

**Research and Policy Updates on Listed and Petitioned Species in East Texas**  
**Texas Comptroller of Public Account's East Texas Initiative**  
**October 15, 2020**

**Overview**

**Jimmy Bullock, National Alliance of Forest Owners**

- [Presentation slides are online.](#)
- Large private landowners in the Southeast forged new ground, finding ways to work with the U.S. Fish and Wildlife Service (FWS) that are applicable to East Texas.
  - Landowners work to proactively protect species and habitat.
  - Third-party certification is used to demonstrate certainty of management.
  - The long-term relationship builds trust.
  - Result: Data, conservation of species and working lands remain working.
- The Wildlife Conservation Initiative is now across the country, including Texas, and is a cornerstone of the Conservation Without Conflict initiative.
  - Conservation Without Conflict: Voluntary proactive approaches to conservation that keep working lands working achieve far more conservation benefit than approaches that are top-down, mandated and regulatory in nature.
- Conclusion:
  - Broad support and inclusion of private forest landowners are integral to species conservation.
  - Sound science is foundational to success.
  - Multiple tools are available to achieve conservation success.
  - Working together collaboratively with mutual trust essential.

**Louisiana Pigtoe and Texas Heelsplitter Updates**

**Erik Orsak, FWS**

- Species Status Assessment
  - FWS review of the status of two East Texas mussels (ETXM) is ongoing.
  - FWS and several organizations on the call are conducting additional research to ensure a listing decision is based on the best available information. River authorities and others have been sharing their findings with FWS, which will continue to consider new information as it becomes available.

- Timeline for the 12-month finding for ETXM: Timing is subject to change but expect a decision of either “not warranted” (for listing) or a proposal to list either species sometime in 2021. If a proposed listing is published in the Federal Register, there will be a 60-day public comment period, and a final listing decision will be published approximately 12 months after that.
  - The triangle pigtoe, which originally was part of the ETXM package, is no longer a valid taxon (now synonymous with Texas pigtoe). The finding is scheduled to be published in the spring 2021 batch “not warranted” finding.
- Research
    - FWS continues to work with partners to fund ongoing research on the status of ETXM and evaluate threats to the species.
    - **Provided** funding to Texas A&M and the Louisiana Department of Wildlife and Fisheries to conduct additional mussel **surveys** for **Louisiana pigtoe** at select sites in Texas and Louisiana; work was postponed due to COVID-19 travel restrictions, so surveys will commence in spring 2021.
    - **Threats** to these mussels include changes to water quantity and quality; FWS continues to evaluate hydrology and water quality to help inform its understanding of potential impacts to mussels.
    - This past summer, an intern looked at changes to hydrology in portions of the range outside of Texas; built on earlier work that FWS funded through Texas A&M Natural Resource Institute that focused solely on East Texas.
    - FWS hopes to continue efforts next summer with a second intern looking at water quality impacts to mussels, specifically temperature and ammonia.
    - Also working with the National Alliance of Forest Owners and Science Applications, a program within our agency, to develop a list of focal species, including ETXM, to evaluate the benefits of forestry best-management practices that protect water quality and minimize impacts to habitats that support imperiled species.
- Partnerships – How to help
    - Texas is a big place and largely privately owned, so the success of the mission to conserve imperiled species relies heavily on partnerships; there are many ways to help.
    - Assisting rare species on the path to recovery can take many shapes, from using best management practices for agriculture, to education and outreach, to more focused efforts like restoring habitat to benefit specific species, like longleaf pine for Red-cockaded woodpecker or pollinator habitat for Monarch butterflies.

- For mussels, promoting additional research and conservation agreements with FWS. Some are designed to be in place before a species is listed; others are to help conserve species after they have been listed while meeting the operational needs of a partnering organization.
- FWS also can help landowners who want to voluntarily conserve species on their land by offering technical and financial assistance to restore wildlife habitat through our Partners for Fish and Wildlife Program.
- Will include weblinks in meeting notes to several FWS programs where folks can find additional information about various partnership initiatives, including:
  - **Partners for Fish and Wildlife Program** — a [voluntary program](#) that provides technical and financial assistance to landowners interested in restoring and enhancing wildlife habitat on their land.
  - **National FWS Listing Workplan** — shows when species are [scheduled for review](#) by our agency.
  - **Candidate Conservation Agreements with Assurances** — [voluntary agreements](#) between the FWS and one or more parties to address the conservation needs of one or more candidate species or species likely to become candidates in the near future. Participants voluntarily commit to implement specific actions designed to remove or reduce threats to the covered species, so that listing may not be necessary.
  - **Habitat Conservation Plans** — Once a species is listed under the Endangered Species Act (ESA), an incidental take permit is required when non-federal activities will result in “take” of threatened or endangered wildlife. A [habitat conservation plan \(HCP\)](#) must accompany an application for an incidental take permit.

