

Invasive Aquatic Species in Texas: An Overview

Dr. Earl Chilton II

Earl Chilton in Texas

- **Project Leader for grass carp research mandated by Texas Legislature**
- **Developed grass carp permitting program**
- **Administered Texas' AIS program**
- **Wrote Texas Comprehensive AIS Management Plan and Guidance Document**
- **Represented Texas on three Regional Panels**
- **Served two terms on federal Invasive Species Advisory Committee**

Invasive Animals

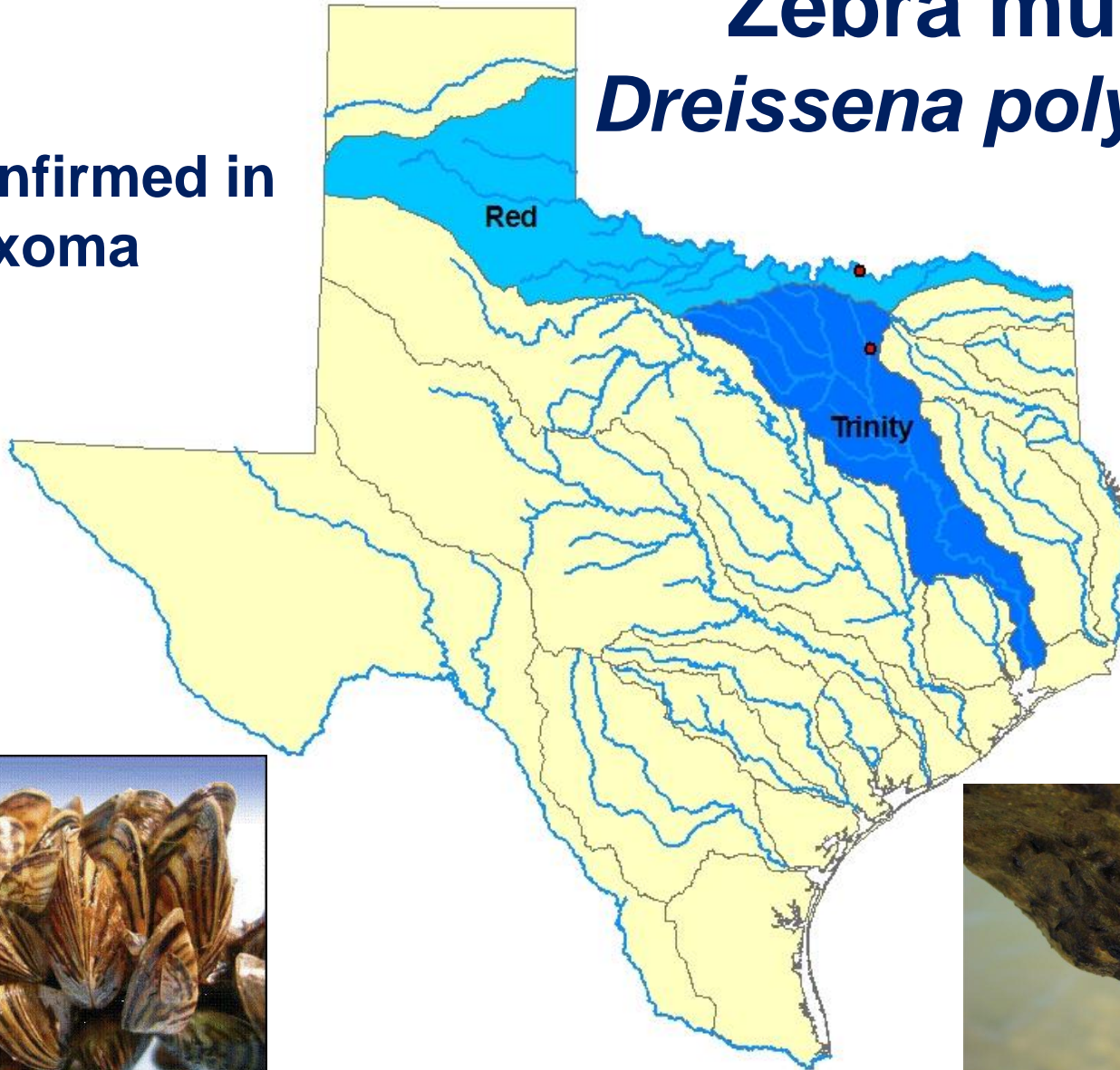
Zebra Mussels in Texas

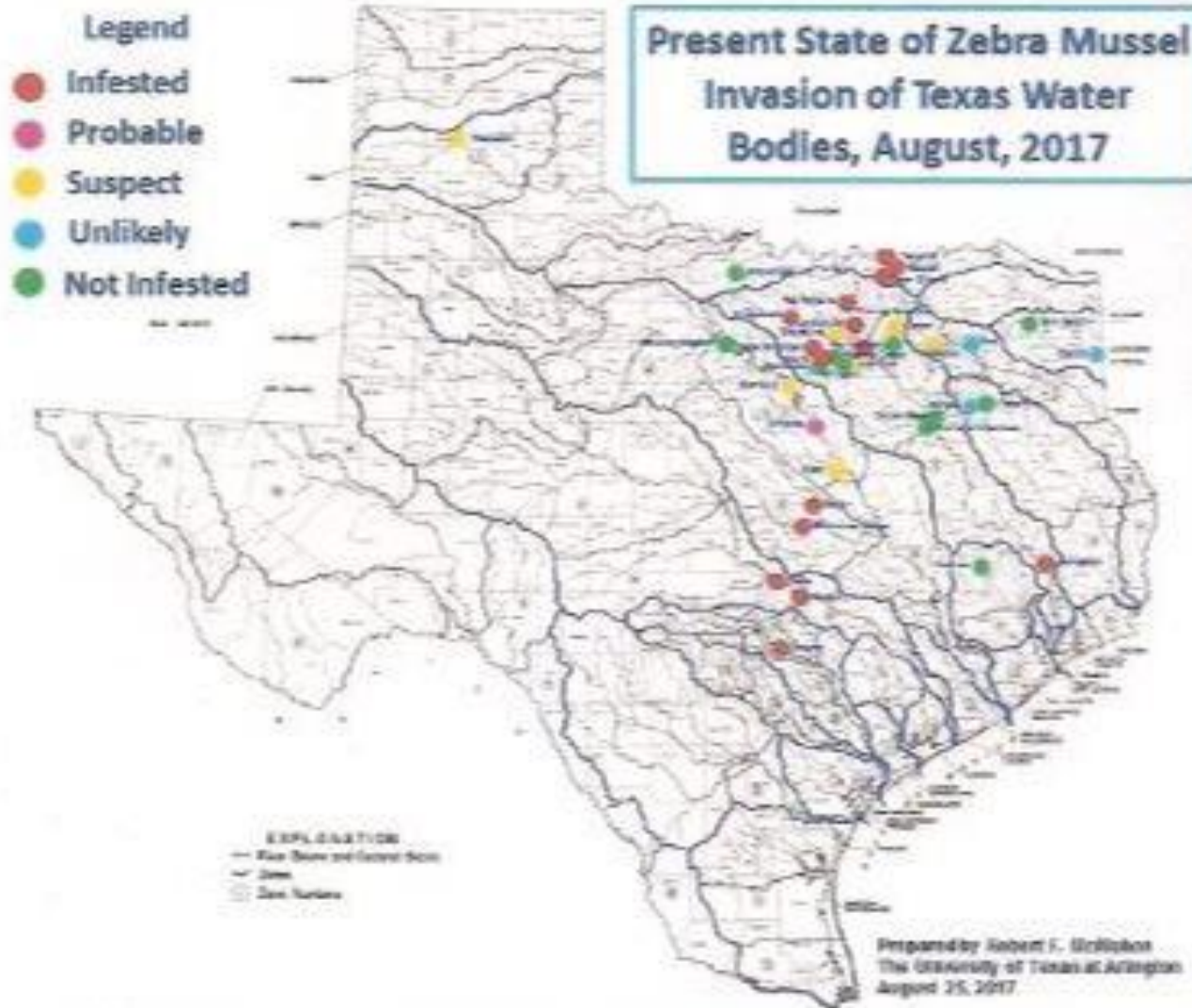


Zebra mussel

Dreissena polymorpha

First Confirmed in
Lake Texoma
(2009)





Apple snail

Pomacea

insularum



Sulphur River below Wright Patman

- Bighead carp first reported summer 2009
- No barriers exist between Wright Patman dam and Red River



Suckermouth Catfish

- **Family: Loricariidae**
- **Origin: South America**
- **Affected TX water bodies/regions:**
Central and south TX
- **Ecosystem impacts:**
Dietary overlap; Shore
line degradation;
Increased turbidity



