



TPWD Lower Colorado River Initiatives





American Eel

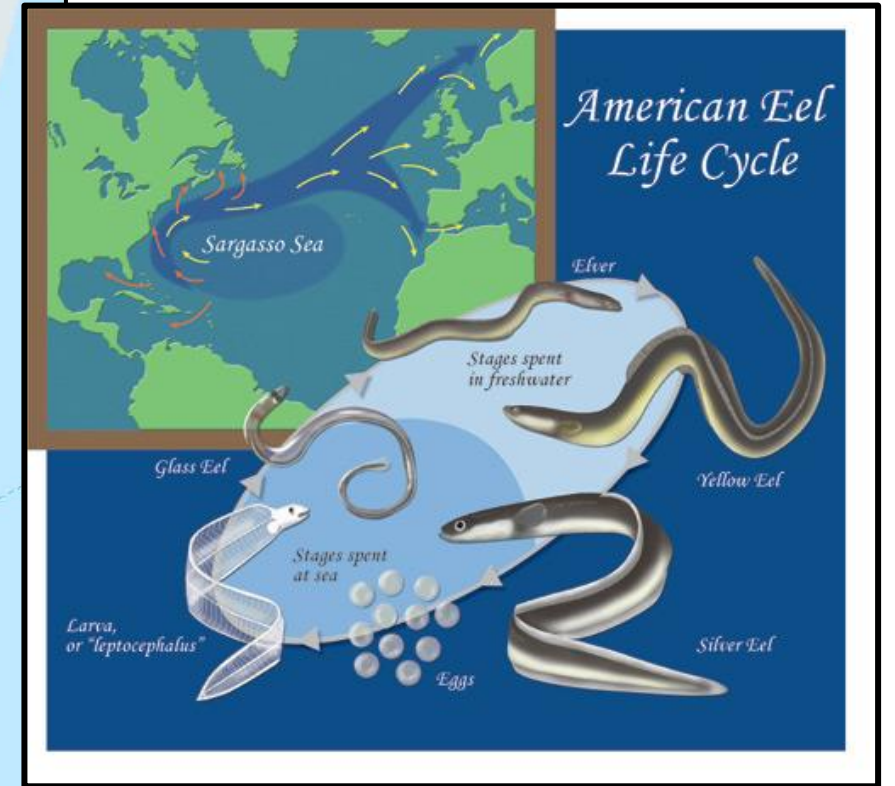
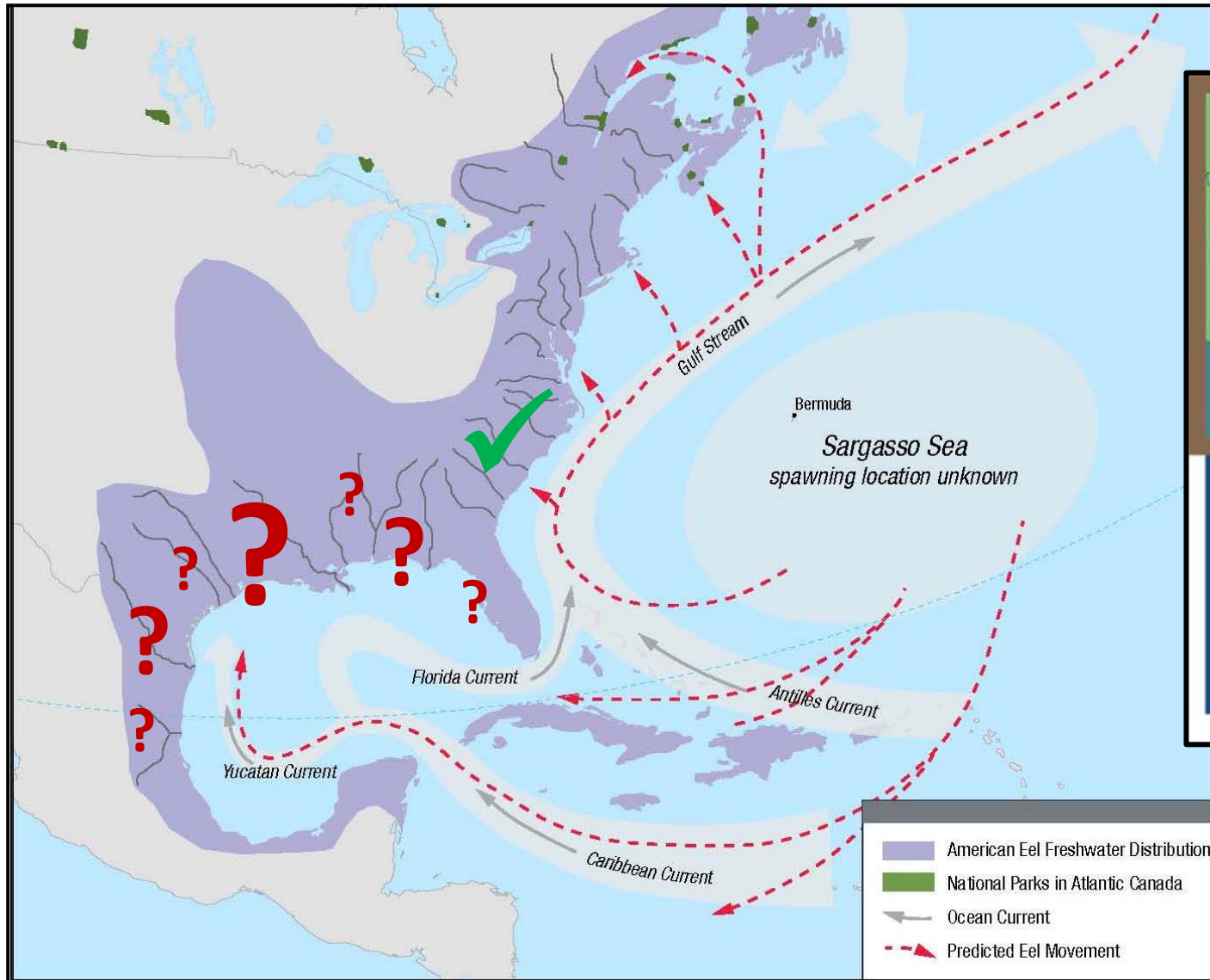
American Eel

Anguilla rostrata

- Long-bodied and long-lived (47" and 40 years)
- Invertivore/Carnivore
- Nocturnal
- Habitat includes structure (i.e. riprap, woody debris, burrows)



Life History of American Eel



© Natural History Illustration

American Eel Data Needs

1. Distribution & Abundance
2. Life History
3. Population Structure



Project Components

1. Yellow Eel Sampling/Outreach
2. Eel Mop & Fyke Net Sampling (glass/elvers)
3. Eel Ramp Sampling (glass/elvers)



Yellow Eel: Field sampling

- Statewide, below instream barriers (e.g., dams, weirs, SW barriers)
- Methods include electrofishing, trotlines, traps



Yellow Eel: Public Outreach

- Presentations
- TPWD Press Release/UT Eel Wanted Poster
- Social Media
- News Coverage



ENVIRONMENT Eels found in wastewater treatment plant

Slippery creatures will be donated to research effort

BY JESSICA PRIEST
JPRIEST@VICAD.COM
At least one thing makes it out of the Bormasia Triangle alive. Sixteen American eels from there were found this week, at all places, at the wastewater treatment plant in Port Lavaca.

This time, though, one employee saw a flyer targeting them to call aquatic biologists researching eels instead. Biologists describe this type of eel as *erikimale*. "We're looking for what the patterns in migration are so that we can better understand when they come into our river systems and in what kind of numbers. We don't have



COURTESY TPWD
Stephen Curtis, an aquatic biologist with the Texas Parks and Wildlife Department, holds an American eel that was living in the Port Lavaca wastewater treatment plant.

SEE EELS, A4

DID YOU KNOW?

- The American eel has a slender, snake-like body with very small scales, and the fish may appear naked. A long dorsal fin usually extends for more than half the length of the body and is continuous with a similar ventral fin. Pelvic fins are absent.
- The largest American eel caught in Texas weighed 6.45 pounds and was 42 inches in length. It was caught by a fisherman who had baited his hook with shrimp in Lady Bird Lake in 2001. The world record is 9.25 pounds.
- The American eel is not on a list of fish that can be commercially harvested in Texas.
- The U.S. Fish and Wildlife Service once considered the American eel for listing under the Endangered Species Act. In Texas, some of the threats they face include changes to their habitat and barriers on rivers, such as dams.
- There are several American eel localities, including the snapper eel, the shrimp eel and the lesser eel. The lesser eel is an aquatic salamander that has tiny legs behind its head.

SOURCE: TEXAS PARKS AND WILDLIFE DEPARTMENT

LOOKING FOR AMERICAN EELS



Please report specimens or observations to Melissa Casarez or Adam Cohen, the Fishes of Texas Project

fishesoftexas@gmail.com

512-475-8171 (Melissa) / 512-471-8845 (Adam)

Maintain specimens alive if possible, or put on ice and give us a call. See links below for more information:



<http://www.fishesoftexas.org>



<https://sites.crs.utexas.edu/hendricksnlab>



<http://www.inaturalist.org/projects/fishes-of-texas>

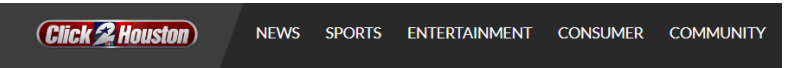


Do you ever catch eels while fishing in Texas rivers?? TPWD could use your help gathering data that will help to conserve this unique and secretive species!

