

Texas Statewide Aquatic Vegetation and Invasive Species Management Update (a.k.a., “The State of the State”)



Monica McGarrity

Aquatic Invasive Species Team Lead – Austin, TX

AIS Management in Texas

- Cost of effective AIS management: ~\$45M / year
- TPWD *total* annual AIS budget historically ~\$1.4M
- Legislature allocated \$6.3 M / biennium to TPWD Inland Fisheries for 2016-2017 & 2018-2019
- Federal boater access funds and partner funds augment state-funded efforts

Public Awareness Campaigns

- Clean, Drain, Dry call to action – “poster child” species
- Focus on preventing the spread of AIS by day-use boaters
- 2019 - increased focus on targeted marina outreach to prevent movement of mussels on wet-slipped boats

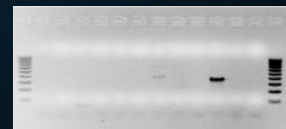


Public Awareness Campaigns



Zebra Mussel Early Detection

- More than 50 lakes monitored by partner collaboration
- Plankton samples analyzed with microscopy (CPLM) & eDNA
- Settlement samplers & shoreline substrate surveys



Water Body Status Classifications

- **Infested** – established; reproducing population.
- **Positive Lakes** – detected more than once; no evidence of reproduction (yet...)
- **Suspect Lakes** – single detection
- **Inconclusive Lakes** – DNA or an unverified suspect organism found in the past year

Zebra Mussels Status Update

- **Infested (15 lakes, 5 river basins)** – Austin, Belton, Bridgeport, Canyon, Dean Gilbert[†], Eagle Mountain, Georgetown, Lady Bird*, Lewisville, Livingston, Randell[†], Ray Roberts, Stillhouse Hollow, Texoma, Travis
- **Positive** – Fishing Hole[†], Grapevine*, Lavon, Richland Chambers, Waco, Worth; also river reaches downstream of infested lakes on the Colorado, Guadalupe*, Lampasas, Leon, Little, Red, Trinity Rivers
- **Suspect** – Fork, Ray Hubbard
- **Inconclusive** – Arlington², Dunlap, Granger¹, Greenbelt³, Inks, Joe Pool², Lyndon B. Johnson², McQueeney, Palestine, Possum Kingdom³, Somerville³, Weatherford³, Whitney²; *also* Denton Creek³ downstream of Lewisville

¹ 2018 DNA (no previous DNA)

² 2018 DNA (& past DNA - intermittent)

³ 2018 DNA (& past DNA - consecutive)