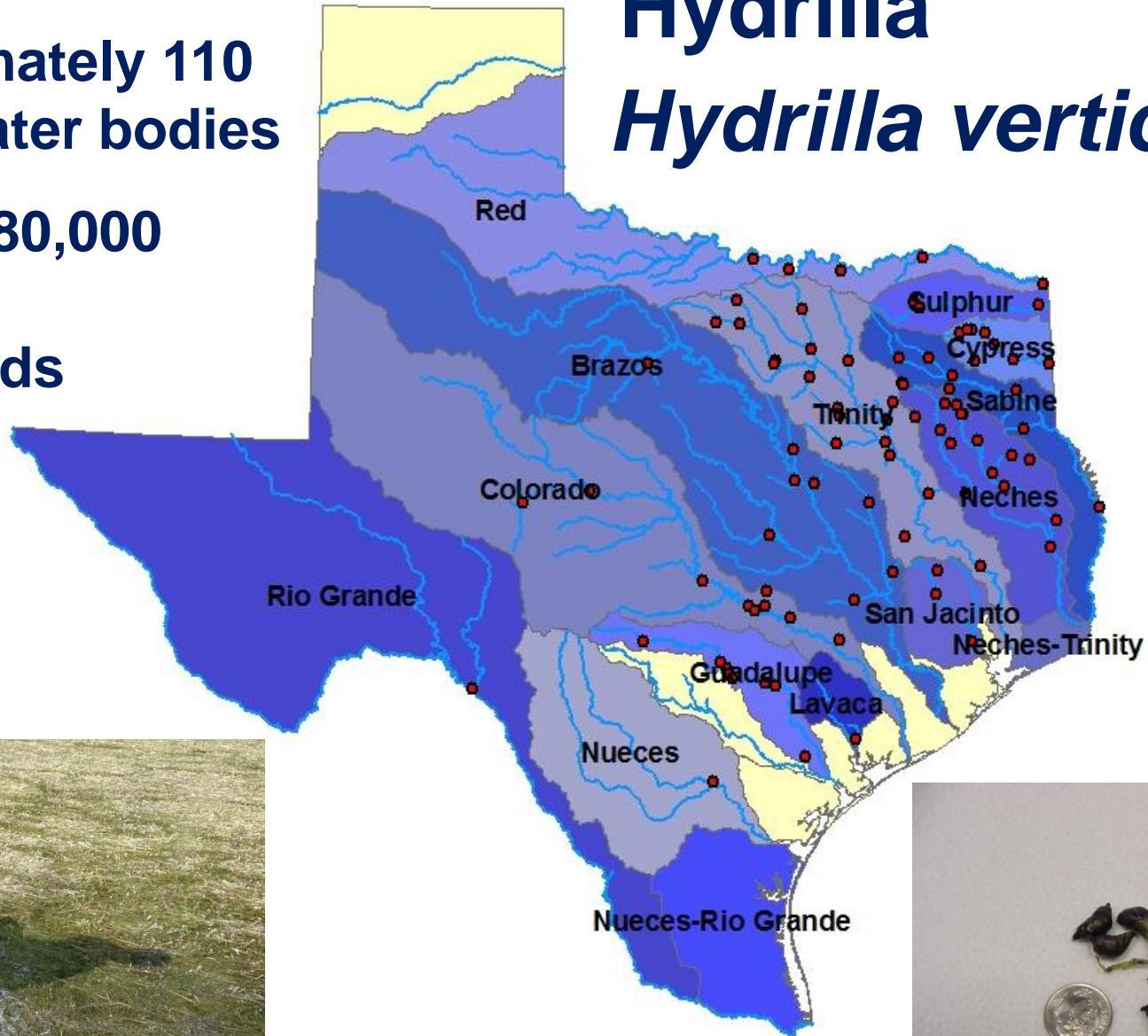
Invasive Plants

Approximately 110
public water bodies

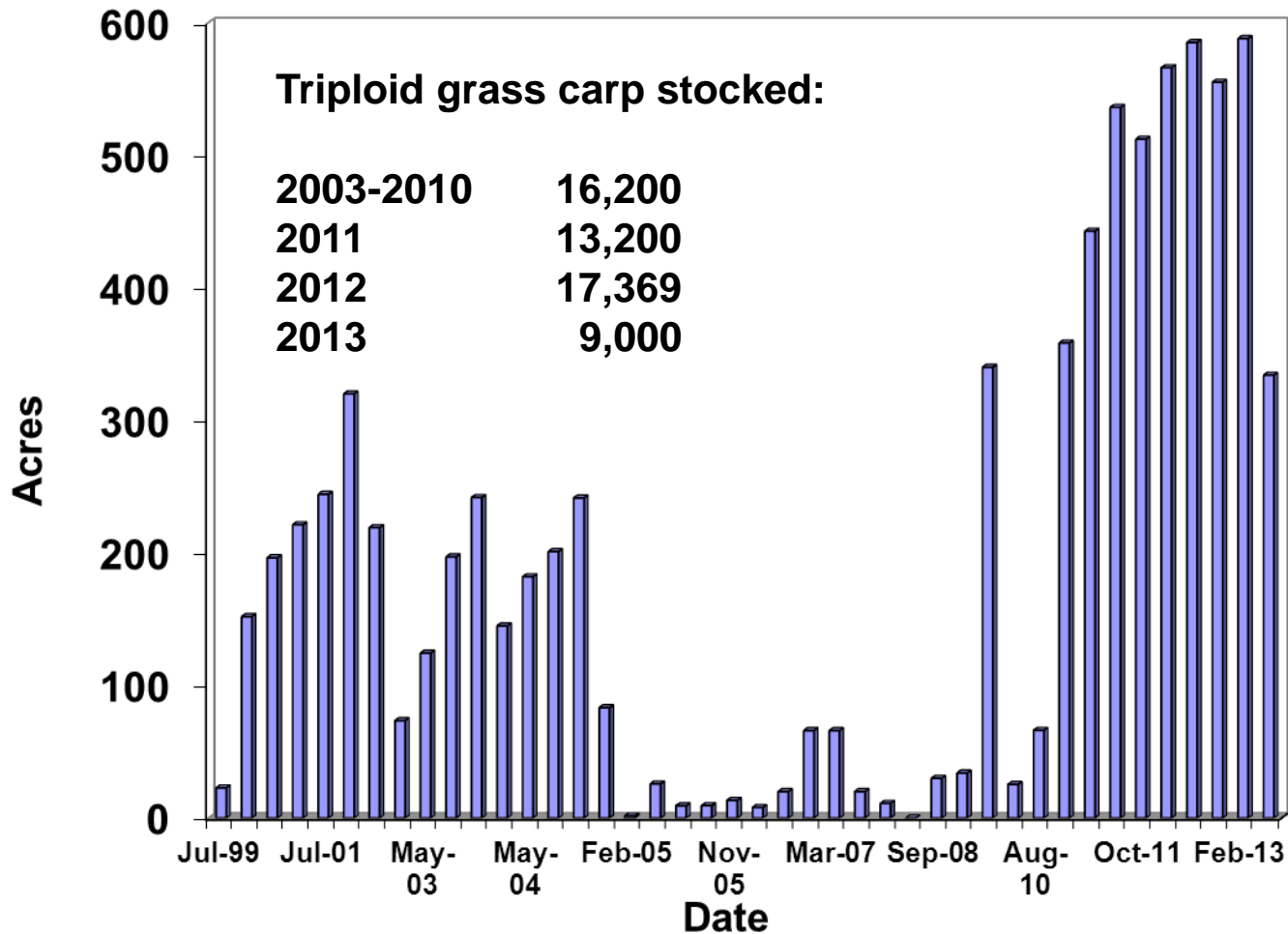
45,000 – 80,000
acres, 14
watersheds

Hydrilla

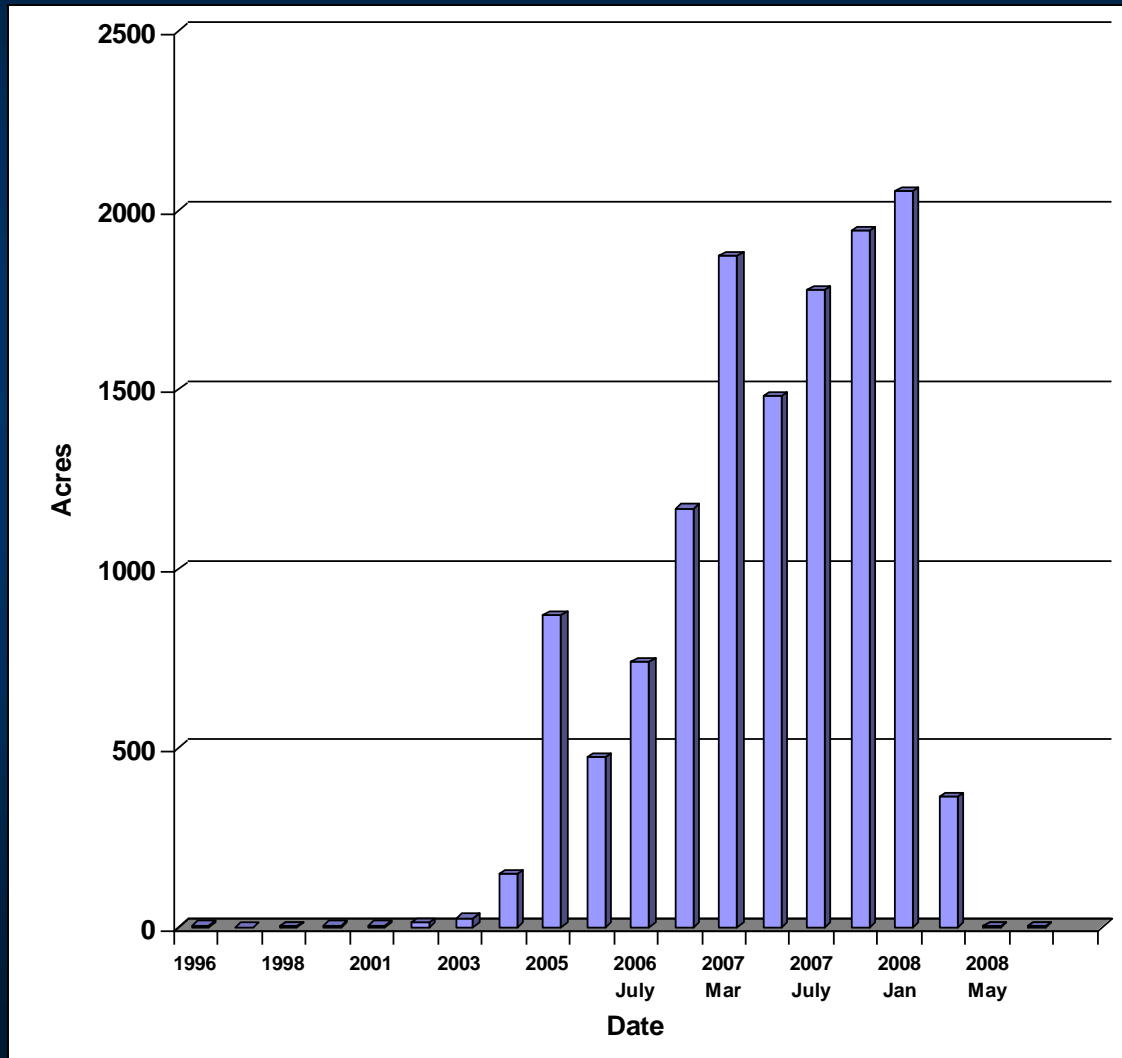
Hydrilla verticillata



Hydrilla in Lake Austin



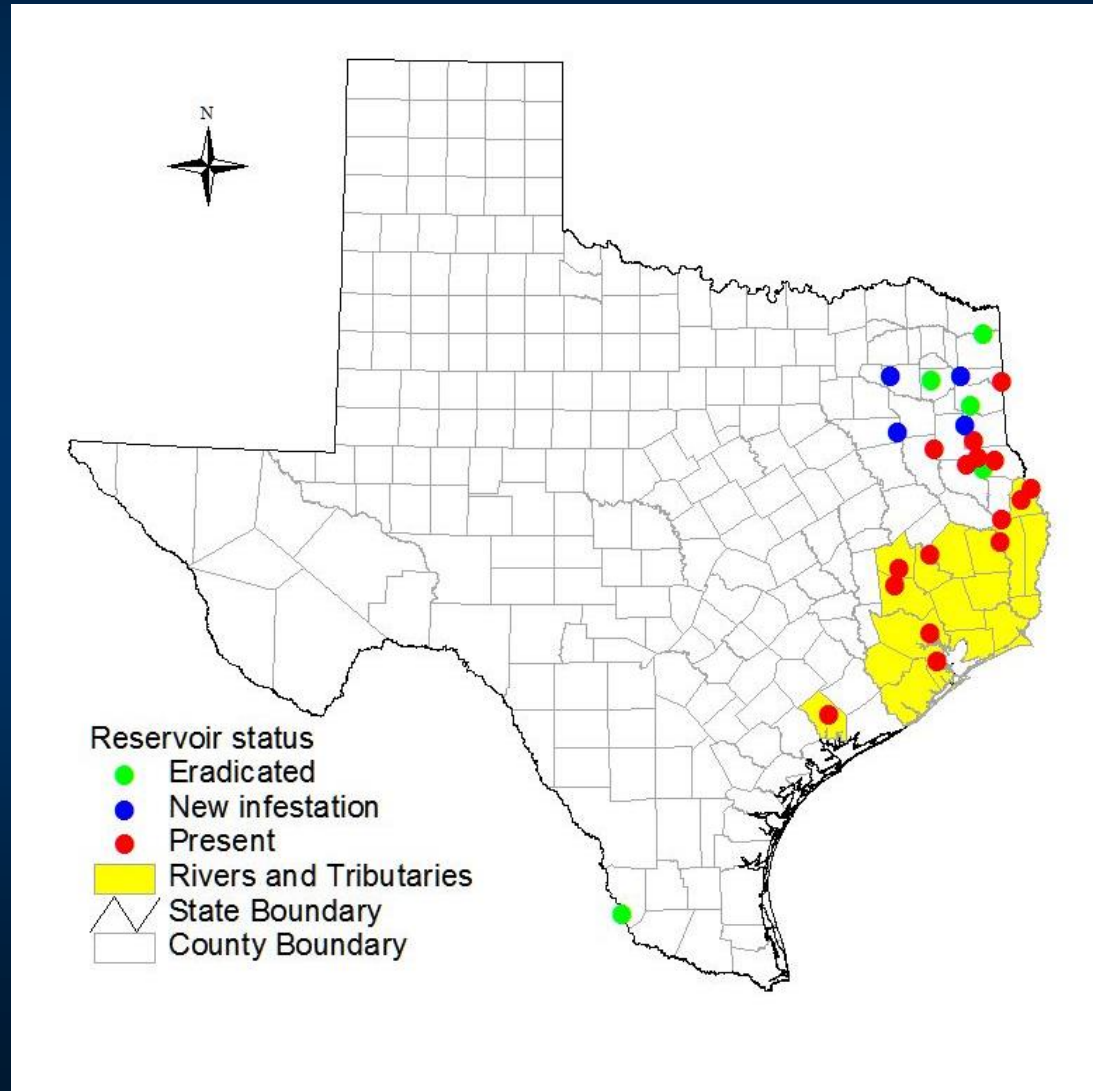
Lake Conroe Hydrilla acreage 1996-2008



Giant Salvinia Herbicide Treatments

Treated FY16-FY17

- Caddo Lake – 13,606
- Sam Rayburn – 7,914
- Toledo Bend – 7,460
- B.A. Steinhagen – 4,314*
- Lake Texana – 2,175*
- Lake Murvaul - 375
- Lake Striker - 178
- Sheldon Reservoir – 84
- Lake Fork - 82
- Clear Creek - 77
- Lake Timpson – 50
- Lake Naconiche – 15