TPWD Biologists collected this fellow on the beautiful Lavaca River this week as part of a statewide life history study on American Eel. Little information exists on American Eel in Texas and TPWD could use your help in locating them to gather more data. If you catch an eel, please take a photo, record your location, and contact the River Studies Program at 512.754.6844. If possible, we would love to take the catch off your hands – feel free to freeze the eel and give us a call! Each individual can provide us with invaluable information to better understand this species.



Like Comment Share



NEWS Why was an American eel found in Brays Bayou?

By Sophia Beausoleil - Reporter

Posted: 4:57 PM, December 04, 2017
Updated: 12:42 PM, December 05, 2017

Share Your Opinion Shares 0

Public Response



Doug-Tammy Isaacs The San Bernard river, upstream of the freshwater dam in Brazoria County is loaded with them.



Tina Park

May 26 at 6:02pm · 🌐

Logan caught an eel!!!



📷 Write a comment...

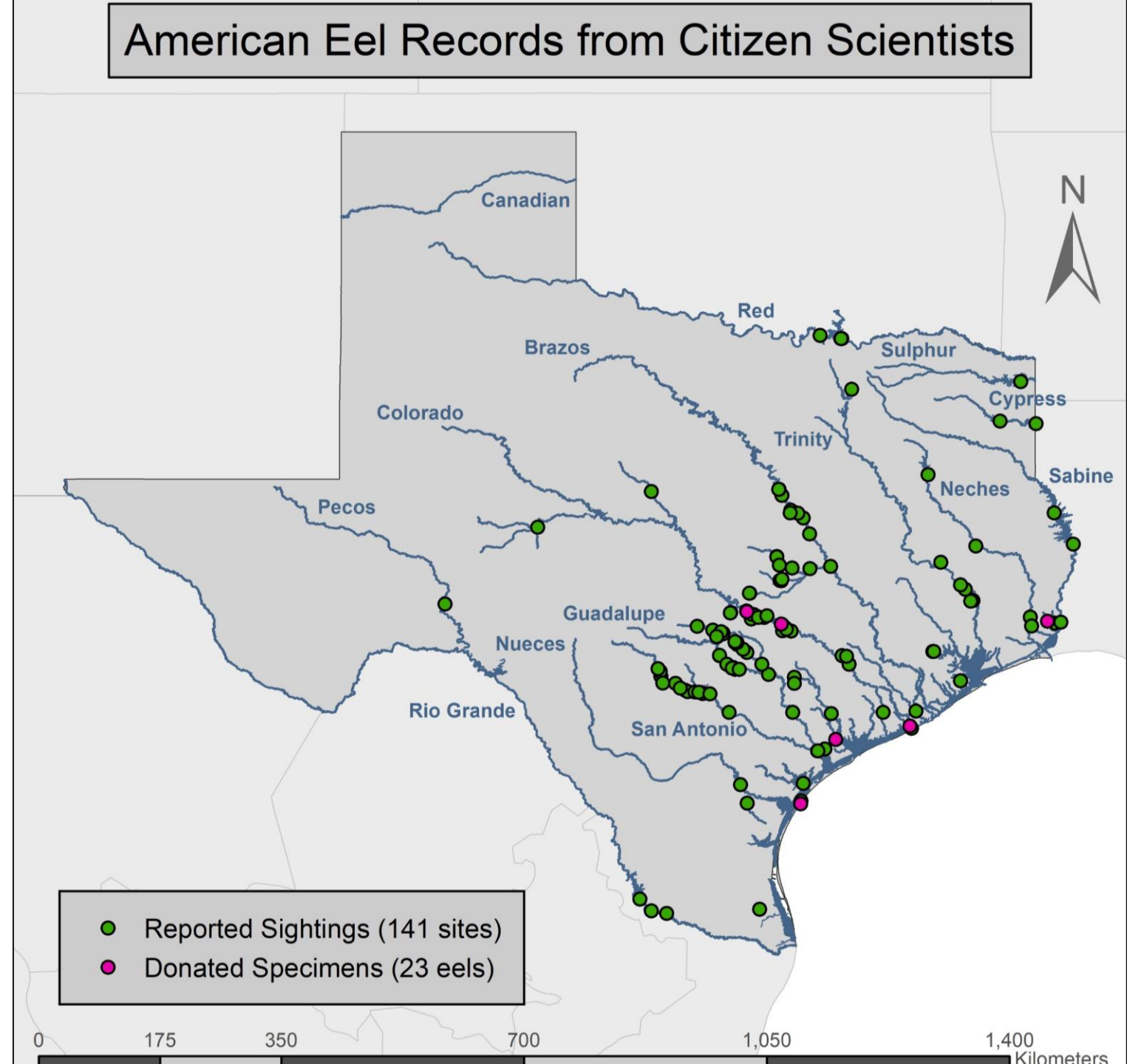


Jeff Zeal Stefanoff Talk to San Marcos city utility crews. They are always getting them.

Like · Reply · Message · 30 mins

Citizen scientist sightings and specimen donations

- 141 Reported sightings considered credible
- 23 Donated specimens

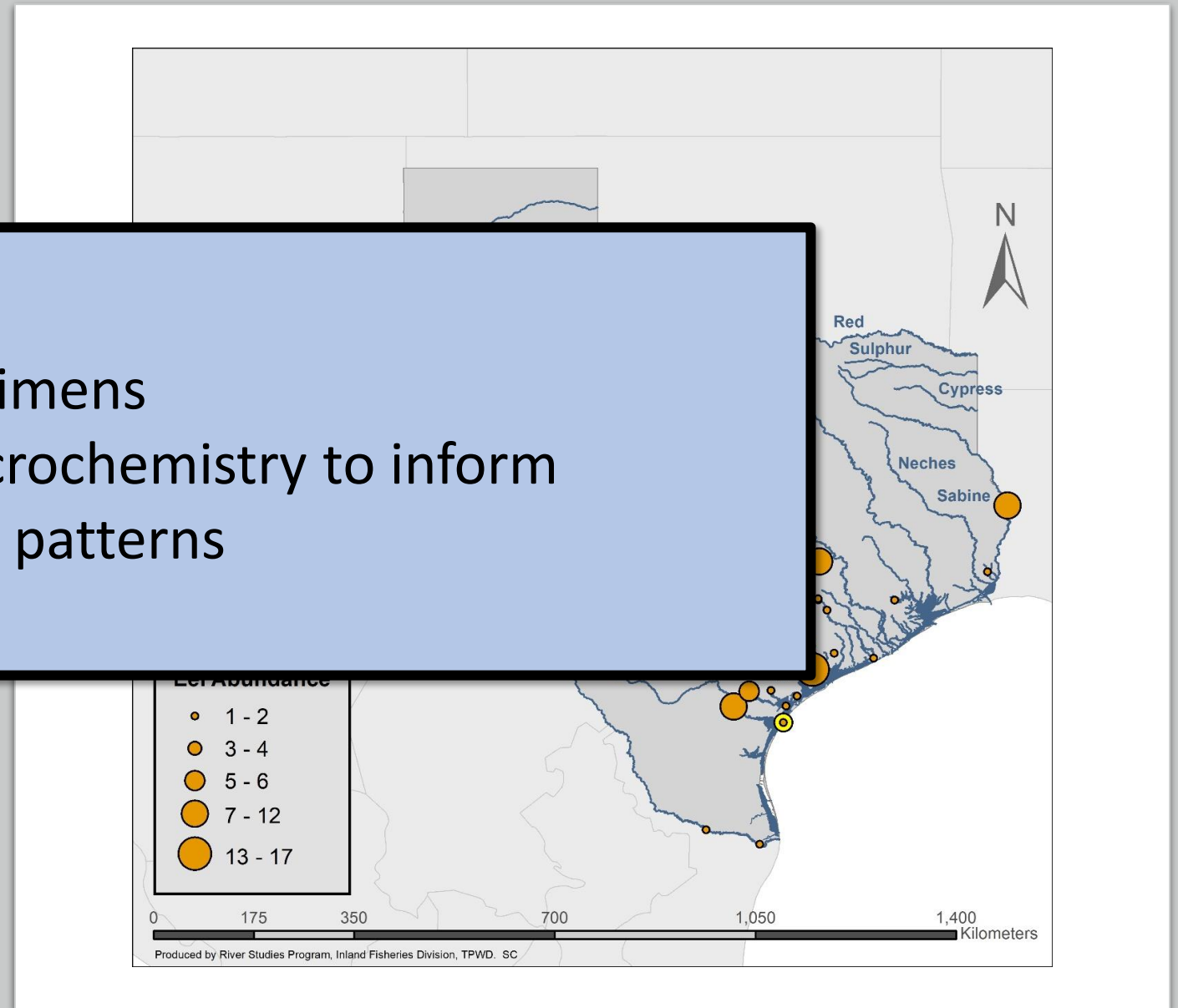


Specimens Collected

- 114 individuals
- 33 sites across river basins
- 113 yellow eel
silver eel

Next Steps:

