



National Park Service Southeast Texas Zone Fire Ecology Annual Report Calendar Year 2025

Conor McInnerney



Prescribed fire in Big Sandy South unit, May 2025.

The National Park Service (NPS) Division of Fire and Aviation Management relies on science and long-term monitoring to inform an adaptive management approach for assessing and improving fire management programs and activities at park units. Adaptive management, along with policies, standards, and responsibilities for monitoring are described in Chapter 8 of [Reference Manual 18](#). The NPS Fire Ecology Program is responsible for the collection, analysis, and interpretation of fire effects monitoring data for park managers to use for program evaluation and decision making. This annual report is intended to partially fulfill reporting requirements for the Fire Ecology Program and does not constitute a complete analysis of any NPS fire management program or activity. Additional interpretation and reporting can be found in previous annual reports at [NPS DataStore](#) or by contacting the author(s) of this report.

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A. Summary

This past year was occupied with increased planning and field work for the fire ecologist at Big Thicket (BITH). In December 2024, BITH lost its Fuels Specialist. As a result, a large portion of the duties assigned to that position were absorbed by the fire ecology program including prescribed burn plan writing and review as well as treatment planning and accomplishment reporting in the Interior Fuels Planning and Reporting System (IFPRS).

Treatment monitoring efforts were expanded in BITH using Terrestrial Laser Scanning (TLS) methodology in line with the pilot study conducted in 2024. New plots were installed 6 additional ignition units to collect pre-treatment data.

One unit was treated with prescribed fire over the course of two burn periods. The Big Sandy South Unit was burned during the “Dickens Block” prescribed burn in April (200 acres) and the remainder of the unit was burned in May (2,452 acres). No pre-treatment data were collected but post-burn rapid assessment plots were completed in conjunction with Burn Severity analysis to assess severity of the prescribed burn. The Pitcher Plant East 2025 wildfire occurred at BITH on October 18th. This wildfire started as an escaped pile burn on neighboring private property that was left unattended during a burn ban. The decision was made to burn out the entire 80-acre block rather than impact the unit with dozer line. Post-burn rapid assessment plots were completed and repeat TLS data will be collected after next growing season to further assess impacts. Additional treatments include 44-acres of mastication work at the Hickory Creek unit and over 300 acres of herbicide spraying in the Big Sandy Unit. The latter treatment was contracted by the Resource Management division using Wildfire Risk Reduction funding as a follow up treatment to the 2024 prescribed fire and subsequent mastication.

The fire ecology program also developed a Fire Effects Monitoring (FEMO) survey design utilizing Survey123 to handle weather, fire behavior, and smoke observations as well as a post-burn rapid assessment utilizing existing protocols from The Nature Conservancy. These surveys are paired with an R script that synthesizes this information into a concise FEMO Report for burn bosses, FMOs, and other interested parties.

At Padre Island National Seashore (PAIS), no fire management activities took place apart from mowing fuel breaks around resource concerns (oak motts) and park infrastructure. Two wildfires occurred at PAIS: the 2 Mile 2025 wildfire in February (137 acres) and the 5 Mile 2025 wildfire in August (5,747 acres). PAIS staff monitored vegetation responses within the wildfire scars, but no fire effects monitoring was conducted. A partnership with Texas A&M University – Kingsville was started in September to begin remote sensing work for fire effects monitoring, but progress was halted due to the government shutdown.

Fuels treatments at PAIS have been on an indefinite hold due to the listing of the Eastern Black Rail as endangered in 2021. A biological assessment was completed and an opinion from US Fish and Wildlife Service was issued in August of this year. This will allow for the prescribed fire plan to be updated and treatments to be restarted in 2026. Due to timing

restrictions for burning and to allow for burn plan development, no prescribed fires are expected at the park until FY27.

Table 1. Fire Effects Plot Workload (2025)

Park	Monitoring Unit	Plot Type (FMH Forest/Brush/Grass plot, photo point, Rapid Assessment, CBI, etc.)	Years Data Collected (start-end)	Annual Total (2025)	Total Plots
Big Thicket	Big Sandy NW	Terrestrial Laser Scanning	2025 -	18	18
Big Thicket	Hickory Creek	Terrestrial Laser Scanning	2025 -	7	7
Big Thicket	Turkey Creek - Solo	Terrestrial Laser Scanning	2025 -	5	5
Big Thicket	Turkey Creek - Sandhill	Terrestrial Laser Scanning	2025 -	10	10
Big Thicket	Turkey Creek – Pitcher Plant	Terrestrial Laser Scanning	2025 -	7	7
Big Thicket	Turkey Creek – Ranch House	Terrestrial Laser Scanning	2025 -	6	6
Big Thicket	--	TLS Subtotal	2025 -	53	53
Big Thicket	Big Sandy S	Rapid Assessment	2025	30	30
Big Thicket	Turkey Creek – Pitcher Plant	Rapid Assessment	2025	3	3
Big Thicket	--	RA Subtotal	2025	33	33
Big Thicket	Big Sandy NW/C	Overstory Survival	2025	43	43
Total					139

B. Monitoring Results and Recommendations

Big Sandy Northwest and Central

The Big Sandy Creek Unit is located in southeastern Polk County, TX near the town of Dallardsville. A prescribed burn took place in the Northwest and Central ignition units in March 2024. Fire effects data from existing plots has not been collected since 2015 despite multiple prescribed burns occurring in the interim. We were not able to assess progress for most fire management objectives (Table 2) due to lack of pre-burn data. Immediate post fire effects data were collected and the analysis results were included in the 2024 report. A total of 43 survival assessment plots were installed in Big Sandy Northwest and Central in November to assess 1-year mortality of overstory trees. These plots were distributed throughout the treatment area based on burn severity classes as defined by the Monitoring Trends in Burn Severity analysis conducted by US Geological Survey in 2024 (map below). Ten plots were randomly distributed in each burn severity class: High, Moderate, Low, Unburned/Low, and three extra plots were added to the “increased greenness” category for thoroughness. The 13 plots in the Unburned/Low and increased greenness classes were combined and served as controls since no pre-burn census was conducted of overstory trees.

