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# Agriculture & Natural Resources Appropriations Subcommittee

January 8, 2014  
3:00 PM – 5:00 PM  
Reed Hall



### **AGENDA**

Agriculture & Natural Resources Appropriations Subcommittee  
January 8, 2014  
3:00 p.m. – 5:00 p.m.  
Reed Hall

- I. Call to Order/Roll Call
- II. Opening Remarks
- III. Presentation by Rich Budell, Director, Office of Agricultural Water Policy, Department of Agriculture & Consumer Services, on Hybrid Wetlands Projects
- IV. Presentation by Thomas Eason, Director of Fish & Wildlife Conservation Commission's Division of Habitat and Species Conservation on Invasive Plant Control
- V. Closing Remarks/Adjournment



# Hybrid Wetland Chemical Treatment Technology (HWTT) Overview

House Agriculture and Natural Resources  
Appropriations Subcommittee  
January 8, 2014

Rich Budell, Director  
Office of Agricultural Water Policy

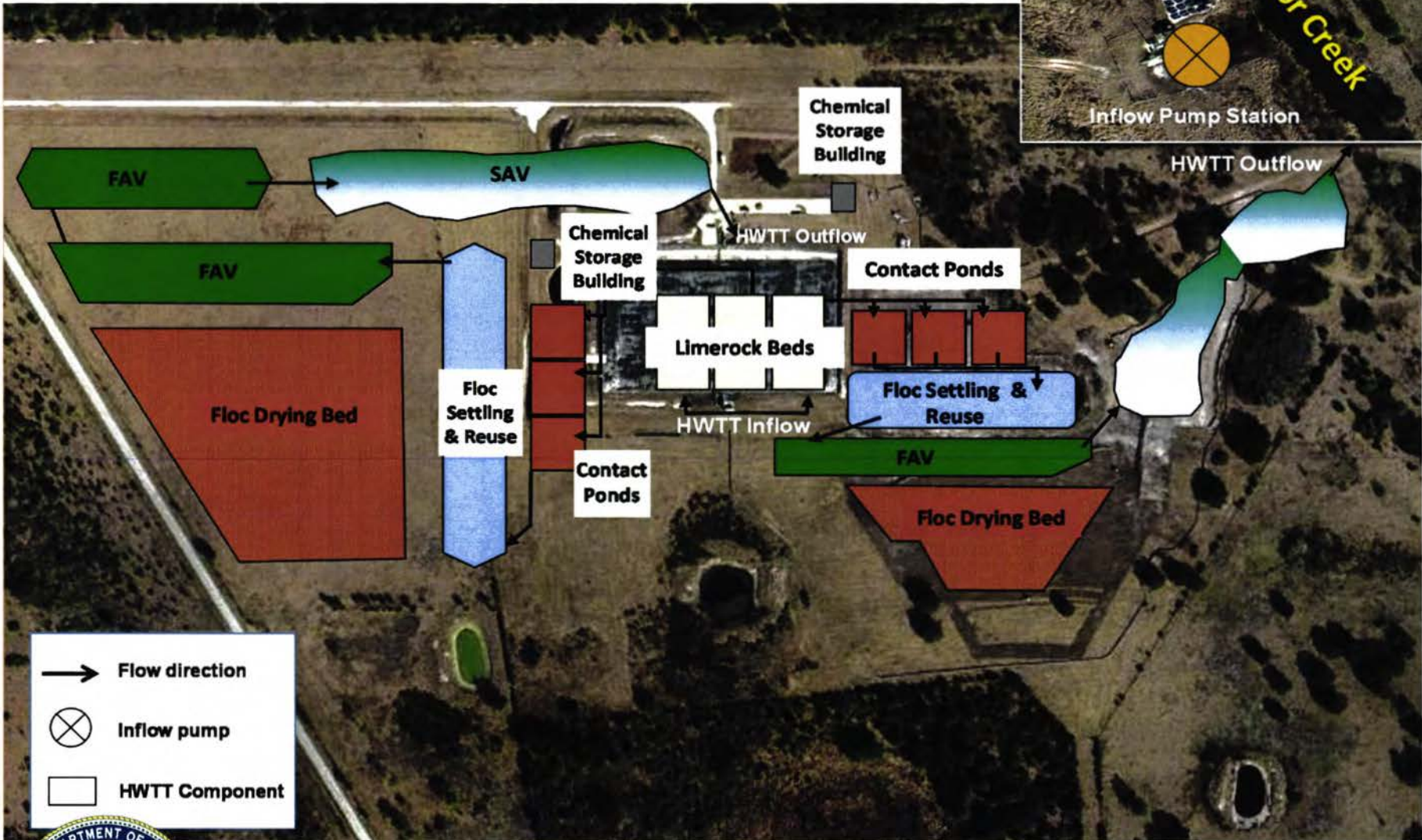
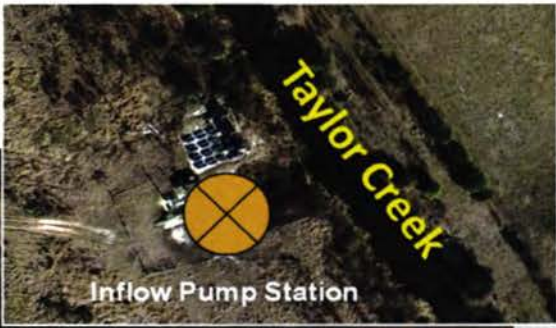