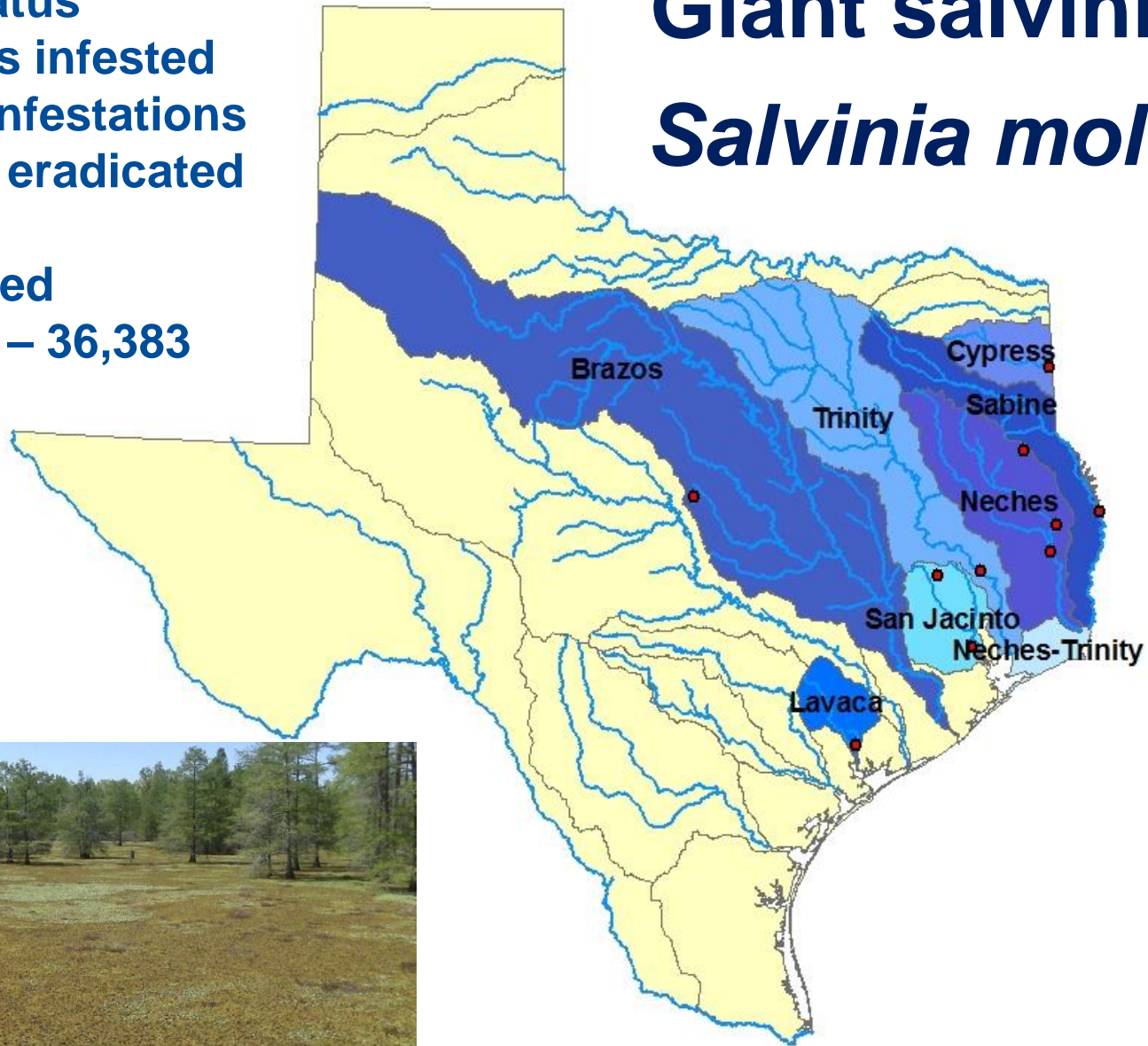
Current Status

20 lakes infested
4 new infestations
5 lakes eradicated

Acres treated

FY16-FY17 – 36,383

Giant salvinia *Salvinia molesta*



Caddo Lake

Giant salvinia and Caddo Lake



Giant salvinia and Toledo Bend Reservoir

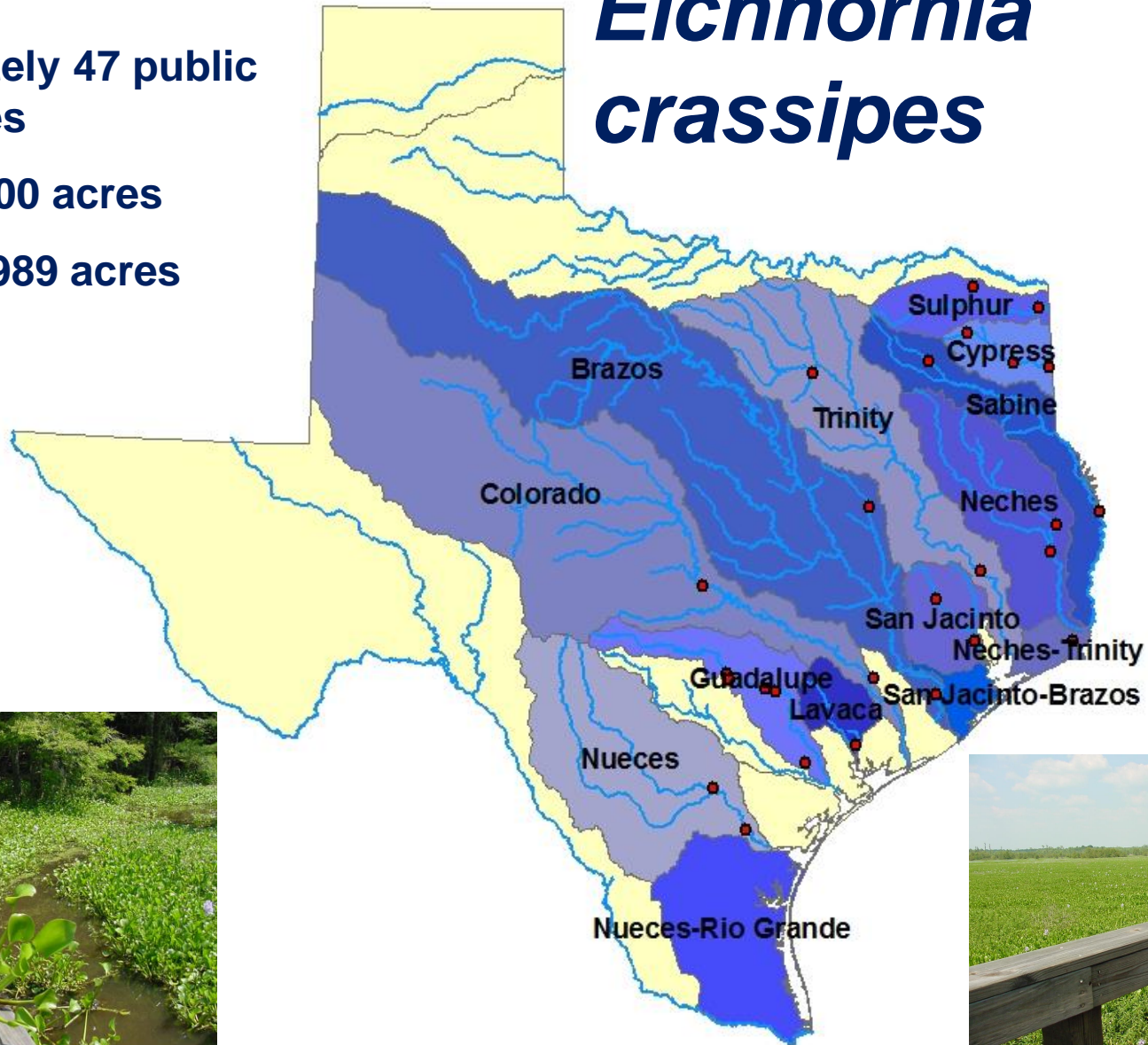


Water hyacinth *Eichhornia crassipes*

Approximately 47 public
water bodies

6,000 - 14,000 acres