* NEW STATUS CHANGE

[†] small lake, mostly local access

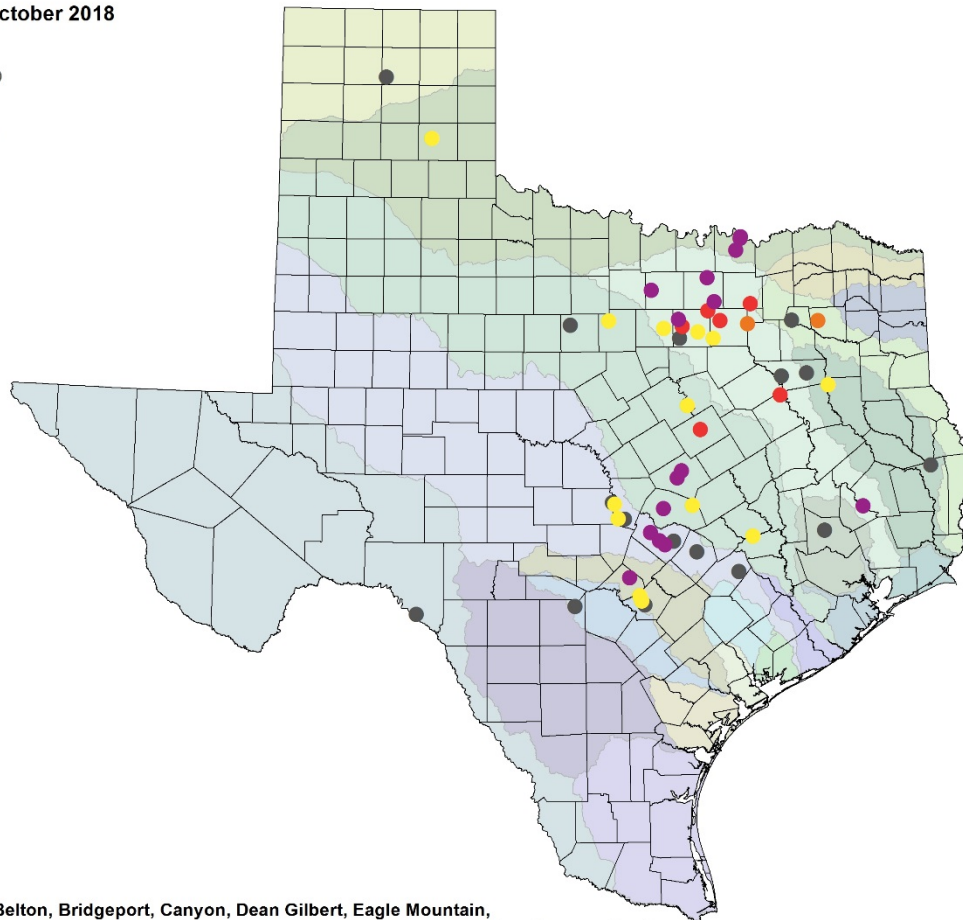
Zebra Mussel Status - October 2018

Water Body Classification

- Infested (Reproducing Population)
- Positive (Multiple Detections)
- Suspect (One Verified Detection)
- Inconclusive
- Undetected/Negative

River Basin

- Brazos
- Brazos-Colorado
- Canadian
- Colorado
- Colorado-Lavaca
- Cypress
- Guadalupe
- Lavaca
- Lavaca-Guadalupe
- Neches
- Neches-Trinity
- Nueces
- Nueces-Rio Grande
- Red
- Rio Grande
- Sabine
- San Antonio
- San Antonio-Nueces
- San Jacinto
- San Jacinto-Brazos
- Sulphur
- Trinity
- Trinity-San Jacinto



Infested Lakes (15): Austin, Belton, Bridgeport, Canyon, Dean Gilbert, Eagle Mountain, Georgetown, Lady Bird, Lewisville, Livingston, Randell, Ray Roberts, Stillhouse Hollow, Texoma, Travis
Positive Lakes (6): Fishing Hole, Grapevine, Lavon, Richland Chambers, Waco, Worth
Suspect Lakes (2): Fork, Ray Hubbard

Elephant Ear – Llano River

- North & South Llano River
 - Treatment/maintenance ongoing - ~ 8 yrs
 - 52+ river miles under management – but requires periodic re-survey and treatment
 - Oct 2018 – 1st Arundo treatment at South Llano R. SP