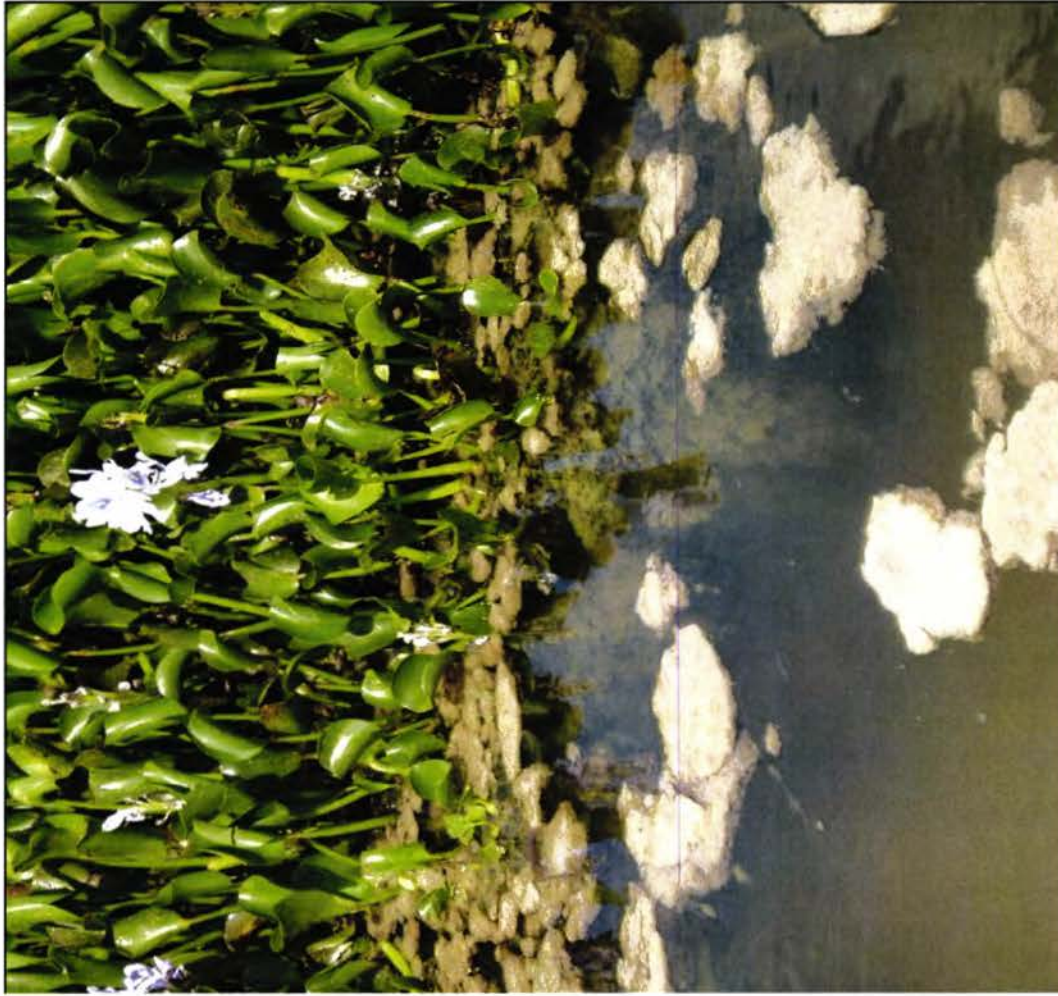
# HWTT at-a-glance

- Six sites deployed and operational between 2008 and 2013 - Seventh site will begin deployment January 2014.
- Remove between 67% and 93% of phosphorus.
- Relatively small foot-print.
- Provide environmental benefits via wetland and wildlife habitat restoration and creation.