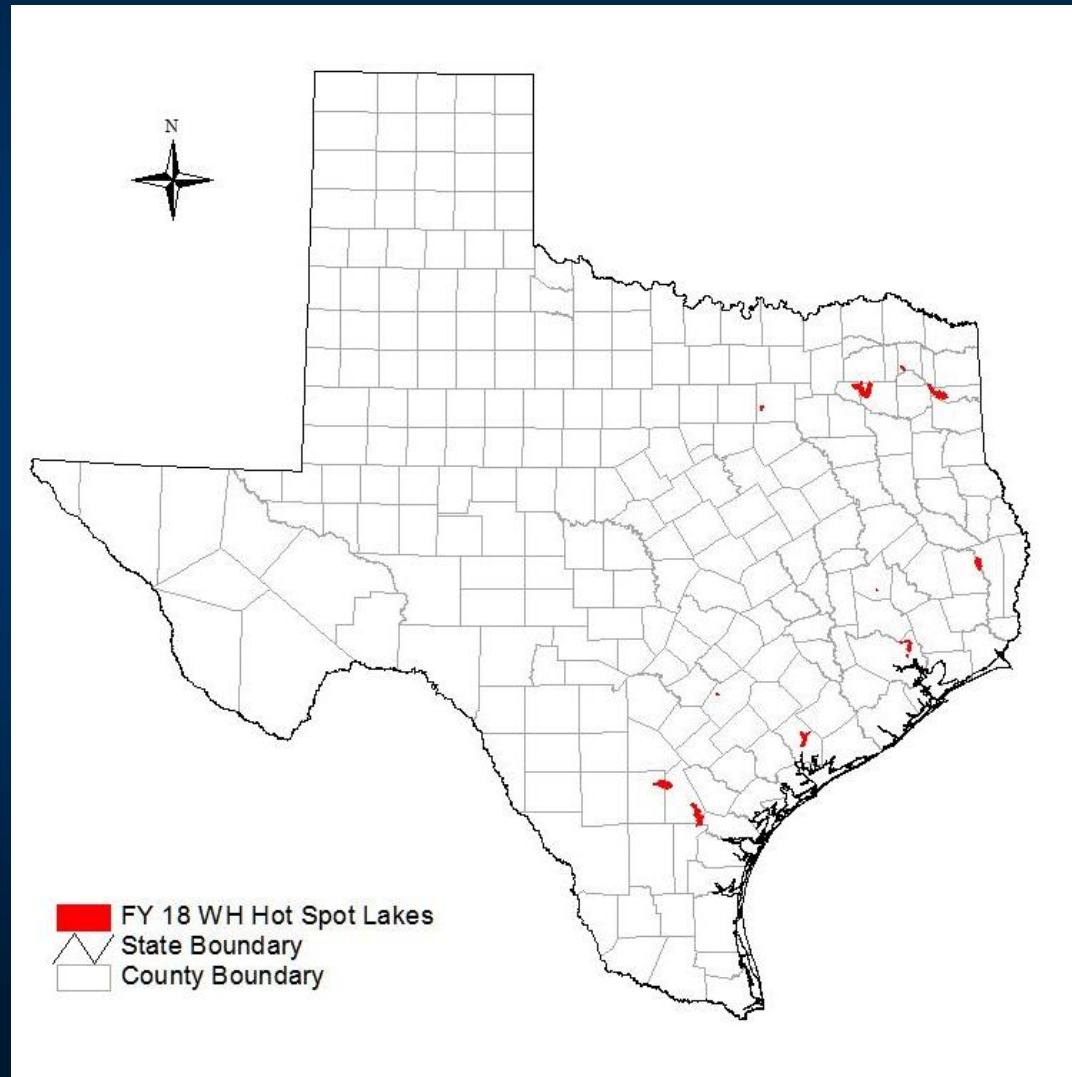
FY 16-17 8,989 acres
treated



Water hyacinth hot spots

Reservoirs

- B.A. Steinhagen
- Lake Corpus Christi
- Lake Texana
- Choke Canyon Reservoir
- Lake Fork
- Lake Houston
- Mountain Creek Reservoir
- Lake Monticello
- Lake Gonzales (H-4)
- Lake LBJ
- Lake Raven
- Sheldon Reservoir
- Elm Lake
- 40-Acre Lake
- Cow Bayou
- Adams Bayou
- Taylor Bayou