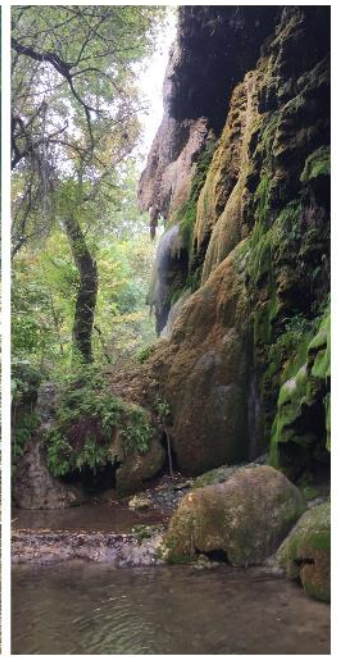
Elephant Ear – Colorado Bend SP

- Fall 2017 – Fall 2018 – 3 targeted spot treatments



Elephant Ear – Colorado Bend SP

- Fall 2018 – hand-pulling below Gorman Falls

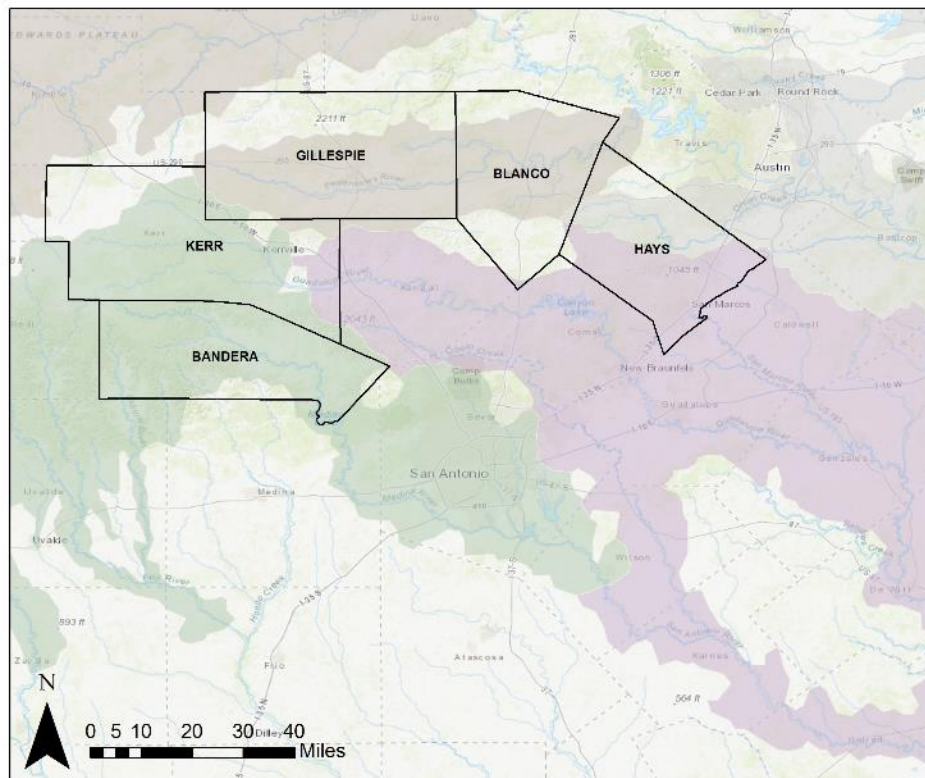


Arundo – Texas Hill Country

- Healthy Creeks Initiative
 - ~300 landowner partners, TxDOT, river authorities, cities, and others
 - Upper Pedernales & Blanco – 2015-present
 - Upper Guadalupe & Medina – new in 2018
- Arundo Control Man Prevention Program



About the Healthy Creeks Initiative: Where We Work and Why



Map Key

Healthy Creeks Initiative

Priority Counties

Native Fish Conservation Areas

Colorado - Hill Country

Guadalupe - Blanco - San Antonio (Lower)

Nueces - Guadalupe - San Antonio

Other NFCAs



Healthy Creeks Initiative Goals:

- Reduce dominance and impacts of Arundo on our creeks
- Enhance habitat for fish and wildlife in important areas for conservation
- Engage private landowners in conservation efforts



Bandera County
River Authority & Groundwater District
Preserving & Restoring our Water - BGRD.org

hill country alliance

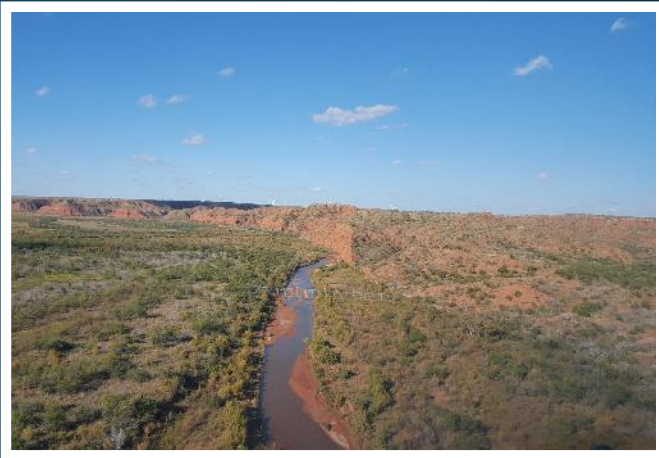
The Nature Conservancy
Protecting nature. Preserving life.



