Forest Health Highlights in Texas
FY 2024

Texas A&M Forest Service through a partnership with USDA-APHIS, USFS Forest Health Protection and Texas Parks and Wildlife deployed 444 purple panel traps across Texas. Traps were baited with hexenol and concentrated in east Texas and in urban areas along the I-35 corridor from Dallas/Fort Worth to San Antonio. Two new counties were reported during FY 2023, Camp and Cooke. Currently in Texas 27 counties have been confirmed for positive EAB infestations. EAB has been detected in 26 additional counties since the original Harrison County detection was made in 2016. Additional positive confirmations have been made in Grayson, Lamar, Red River, Franklin, Collin, Palo Pinto, Hood, Johnson, Ellis, Hill, Bosque, and McLennan. State quarantines have been established for all counties restricting the movement of all ash material outside the county. Texas A&M Forest Service maintains a website (http://tfsweb.edu/eab) providing information about EAB and hosts workshops to educate Texans on how to properly identify EAB and how to manage infected trees.

- Oak wilt continues to occur in 76 documented counties in Texas, mostly counties west of I-35 from Dallas to San Antonio across I-20 to Lubbock. Texas A&M Forest Service personnel contribute technical assistance to landowners to help educate landowners and the public and to minimize the impact and spread of this disease**.** Technical information on oak wilt is made available via a web page devoted exclusively to oak wilt in Central Texas (texasoakwilt.org). Almost 71,090 users have consulted this web site for information regarding the identification and management of oak wilt. Workshops and trainings are held across many counties in the state with confirmed oak wilt disease present. During FY 2024, 8 trenches with a combined length of 8,574 (5,389 in cost shares) or 1.6 miles (1.01 in cost shares) were installed to help stop the spread of oak wilt as part of the federally funded Cooperative Oak Wilt Suppression Project. Since the inception of the program in Texas, more than 783 miles of oak wilt trenches have been installed to help control the spread of this deadly disease.

- The spring FY 2024 SPB prediction survey was conducted in 17 East Texas counties (Angelina, Houston, Cherokee, Hardin, Houston, Jasper, Liberty, Nacogdoches, Newton, Polk, Rusk, Sabine, San Augustine, San Jacinto, Shelby, Trinity, and Tyler), and included four National Forests and The Big Thicket National Preserve (BTNP) covering about six million total survey acres. Results from this survey predicted continued low or no SPB activity in Texas for FY 2025. No SPB were collected from survey traps in East Texas in FY 2024, while 11,351 clerids were collected. This is twice the 5,168 clerid beetles collected in 2023. The prediction of low SPB activity (from 2023 trapping) proved to be accurate as **NO (0)** SPB infestations were reported in East Texas in FY 2024. Early indications are that southern pine beetle activity in 2025 will continue to be low to none.

- Texas A&M Forest Service continues to administer the Southern Pine Beetle Prevention Program in East Texas. During FY 2024, through funding from USFS-Forest Health Protection, Texas A&M Forest Service provided over $to 27 landowners to assist in the thinning of overly dense

pine forests reducing their risk of an SPB attack. Also, during FY 2023 through the SPB Prevention Program more than 1,900 acres of overly dense pine stands were thinned on 27 East Texas forested properties. Since the inception of the program in 2003, more than 1,900 landowners have utilized over $6.7 million to thin more than 130,000 acres of overly dense pine stands in East Texas.

- Texas A&M Forest Service deployed 12 cross vane traps for *Euwallacea fornicatus* after interception reports from Texas Department of Agriculture in Dallas and Houston. Efforts to study establishment of potential new invasive ambrosia beetles were made; no captures during FY2024.

- Texas A&M Forest Service continues to support integrated management of Brazilian peppertree in south Texas. Through a 3-yeart project in collaboration with the Army Corps of Engineers, the US Forest Service, and the CWMA, the objective is to mitigate the impacts of the invasive Brazilian Peppertree along the Gulf Coast of Texas, using Brazilian peppertree thrips. Through the release of these thrips in different areas of Port Aransas, we are evaluating the establishment and effect of the thrips on different management strategies for Brazilian peppertrees.

- During FY 2023 Texas A&M Forest Service forest health staff continued to restore Ponderosa Pine forests in the Davis Mountains region. These forest over the past decade have been subjected to severe wildfires, extreme drought and subsequent mountain pine beetle infestations. This area is home to southern most extent of the Ponderosa Pine population and Texas A&M Forest Service working with USFS-Forest Health Protection, Southern Research Station and The Nature Conservancy has led the way for restoring Ponderosa Pine and working to improve the overall health of existing forested areas. Since 2021, TAMFS staff surveyed and documented southwestern pine beetle (*Dendroctonus barberi*) spots across The Nature Conservancy's Davis Mountains Preserve. Since 2023, in collaboration with the USFS, Texas A&M Forest Service is testing potential repellents to avoid susceptible trees from being attacked. We are testing these compounds in traps and trees to test if they are effective to reduce attacks. We conducted the the first trapping experiment during Spring 2024. Preliminary data suggests that repellents reduce more than 95% of captures of the southwestern pine beetle.