Two plots fell within areas that were masticated post-burn in late 2024 and early 2025: one plot each in the Low and Moderate severity classes. These areas likely had small live and dead trees that were chipped down to meet contract specifications. These two plots were excluded from analysis since a pre-fire basal area was impossible to determine. For all other plots, absent pre-fire data, all living and dead stems were assumed to be alive during the prescribed burn in 2024. A count of live and dead trees greater than 5 inches diameter at breast height (DBH) was performed in fall of 2025 using a 10-factor basal area angle gauge to determine the basal area of live and dead trees as well as the proportion of trees greater than 14 inches DBH in each category.

Comparisons were made between mortality rates of all pine and large pine mortality across the severity classes using a One-way Analysis of Variance followed by a post-hoc Tukey Test to determine relationships between pairwise comparisons. To avoid missing a trend due to small sample size, a value of $\alpha = 0.1$ was used.

Average mortality of all pine trees greater than 5 inches DBH in the Unburned/Low, Low, Moderate, and High severity classes was 1.1% (SD = 3.8%, $n = 13$), 2.8% (SD = 8.3%, $n = 9$), 8.6% (SD = 25.9%, $n = 9$), and 33.7% (SD = 43.9%, $n = 10$), respectively (Figure 2). For pine trees greater than or equal to 14 inches DBH, mortality was 1.4% (SD = 4.5%, $n = 13$), 0%, 7.1% (SD = 18.9%, $n = 9$), and 33.7% (SD = 44.4%, $n = 10$) for each respective severity class (Figure 3). Of the roughly 4,100 acre prescribed burn area, approximately 77% was in the Unburned/Low severity class, 14% in Low, 7% in Moderate, and 2% in High. Overall weighted average mortality for pines greater than 5 inches DBH was 2.5% and for pines greater than 14 inches DBH mortality was 2.3%.

Between severity classes, there was a difference among the mortality rates of all pines greater than 5 inches ($\bar{x} = 2.5\%$, $F_3 = 2.533$, $P = 0.072$, $n = 41$) and pines larger than 14 inches ($\bar{x} = 2.3\%$, $F_3 = 2.484$, $P = 0.076$, $n = 41$). For all pines, the Tukey test revealed that only the High:Unburned/Low severity classes were statistically different ($P = 0.071$) and for large pines, that only the High:Low severity classes were statistically different ($P = 0.090$).



Figure 1. High severity area near Sunflower Road in Big Sandy Central.

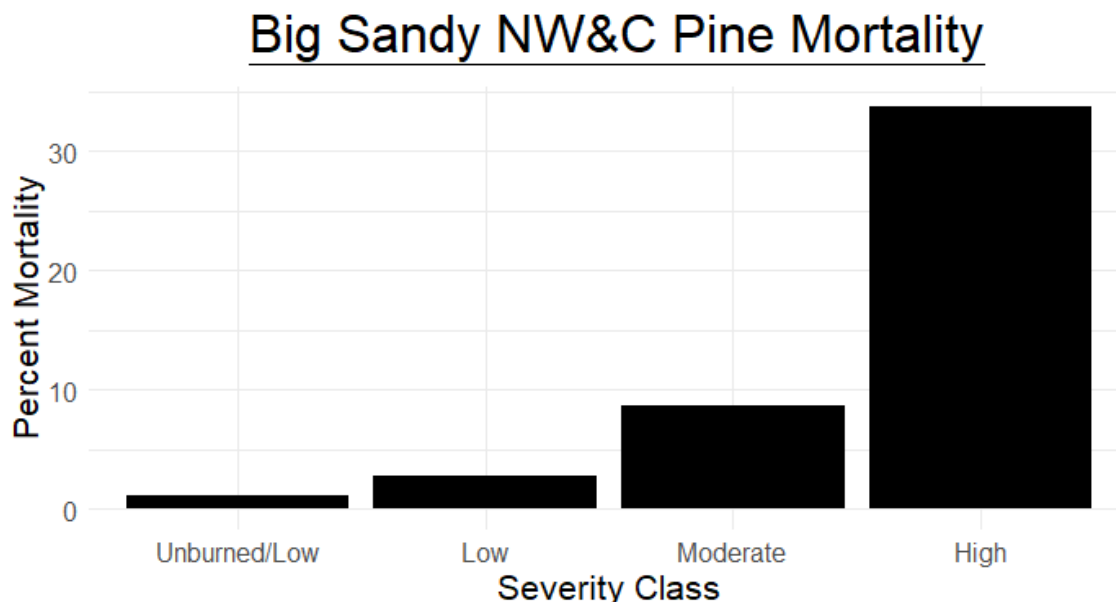


Figure 2. Percent mortality of pine trees >5 inches diameter at breast height by severity class. These areas were burned in March 2024 and surveyed in fall of 2025. Burn severity is based on Monitoring Trends in Burn Severity analysis completed by USGS.