Rio Grande



05/16/2003

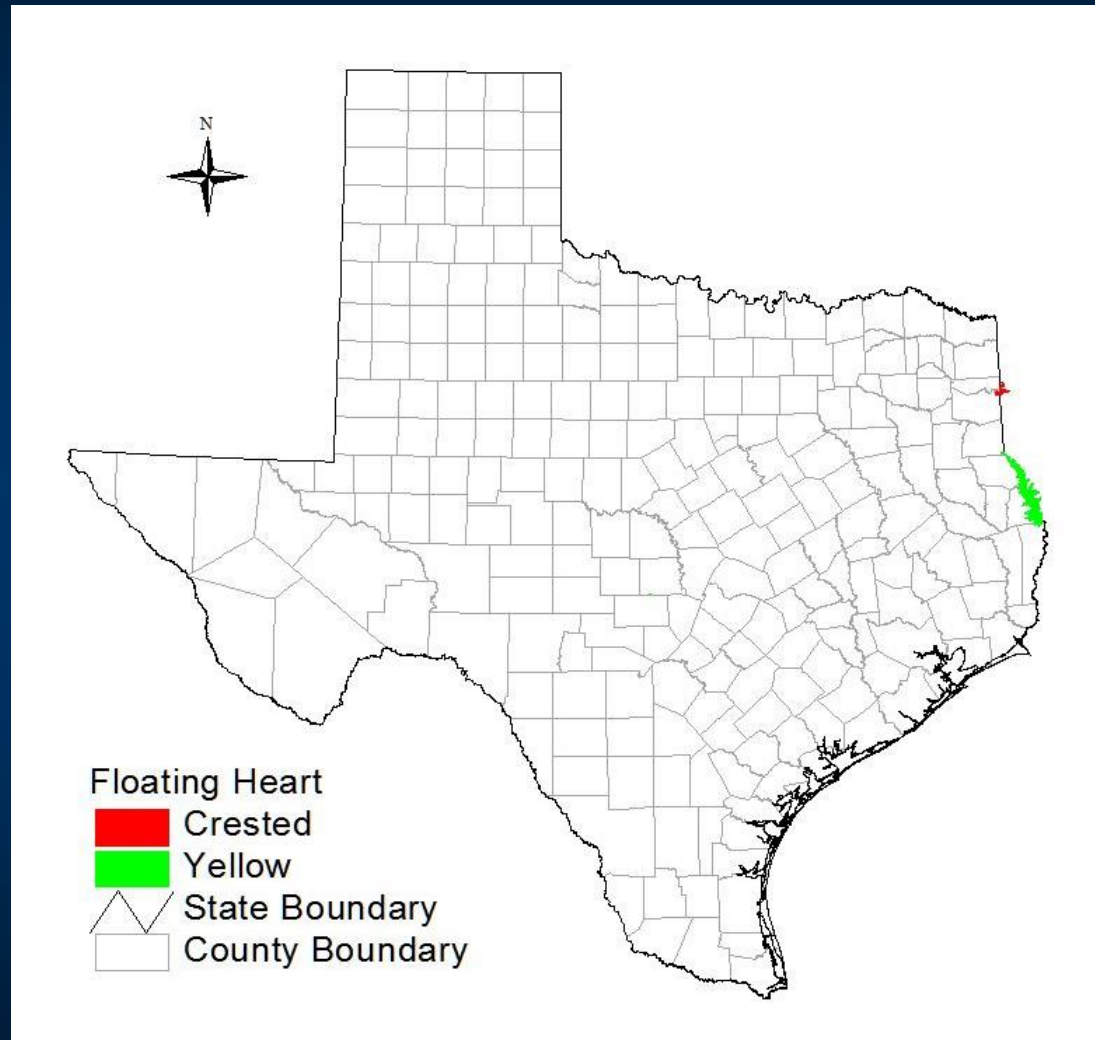
Herbicide Treatments

Crested Floating Heart

- Caddo Lake – 33 acres*
- Canals near Beaumont

Yellow Floating Heart

- Moss Lake - 24 acres
- Toledo Bend LA side



Arundo donax

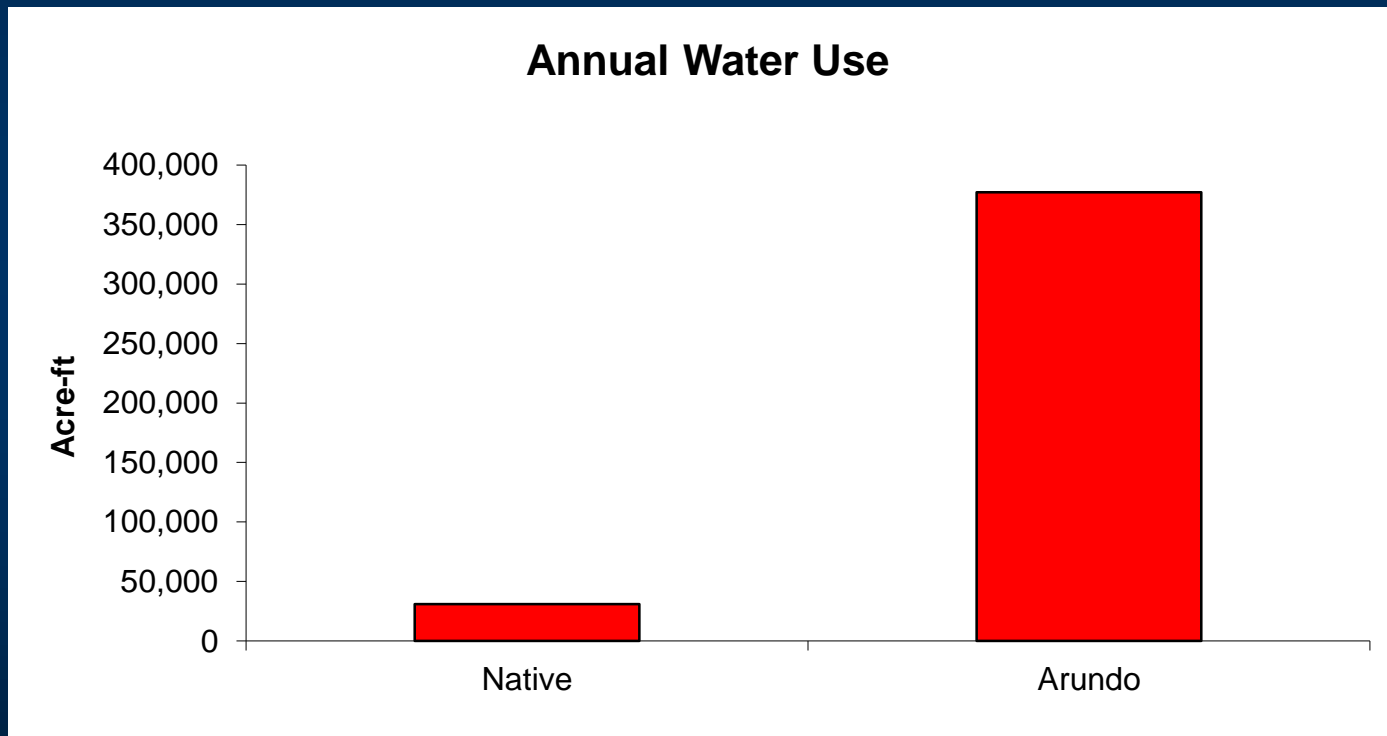


Homeland Security News Wire:

“Densely packed and growing to 30 foot heights, the cane provide cover for illegal activities, including human and drug smuggling”

January 5, 2012

Giant reed Evapotranspiration versus Native vegetation



Data from California Invasive Plant Council, 2011

Texas Program Budget

FY 2011	\$1.7 million
FY 2012	\$0.6 million
FY 2013	\$0.6 million
FY 2014	\$1.3 million
FY 2015	\$1.3 million
FY 2016	\$2.5 million
FY 2017	\$2.5 million
FY 2018	\$3.2 million
FY 2019	\$3.2 million

ALS in Texas

- **Effective Management would cost \$45 million annually**
- **Rider 34 allotted \$6.4 million to Inland Fisheries (about 7% of what is needed)**
 - **Increase ALS control efforts**
 - **Increase biocontrol use**
 - **Increase research**
 - **Increase outreach**
 - **Increase ability work with partners**
 - **Increase FTEs within Inland Fisheries Division**

Outreach



Other AIS Issues

Development of an Approved list rather than a Prohibited list

Water spinach permitting

Exxon/Mobil and Biofuel

Arundo Biocontrol Development

Saltcedar (*Tamarix* spp.)

Elephant ear (*Colocasia esculenta*)

**Thank
You!**

Angus-Brown

Lionfish



Tiger Prawn



- Found in 60-100 feet of water
- Eat small clams and mussels
- Carry 16 known diseases
- Diseases are transferrable to crabs, crayfish, and other shrimp