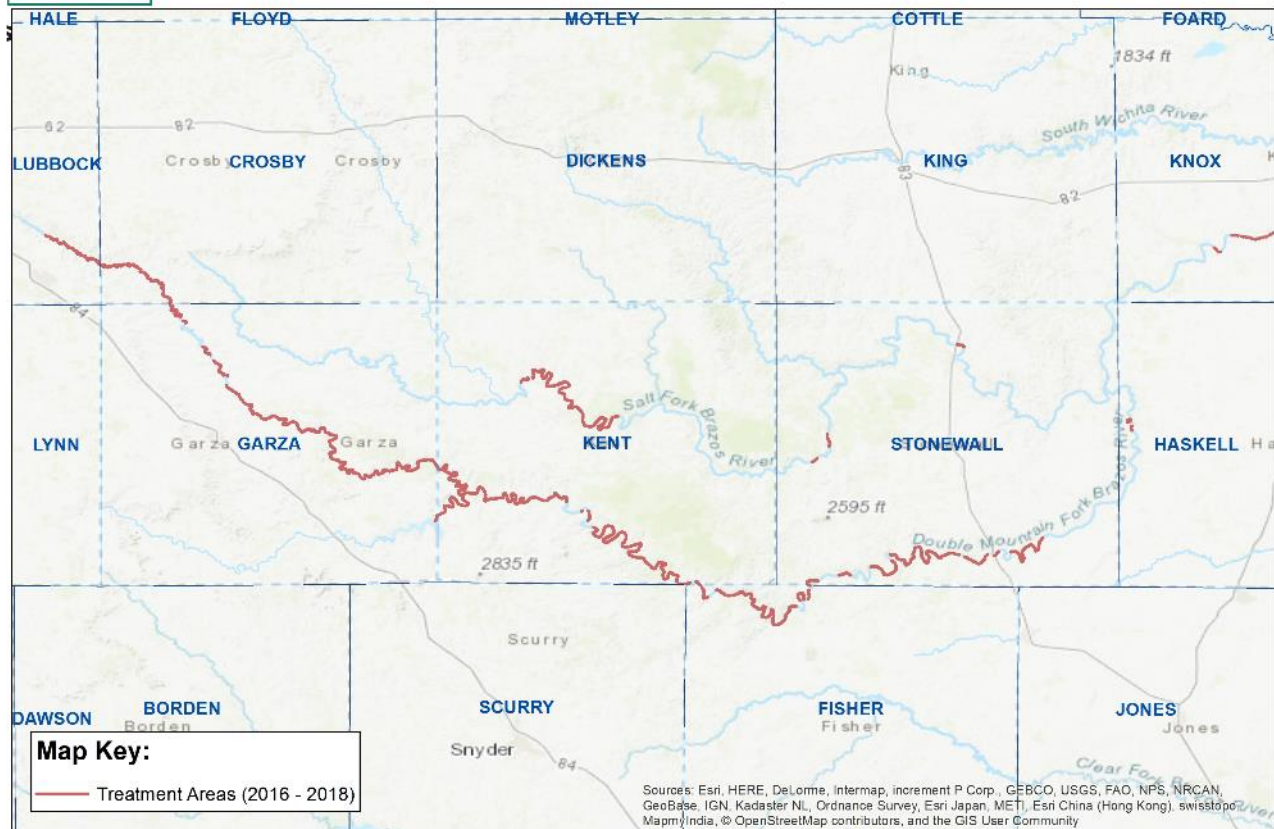
SARP
SOUTHEAST ATLANTIC RECOVERED NATURAL RESOURCES PARTNERSHIP

Saltcedar – Upper Brazos River

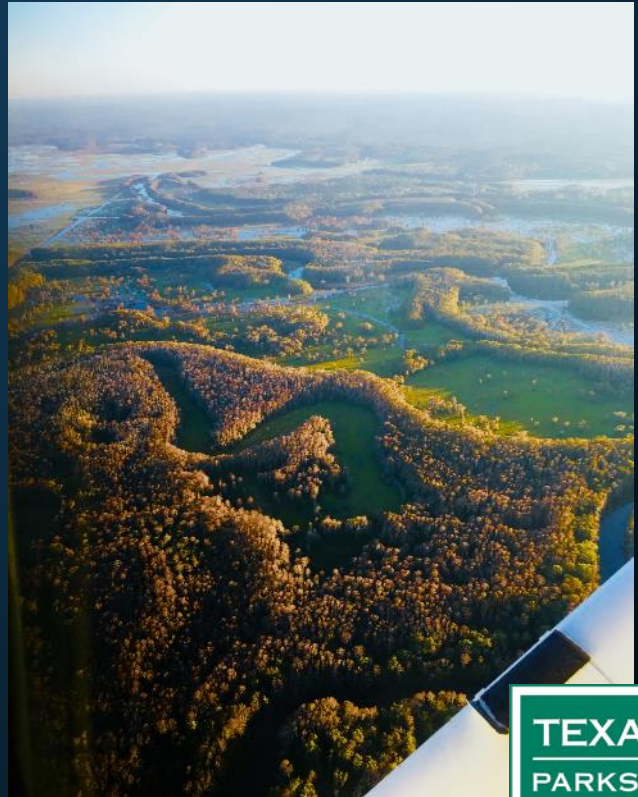
- Upper Brazos River (above Possum Kingdom Res.)
- Initial focus on N. & S. Fork Double Mountain Forks; expanding to Salt Fork and main stem
- 2016-2018: ~10,400 acres treated (60+ landowners)
- Hydrological & habitat monitoring ongoing