Big Sandy NW&C Large Pine Mortality

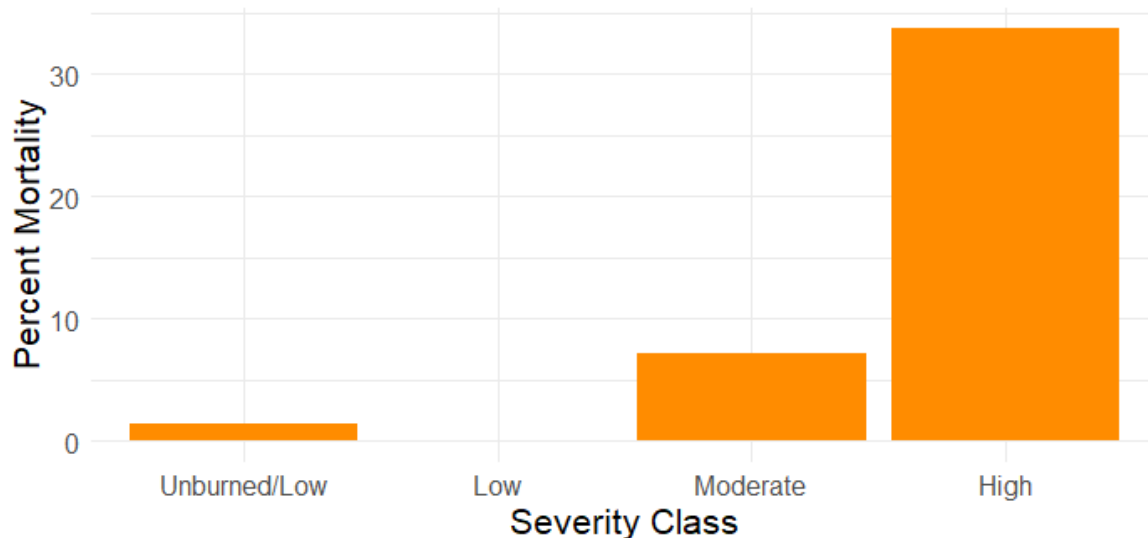


Figure 3. Percent mortality of pine trees >14 inches diameter at breast height by severity class. These areas were burned in March 2024 and surveyed in fall of 2025. Burn severity is based on Monitoring Trends in Burn Severity analysis completed by USGS.

There are two broad sub-categories of “high” severity fire effects in the FY24 Big Sandy NW/C prescribed burn: 1) Young (<10 years old), planted longleaf pine or areas where there was already little overstory and 2) Mature mixed pine timber with brush/pine regeneration understory. For the former category, severity was modeled as high based on the remote sensed Burn Severity analysis but mortality of remaining overstory trees (mostly loblolly or shortleaf pine where present) and planted longleaf was minimal. Because the planted longleaf are less than 20 feet tall in most cases, the first order fire effects led to an abundance of scorching that was easily visible to LANDSAT imagery. Remaining overstory trees were likely at a low enough basal area to reduce heat impacts from under/midstory fuels. For these areas, immediate post burn monitoring showed 89-99% scorch however, most of the trees recovered.

For the latter high severity sub-category, fire effects were severe enough to scorch the mature overstory trees. In these areas, overstory basal area was generally greater than 90 ft²/ac with a brushy understory. Some portions of this area were heavily impacted by Hurricanes Rita (2005) and Ike (2008) which left large canopy gaps resulting in dense regeneration patches of loblolly pine. This stand condition is represented best by the southeast corner of Big Sandy Central ignition unit where there is a large area of high severity fire effects following group tree torching and short crown fire runs due to fire effects in dense regeneration patches. This area is the driving factor behind the high mortality rates of small (5<X<14 inches DBH) and large pines (>14 inches DBH). Because the High severity class took up a relatively small area of the total prescribed burn, the

overall mortality of pine trees greater than 14 inches DBH still fell below the 5% threshold to meet the Overstory Management objectives for the prescribed burn (Table 2).

For mortality differences between severity classes, a larger sample size would likely have resulted in more separation between each class. For the large pines, although the comparisons between the High: Unburned/Low and Moderate classes were statistically the same, based on personal field observations, there was a clear separation between the fire effects in each of these areas. Values represented by the above graphs are likely representative of the population values.

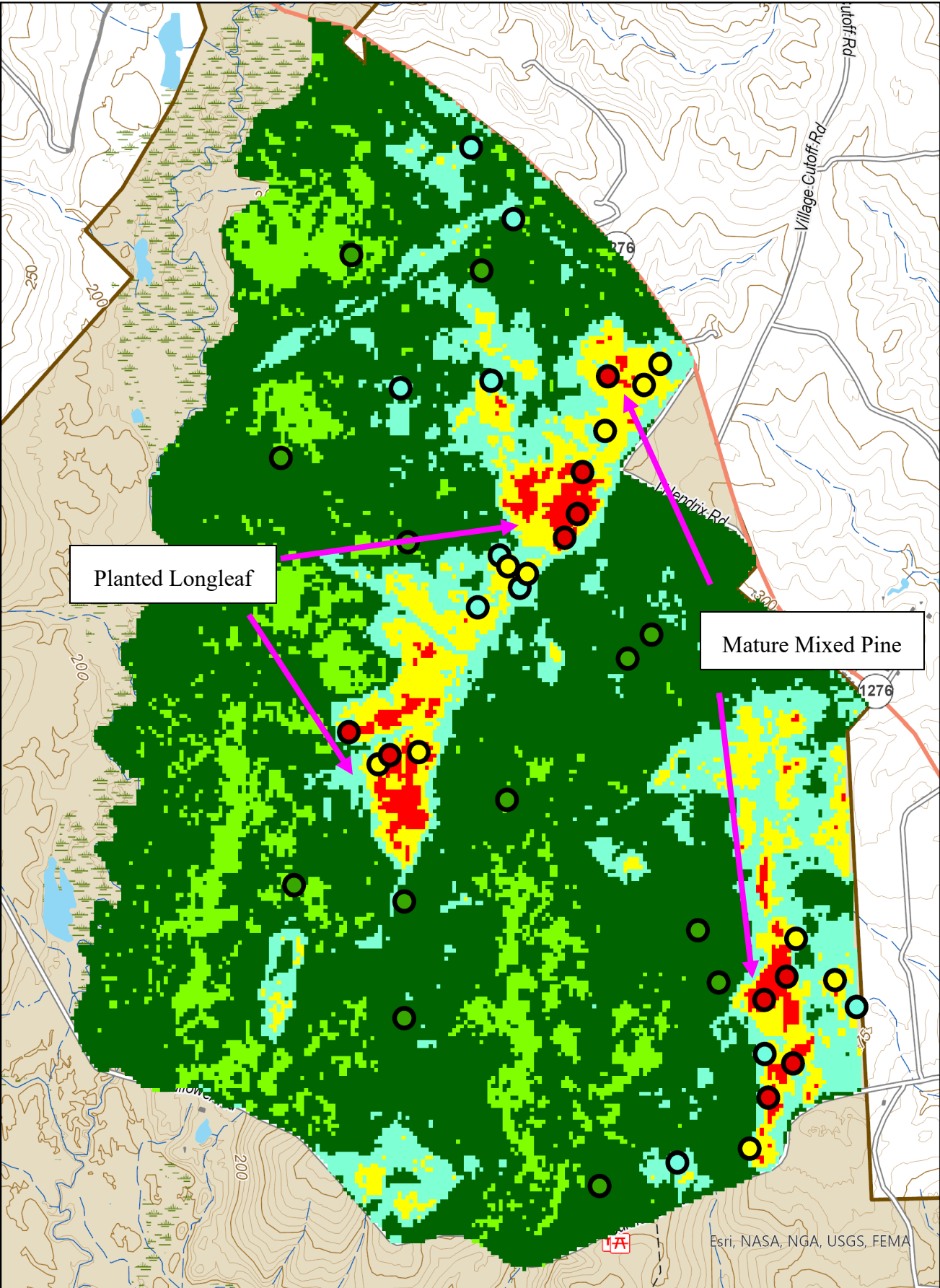
Table 2. 2025 Management Objectives and Monitoring Results