- Aging specimens
- Otolith microchemistry to inform movement patterns



Glass Eels & Elvers: Field Sampling

Small-mesh Fyke Nets

- Rotational sampling every 2 wks across 5 major bay systems for one year

Eel Mops

- Continuously deployed
- Checked every 2 wks



Eel Mops & Fyke Net Sampling

Eel Mops

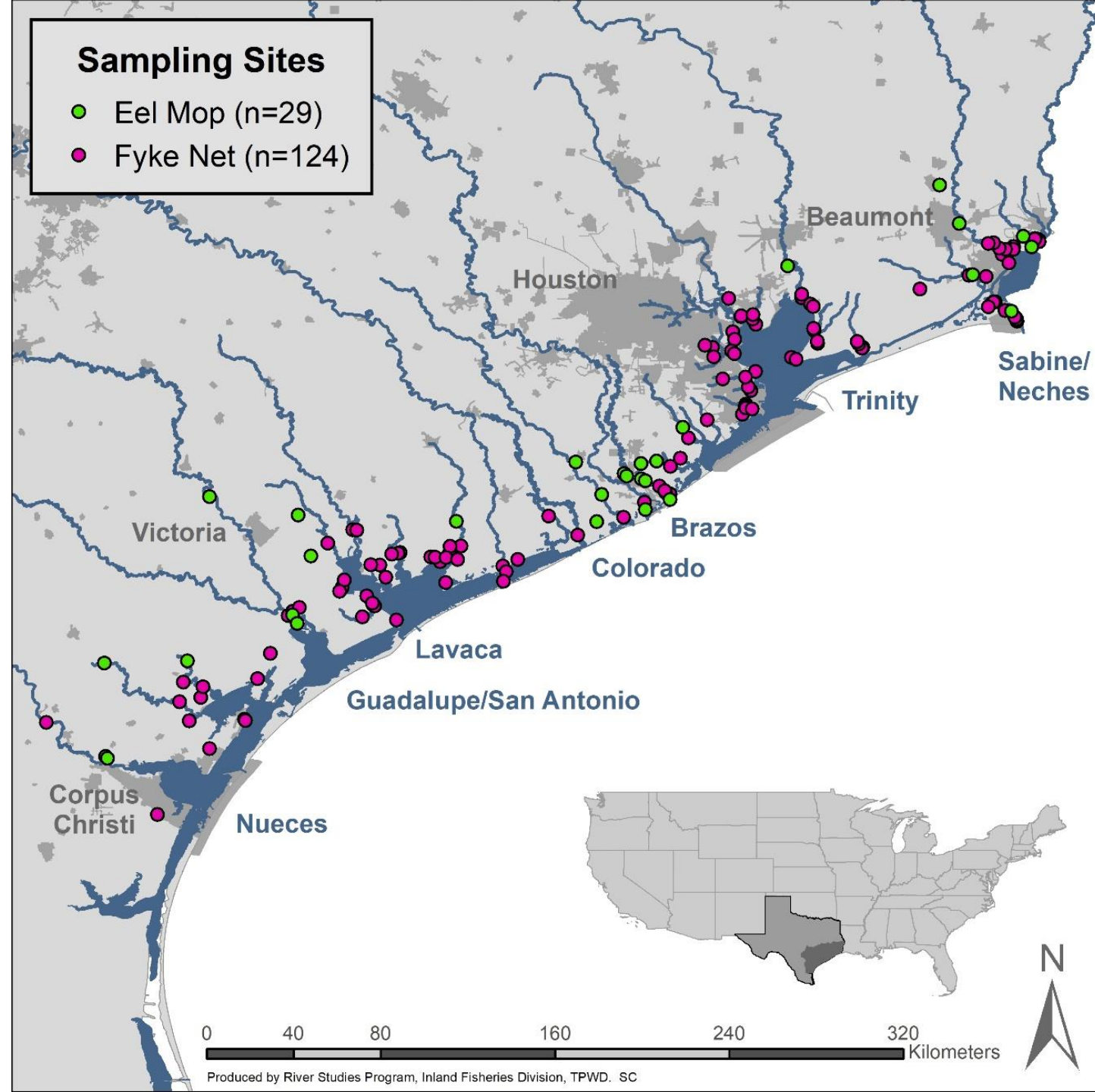
- 29 sites
- 4,510 nights & 217 mop checks

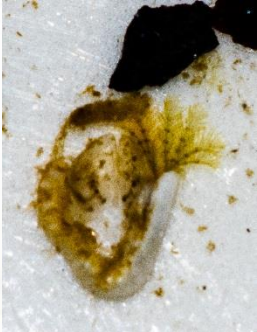
Fyke Nets

- 124 sites & 330 sets
- Cumulative soak time: 1,693 hrs



University
of Houston
Clear Lake





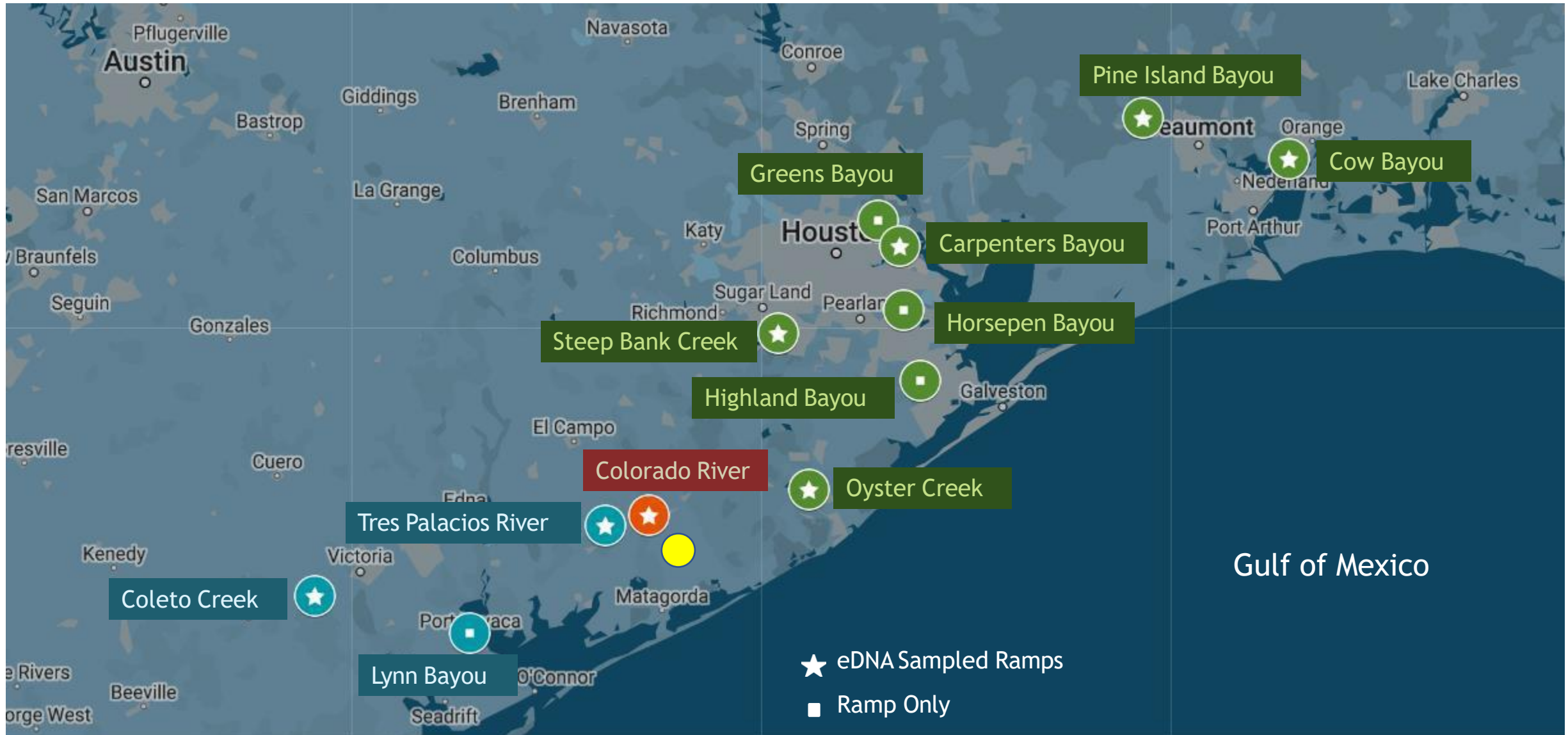
Developing an eel ramp network and utilizing eDNA sampling to monitor cryptic recruitment of juvenile stage (glass eel and elver) American eel (*Anguilla rostrata*) in Texas Coastal Drainages



University
of Houston
Clear Lake



Eel Ramp Sites



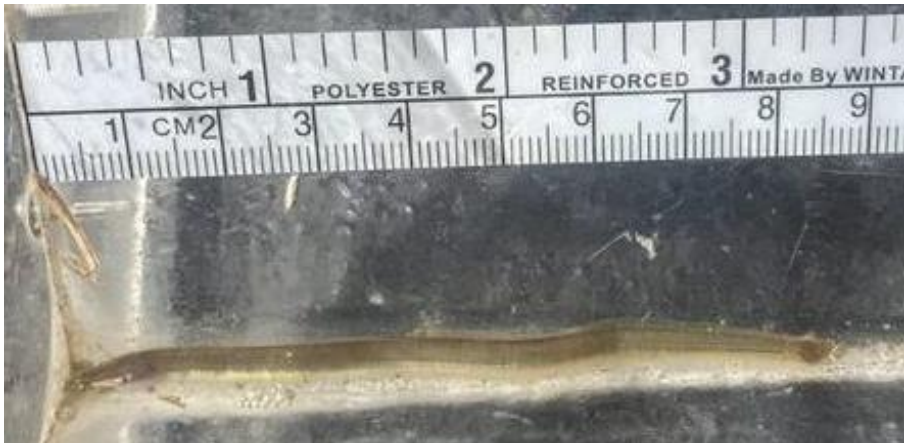
Eel Collections So Far...

