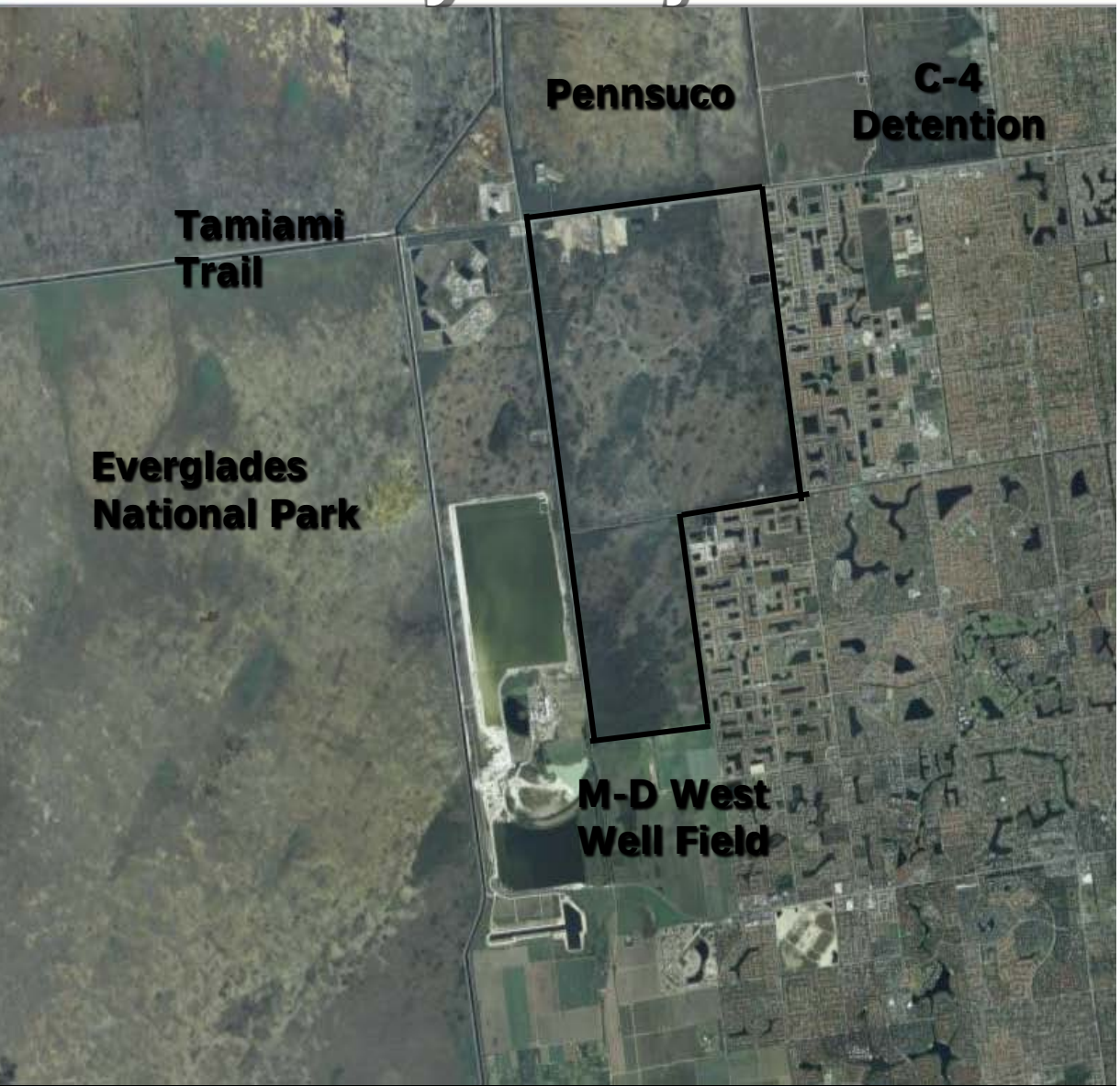
Central and Southern Florida Project (Restudy)

Bird Drive Recharge Area Restudy Project Purpose

- Reduce seepage from Everglades National Park
- Recharge groundwater east of Krome Avenue
- C-4 peak flood attenuation
- Water supply deliveries to South Dade Conveyance System (SDCS)
- Increase spatial extent of wetlands



Bird Drive Recharge Area Restudy Project Concept



- Bird Drive Recharge Component (U)
- Above ground impounded recharge area
  - 2,877 acres
  - 11,500 ac-ft of storage
- Pumps and Water Control Structures - Deliveries to SDCS
- WWTP flows -155 cfs to recharge well field

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Bird Drive Basin
Comprehensive Everglades Restoration Plan (Formulation)

Bird Drive Recharge Area CERP Plan Formulation

- Detailed modeling and physical analysis identified significant Restudy Project Deficiencies
  - Highly transmissive project site
  - Unable to hold water on project site for delivery to SDCS
  - Likely to cause flooding impacts of urban areas east of project site
  - Design and operation “not feasible”

Bird Drive Recharge Area CERP Plan Formulation (Cont.)