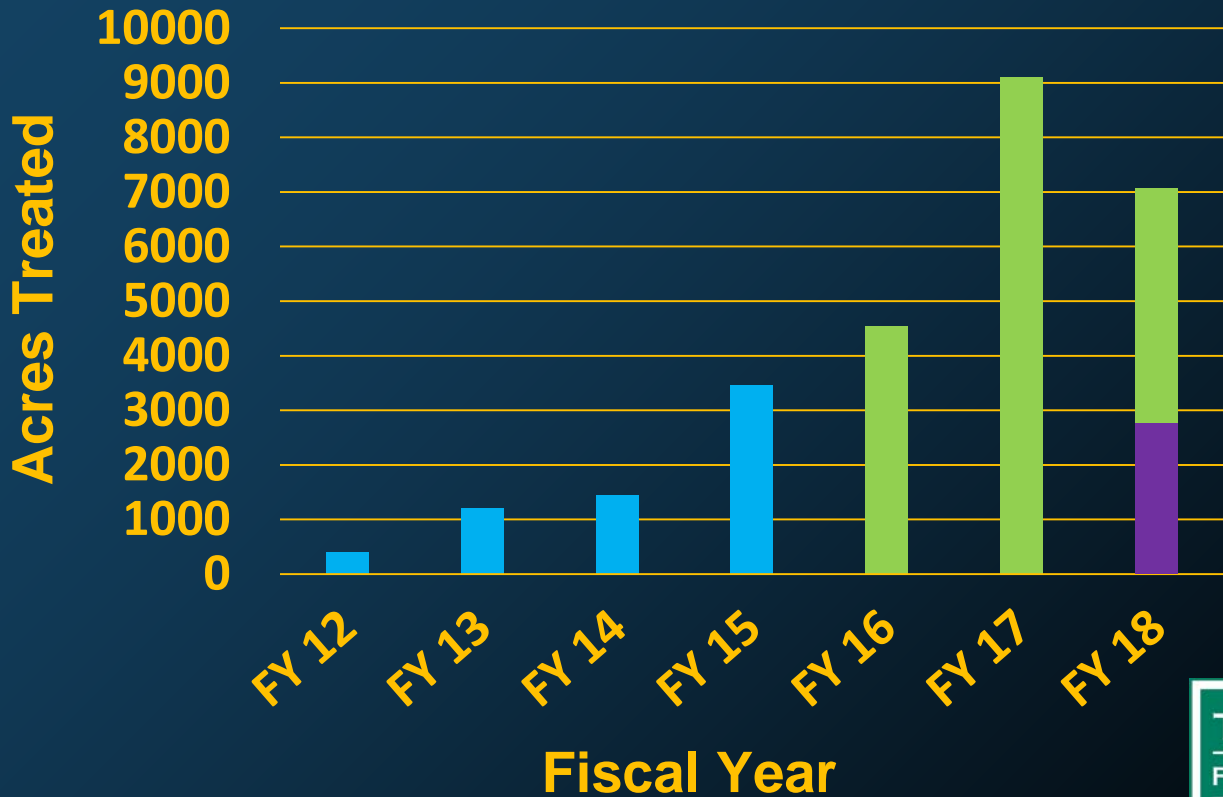
Upper Brazos River - Invasive Saltcedar Treatment Areas 2016 - 2018