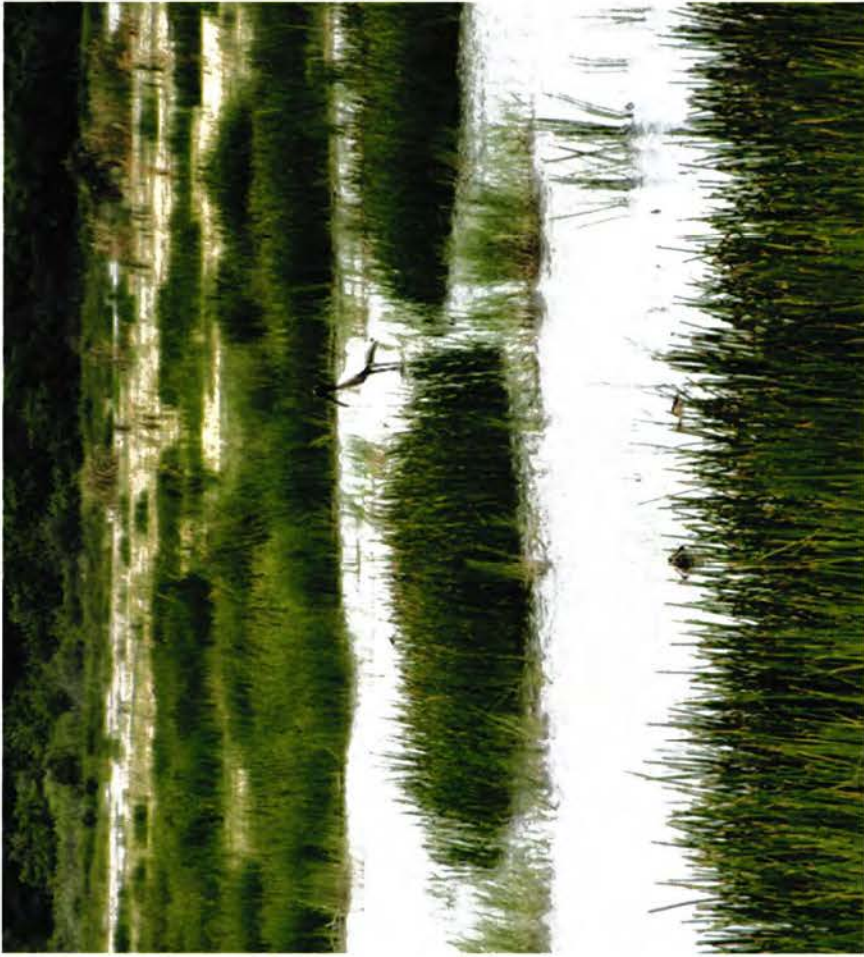


# GRASSY ISLAND HWTT FACILITY AT BUILD-OUT





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



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

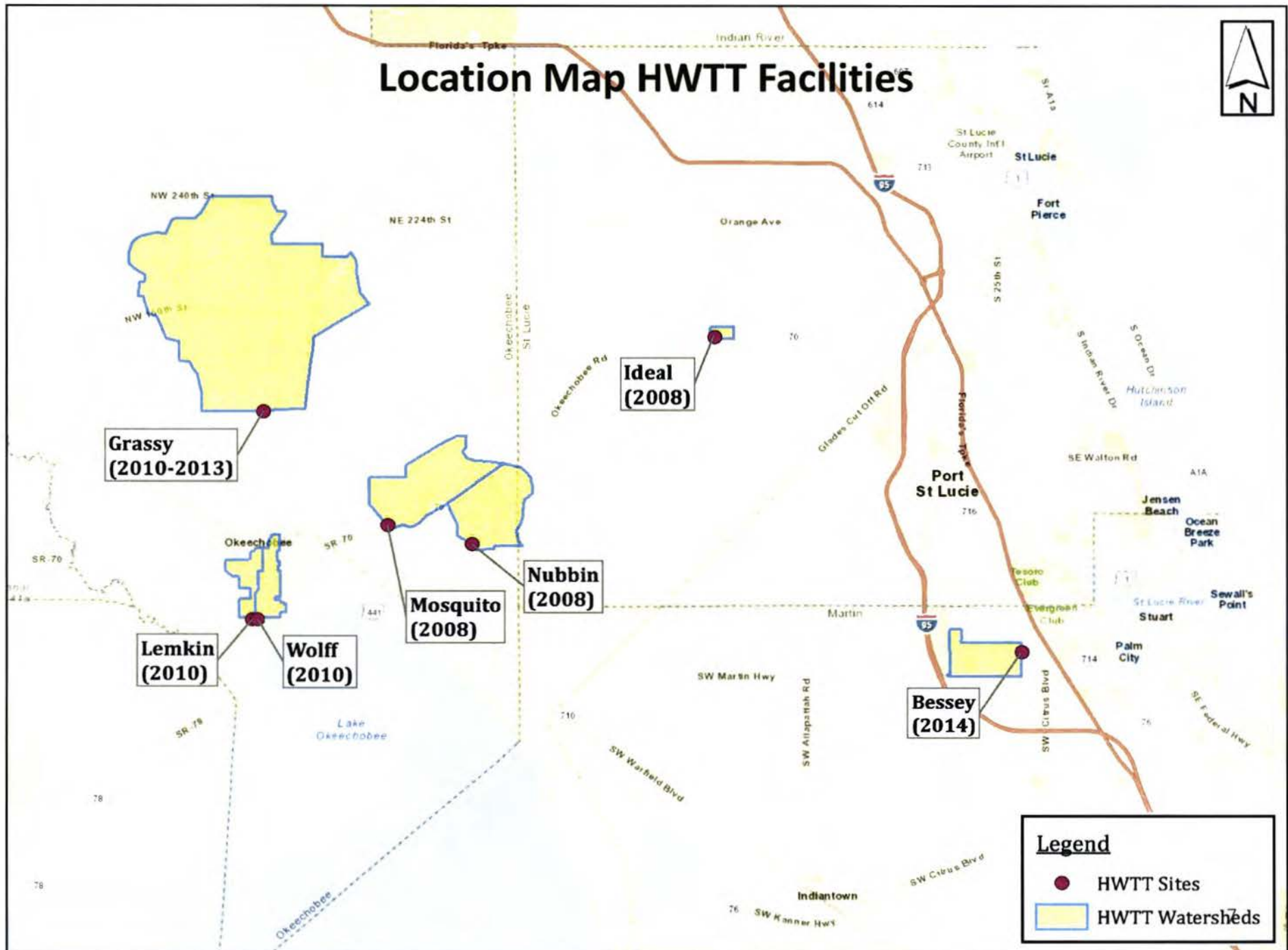


## HWTT Current Projects

- ❖ Six existing facilities and seventh in progress:
  - Nubbin Slough deployed 2008
  - Ideal Grove deployed 2008
  - Mosquito Creek deployed 2008
  - Lemkin Creek deployed 2010
  - Wolff Ditch deployed 2010
  - Grassy Island deployed 2010-2013 (staged)
  - Bessey Creek to begin deployment in 2014



# Location Map HWTT Facilities



**Grassy  
(2010-2013)**

**Lemkin  
(2010)**

**Wolff  
(2010)**

**Mosquito  
(2008)**

**Nubbin  
(2008)**

**Ideal  
(2008)**

**Bessey  
(2014)**

**Legend**

- HWTT Sites
- HWTT Watersheds

# Grassy Island Site – 30 cfs (just under 20 mgd) Design Capacity



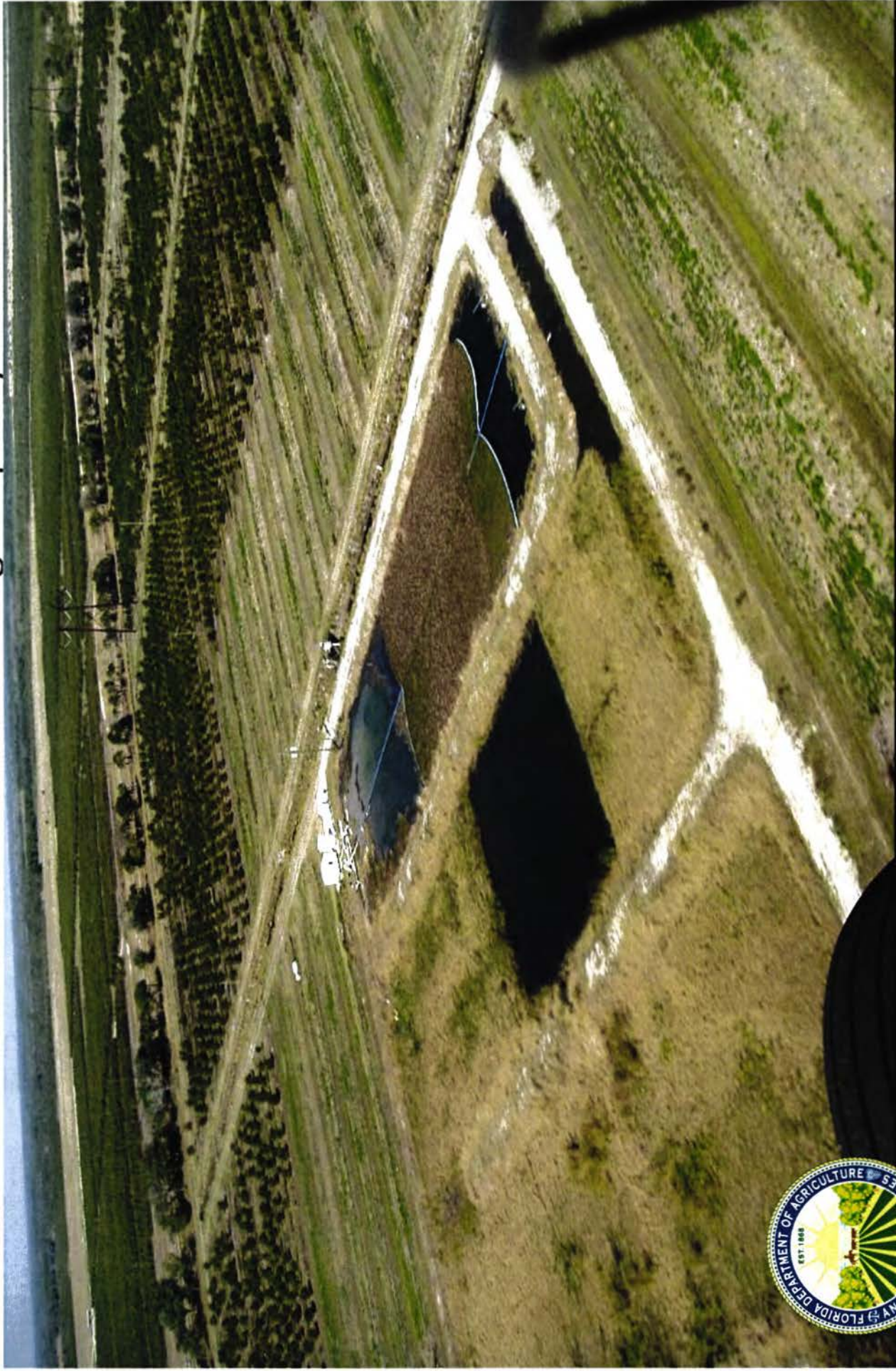
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# Nubbin Slough 7.4 cfs Design Capacity



