

AQUATIC INVASIVE PLANT MANAGEMENT



John Findeisen and Thomas Decker

Texas Parks and Wildlife Department

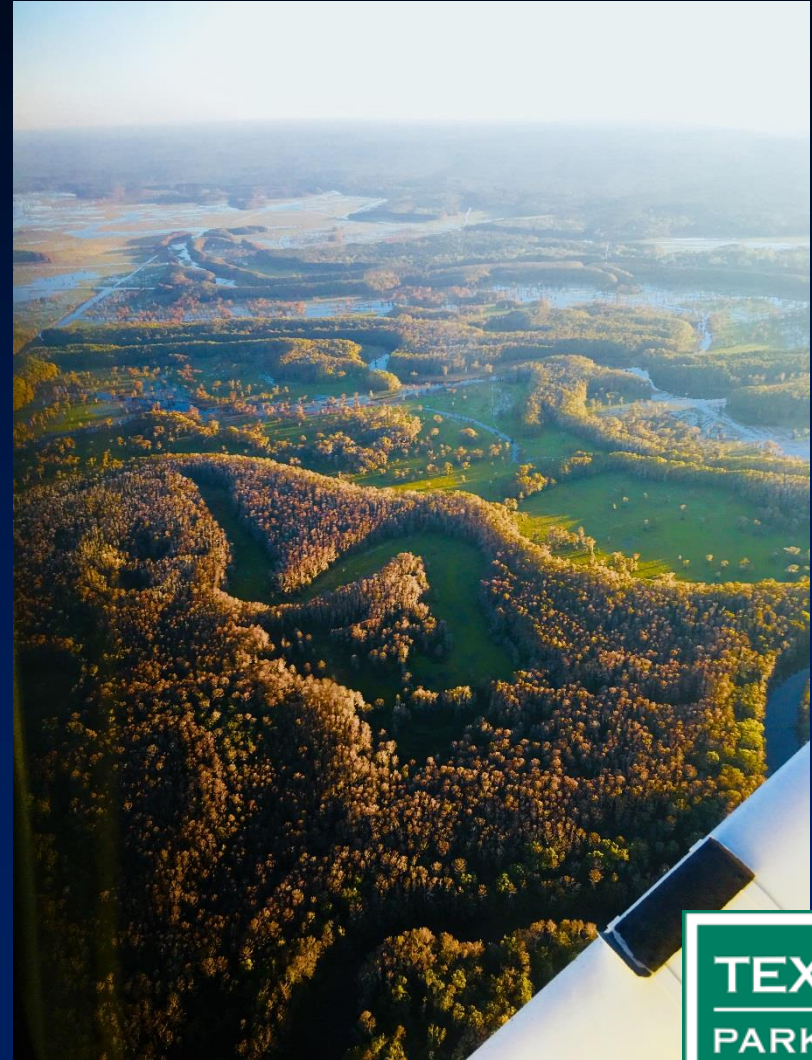
Inland Fisheries – Aquatic Habitat Enhancement

Brookeland, Texas 75931



THE NECESSITY FOR AQUATIC VEGETATION CONTROL

- **Typically non-native species**
- **Grows out of control**
- **Restricts angling and boating access**
- **Decreases property values**
- **Creates hazardous conditions**
- **Eliminates other vegetation**
- **Destroys aquatic ecosystems**



TPWD'S ROLE

- **Protect the waters against the introduction of non-native species.**
- **Enforce laws regarding non-native species.**
- **Maintain angling and boating access.**
- **Prevent the spread to other water bodies.**