Fuel reduction objectives/results are mean percent reduction from pre-burn to immediate post-burn. Stand density objectives/results are for five-year post-burn mean stand density. An underlined number of plots indicates that the minimum sample size has been attained for that variable.

Monitoring Unit	1-year Management Objective	5-year Management Objective	Progress Towards Meeting Objectives
<i>Overstory Management</i>	<5% mortality of trees >14 in DBH (<i>n</i> = 43 plots, 1 prescribed fire)	<5% mortality of trees >14 in DBH (<i>n</i> = 43 plots, 1 prescribed fire)	1-year: 2.2% 5-year:
<i>Understory Management</i>	Reduction of small diameter trees (<4in DBH) 20-75%	Reduction of small diameter trees (<4in DBH) 50-75%	1-year: No pre-burn data 5-year: No pre-burn data
	Reduction of woody brush height 20-75%	Reduction of woody brush height 50-75%	1-year: No pre-burn data 5-year: No pre-burn data
	Increase herbaceous ground cover by 10%	Increase herbaceous groundcover to 40%	1-year: No pre-burn data 5-year: No pre-burn data
	<20% mortality of longleaf pine seedlings <6 feet tall	<40% mortality of longleaf pine seedlings <6 feet tall	1-year: No pre-burn data 5-year: No pre-burn data
<i>Fuel Reduction</i>	Reduce litter and duff loading 20-75%	Reduce litter and duff loading 50-75%	1-year: No pre-burn data 5-year: No pre-burn data

Big Thicket National Preserve
Big Sandy NW & C Survival Assessment

Intermountain Region
National Park Service
U.S. Department of the Interior



- Survival Assessment
- Unburned/Green
 - Low
 - Moderate
 - High

Mastication Areas

Three standalone mastication treatments were completed this past year in Hickory Creek and Lance Rosier outside of standard fire line preparation. These treatments were not formally monitored but were documented with pictures for qualitative assessment.

In Lance Rosier, 4 acres were masticated around the Little Rock Church near Kountze, TX to reduce risk to this structure.



Figure 4. Mastication area behind Little Rock church in Hardin County, TX.

In Hickory Creek, a missed burn window in May 2025 due to rain resulted in the addition of 44 acres of mastication along the western unit boundary. The primary objective was to reduce the live fuel loading and protect the community of Wildwood and several homes/businesses on the Preserve Boundary. Wildwood is the biggest Wildland Urban Interface exposure to the park, and this treatment reduced wildfire risk and will also reduce control issues during the next prescribed burn. The entire boundary of the Wildwood Ignition Unit of Hickory Creek was masticated 200-300 feet interior to accomplish these goals.



Figure 5. Mastication area in the Wildwood Ignition Unit of Hickory Creek in Tyler County, TX for the new RAWS site (left) and community protection (right).

In Big Sandy, the Resource Management division used ONPS funds for approximately 25 acres of mastication in a previously treated area in the southern portion of the Northwest ignition unit.



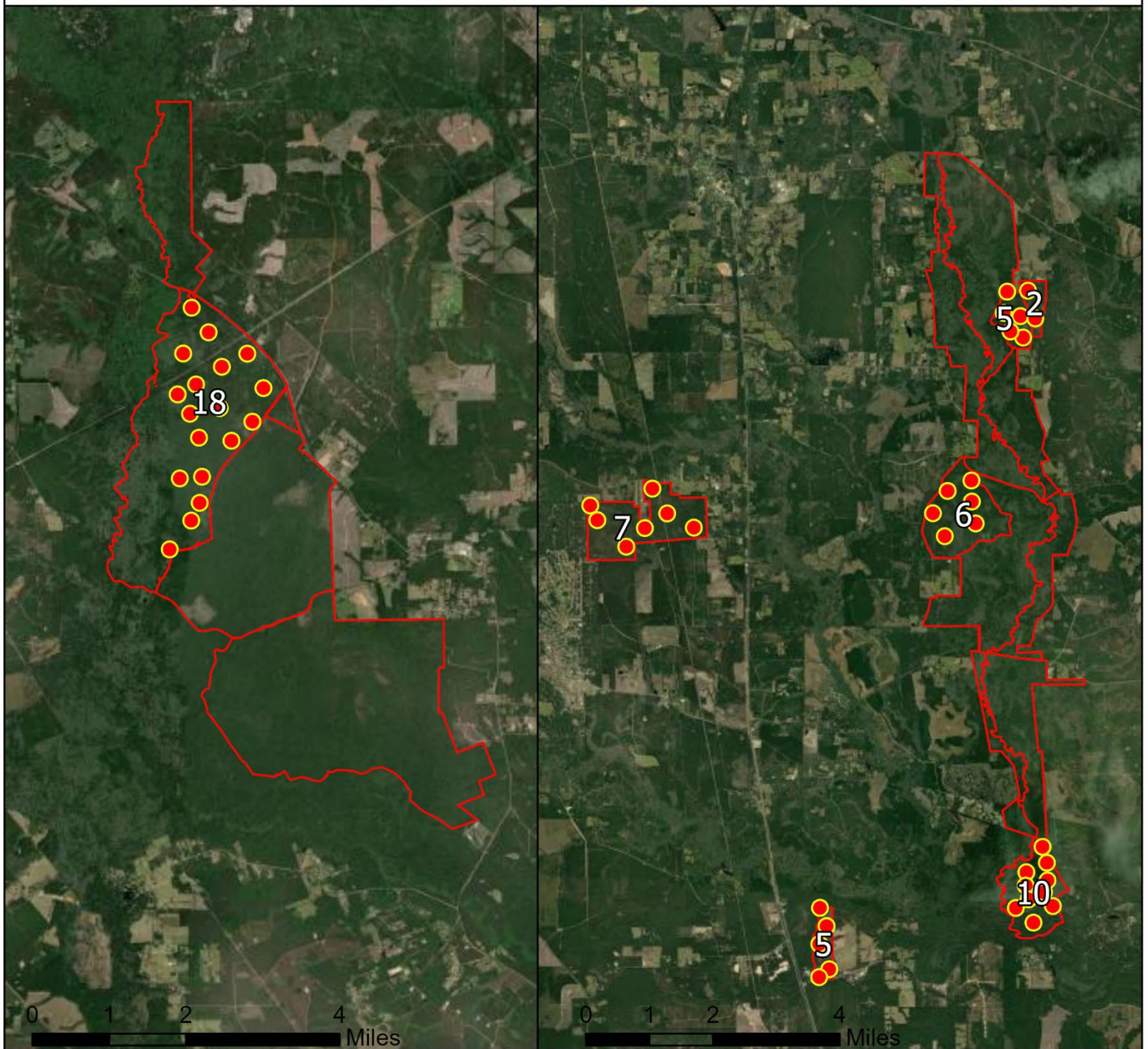
Figure 6. Mastication area in the Northwest Ignition Unit of Big Sandy Creek in Polk County, TX.