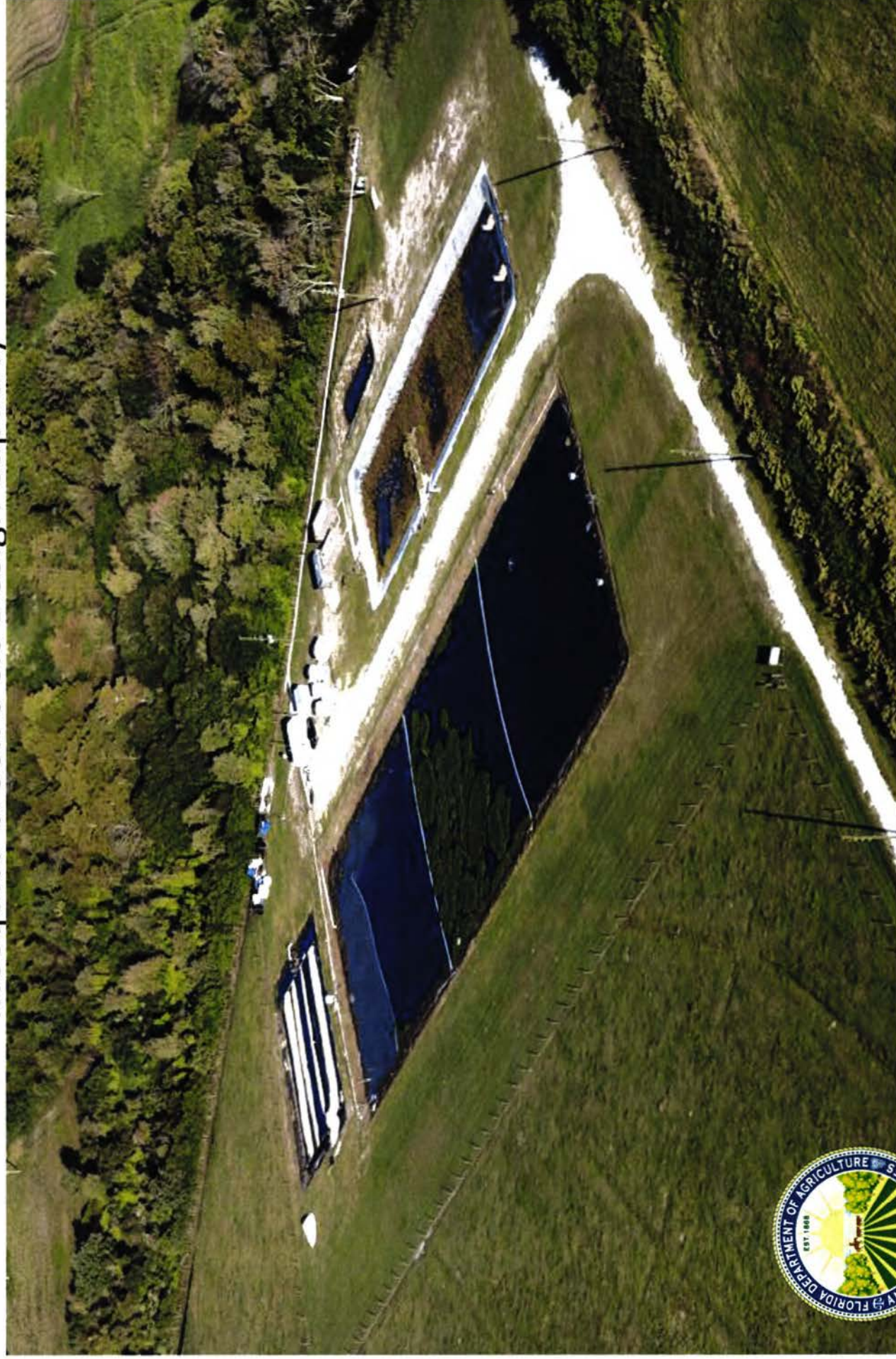
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# Ideal Grove 1.3 cfs Design Capacity



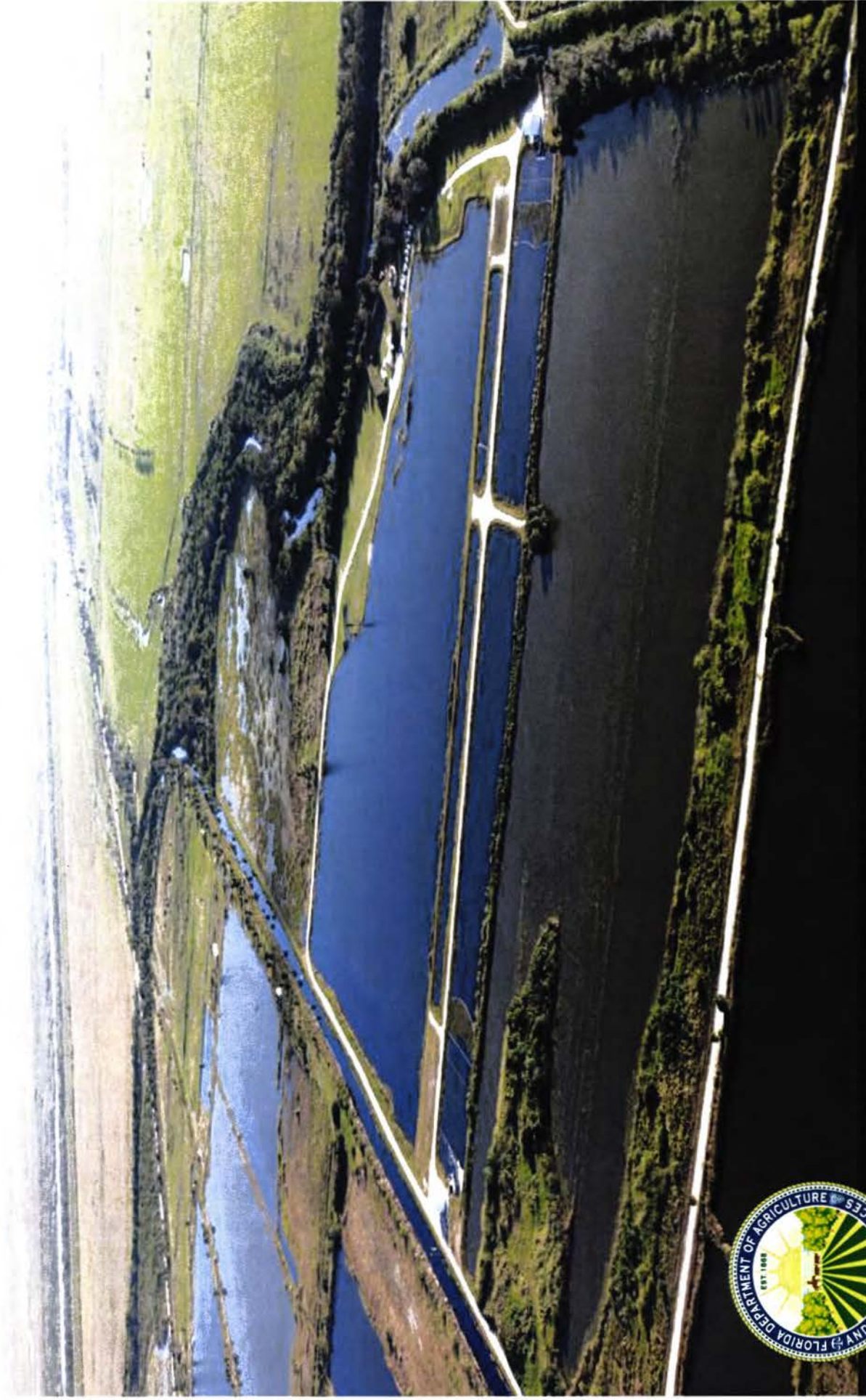
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# Mosquito Creek 6 cfs Design Capacity