#### **Terry Corbett and Jason Watson, Lower Neches Valley Authority (LNVA)**

- After draining the main industrial canal in 2019, LNVA found as many Louisiana pigtoes as had been reported from all survey results in the lower Neches River Basin in 2000-2018.
- Took the lessons learned from where the mussels were in the canal to find more mussels in the Neches, Angelina and Sabine river systems, including thriving mussel communities near dams.
- LNVA canal was drained in October 2020, after being full for seven months. Staff found what appear to be Louisiana pigtoe mussel recruitment along with thousands of other mussels. Genetics should provide a definite answer on mussel ID later this month.
- Going forward:
  - Working with Texas Parks and Wildlife Department (TPWD) to do a habitat assessment of the entire lower Neches.

- Working with FWS to get data into the Species Status Assessment (SSA) and establish habitat associations for Louisiana pigtoe and Texas heelsplitter.
- Jason Watson is working on developing a multispecies online platform with ArcGIS to share data and help bridge the organizational/academic boundaries.
- Data will be available to everyone but editing privileges will be limited to the submitting party.
- Each agency would be responsible for its data entry, completeness and QA/QC efforts.
- Open to thoughts to achieve greater participation and improve the platform.

**Bill Kirby, Natural Resource Management Director, Sabine River Authority (SRA)**

- Survey work in the summer of 2020 found more Louisiana pigtoes than all previous surveys combined in the Sabine River drainage.
- Survey results and genetic analysis on both species based on material collected from entire range of both species will be available to the public this winter.
- Long-term monitoring sites have been selected; more surveys will be conducted in 2021.
- Working to answer questions posed in the SSA through genetics.
- Pigtoe and heelsplitter distributions.
- Implications of genetic drift above/below reservoirs and between basins.
- Interagency cooperation is critical.
- Assisting TPWD with long-term mussel monitoring work on Sabine.
- Working with FWS, LNVA and North East Texas Municipal Water District

**Colin McDonald, Texas Comptroller of Public Accounts (CPA)**

- Comptroller has issued a [call for proposals](#) for more mussel surveys and research.
- Responses due at the end of October Plan is for work to start in early January 2021.

**Amy Lueders, Southwest Regional Director, FWS**

- Support for more collaboration and stakeholder involvement in the SSA process and the long-term conservation and understanding of the species.

**Alligator Snapping Turtle (AST) Updates**

**Bill Kirby, SRA**

- AST public information outreach is underway, with over 50 signs posted at boat ramps in the Sabine Basin with information on ASTs and where to report sighting information.
- AST repatriation to Texas:

- Working with FWS and TPWD to bring up 50 ASTs back to Texas that were removed by poachers.

#### **Dr. Paul Crump, TPWD**

- The work of repatriating the poached ASTs from Louisiana to Texas is moving ahead for an expected release in late spring or early summer 2021.
- Genetics samples from across Texas, including the hatchery turtles, now are being processed at the Tangled Bank Lab in North Carolina; expecting results in December or January.
- Dr. Joe Flanagan at the Houston Zoo has been providing guidance on health screening and will assist in medical evaluations of the turtles prior to release.
- The Sabine River Authority is helping with the purchase of equipment for prerelease site monitoring.
- The location of the release sites is under assessment and prerelease surveys of candidate sites will be performed in early 2021 once the genetics results are in.