**“I’m from the government
and I’m here to help.” –
Ronald Reagan**



CONTROL OPTIONS



COMMON PROBLEMATIC SPECIES

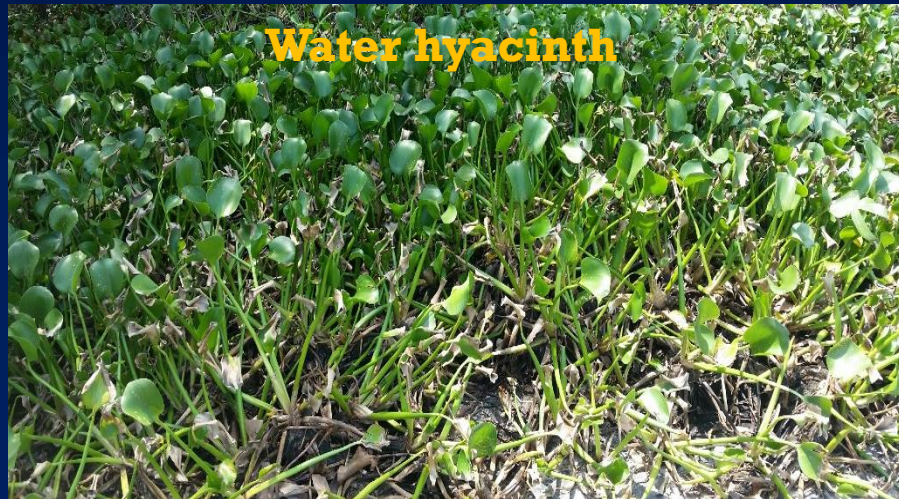
Giant salvinia



Crested floating heart



Water hyacinth



Yellow floating heart



OTHER SPECIES OF CONCERN

Hydrilla

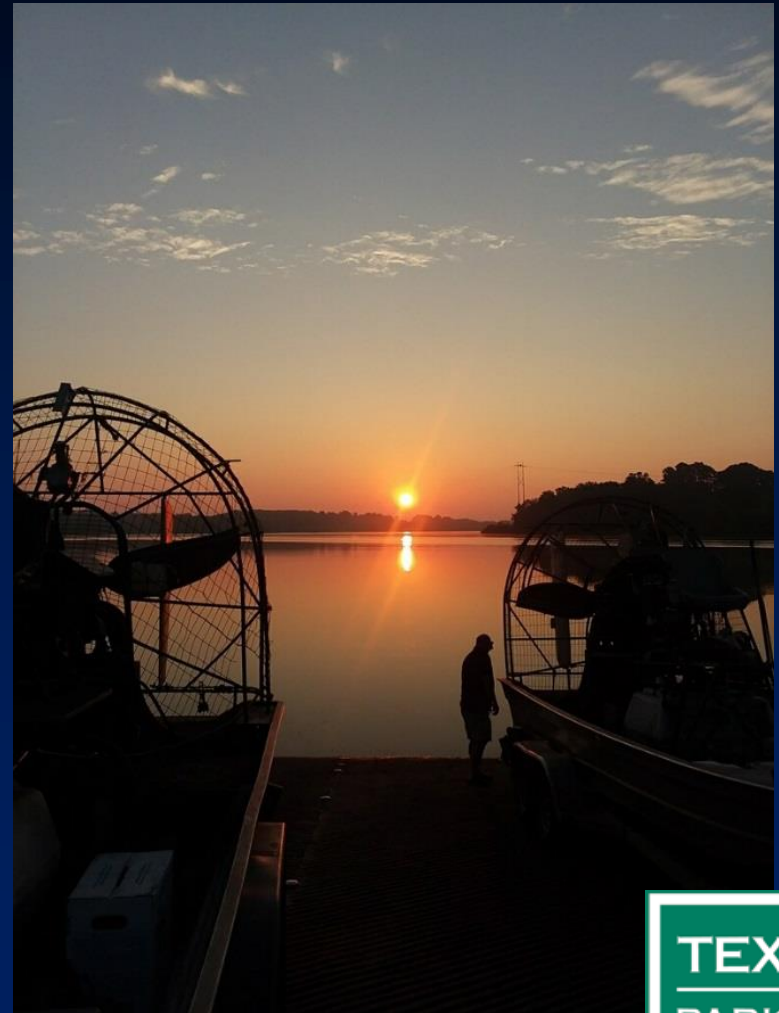


American lotus

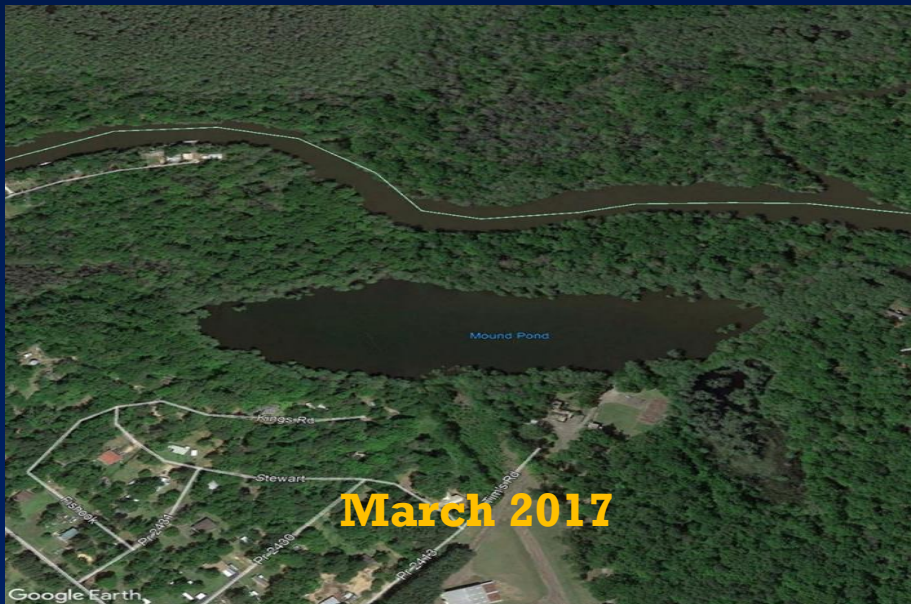


INITIAL QUESTIONS

- **Is the affected water public or private?**