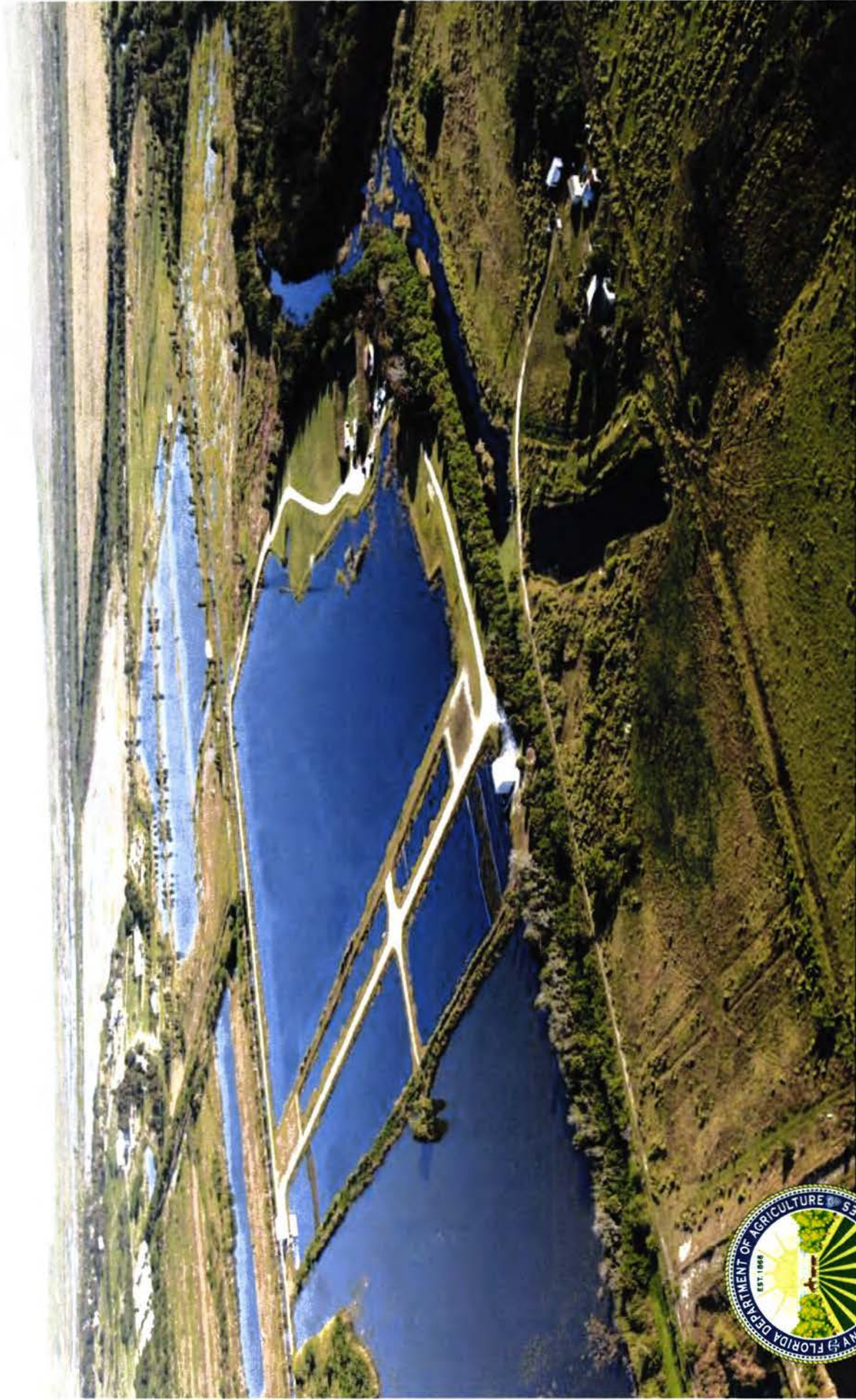
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# Wolff Ditch 20 cfs Design Capacity



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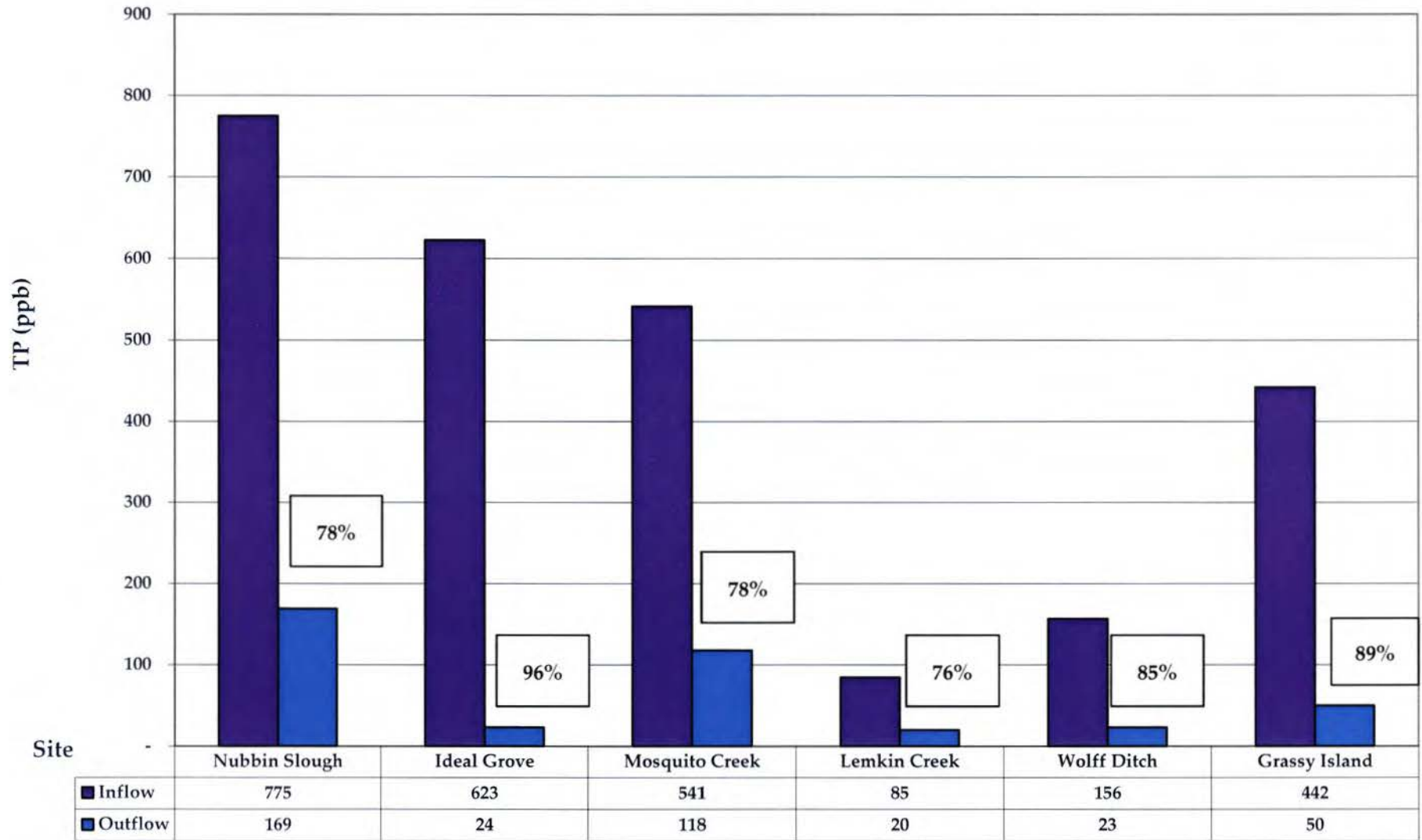
# Lemkin Creek – 5 cfs Design Capacity