#### **Dr. Chris Schalk, Stephen F. Austin State University**

- Summer 2020: Surveyed 19 of the 23 sites surveyed by Rudolph et al. (2002) plus one additional site — Alazan Bayou Wildlife Management Area (WMA).
  - Survey effort — 890 trap nights.
  - 127 ASTs captured — 43 males; 44 females; 40 juveniles/unknown.
  - Capture per unit effort — 0.143 turtles/trap night.
  - Size range of turtles captured: 0.1 kg–64.1 kg.
    - Majority of turtles under 30 kg.
    - 10 individuals over 45 kg.
- Four discrepancies in AST occupancy from summer 2020 compared to Rudolph et al. (2002):
  - White Oak Creek (Titus County, Sulphur River Drainage) — AST not detected by Rudolph et al. (2002). One AST detected in 2020.
  - Ayish Bayou (San Augustine County, Angelina River Drainage) — AST not detected by Rudolph et al. (2002); two ASTs detected in 2020.
  - Ratcliff Lake (Houston County, Neches River Drainage) — AST not detected by Rudolph et al. (2002); 16 ASTs detected in 2020.
  - Picketts Bayou (Liberty County, Trinity River Drainage) — One AST detected by Rudolph et al. (2002); no ASTs detected in 2020.
- Next steps:

- Building occupancy models
  - Both single season and multiseason (i.e., historical vs. contemporary surveys) models.
- Mercury analyses
  - Analytical lab temporarily shut down due to COVID-19.
  - Samples will be sent for analysis by December 2020.
- Summer 2021 sampling
  - Re-survey 4 remaining Rudolph et al. (2002) sites.
  - Navasota River (Grimes County), Harrison Bayou (adjacent to Caddo Lake in Harrison County), Angelina River (Nacogdoches County) and Lost Creek (Newton County) will be surveyed next summer.
  - Survey additional sites to fill in distributional gaps across counties in East Texas.

#### **Lauren Borland, Texas CPA**

- Comptroller's office is reviewing responses to the [call for proposals](#) for surveys and genetic work.
- Update from FWS on SSA:
  - SSA for alligator snapping turtle is still under review.

#### **Louisiana Pinesnake and Red-cockaded Woodpecker Updates from Louisiana Ecological Services Field Office in Lafayette**

- FWS is reviewing safe harbor agreement for Louisiana pinesnake.
- Proposed downlisting of Red-cockaded woodpecker will not impact current conservation plans.

#### **Western Chicken Turtle (WCT) Updates**

##### **Mandi Gordon, University of Houston – Clear Lake, Environmental Institute of Houston**

- [Presentation slides are available online.](#)
- The WCT's historic range in the state extends from East Texas to north of the Guadalupe River Basin. This species is typically found in ephemeral or depressional freshwater wetlands. Some unique life history traits leading to a potentially increased perception of rarity include a shorter life span and smaller overall population sizes. Most notably, the WCT exhibits discrete seasonal activity, being active primarily during the spring and aestivating in the summer/winter.
- Environmental DNA (eDNA) sampling has been shown to be less invasive than traditional survey or trapping techniques. This method has been applied across a wide range of vertebrates, including hard-to-find species. Environmental DNA

sampling has been shown to be especially useful in detecting presence of cryptic or seasonally active species in freshwater systems, like the WCT.

- The primary goal of the WCT eDNA study is to sample sites throughout their historic range in Texas. We applied a randomized site design (based on historic reports from iNaturalist and VertNet) that includes counties associated with historic accounts and those without historic accounts. (See figure on Slide 5.) Sites also were generated based on a range of wetland types from the FWS National Wetland Inventory. We are testing a variety of sampling methods including ambient water, resuspended sediment and soil.
- In 2020, our field sampling was restricted to areas within 150 miles of the university due to COVID-19. We successfully sampled 27 sites for four consecutive months. WCT eDNA was detected at four sites (approximately 15 percent of the total sites), and individuals were observed on nine occasions during visual surveys. (Noted as Binocular Assisted Visual Surveys; see figure on Slide 6.) At the sites with eDNA detections, potential (yellow) or positive (green) detections occurred every month from March through July. (See table on Slide 6.) In May 2020, we coordinated with Laura Speight and her Conservation Dog program. A WCT was found via canine scent surveys at a site in Nacogdoches County, along with a potential eDNA detection.
- Moving forward into the 2021 season, we are planning to sample into northeast Texas water sheds. **Many of our landowner approvals are still pending, but if you or anyone you know may be interested in participating in the survey, please contact Mandi Gordon for more information at [gordon@uhcl.edu](mailto:gordon@uhcl.edu) or 281-283-3794.**
- We also intend to intensify sampling efforts at sites with positive eDNA detections including unmanned aerial vehicle surveys, increased trapping efforts and remote sensing.
- Please be sure to **keep an eye on [our website](#) for the addition of an online reporting tool**. This will allow citizen scientists from throughout the WCT's range to provide information related to sightings of the species. We are continuously monitoring reports on [iNaturalist](#) as well, so please continue to upload your photos and information regarding WCT observations.
- This work would not be possible without the continued coordination and dedication of landowners and stakeholders throughout the state. We sincerely thank everyone who has participated and look forward to working with even more folks throughout the species range!