Llano River



Chinaberry



Giant reed



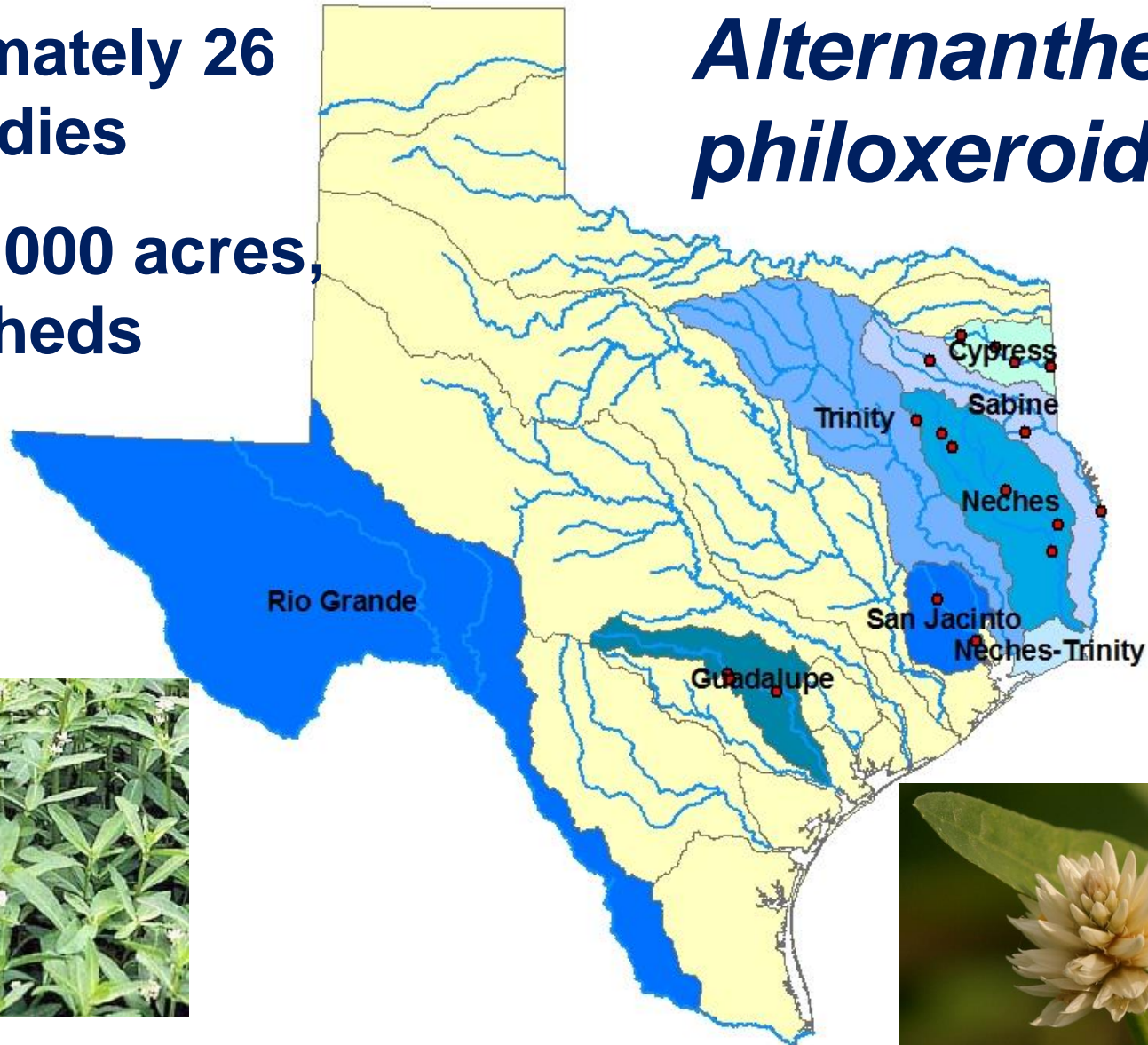
Elephant ear

Alligatorweed

Alternanthera philoxeroides

Approximately 26
water bodies

1,000 - 2,000 acres,
8 watersheds

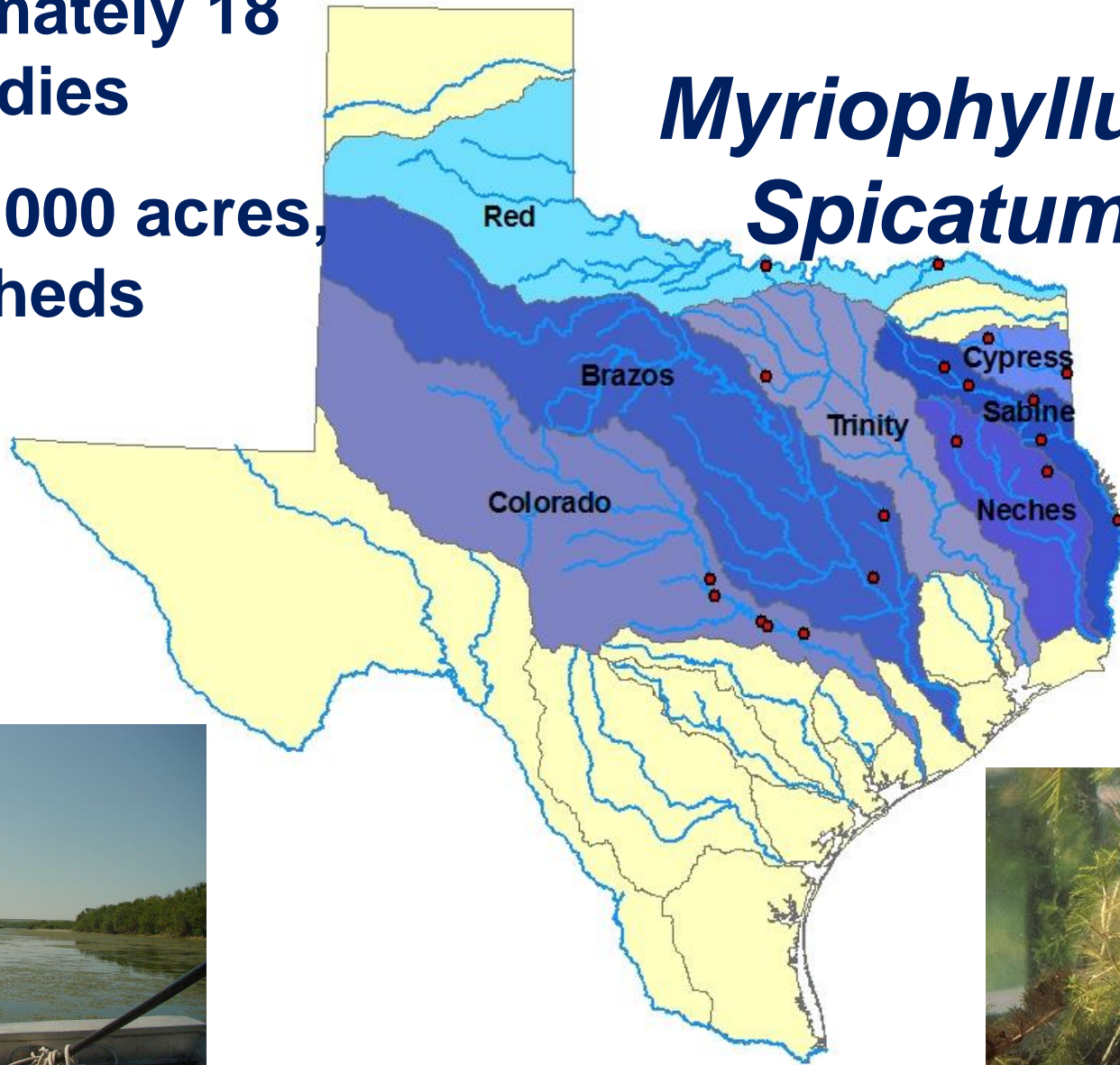


*Photo courtesy of Center for