Other Treatment Areas

Terrestrial Laser Scan monitoring plots were installed in Big Sandy NW, Hickory Creek, Pitcher Plant, Ranch House, Sandhill, and Solo units this year (see map below). These plots will serve as “pre-treatment” reads for the updated Big Thicket monitoring plan. Although fire effects monitoring plots exist throughout the park, a final data collection and analysis is still ongoing at the time of this report. Priority was given to the TLS plots since

that is the future direction of monitoring at Big Thicket. With the new TLS data, 1-year post-burn monitoring objectives will be able to be evaluated moving forward. Additional plots will be established in the other Turkey Creek ignition units, Big Sandy South, Canyonlands, and Lance Rosier during the 2026 sampling year.

The original 20 TLS plots surveyed in 2024 in Big Sandy Central were processed and finalized during the late summer. There were significant issues with software licensing, post-processing of data scans, and upload errors with the Interagency Ecosystem LiDAR Monitoring Program (IntELiMon). Fire ecology staff worked with national and interagency partners to work on solutions for shared software licenses and training. Data scans from 2025 will be processed and submitted to IntELiMon during winter 2025-2026. Because no repeat scans exist, no data analysis was performed on the output metrics from 2024 scans. Data can be viewed/downloaded from the IntELiMon website and panoramic plot photos can be viewed on the Points2Pano viewer (Section E).



Location and number of sampled locations by ignition unit at Big Thicket National Preserve for 2025. Map frames are for Big Sandy (left) and Hickory Creek, Pitcher Plant, Ranch House, Sandhill, and Solo units (right). Plots were sampled according to the Fuel Monitoring Utilizing Terrestrial LiDAR Scanning methods manual for Tier 2 sampling.