- **Is it creating or will it create an angler/boater access problem or become a serious environmental threat?**
- **Is it isolated to one area or is it lake-wide?**
- **Can it be contained with booms?**
- **Is eradication possible?**
- **What is the chance of reintroduction?**
 - **How did it get here?**
 - **Where did it come from?**



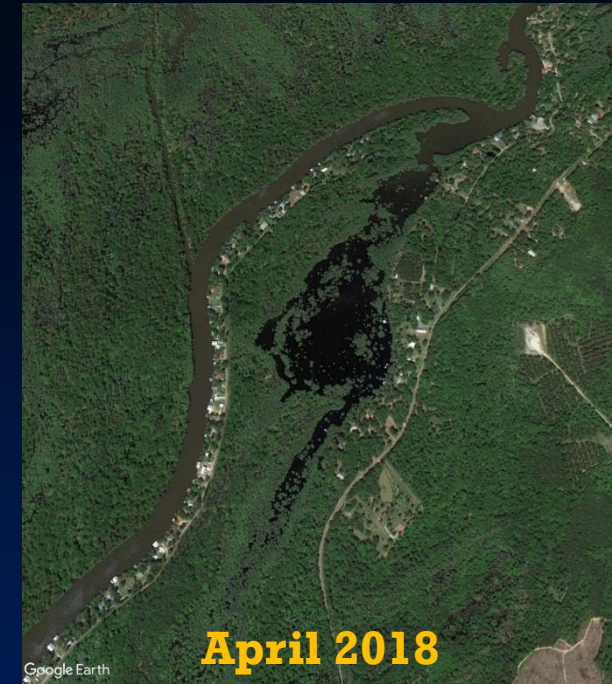
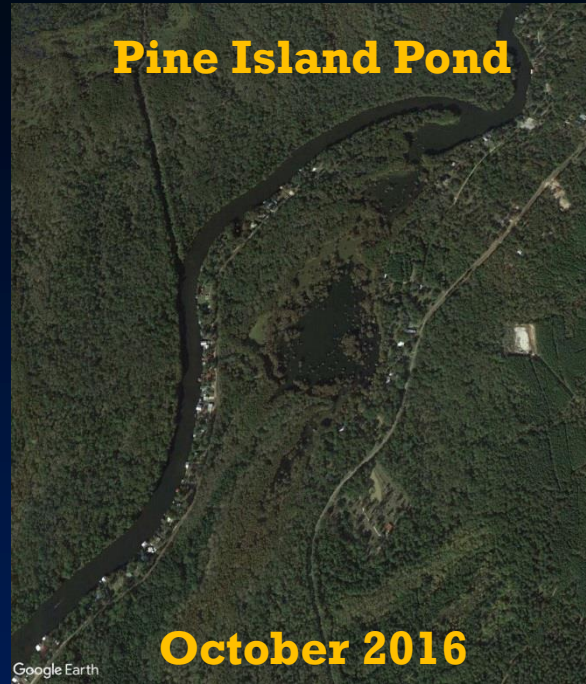
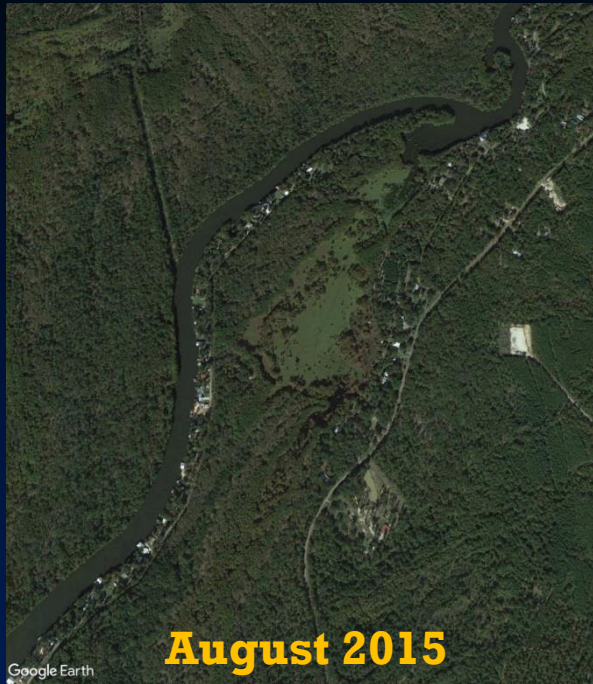
GIANT SALVINIA MANAGEMENT