- Project Justification - Benefits and Cost Analysis
  - Diminished project benefits and cost effectiveness
  - Seepage management no longer a primary benefit due to proposed L-31N seepage barriers
  - Recharge of groundwater requires relatively small area
  - Flood attenuation benefits diminished due to C-4 Emergency Detention Basin
  - Water supply deliveries to SDCS can be made by other deliver routes

Bird Drive Recharge Area CERP Plan Formulation (Cont.)

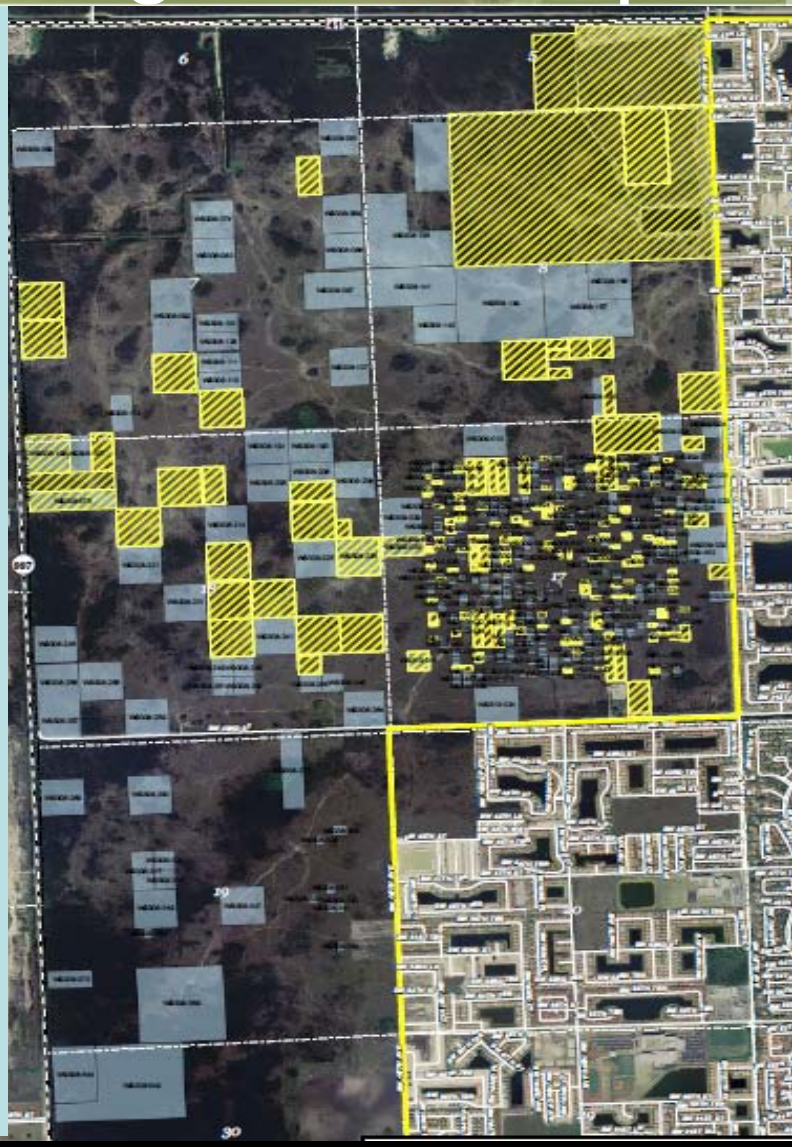
- Project Delivery Team prepared “White Paper” (June 2008)
  - Evaluated conditions affecting project justification (benefits and cost analysis)
  - Determined design and operation are not feasible and that concept as envisioned in Yellow book is “not implementable”
- Bird Drive Recharge Area screened out due to high cost/low benefit ratio
- USACE – SFWMD Leadership Meeting (Jan 5, 2011)
  - Recommendation to release a portion of the project lands was confirmed as consistent with the “White Paper” recommendation