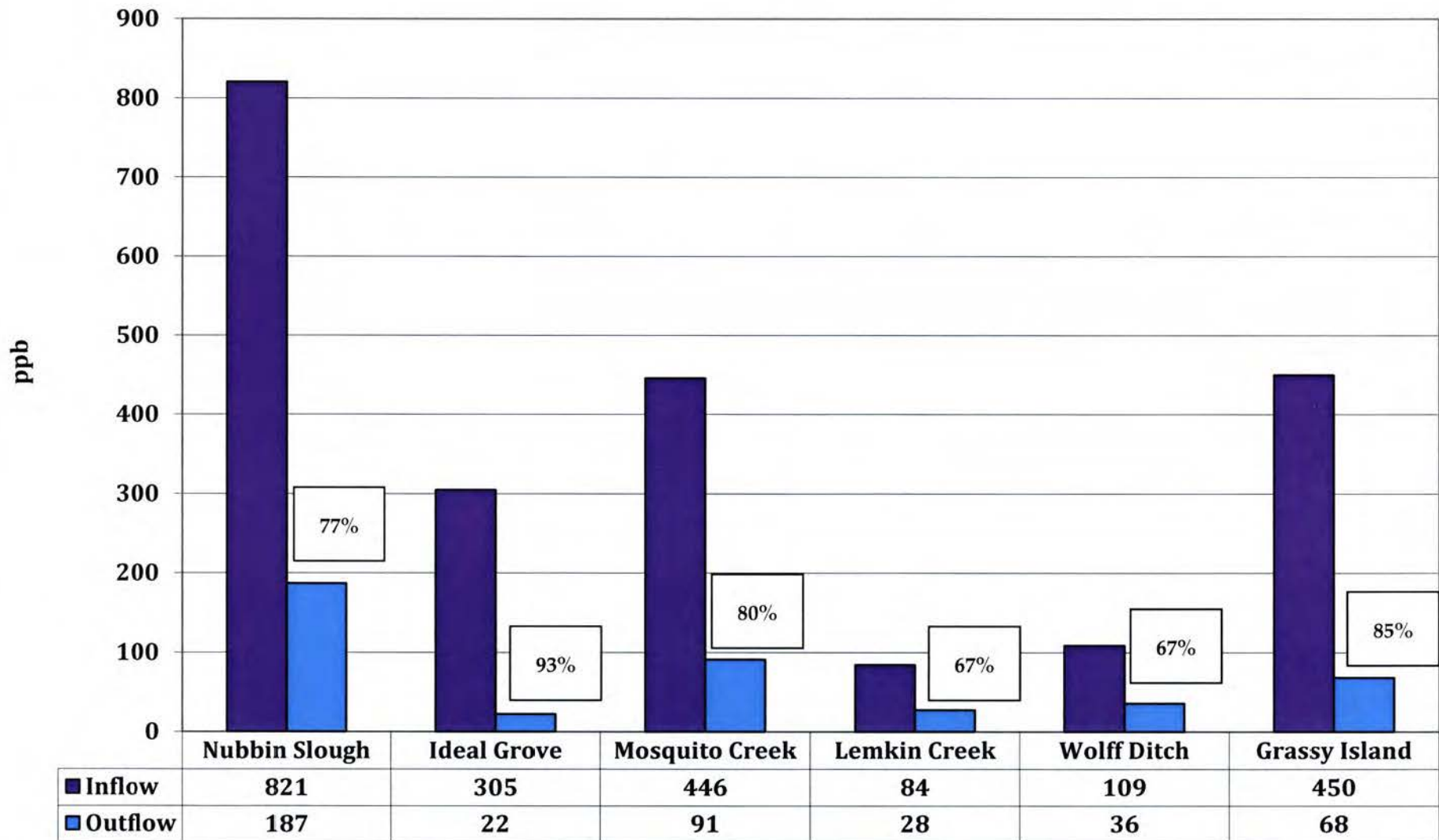
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**FLOW WEIGHTED TP Concentrations & Percent REDUCTIONS  
2012-2013**



### Cumulative Flow Weighted TP Concentrations & Percent Reductions



# HWTT Funding Overview

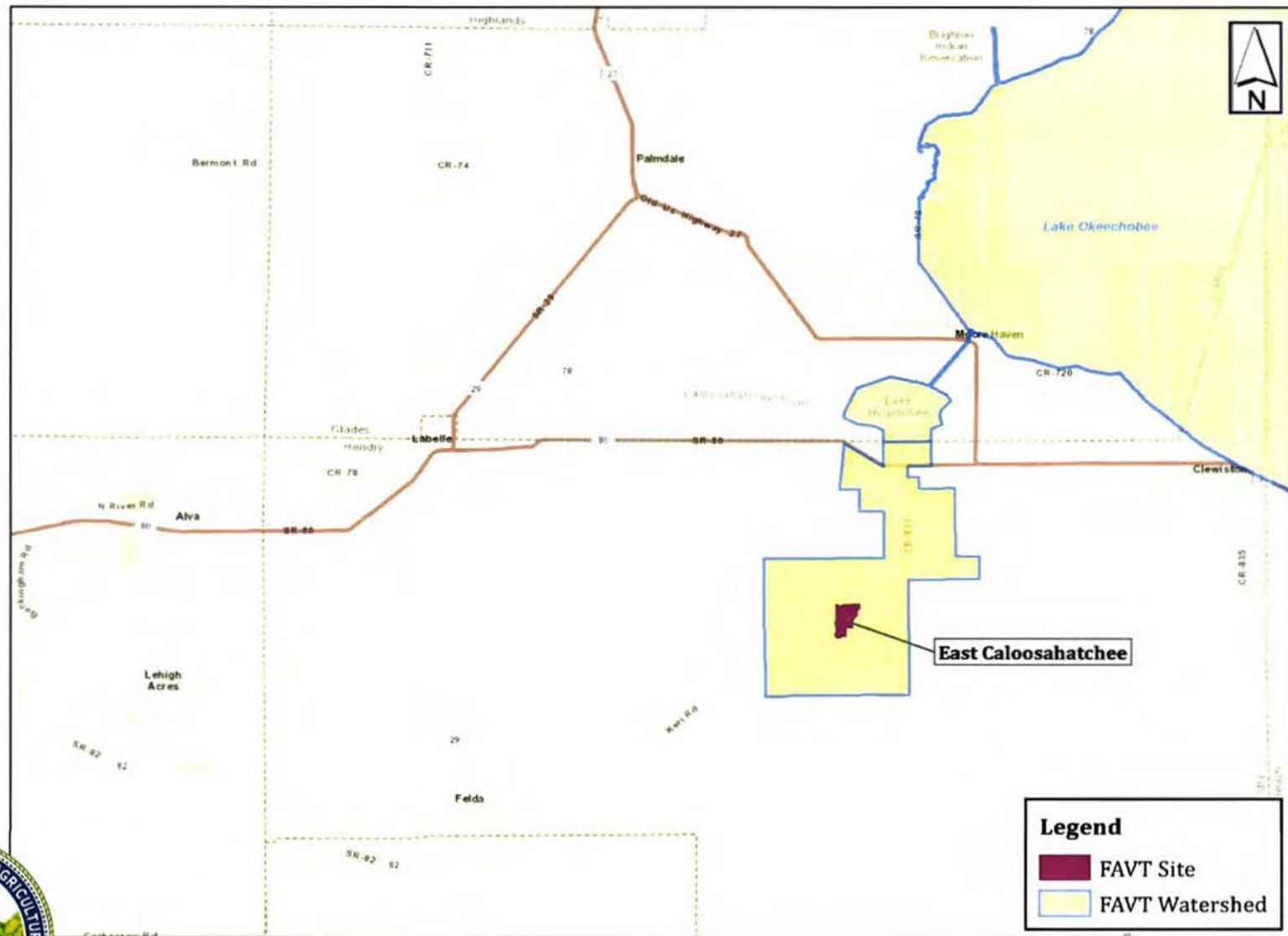
- 2007/08 - \$3M GR – Deployment of 3 sites
- 2008/09 - \$3M GR – Deployment of 2 additional sites and operations and maintenance of first 3 sites
- 2009/10 - \$3M GR – Deployment of 1 additional site and operations and maintenance of 5 existing sites
- 2010/11 - \$1.5M GR – Partial year funding for 6 sites
- 2011/12 - \$3M GR – operations and maintenance of 6 sites and capacity improvement at 1 site
- 2012/13 - \$2M GR for build out of 1 site and \$3M Recurring GR for operations and maintenance of 6 sites
- 2013/14 - \$3M GR recurring for operations and maintenance of existing 6 sites and \$3M GR for deployment of 1 additional site
- Total Funding: \$24.5M GR
  - \$18.5M non-recurring
  - \$3M recurring for 2 years