- Glass Eels

- 19 eels in Lynn Bayou, Port Lavaca (3 weeks in Jan 2023)
- Site is closest to bay system and furthest south

- Elvers

- One elver caught by LCRA, Colorado River, Bay City (May of 2022)
- Three elvers in Lynn Bayou, Port Lavaca (Mar of 2023)





Blue Sucker

Blue Sucker

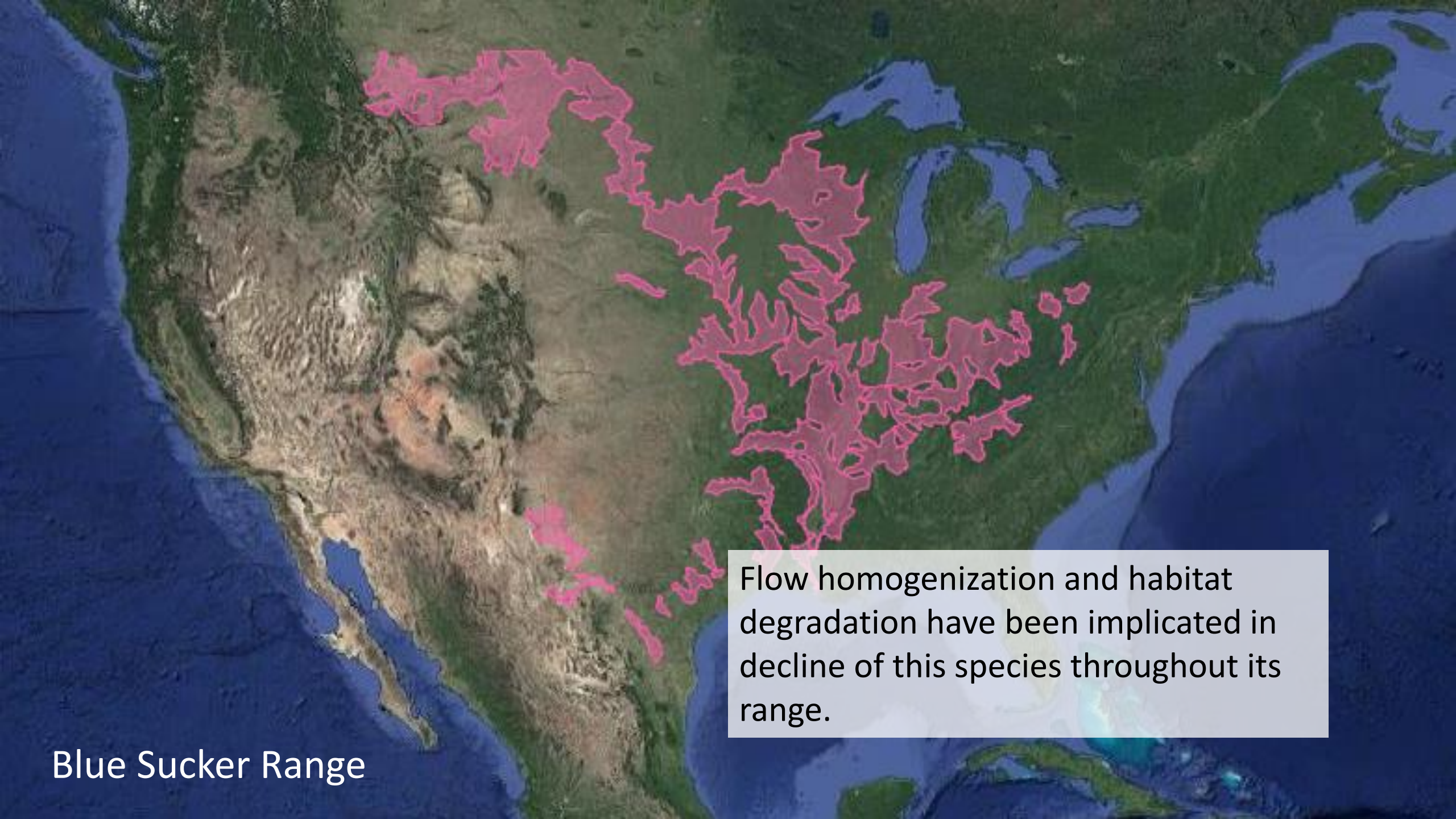
Cycleptus elongatus

- Large and long-lived (35" and 40 years)
- Fluvial specialist
- Invertivores
- Capable of migrating large distances (125 mi)