Bird Drive Basin

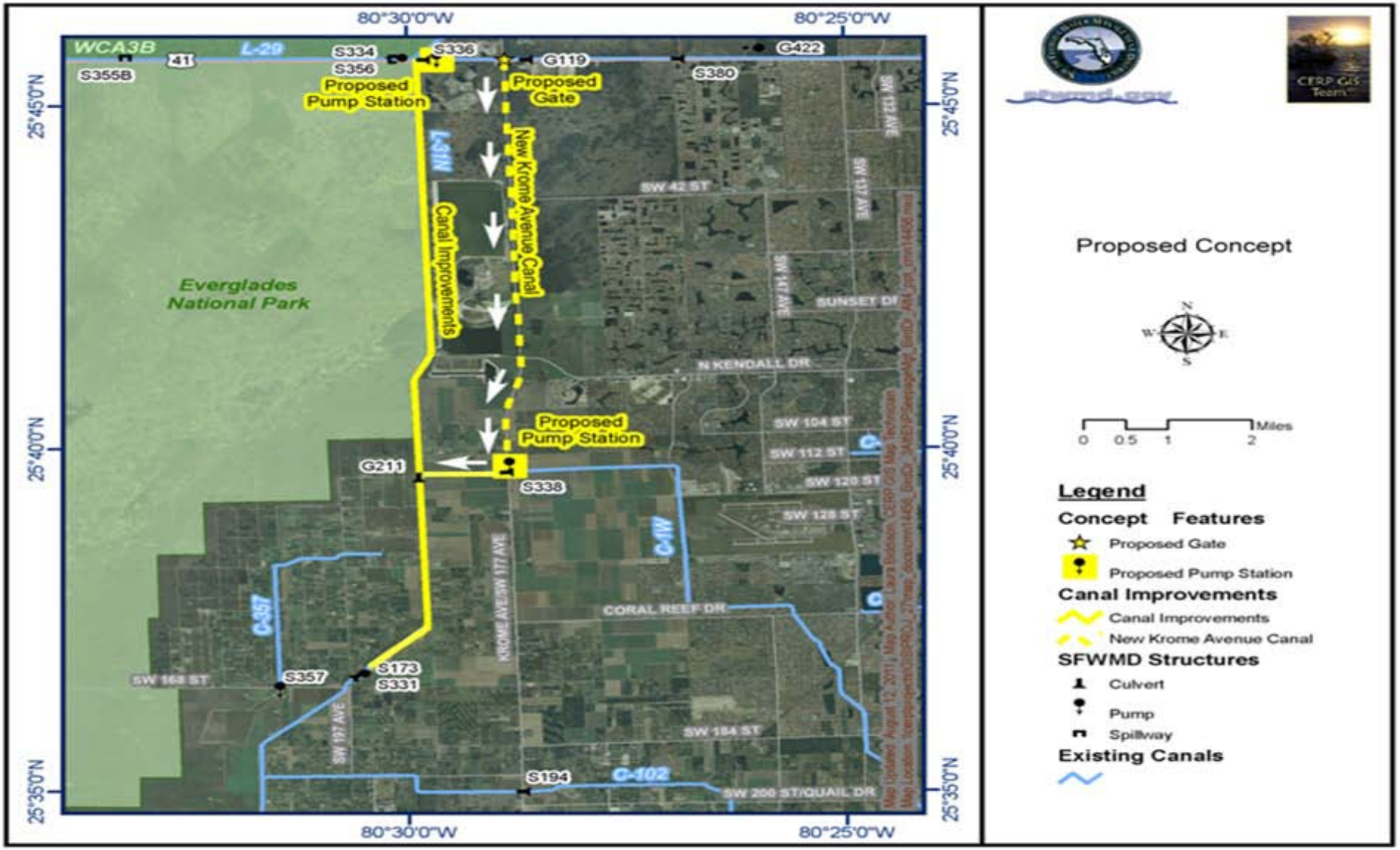
Conveyance, Seepage Collection and Recharge Concept