Aquatic and Invasive Plants.*

Eurasian watermilfoil

*Myriophyllum
Spicatum*

Approximately 18
water bodies
3,000 - 6,000 acres,
7 watersheds



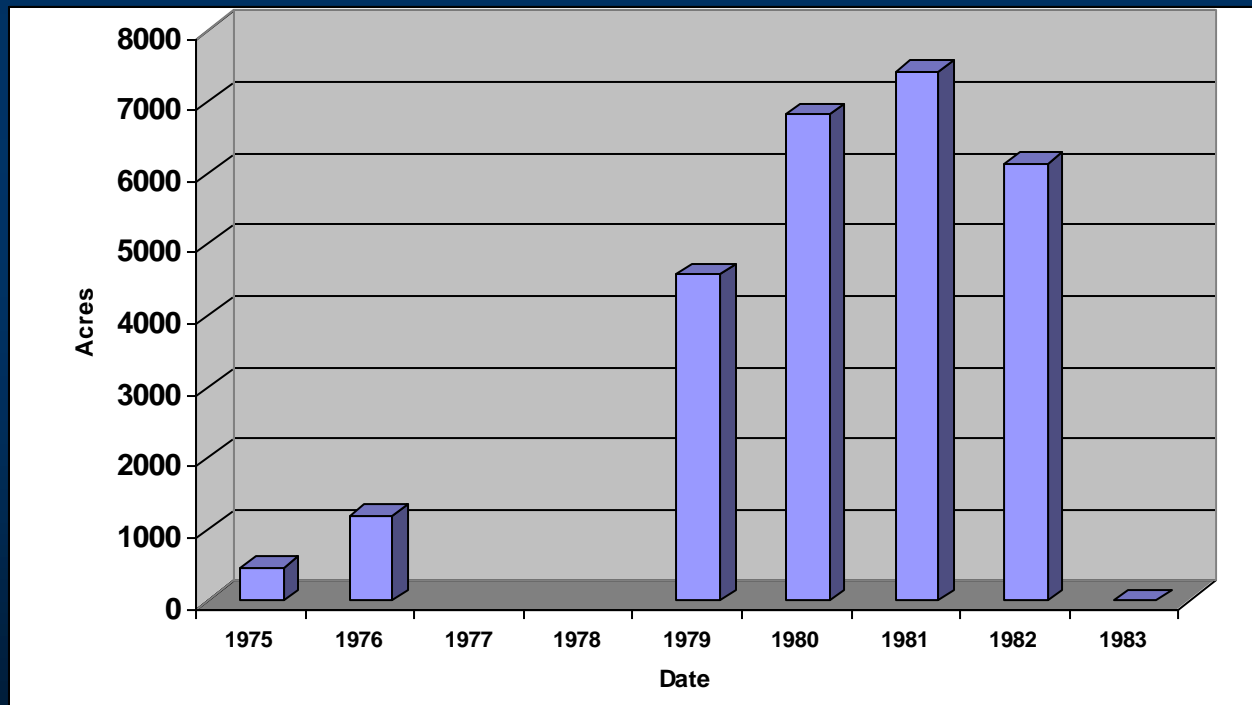
Day Lake east of Houston



B.A. Steinhagen Reservoir



Hydrilla in Lake Conroe in 1975-1983



Lake Conroe Nursery