#### **Dr. Paul Crump, TPWD**

- COVID-19 and drought slowed sampling in Chambers County; only one week of sampling was done by TPWD staff from the upper Texas Coast.
- Still waiting to see if \$750,000 in Competitive State Wildlife Grant funding will be awarded for a multistate research effort. The project involves state wildlife agencies and researchers from Arkansas, Louisiana, Missouri, Oklahoma and Texas

with the goal of conducting state-specific and collaborative range-wide research projects.

**Brandon Bowers, Texas A&M University Natural Resources Institute**

- Started work in 2018 on WCTs.
- Marked almost 92 individuals at Katy Prairie Conservancy and now have three years of telemetry data.
- Marked 60 individuals at Alazan Bayou WMA.
- Prior data on chicken turtles in Texas was mostly happenstance from researchers finding chicken turtles while looking for other species (fish, snakes, etc.). Texas studies on other turtle species rarely captured chicken turtles.
- Like the other chicken turtle subspecies, WCTs periodically head out from wetlands to either aestivate, nest or find other wetlands.
- Studies on when, where and how to conduct WCT surveys showed fyke nets are best, but there are lots of tools with various advantages.
- The survey season when they are available for capture varies by region.
- In Texas, they seem to be underground July to March during years with normal hydrology.
- Development and plowing that result in the loss of wetlands are reducing available habitat and making movement more difficult.
- The drought of 2020 provided an opportunity to look at impacts of wetlands staying dry. The turtles did not move until the water returned or weren't active at all at sites where wetlands never refilled.
- Lots of papers are in the works.
- We have now started a WCT working group that spans multiple states.
- Disking during periods when chicken turtles are aestivating may cause injury, death, or unnatural movement patterns.
- There is likely a benefit between wetlands protected for waterfowl and western chicken turtles.

**Erik Orsak and Missy Singleton, FWS**

- SSA due in 2024,
- The Arlington FWS field office has not started the process, still gathering information
- Work likely to start in late 2021 or early 2022.

**Plains Spotted Skunk Updates**

**Valerie Hentges, FWS**

- The current plan is to start working on the SSA in 2021 and 2022. The listing proposal is due in 2023.

- Working with our regional office in Minnesota to develop a contract with Texas A&M Natural Resources Institute to help with the SSA. This may speed up the process.
- New species lead: Iwona Kuczynska ([iwona\\_kuczynska@fws.gov](mailto:iwona_kuczynska@fws.gov))

#### **Dr. Robert Dowler, San Angelo State University**

- These skunks are small and secretive. Although they are easily identified by their fur markings, they are rarely noticed.
- Provided a brief overview of the history and range of the species, including fur trapping and potential impacts from land use change.

#### **Clint Perkins, Texas Tech University**

- Our current knowledge: Minimal distribution throughout East Texas at both current and historic scale. Oil and gas and timber are unlikely to have impacts going forward. Agriculture practices, however, are likely to have had the most negative impacts.
- Spotted skunks may eat the eggs of WCTs.
- Captured 30 spotted plain skunks in the Katy Prairie, know of 15 more from camera traps.
- Skunks appear to like minimally grazed cattle pasture in a post-burn stage, where there is litter but no brush.
- Overgrazing and undergrazing appear to impact the species.
- Oil production seems to have minimal impact. Skunks seem to use some aspects of oil and gas footprint as daytime resting areas
- Skunks don't like monoculture stands of Chinese tallow.
- They do use medium-size Macartney Rose stands for daytime resting, but not large stands.
- We think the multiuse strategies at Katy Prairie are comparable to other sites across Texas.
- The future management of these species may be able to rely on habitat management and conservation of lands, rather than management of the plains spotted skunk, or altering historic land use practices.

#### **East Texas Plants**

##### **Amber Bearb, Fish and Wildlife Service ([Amber\\_Bearb@fws.gov](mailto:Amber_Bearb@fws.gov))**

- Navasota false foxglove: Field office staff members are working on the SSA to inform a listing decision. SSA planned to be reviewed at the end of 2020 and published in the Federal Register in October 2021. FWS contact is Sheena Waters ([Sheena\\_Waters@fws.gov](mailto:Sheena_Waters@fws.gov)).