- Overall pine mortality was a major concern in FY 2024 across east Texas with areas of mortality large and widespread across East Texas. Weather conditions (drought followed by freeze followed by drought) resulted in extreme pine stress. The appearance of ips beetles, ambrosia beetles and deodar weevils resulted in stand-level mortality.

- Texas A&M Forest Service staff made numerous site visits across West Texas for juniper mortality. During the drought of FY 2024, high mortality of ashe junpers was observed across West and Northwest Texas. The areas that had issues with decline/ mortality were areas that the juniper density was very high. Cedar bark beetles and other borers were common across the

region. Eastern red cedar has been also affected in central and East Texas. Mortality has been observed related to secondary pests, including cedar bark beetle (*Phloeosinus* spp.), Botryosphaeria cankers, *Seiridium* canker, and other secondary agents.

- A perennial regeneration pest in east Texas, TLCA, continues to plague landowners. In 2018 Texas A&M Forest Service initiated a program to assist qualifying landowners by treating TLCA nests with PTM Insecticide (Fipronil). In FY 2024, 21 nests were treated across the sandier regions of east Texas. Texas A&M Forest Service management plans have been revised to reflect the threat of TLCA to recommend treatment before planting. UAVs have been used with some success to identify and locate mounds prior to treatment.

- Texas experienced severe drought conditions over FY 2024. This resulted in widespread decline and mortality of multiple tree species. Based on ForWarn 24-day 3-year NDVI change map, we saw a decrease in forest canopy greenness that was occurring in softwood forests / woodlands in several west central Texas counties. Based on US Drought Monitor maps, the overall area in general has been subject to a multi-month drought that ranged from moderate to exceptional severity. This region roughly occurs from San Antonio to Fort Worth. The area of concern was generally north and west of San Antonio and extends westward to about the longitude of Abilene. Most of the softwood forest / woodland of this region showed moderate to severe decline in NDVI.

- Texas experienced severe drought conditions over FY 2024 and resulted in widespread decline of Post Oaks (*Quercus stellata*). This weather pattern results in a root/shoot carbohydrate imbalance and causes rapid decline and eventual mortality. Older trees seem to be more susceptible. Mortality is scattered but occurs frequently across the range. Counties that exhibited higher mortality rates during FY 2024 included Anderson, Kaufmann and Grimes Counties.

- During FY 2024 Texas A&M Forest Service staff made numerous recommendations for the treatment of typical pest/disease issues seen in Texas each year. These are minor in nature and usually do not pose any threats to the forests of Texas. Recommendations were made for fungal (mainly Tubakia leaf spots) and bacterial foliage diseases, trunk rot, roundheaded borers, Pales weevils, twig girdlers, forest tent caterpillars, yellownecked caterpillar, oakworms, drippy nut disease, spider mites, pear rust, needlecast, Dothriostoma, Diplodia, cottonwood leaf beetle, elm leaf beetle, webworms, red-headed ash borers, carpenter ants, carpenter bees, fusiform rust, smooth patch, hypoxylon canker, bacterial wetwood, aphids, mites, leaf miners, galls, bark lice, dogwood anthracnose. In addition, freeze damage was significant \in February; wood borers (ambrosia beetles and Ips engraver beetles) and other insects that thrive in stress conditions were common across Texas. Sycamore Anthracnose was widely observed in Austin in early Spring.

- During FY 23 TAMFS supported research initiatives related to forest heath issues that impact Texas.
    i. Oak Wilt Identification. Collaboration with University of Tennessee will improve molecular identification tools, particularly PCR methods for rapid detection of the pathogen.

ii. Oak Wilt Rapid Detection. Collaboration with University of Georgia to develop rapid detection technique for oak wilt using loop-mediated isothermal amplification (LAMP).
iii. Oak wilt vectors. TAMFS staff is trapping and sending sap beetles to University of Tennessee to identify the species of Nitidulidae (sap beetles) that are moving oak wilt spores in Texas.
iv. Biological Control of Brazilian Peppertree. Establishment of the biocontrol agent, *Pseudophilothrips ichini* and integrated pest management of Brazilian peppertree on the Texas Gulf Coast. Collaboration with US Army Engineer Research and Development Center and CWMA.
v. Cedar Bark Beetle Semiochemicals. Sampling of infested cedar trees to provide beetles for semiochenical interaction with host Gant Sequoia.

Texas A&M Forest Service FH staff developed and implemented ArcGIS Online (AGOL) Field Maps apps to spatially track occurrences of and investigations into forest health inquiries. Training was provided to field users. The apps are designed to supplement the use of DASM.