# Floating Aquatic Vegetative Tilling (FAVT)

- FAVT is a variation of the HWTT system.
- FAVT has no chemical treatment step.
- The technology uses floating plants to absorb nutrients.
- The mature plant material is then tilled into the soil for permanent storage.
- The process uses a submerged aquatic vegetation step before discharging the treated water.



# East Caloosahatchee River FAVT Project – 90 cfs Design Capacity

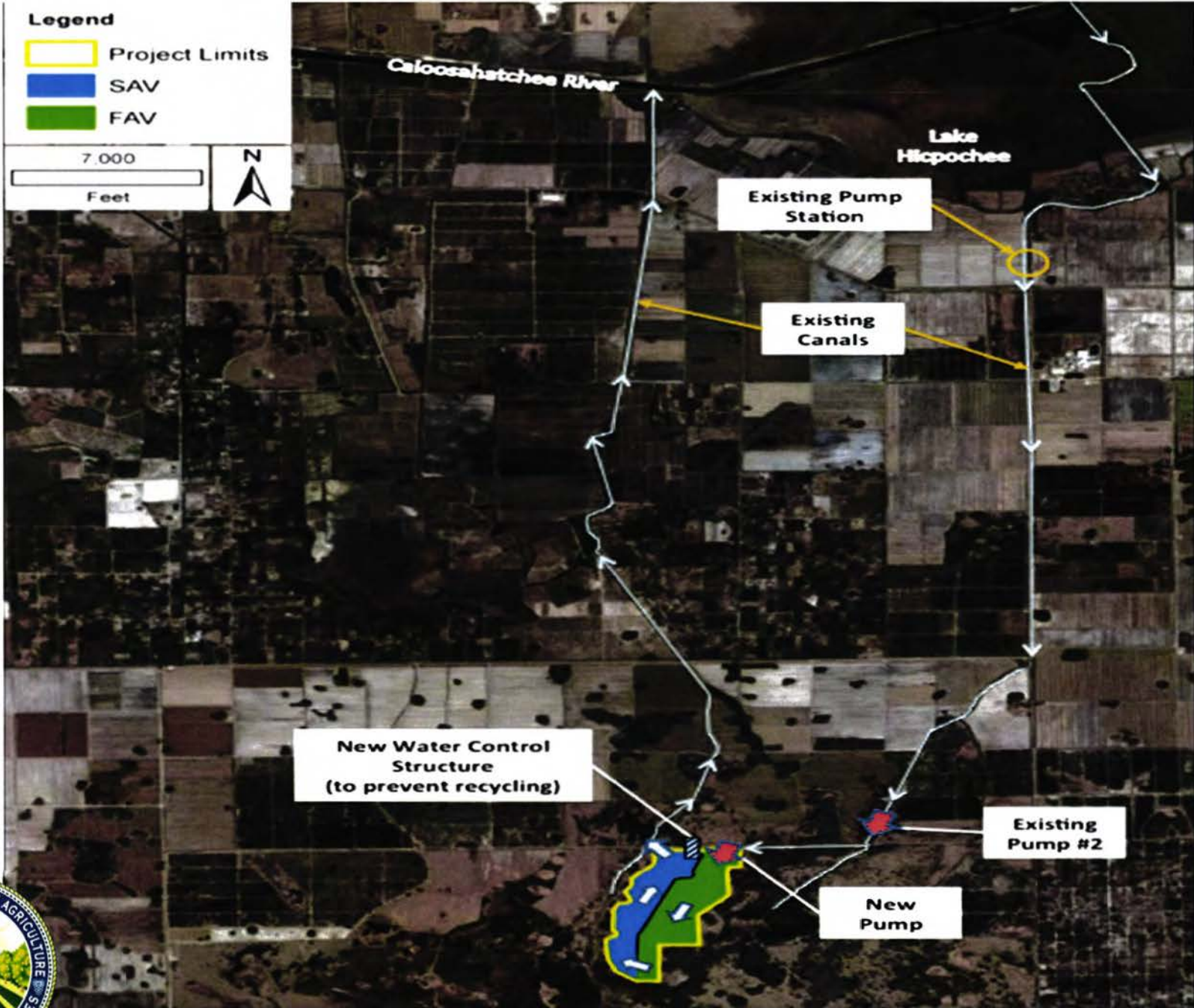


**Legend**

- Project Limits
- SAV
- FAV

7,000  
Feet

N



# FAVT Funding

- 2013/14 - \$1M non-recurring GR and \$2M recurring GR



# Questions?

Rich Budell

850-617-1704

[Rich.Budell@FreshFromFlorida.com](mailto:Rich.Budell@FreshFromFlorida.com)







# Invasive Plant Management Program



Thomas H. Eason, PhD, Director  
Division of Habitat and Species Conservation  
Florida Fish and Wildlife Conservation Commission