- Texas golden glade cress: SSA to inform recovery plan in progress. Expert meeting planned in next few months; SSA draft planned to finish by FY 2021, with final recovery plan published in 2022.
- White bladderpod: FWS working to receive potential Section 6 funds for outreach and landowner work for this species.
- Texas trailing phlox: Genetics project to distinguish differences between and among populations of this species will start in spring 2021.

## Tri-colored Bat Updates

### Jonah Evans, TPWD

- Bats are long-lived and slow to reproduce, i.e. more like a black bear than a small rodent when it comes to reproduction.
- White-nose syndrome (WNS) is devastating populations of hibernating bats across the country. Some species have declined by more than 90 percent.
- The tri-colored bat has seen major declines. Some states have seen a 90 percent reduction in some states.
- No declines have been observed in Texas.
- Looking at treating some culverts in East Texas to fight the fungus that causes WNS.
- Conducting experimental trials; no negative effects have been seen; one bat did have the fungus that has white nose.

### Jennifer Smith Castro, FWS

- SSA underway is for three bat species, including tri-colored bats.
- SSA should be complete in late summer/fall 2021; final decision expected in late summer/fall 2022.
- [Beneficial Forest Management Practices for WNS-affected Bats Voluntary Guidance for Land Managers and Woodland Owners in the Eastern United States](#) is a part of the plan for addressing WNS and a great resource for landowners.
- More info can be found at [whitenosesyndrome.org](http://whitenosesyndrome.org).
- [Bat Conservation International](#) is another resource.

## Panel Discussion: The Path Forward

### Jeff Fleming, Deputy Southwest Regional Director, FWS

- Within the ESA, there is flexibility. Our teams across East Texas offer a range of tools and expertise to help.
- The work you are all doing facilitating collaboration is really important.
- Over the last eight years, we have been able to preclude listing or improve the recovery status of almost 45 species.

- I think this work here in East Texas allows us to accelerate that solution-orientated conservation.

**Cindy Dohner, former Southeast Regional Director, FWS; now a consultant for private sector and government**

- There are traditional tools such as safe harbor agreements, candidate conservation agreements and habitat conservation plans.
- There are new tools as well — tools based on agreements about best management practices and the forest certification process. These [voluntary conservation tools](#) can provide certainty and assurances, and they are all in compliance with the ESA. Find examples on the FWS Southeast Region's [website](#).
- You are not alone in ESA issues, and early engagement is key in the process.
- Three other regions currently are working to engage landowners early in the SSA process.
- Tip for stakeholders: Actively listen to FWS to understand its needs.
- Tip For FWS: Actively listen to stakeholders.
- Being proactive is key; the more you engage, the better it is.
- Conservation Without Conflict just announced Dr. Lauren Ward as the new executive director.

**Shane Harrington, Program Leader, Texas Forest Service**

- The shift from reactive to proactive is critical when managing imperiled species.
- We monitor species that are being listed to help keep landowners informed.
- We can provide a lot of information to FWS because we deal with private property owners and the forestry industry daily.
- By being involved in the process, we can reduce the landowners' fear of the ESA and help FWS learn about what is happening on private land.

**Rob Hughes, Executive Director, Texas Forestry Association**

- We facilitate communication between agencies and landowners.
- Can help landowners advocate at state and federal level.
- Looking forward to hosting field trips in 2021 to help those outside of the forestry industry understand it better.

**Elizabeth Bates, Conservation Initiative Specialist, TPWD**

- TPWD has three programs to help local landowners, companies and governments:
  - [Wildlife Habitat Assessment Program](#) evaluates projects' impacts on species, including rare, threatened and endangered species. The program will make

recommendations for avoiding negative impacts. Every region of the state has a wildlife habitat assessment biologist assigned to it.

- [Field biologists](#) also are assigned to every region and are there to help property owners with their management decisions.
- [Urban wildlife biologists](#) stationed in most major cities can provide technical guidance to landowners, cooperatives and local governments.

#### **Bill Kirby, SRA**

- SRA will continue to collaborate with and fund researchers in answering conservation questions and collecting data.
- Data sharing is critical for the best conservation decisions to be made by agencies.
- SRA is in the process of evaluating conservation agreements with FWS and is looking forward to partnering with the agency to benefit imperiled species.