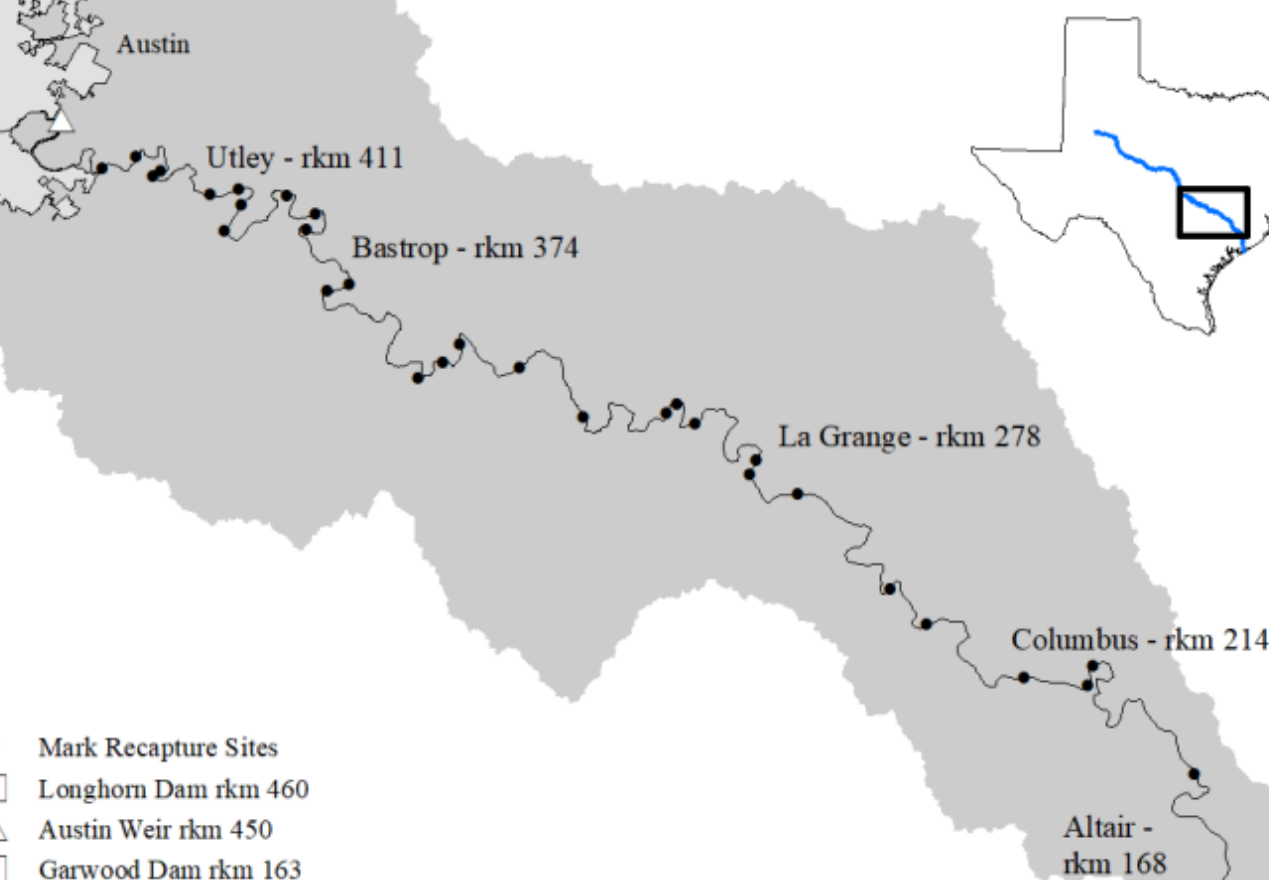


Habitat includes riffles, runs with boulders



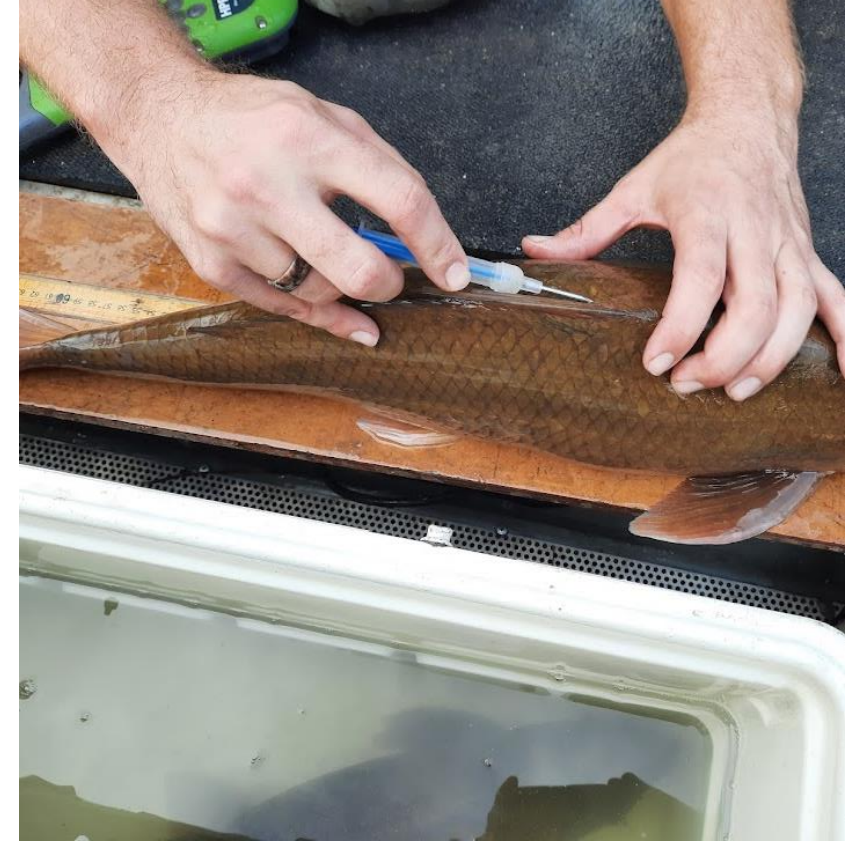
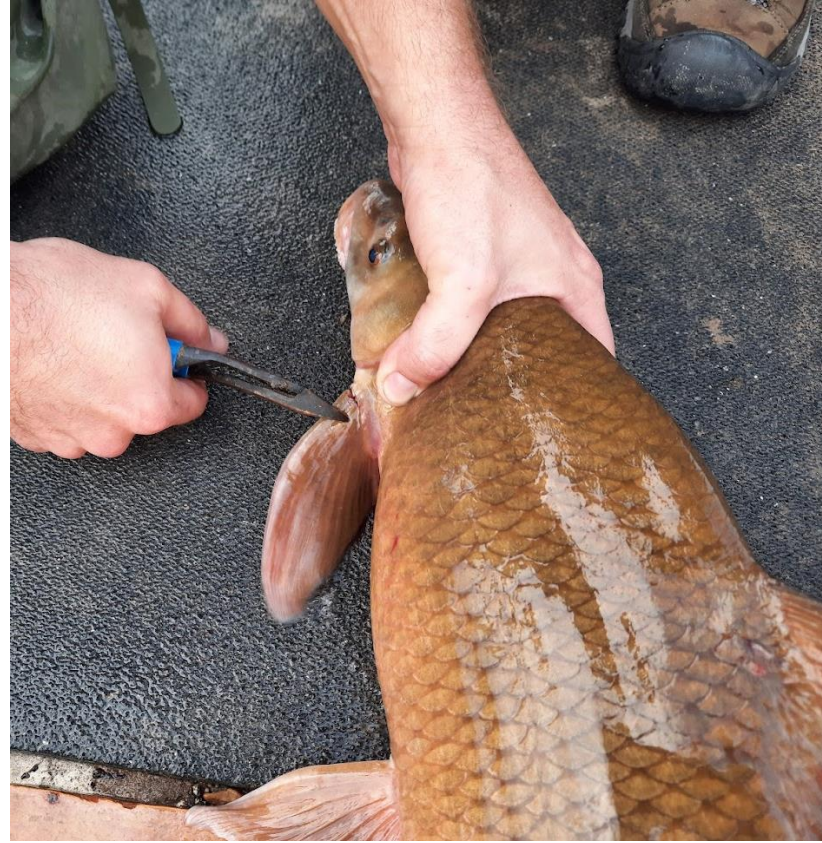
Flow homogenization and habitat degradation have been implicated in decline of this species throughout its range.

Blue Sucker Range



Blue Sucker Demographics and Recruitment

Boat electrofishing at 36 sites in the Lower Colorado between Austin and Altair

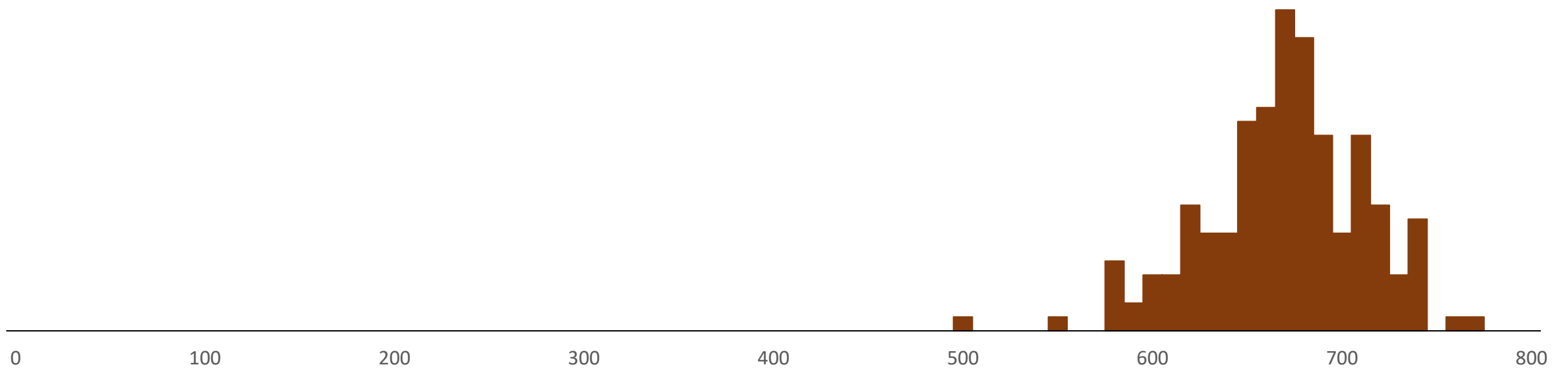


Blue Sucker Tagging

- Each fish captured is scanned for existing PIT tags
- A PIT tag is injected in to newly captured fish
- A fin ray sample is collected