- **Current tools**
 - **Herbicides**
 - **Giant salvinia weevils**
- **23 Water bodies**
 - **Caddo**
 - **Toledo Bend**
 - **Sam Rayburn**
 - **Murvaul**
 - **Livingston**
- **12,255 Acres treated**



GIANT SALVINIA MANAGEMENT



- **15 Water bodies**
 - **Caddo**
 - **Nacogdoches**
 - **Murvaul**
 - **Naconiche**
- **300,000+ weevils released (CBA)**

WATER HYACINTH MANAGEMENT



- **Current tools**
 - **Herbicides**
 - **Water hyacinth weevils**
- **22 Water bodies**
 - **Fork**
 - **Choke Canyon**
 - **Sheldon**
 - **Lake Texana**
 - **Lake Houston**
 - **Livingston**
 - **Monticello**
- **2,001 Acres treated**

CRESTED FLOATING HEART MANAGEMENT

Caddo Lake
To be treated Fall 2018



- **Current tools**
 - **Herbicide**
 - **ProcellaCOR**
- **4 Water bodies**
 - **Caddo**
 - **Athens**
 - **Wildwood (Private)**
 - **CVND Canals**
- **Estimated 100 acres to be treated**
 - **ProcellaCOR**

YELLOW FLOATING HEART MANAGEMENT

- **Current tools**
 - **Herbicide**
 - **ProcellaCOR**
- **1 Water body**
 - **Moss Lake**
- **18 Acres treated**
 - **ProcellaCOR**



HYDRILLA MANAGEMENT

**Lake Raven
August 2018**



September 2018



- **Current tools**
 - **Herbicides**
 - **Grass carp**
- **3 Water bodies**
 - **Old City Lake**
 - **Raven**
 - **Pflugerville**
- **122 Acres treated**
 - **ProcellaCOR**

AMERICAN LOTUS MANAGEMENT



- **Current tools**
 - **Herbicides**
- **1 Water body**
 - **Old City Lake**
- **6 Acres treated**





ADAPTIVE MANAGEMENT

Old Thought Process

- **Kill it, kill it with fire!!!**
- **Treat as much of the plant as possible...even mixed mats.**
- **Kill all vegetation, including containment vegetation.**
- **Try to eradicate.**
- **Destroys beneficial habitat unnecessarily.**

New Thought Process

- **Will treating it destroy too much beneficial habitat???**
- **Treat only what needs to be treated...open mats only.**
- **Avoid killing containment vegetation.**
- **Learn to manage.**
- **Preserves beneficial aquatic habitat.**

ADAPTIVE MANAGEMENT TECHNIQUES

- **Consider non-herbicide alternatives**
 - **Biocontrol releases**
 - **Mechanical removal**
- **Selection of herbicides**
 - **Systemic vs Contact**
- **Only treat open mats**
 - **Preserve containment veg**
- **Conduct winter treatments**
 - **Treat heavily when containment vegetation senesces back.**



ERADICATION WHERE POSSIBLE

- **Must be able to completely contain**
- **Willing to severely reduce all vegetative habitat**
- **Time consuming**
- **Expensive**
- **Lake Fork**
 - **Initially 2-3 acres of GS**
 - **Required 83 acres of herbicide treatments**
- **Giant salvinia**
 - **Brandy Branch Reservoir**
 - **Lake Fork (1st time)**
 - **Clear Creek**
- **Water hyacinth**
 - **Tyler East**
 - **Clear Creek**
 - **Dickinson Bayou**

TREATMENTS BY THE PUBLIC

- **Only area directly adjacent to property**
- **Typically <1.0 acres**
- **May use all three methods**
- **Must have an approved vegetation treatment proposal**
- **Conduct themselves or through a consultant**
- **Want to open shoreline access, clear area around pier/boat dock, create lane from pier/boat dock to lake**

- **Most common water bodies**
 - **Lake Athens**
 - **Lake Fork**
 - **Lake McQueeney**
 - **Upper Nueces River**



QUESTIONS