Proposed Conveyance, Seepage Collection and Recharge Concept

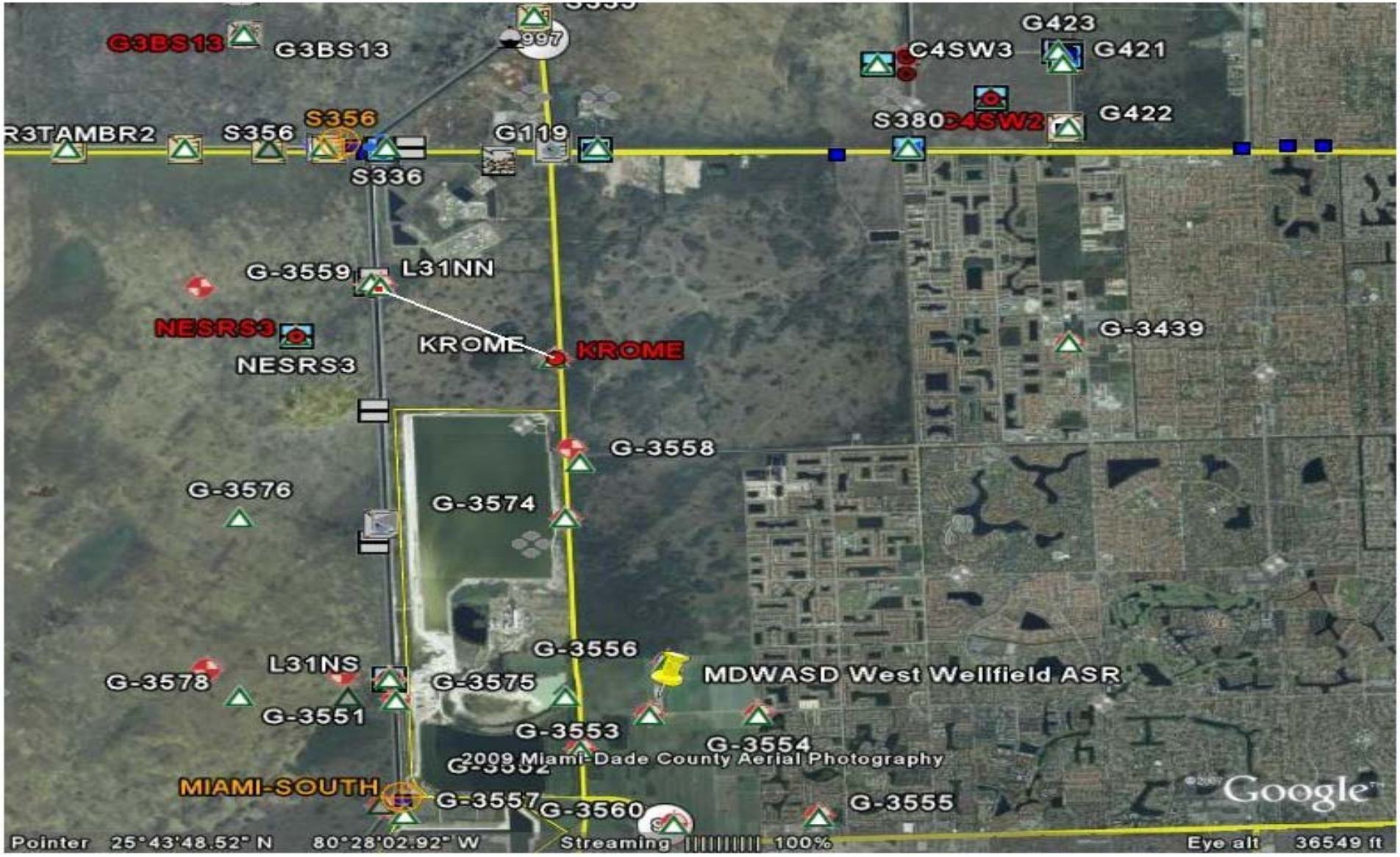
- Evaluated potential conveyance (hydraulics), seepage collection and recharge concepts to meet the intent of the Restudy Project Purpose
- Basin inflow/outflow capacity ~1,800 cfs
- Reduce seepage from Everglades National Park
- Recharge groundwater east of Krome Avenue
- Flood attenuation
- Water supply deliveries to South Dade Conveyance System (SDCS)