Blue Sucker Length Frequency

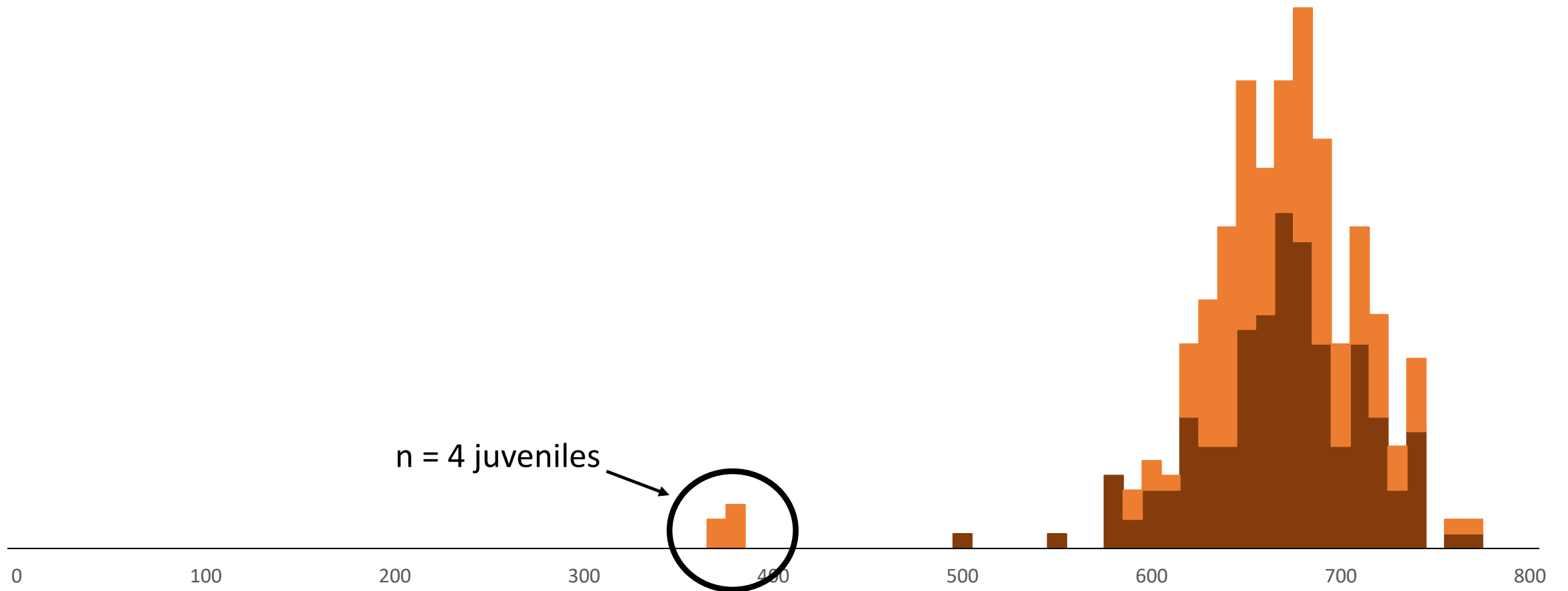
2016-2017



Blue Sucker Length Frequency

2016-2017

2019

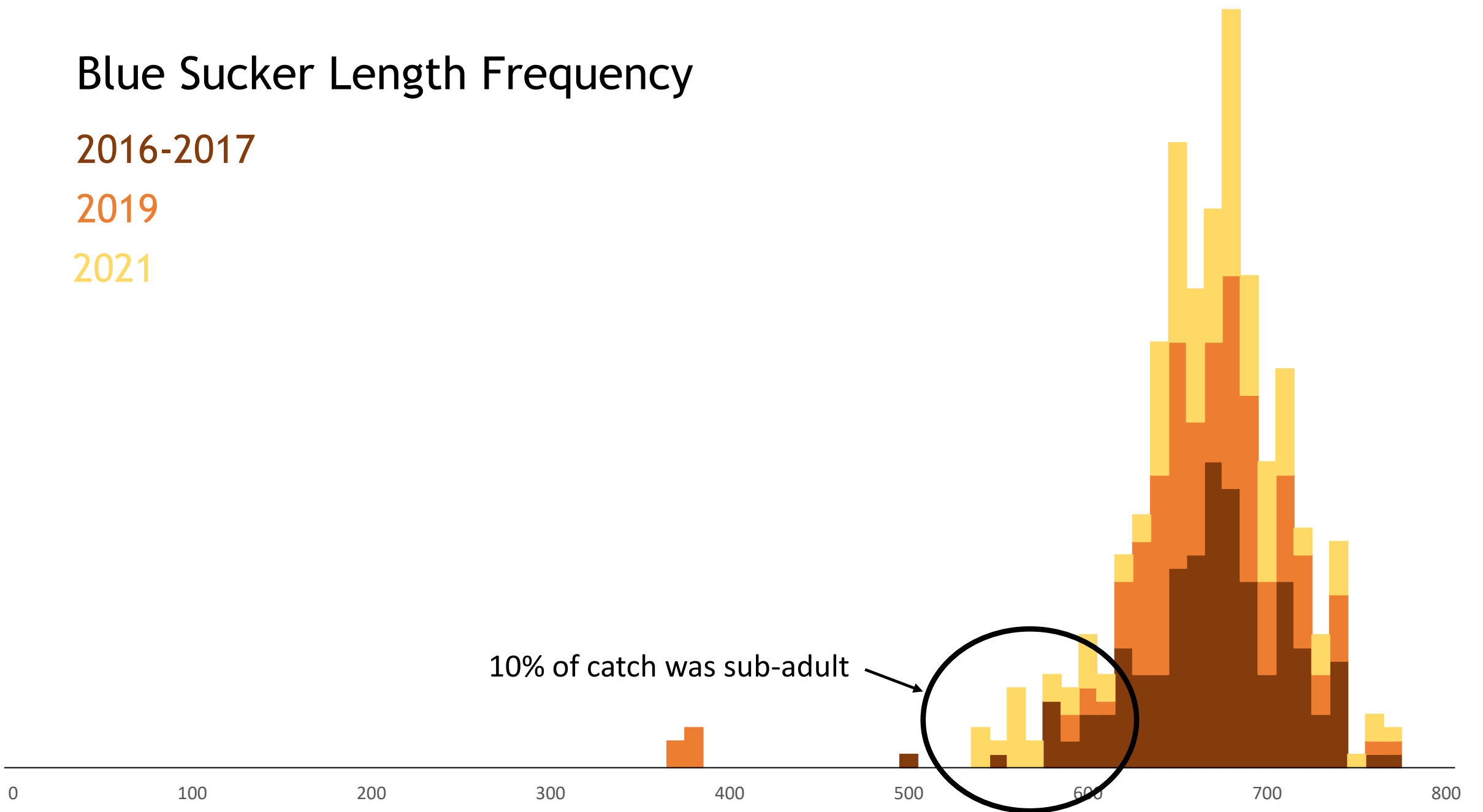


Blue Sucker Length Frequency

2016-2017

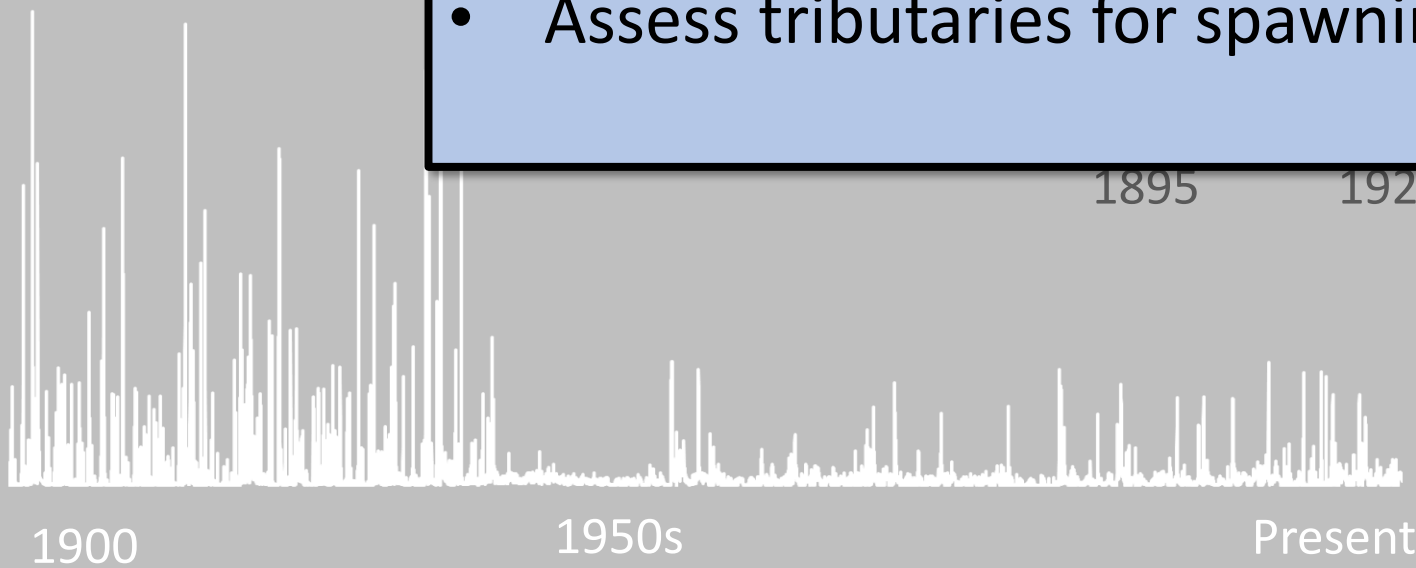
2019

2021



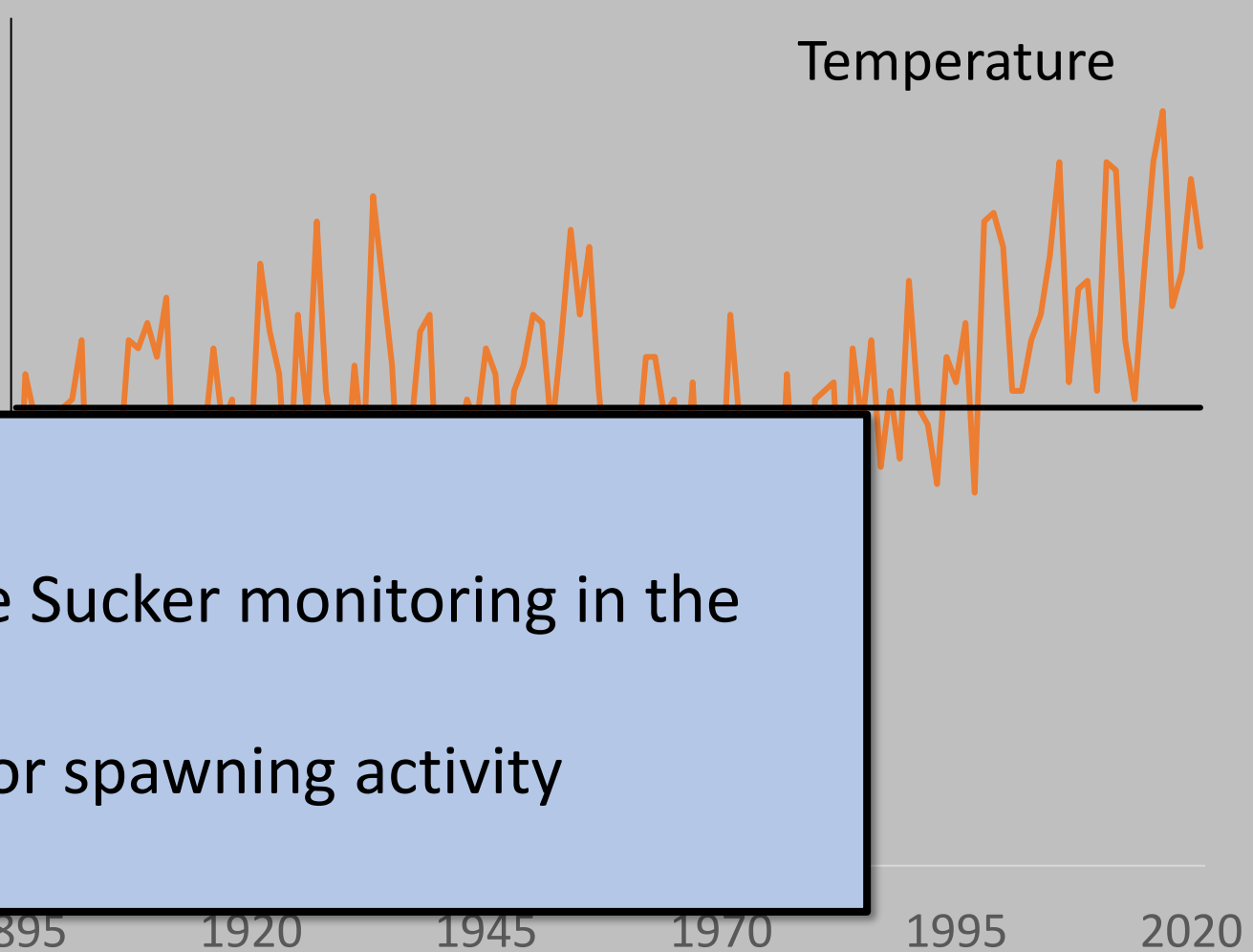
Population Stressors?