# History “The Problem”

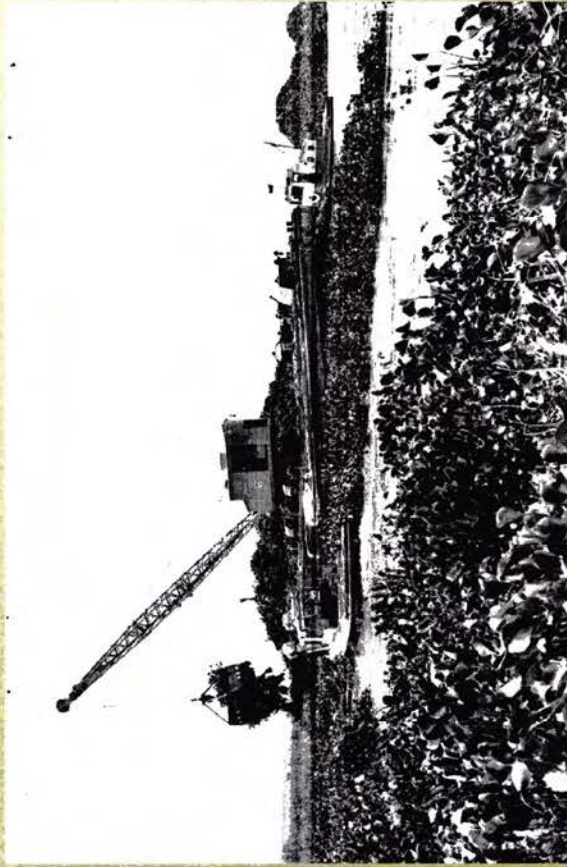


BRIDGE AT PALATKA, SHOWING THREE SMALL STEAMERS ATTEMPTING TO MAKE THEIR WAY THROUGH A MASS OF HYACINTHS.



# History

“Early control efforts”



Collector # 15 removing water hyacinth from Caloosahatchee River - 1939  
University of Florida College of Engineering  
Department of Architecture



# FWC Statutory Responsibilities

- **Coordinate and fund invasive plant control:**
  - **Aquatic plants in public waterways**
  - **Upland plants on public conservation lands**

- **Permitting**

- **Research**



# AQUATIC PLANT MANAGEMENT



# Public Water Bodies

- **Sovereignty lands**
- **Public boat ramps**
- **FWC managed lands**
- **450 lakes and rivers**
- **1.25 million acres**



# Funding Priorities in Rule

- **Floating plants (hyacinth/lettuce)**
- **New hydrilla infestations**
- **Plants blocking public access & navigation**
- **Create open areas in dense hydrilla mats**
- **Large-scale hydrilla control**
- **Create open areas in other noxious plants**
- **Residential canals**





# Coordination

- **State agencies**
- **Federal government**
- **Water Management Districts**
- **Local governments**
- **Universities**
- **Private businesses**
- **Other stakeholders**

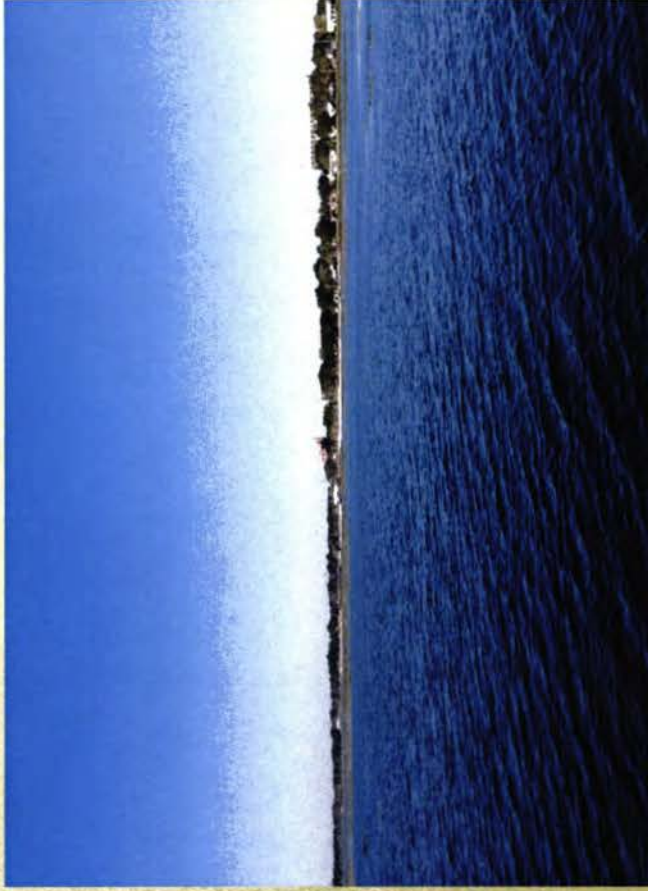


# Hydrilla

## Lake Tohopekaliga



**Before**



**After**



# UPLAND INVASIVE PLANT MANAGEMENT

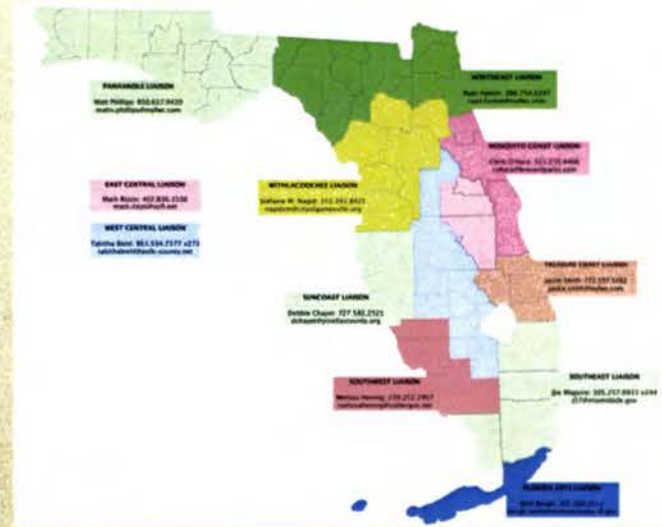


# Program Strategy

## 11 REGIONAL WORKING GROUPS:

- FWC provides statewide objective
- Local control priorities
- Local surveillance of invasive plant populations
- Increased local public awareness about invasive plants

*“Local people solving local problems”*



# Project Funding Criteria

- **Cost-share/matching funds available**
- **Target species with high invasiveness**
- **Current control technologies available**
- **Benefit threatened & endangered species**
- **Perpetual site management**



Giant reed  
*Arundo donax*  
Photo by Ann Murray  
© 2001 University of Florida



# Climbing Fern

## Jonathan Dickinson State Park



**Before**



**After**



# Invasive Plant Control Trust Fund

- **Documentary Stamps – capped at \$34.1 million**
- **Motor Fuel Tax – \$6.3 million**
- **Commercial Vessel Registration ~ \$300,000**
- **Recreational Vessel Registration ~ \$1.9 million**



# Aquatics 2008-2013

- 340,536 acres controlled
- \$94.4 million expended





# Uplands 2008-2013

- 808,000 acres controlled
- \$36.9 million expended



# FY 2013 – 2014

## Anticipated Expenditures

- **Aquatic plant control**

**\$19.1 million**



- **Upland plant control**

**\$11.5 million**



# FY 2014 – 2015 Legislative Budget Request

**\$34.8 million**



# Questions?