Proposed Conveyance, Seepage Collection and Recharge Concept



Seepage Effects
Existing Condition



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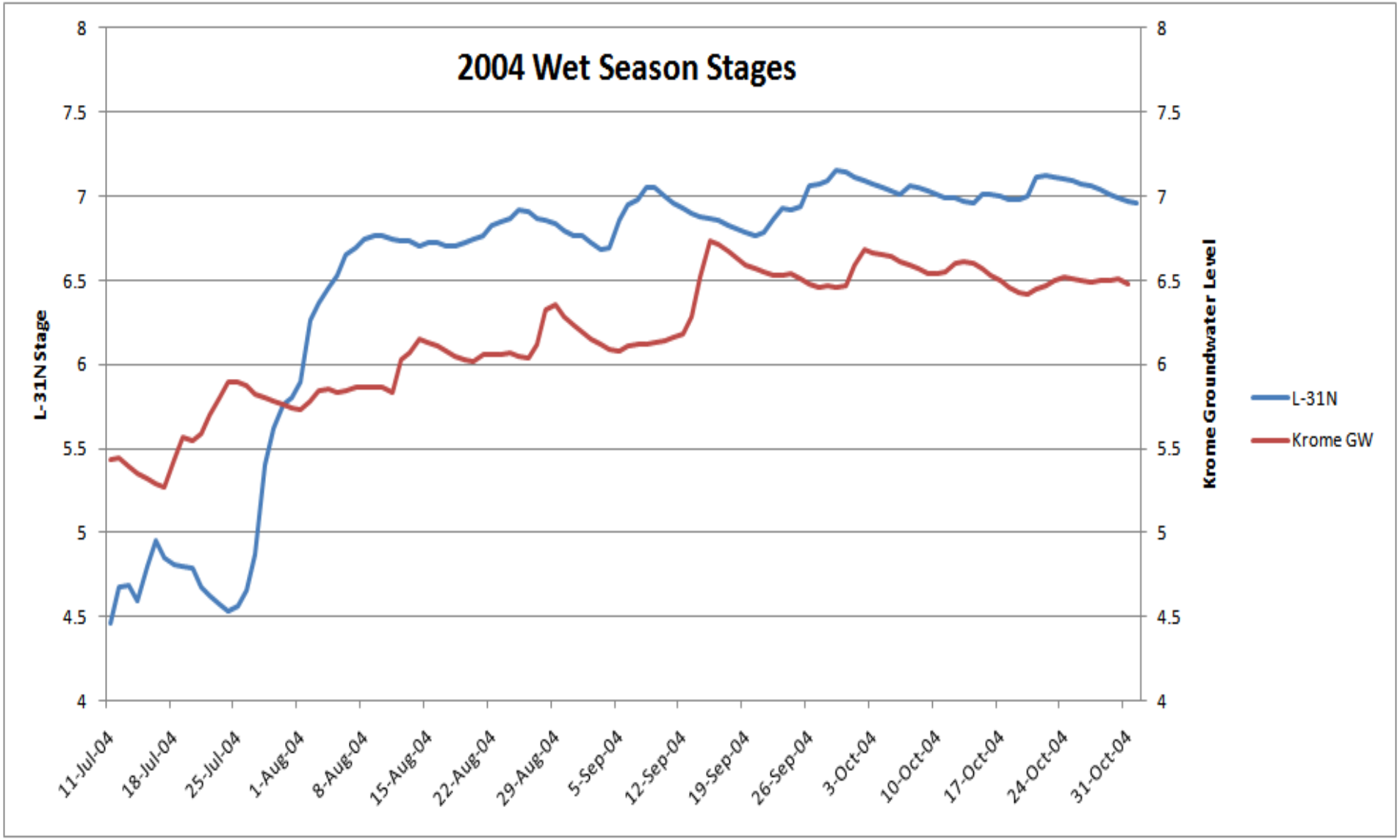


Hydraulics Analysis - Conclusions

- **Proposed Concept** - provides best combination of elements that accomplishes original Yellow Book Purpose
- **Reduce seepage from ENP** - By using a pumped system along the L-31N northern reach, a higher stage can be maintained adjacent to ENP
- **Recharge GW east of Krome Avenue**– A pump/gate managed water level control along Krome Avenue allows seasonally controlled levels
- **C-4 Peak Flood Attenuation** – System can operate in conjunction with the C-4 Emergency Detention Area to help attenuate flood levels
- **Water supply to SDCS** – Multiple pump system allows for substantial flexibility to deliver water south