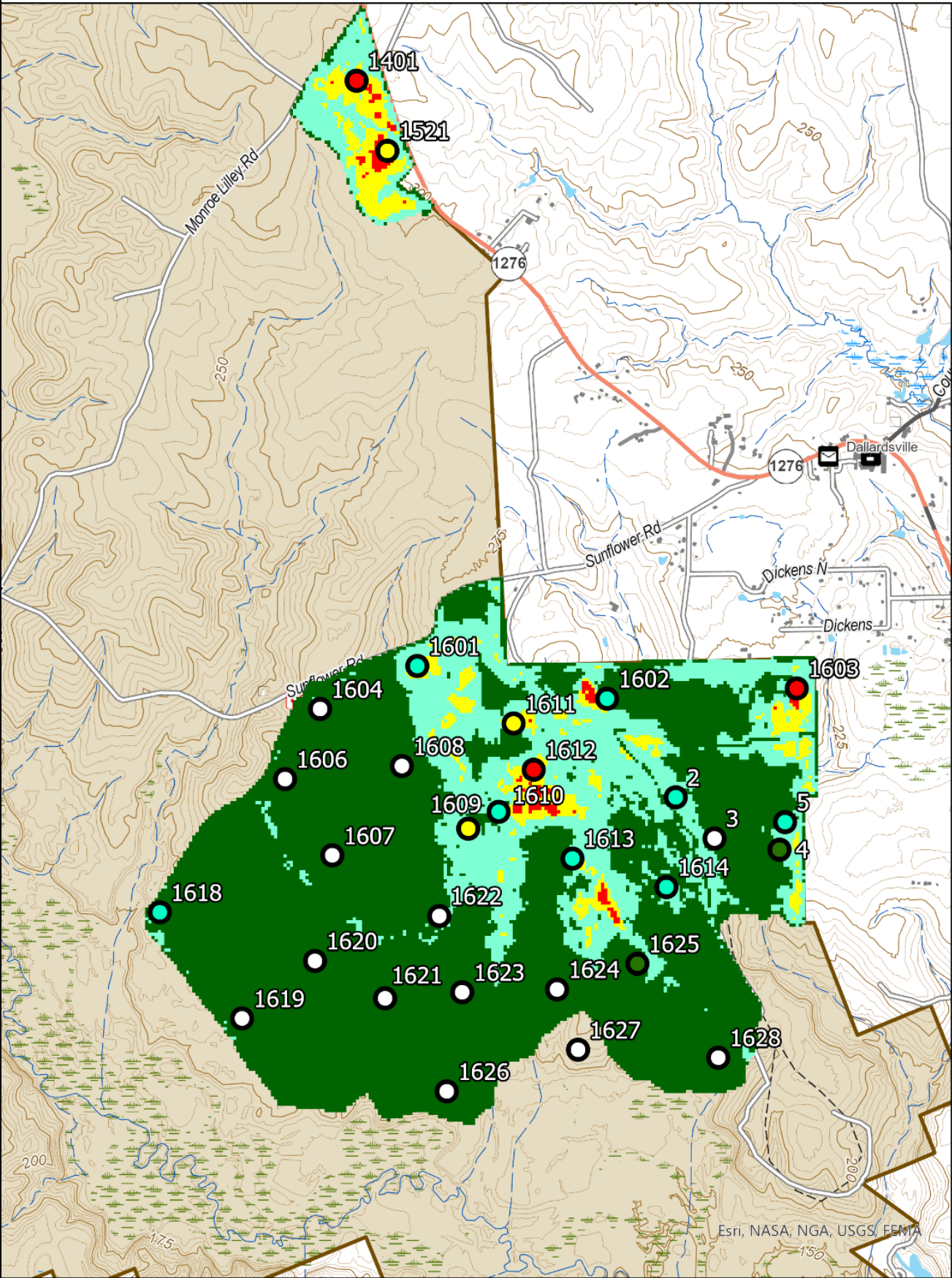
Rapid Burn Assessment

Rapid burn assessment plots were installed in the Big Sandy South prescribed fire and the Pitcher Plant East 2025 wildfire. These are quick plots designed to give an initial impression of fire severity immediately following a burn. In Big Sandy South, plots were installed in roughly the location of planned Terrestrial Laser Scan plots which are randomly distributed throughout all fire management units. In the Pitcher Plant East 2025 wildfire, plots were installed at one Terrestrial Laser Scan point as well as 2 randomly located points throughout the burn. These assessments were compared to remote sensed burn severity metrics to ground truth burn severity. Due to the mostly closed canopy conditions throughout Big Thicket, it can be difficult to assess burn severity using established remote sensing methods. This is particularly true for the “Unburned/Low” burn severity class which may not generate enough heat to scorch needles in the overstory leaving coarse satellite imagery to classify the area as “unburned” since changes in the forest floor are not detectable.

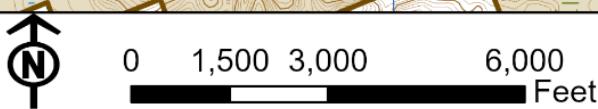
In general, there was agreement with ground and remote sensing assessments of burn severity across both treatments. Incongruity between the two methods likely resulted from understory vegetation being unrepresented in the coarse satellite imagery. However, the remote sensed burn severity will continue to be used to guide the installation of overstory survival assessment plots approximately 1-year following a planned/unplanned ignition. Fire impacts to understory vegetation will be monitored by Terrestrial Laser Scanning.

Big Thicket National Preserve
Big Sandy NW & C Survival Assessment

Intermountain Region
National Park Service
U.S. Department of the Interior

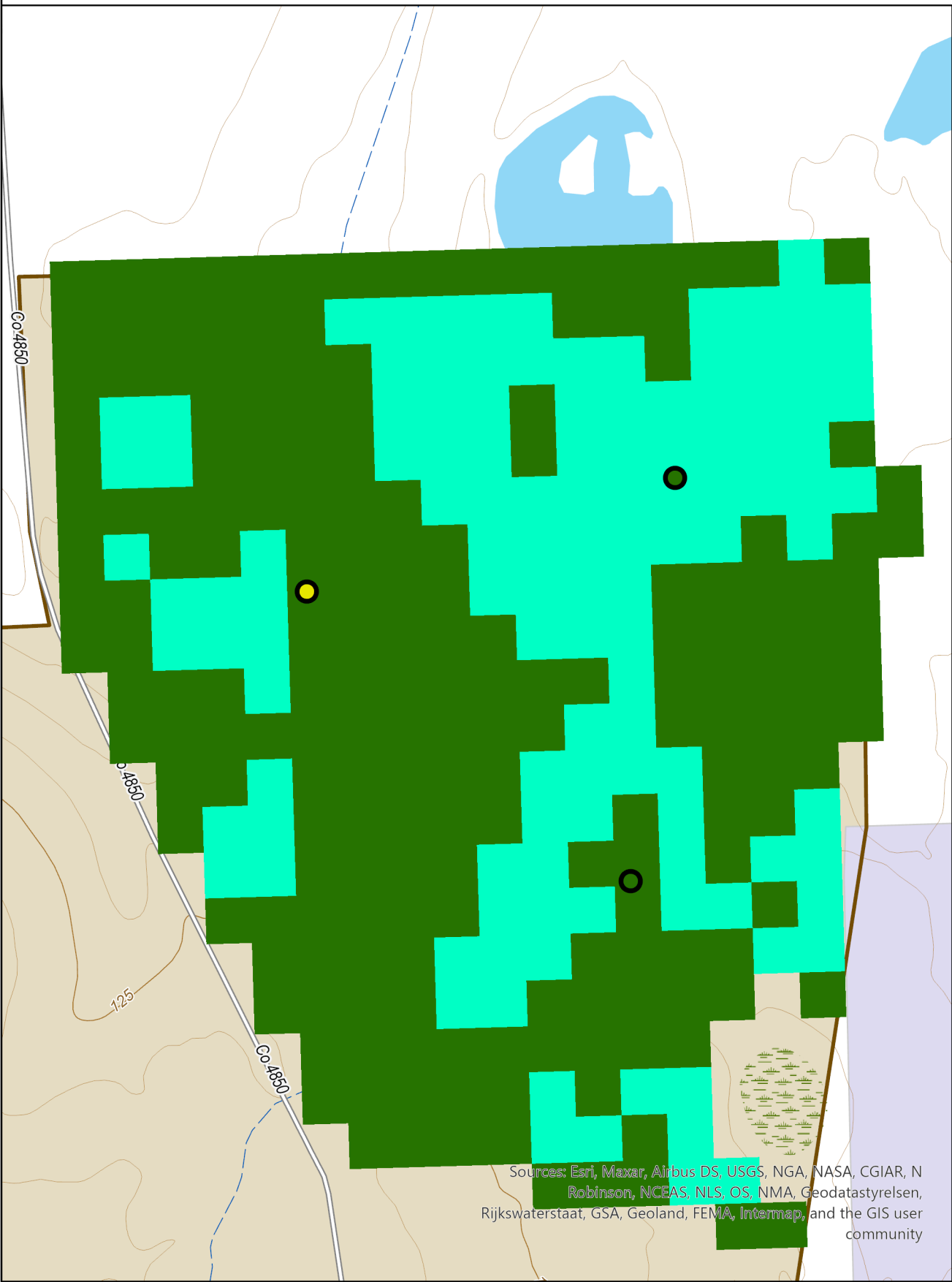


- Average Severity
- Unburned
 - Unburned to Low
 - Low
 - Moderate
 - High



Big Thicket National Preserve
Pitcher Plant East 2025 Wildfire Burn Severity

Intermountain Region
National Park Service
U.S. Department of the Interior



Measured Severity

- Low or Unburned
- Moderate

Remote Sensed Severity

- Unburned or Low
- Low

Sources: Esri, Maxar, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap, and the GIS user community