Aquatic Invasive Plants



Herbicide Treatments At Caddo Lake



Common Problematic Species

Giant salvinia



Crested floating heart



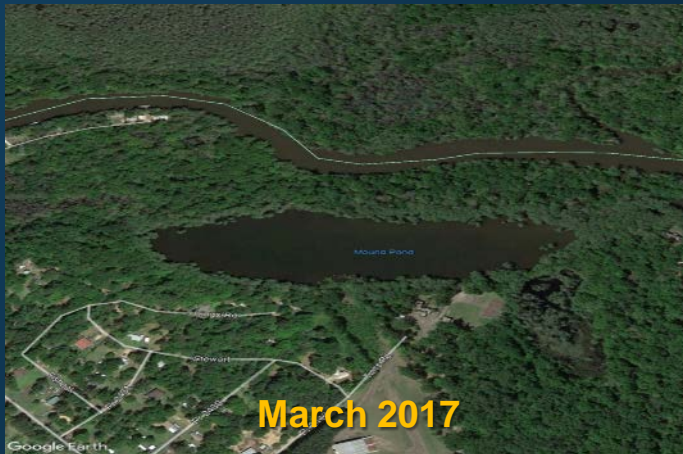
Water hyacinth



Yellow floating heart



Giant salvinia Management



- Current tools
 - Herbicides
 - Giant salvinia weevils
- 22 Reservoirs
- 7 River systems
- 6 New infestations - FY18
- Acres treated per FY
 - FY17 – 22,733
 - FY18 - 12,255

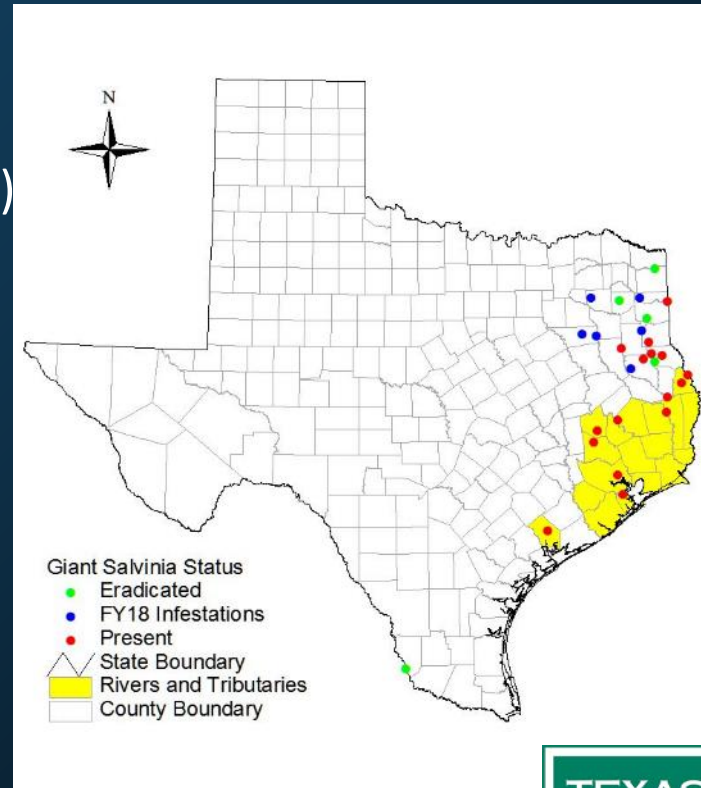
Herbicide Treatments

Current Status

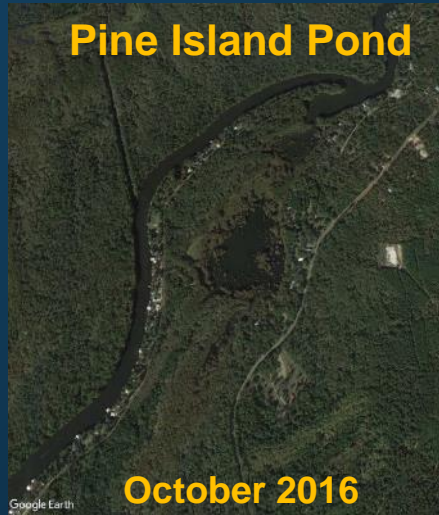
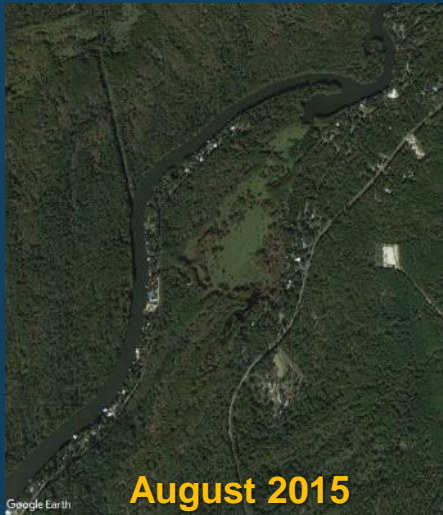
- 22 lakes infested (red)
- 6 FY18 infestations (blue)
- 4 lakes “eradicated” (green)