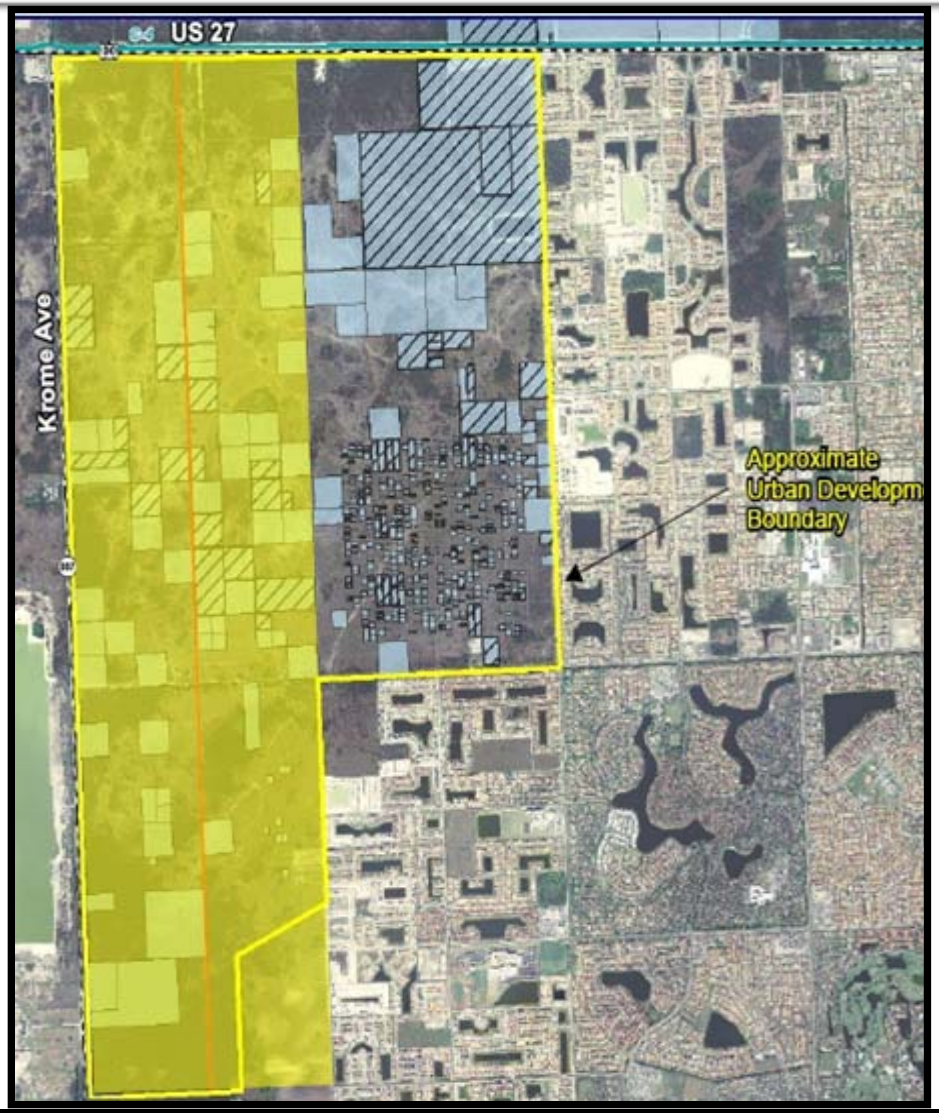
Further Detailed CERP Investigations

May

- Calibrate MODFLOW Model
- Initiate IMC Model Review
- Existing Conditions Base Run
- Future with CERP Project (2050)
- Identification of potential risks and uncertainties

July

- Engineering Evaluation to reduce potential risks
  - Apply CEPP Management Measures
  - Identify remaining uncertainties