Discharge



72
71
70
69
68

Temperature



Next Steps:

- Continue adult Blue Sucker monitoring in the Lower Colorado
- Assess tributaries for spawning activity



River Access



Leased Access Fishing Area

Supported by

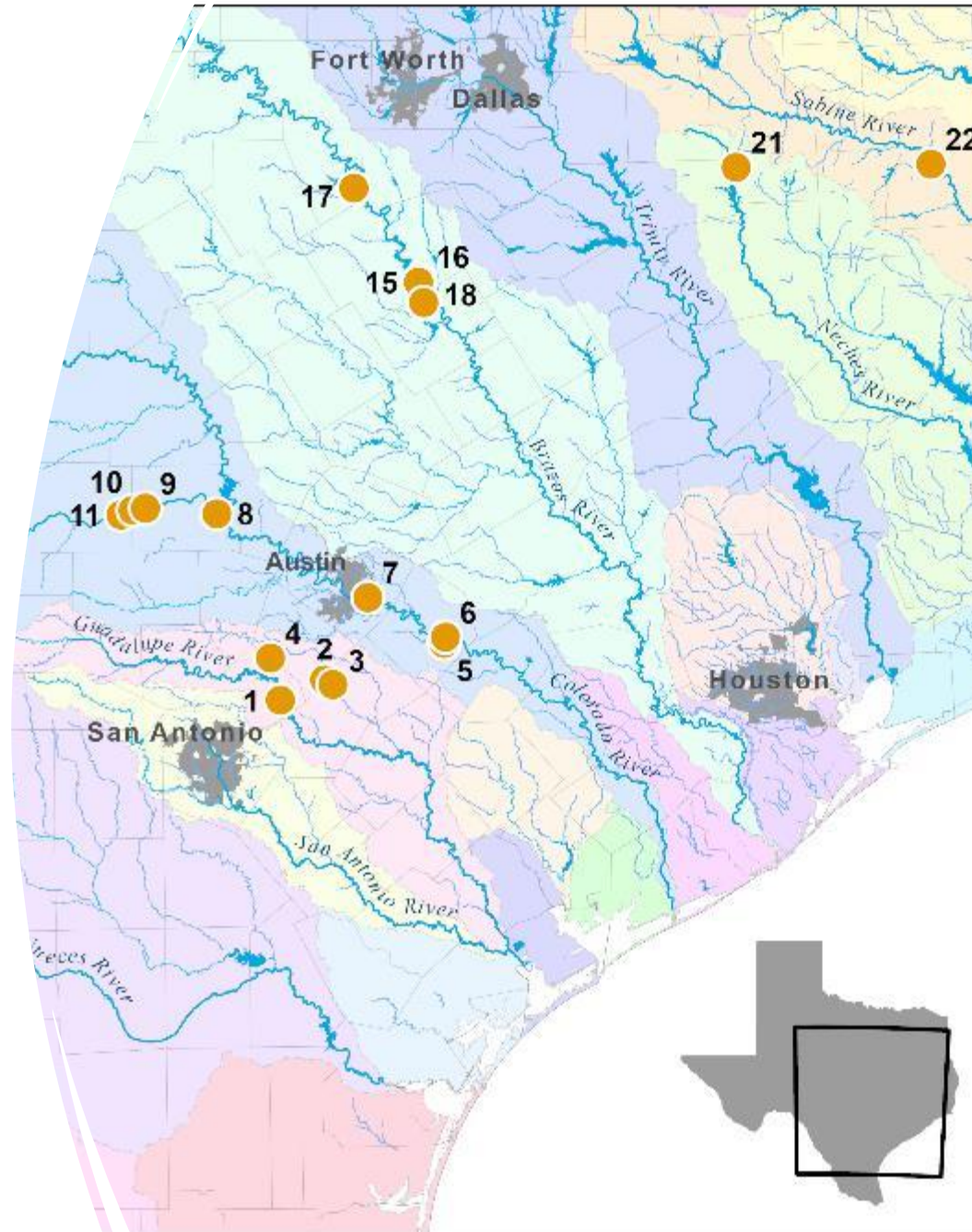


RACA Program

Lease private property to provide more access for bank, wade, and kayak fishing

RACA in Texas

- 22 leased river access areas
- Access to ~300 river miles
- Improved access or habitat conservation projects at 10 sites



Leased River Access Areas

- Guadalupe River**
1. Camp Huaco Springs
- San Marcos River**
2. San Marcos River Retreat
3. Spencer Canoes and Shady Grove Campground
- Blanco River**
4. John Knox Ranch
- Colorado River**
5. WJF River Access
6. Hidden Shores
7. Texas River School
- Llano River Basin**
8. Kingsland Slab RV Camp
9. HR Seventh Heaven
10. Castell Crossing
11. Maso Llan Rd Access
12. Pete's Pecan Patch
13. County Road 150
14. Cupgrass Access
- Brazos River**
15. Spivey Crossing RV Park
16. Dick's Canoes
17. Brazos Outdoor Center
18. Brazos River Nature Cent
- Devils River**
19. Mile 12 Paddler Camp
20. Mile 20 Paddler Camp
- Neches River**
21. Chandler River Park
- Sabine River**
22. Grand Bluff Boat Ramp

Site Selection

- Locations that offer a unique wilderness setting with intact instream and riparian habitats,
- Offer high-quality paddling and river fishing experiences, and access to other nature-oriented uses such as wildlife viewing,
- Currently limited public river access,
- Strategically positioned to connect with other upstream or downstream river access areas, and
- Located near an urban population center.





Conservation Delivery

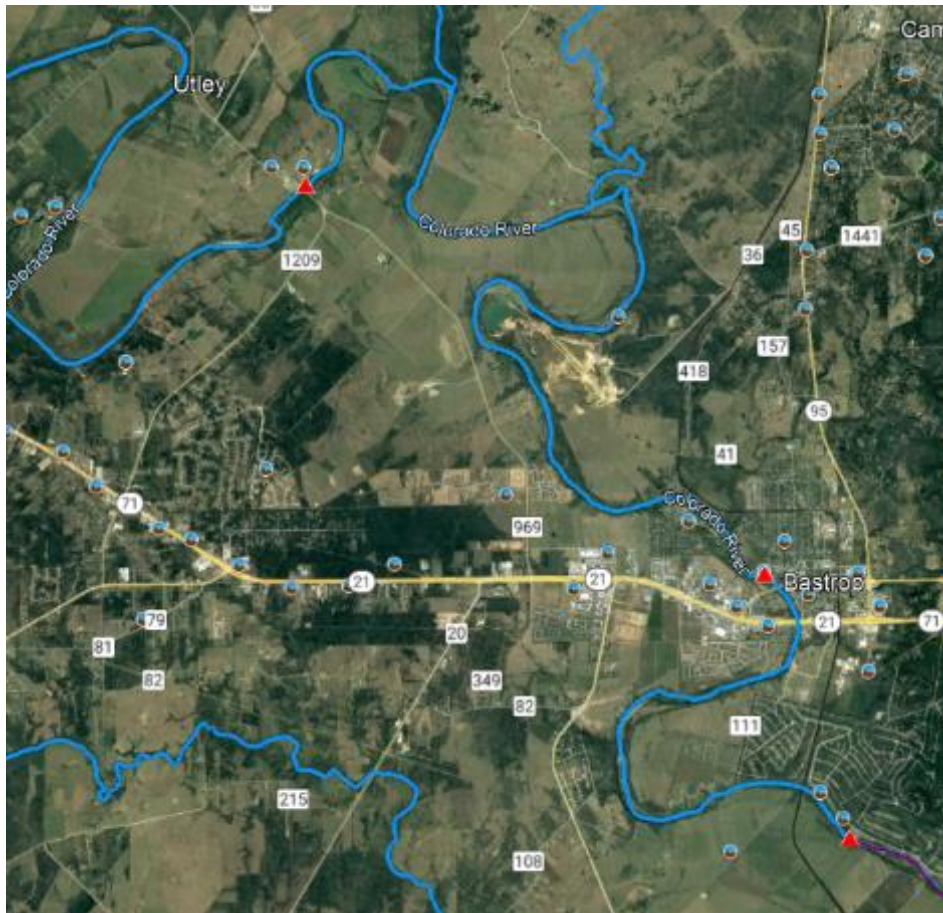
- Native riparian vegetation plantings
- Seed dispersal
- Access improvement
- Kiosk or signage installation