0 250 500 1,000 Feet

Big Thicket National Preserve
Fire Management
Nov 2025

Data Sources: ESRI Basedata, NPS Park Data
C. McInerney

C. Research, Planning, and Communication

The Fuels Specialist position became vacant in December 2024. As a result, the bulk of the planning duties were absorbed by the fire ecologist. All reporting and planning in the Interior Fuels and Planning Reporting System (IFPRS), prescribed burn plan writing, and funding requests took away from the formal planning for fire effects monitoring plans at Big Thicket and Padre Island National Seashore for 2025. The Big Thicket 2026-2028 Program of Work was finalized and edited to reflect accurate treatment boundaries and cost estimates. Cost estimates for preparation and implementation of prescribed burns as well as mastication projects were completed in accordance with IMR Fire and Aviation Management guidelines. Two burn plans were drafted for the ignition units along the Village Creek Corridor (Hickory Creek units, Solo, and Sandhill) and Turkey Creek Unit. The Village Creek Corridor Burn Plan was finalized in April and the Turkey Burn plan is currently in technical review.

Table 3. Updated resource management objectives for prescribed burns at Big Thicket National Preserve.

Objective	Specific Objective	Single Burn Objective (evaluated 1-year post burn)	Desired Future Condition (evaluated 5-years post burn)
Overstory Management	≥18 Trees per acre of pines ≥14 in DBH and 60-years old (min BA 20sqft)	<5% mortality of trees >14 in DBH	<5% mortality of trees >14 in DBH
Understory Management	Reduction of small diameter trees (<4in DBH) and mid-story brush	Reduce 20-75%	Reduce 50-75%
	Reduction of woody brush height	Reduce 20-75%	Reduce 50-75%
	Increase cover of herbaceous plants	Increase herbaceous ground cover by 10%	Increase herbaceous groundcover to 40%
	Limit longleaf pine mortality	<20% mortality of longleaf pine seedlings <6 feet tall	<40% mortality of longleaf pine seedlings <6 feet tall
Fuel reduction	Reduce litter and duff loading	Reduce 20-75%	Reduce 50-75%

In support of the burn plans, the resource management objectives were updated to reflect more meaningful desired prescribed burn effects along with monitoring goals (Table 3). Resource management objectives now align with habitat requirements for the red-

cockaded woodpecker (RCW), a federally threatened species that is actively managed on public lands throughout the southeast. The red-cockaded woodpecker is often used as an indicator species to qualitatively assess the forest conditions for pine savannahs. Additionally, since this bird has been extensively studied, well documented forest metrics exist. The new objectives also reflect understory fuels reduction goals to both reduce wildfire risk and promote ecological restoration of the pine savannah ecosystem.