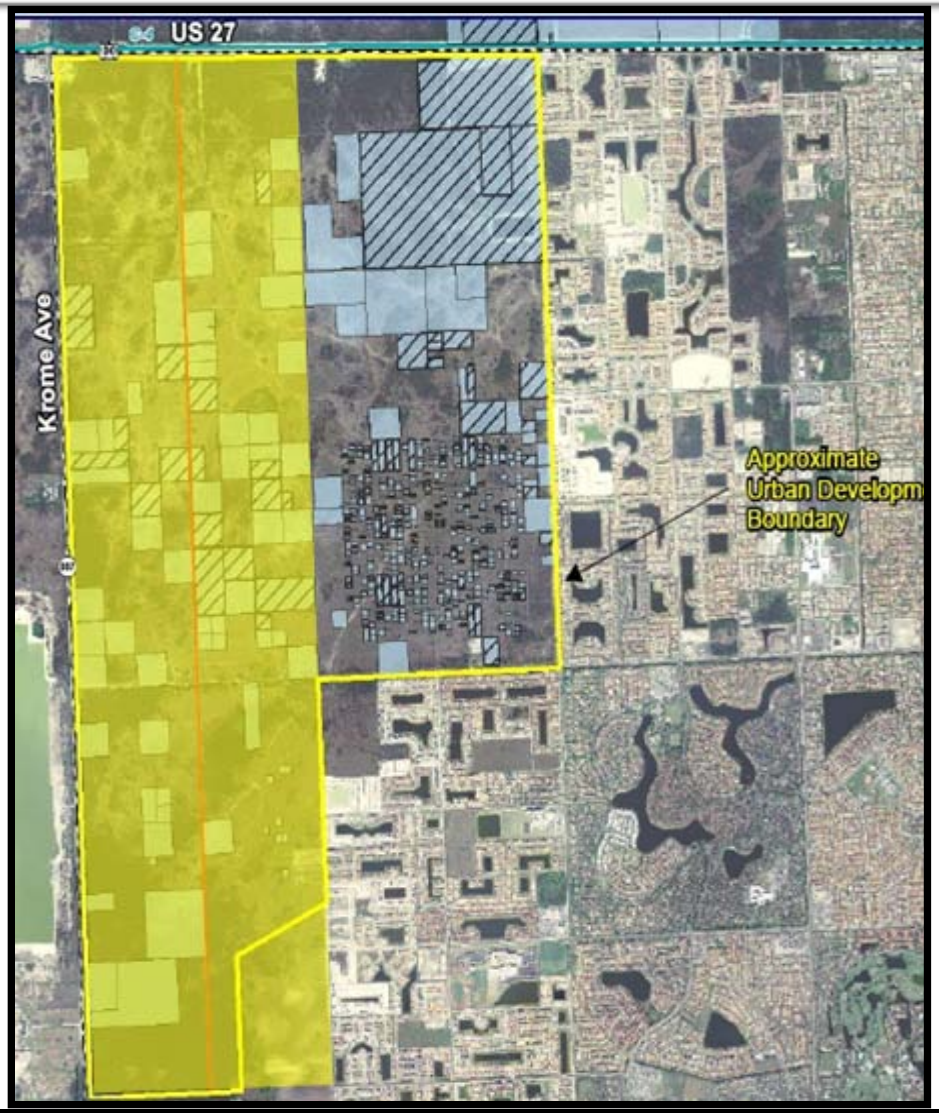
Further Detailed CERP Investigations

August

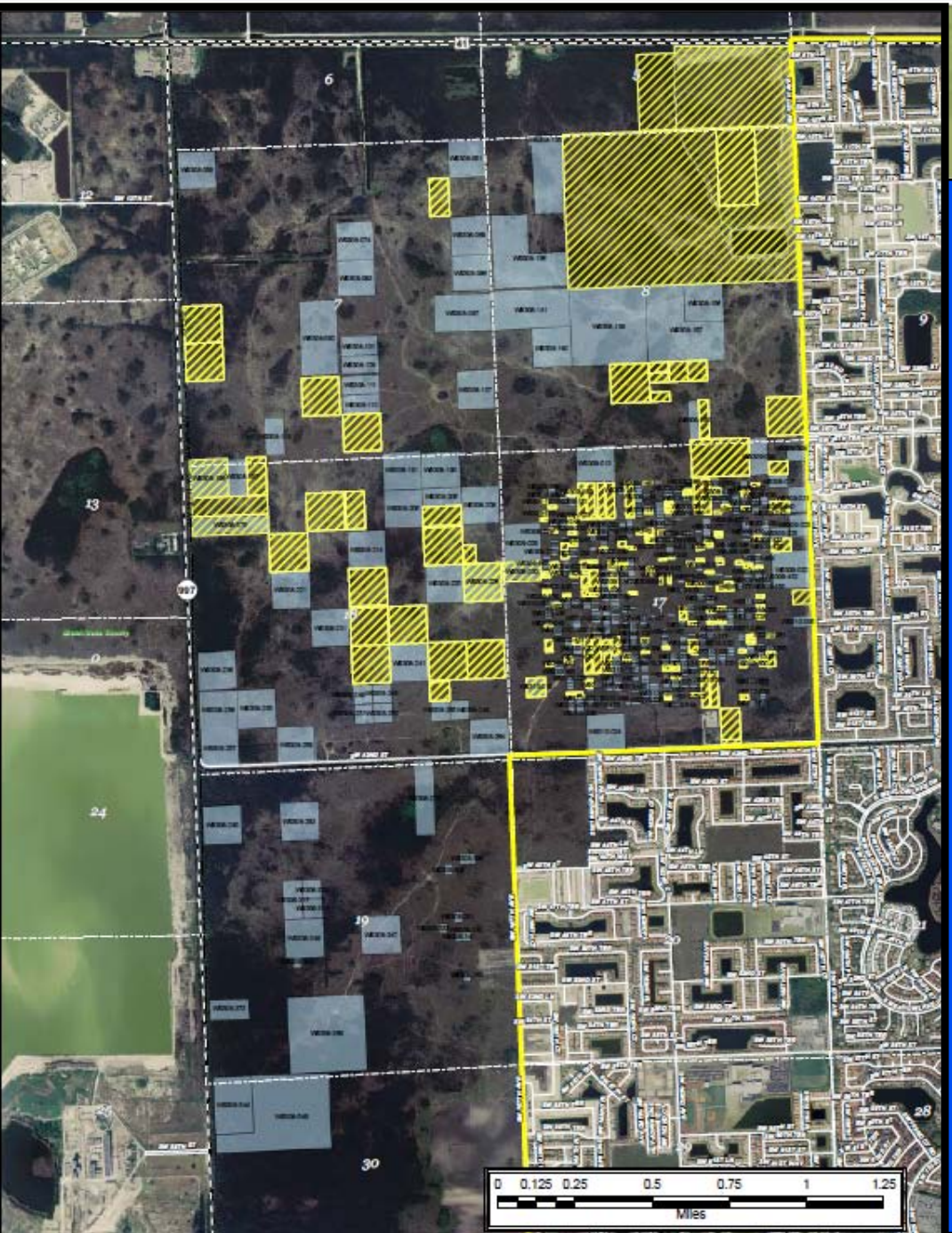
- Identification of a Preferred Plan

September

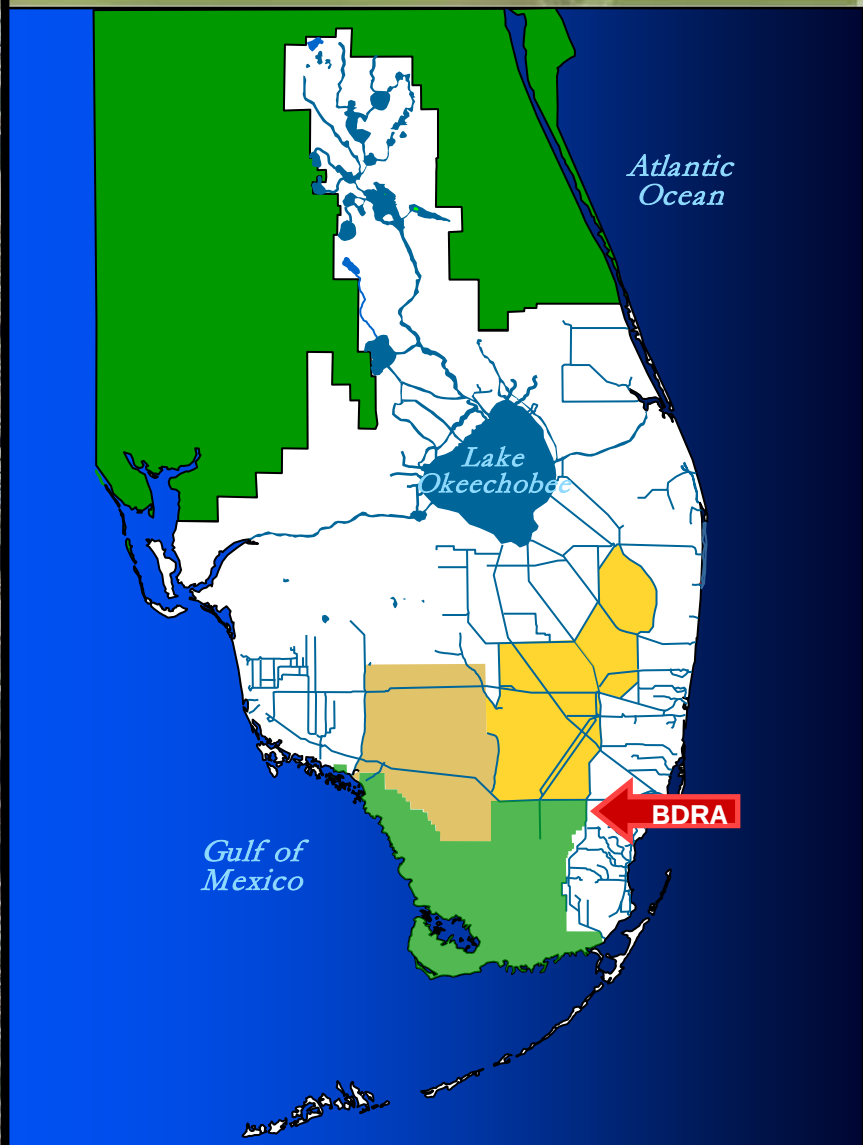
- Finalize Project and Model Documentation Report
- IMC Technical Review Complete
- Potential CEPP Integration



Bird Drive Basin Lands
Next Steps



Bird Drive Basin



Next Steps
Bird Drive Basin

- Seek input regarding other planning efforts in the region including coordination with FPL and FDOT
- Continue to work with the Department of Interior regarding Land and Water Conservation Fund Grant
- Seek Governing Board acceptance of plan formulation findings and USACE/SFWMD leadership recommendation at May 2012 Governing Board Meeting

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Questions?