Texas Paddling Trails Program

106 access areas

60 inland trails

439 river miles



With over 70 designated trails, it's easier than ever to go paddling! Each trail has a map and photos, directions to access sites, rental info, fishing and wildlife, and more!

www.tpwd.texas.gov/paddling

Colorado River Access



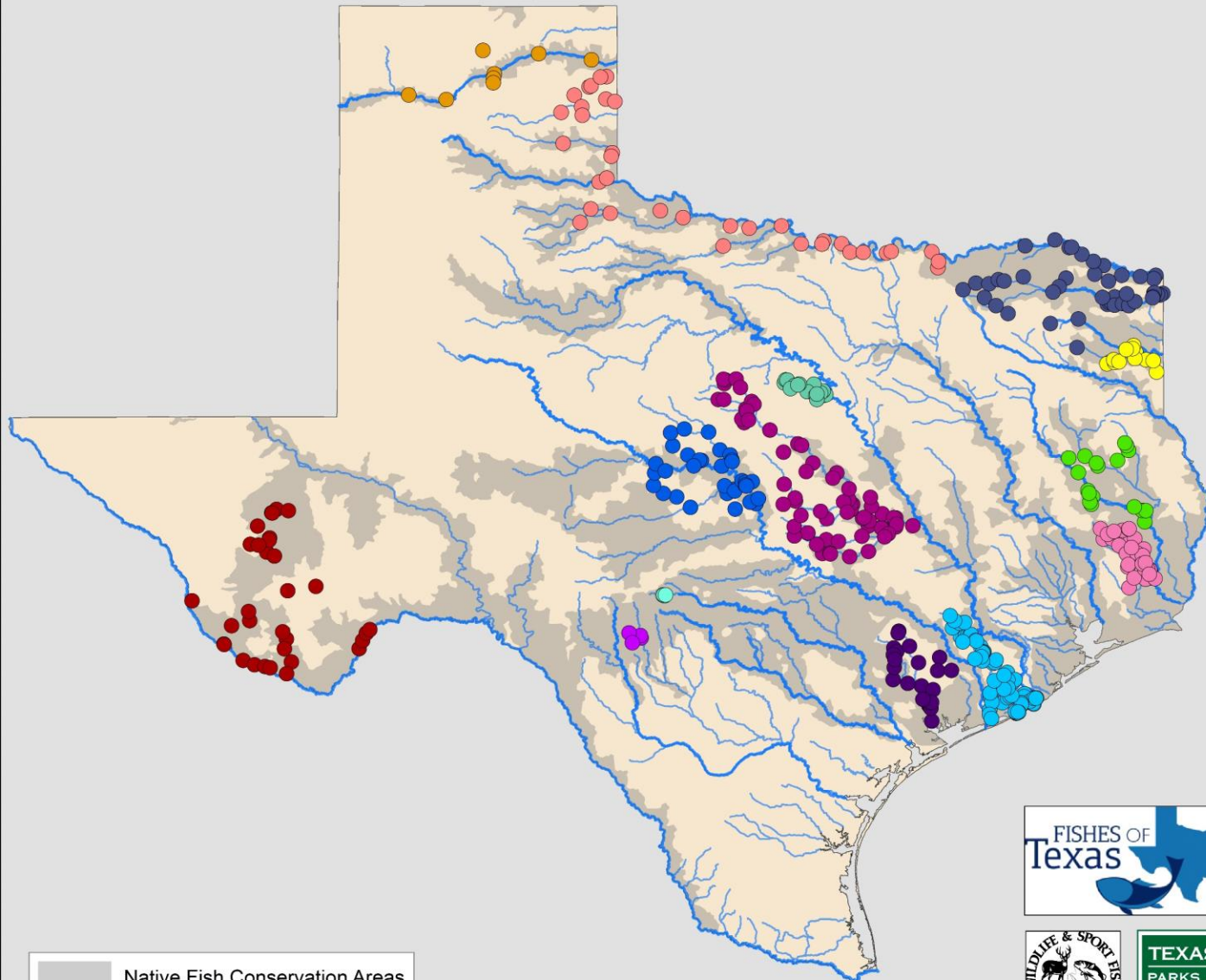
Next Steps:

- Seeking additional landowners for the leased access program
- Always accepting paddling trail locations from local partners



Aquatic Bioblitz Initiative

Aquatic Bioassessment Sites 2012 - 2022



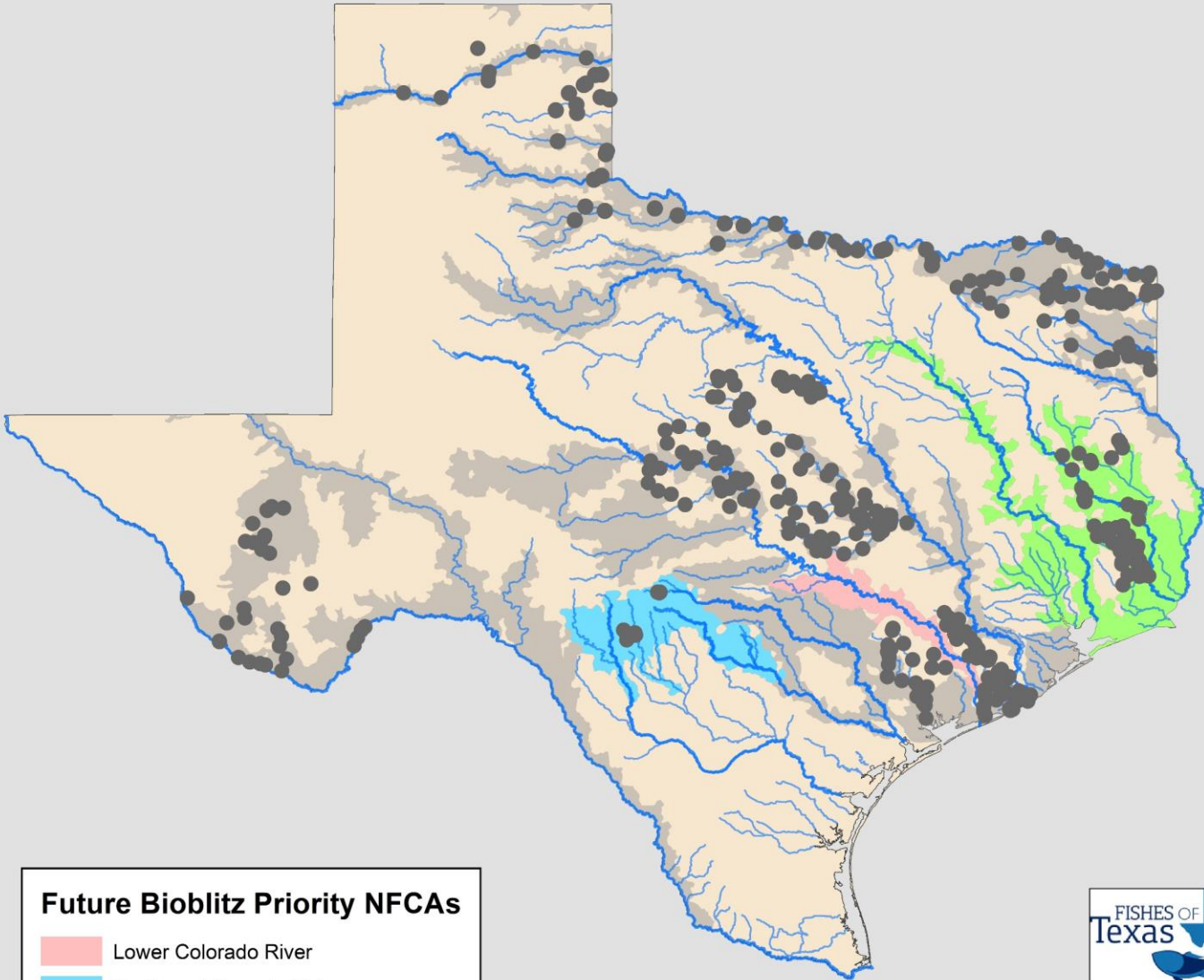
Summary

- Aquatic Bioblitzes
 - 5 State Parks
 - 6 State Wildlife Management Areas
 - 1 TPWD Lonestar Land Steward
 - 1 Nature Conservancy Preserve
 - 1 County Park
- Gap Sampling Sites
 - 388 fish collection sites
 - 41 mussel collection sites
- Fish Records
 - 90,000+ individuals
 - 165+ species



Texas Bioblitz Initiative

2012 - 2022



Future Bioblitz Priority NFCAs

-  Lower Colorado River
-  Southern Edwards Plateau
-  Southeast Texas Rivers



Project Contacts

American Eel Initiative & Aquatic Bioblitz Initiative

Stephen.Curtis@tpwd.texas.gov

Blue Sucker Study

Nate.Smith@tpwd.texas.gov

RACA Sites & Paddling Trails

John.Botros@tpwd.texas.gov

River Studies Team Lead

Sarah.Robertson@tpwd.texas.gov



Thank you!

Stephen.Curtis@tpwd.texas.gov
512.754.6844 ext. 215



**Texas Rivers & Streams –
Texas Parks & Wildlife**
[@TexasRiversStreams](#)



Texas Rivers & Streams
[@texasriversandstreams](#)