Acres treated FY18 – 12,255

- Caddo Lake – 7,068
- Toledo Bend – 3,070
- Sam Rayburn – 1,187
- Lake Texana – 548
- B.A. Steinhagen – 386
- Lake Murvaul - 226
- Lake Palestine – 66
- Lake Timpson – 53
- Lake Naconiche - 49
- Lake Fork – 34
- Martin Creek Reservoir – 25



Giant salvinia Weevils



- 15 Total water bodies
 - 6 Water bodies FY18
 - Lake Nacogdoches
 - Nursery lakes

Giant Salvinia Weevil Releases

- Giant Salvinia Weevils FY18
 - 200,000+ adults - CBA
 - 188,527 adults – TPWD
- Caddo Lake (CBA Only!) - 169,195 – North end of lake
- Lake Naconiche - 102,485
- Lake Nacogdoches - 70,796
- Lake Murvaul - 19,194
- Martin Creek Reservoir - 17,683
- Trinity NWR - 4,421



Water Hyacinth Management



- Current tools
 - Herbicides
- 58 Reservoirs
- All major rivers
- Heavy freeze impacts
- Acres treated per FY
 - FY17 – 6,059
 - FY18 – 2,001

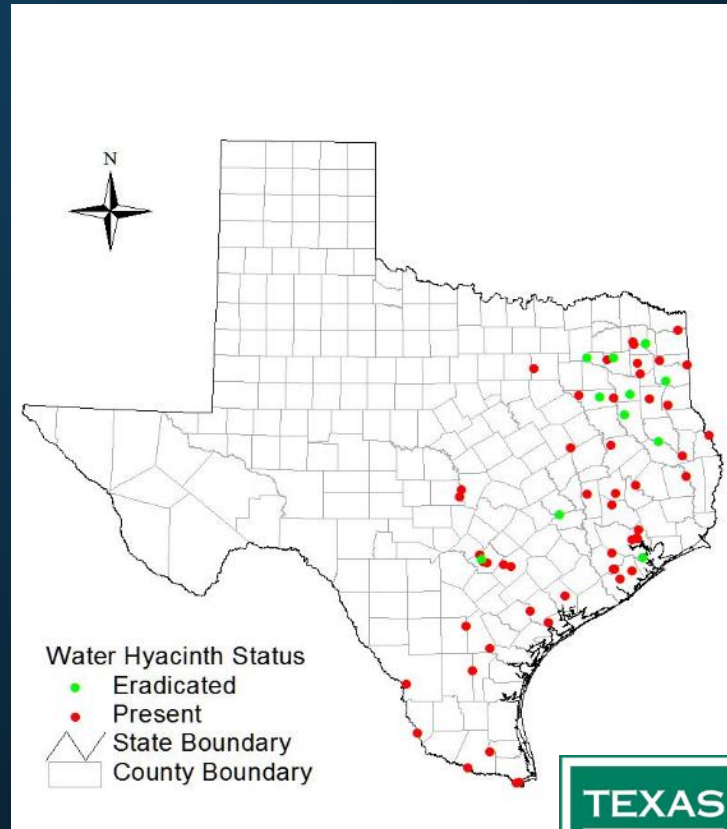
Herbicide Treatments

Current Status

- 58 lakes present
- 11 lakes “eradicated”

Acres treated in FY18 – 2,001

- Lake Texana – 548
- B.A. Steinhagen Res. – 513
- Choke Canyon Res. - 312
- Sheldon Reservoir - 188
- Lake Fork – 169
- Sam Rayburn – 160
- Lake Monticello – 59
- 40-Acre – 19
- Elm Lake - 15
- Gladewater City Lake – 7
- Houston County Res. - 1
- Dickinson Bayou – 0*



Crested Floating Heart Management



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

Yellow Floating Heart Management



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

Hydrilla Management



- 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



Looking to the Future

- Endocide – SFASU
- Terrestrial Herbicides – LSU
- Cold Tolerant Weevils – USDA
- Herbicide combinations – TPWD
- More floating booms - TPWD



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

Thanks! Questions?