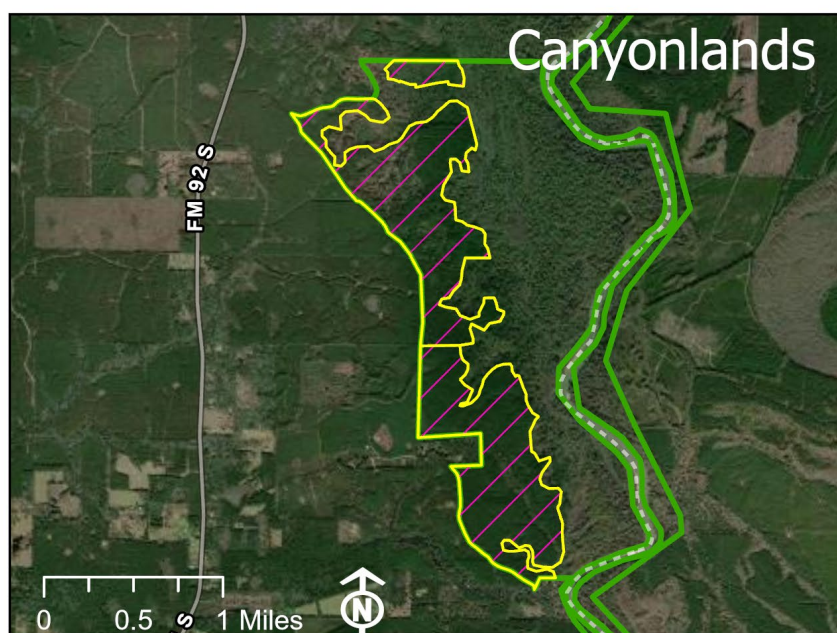
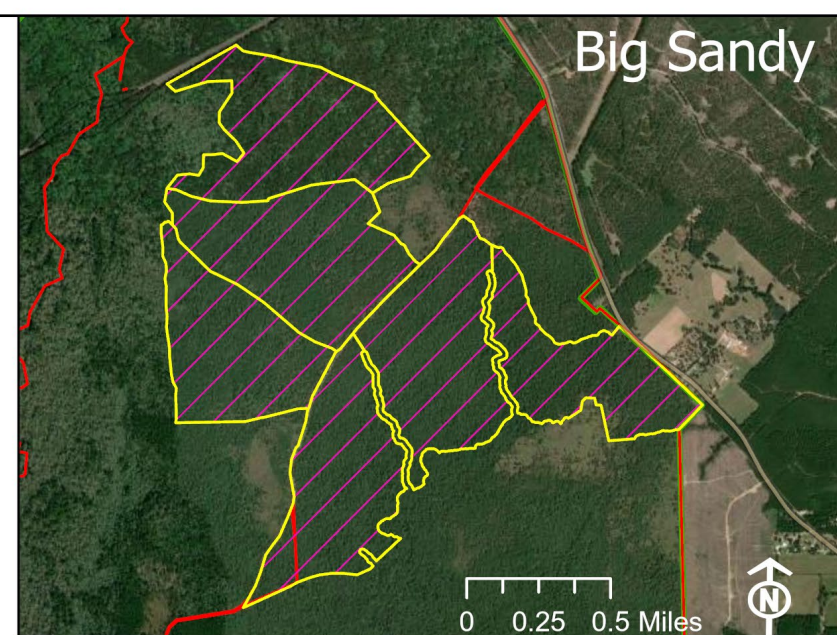
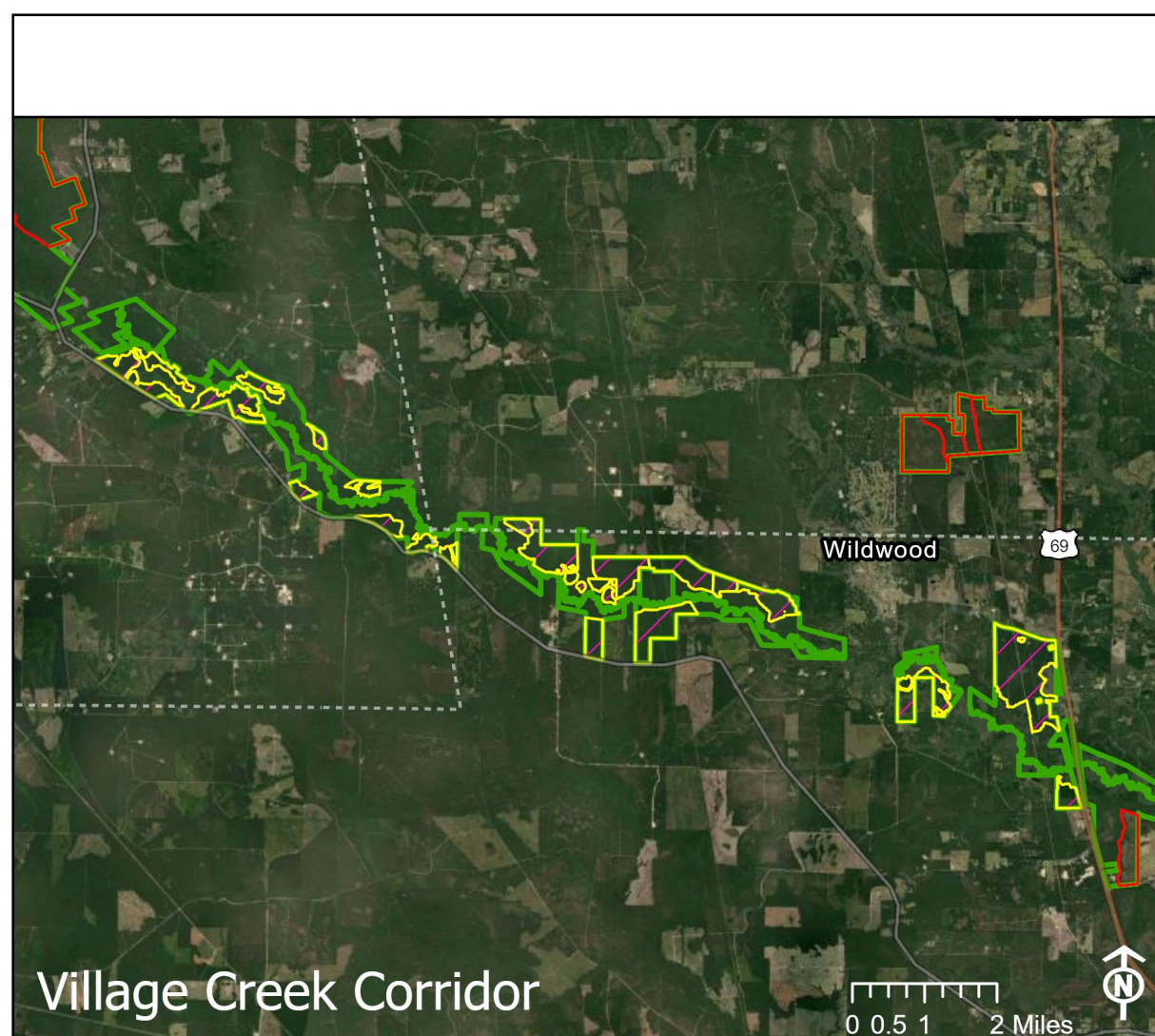
In coordination with the Resource Management division, Big Thicket is beginning planning for commercial thinning projects within the Preserve. Similar to prescribed fire, these treatments will both reduce hazardous fuel loading in high-risk pine plantation stands within the Preserve and promote ecological restoration by reducing tree density to promote herbaceous plants and facilitate the future use of prescribed fire in new areas. Due to the forestry experience within the fire ecology program, the bulk of the planning was completed amidst regular fire effects monitoring. Multiple stands were evaluated for potential thinning operations and a concise timber management plan is in preparation. Plans were delayed due to the lapse in appropriations and with the coming change to the Wildland Fire Service, it is unclear how a thinning project would proceed. However, the timber management plan will remain valid for years to come for future implementation. High priority areas include loblolly pine plantations along the Big Sandy/Village Creek Corridor and Canyonlands Units (see map below). These stands were formerly owned by industrial timber companies that actively managed them as loblolly pine plantations for fiber production. Many of these stands were established in mid-late 1990s and early 2000s and have received no management since. For southern pine plantations, a mid-rotation thinning is typically completed 15-20 years after establishment which reduces the risk of insect and disease outbreaks, catastrophic loss from wildfire, as well as improving tree growth for a final harvest after an additional 10-15 years. Most of these stands were added to Big Thicket before this first thinning took place and the Preserve is now saddled with thousands of acres of over-mature pine plantation that represent a threat to the Preserve and neighboring private property. Additionally, naturally regenerated stands in Big Sandy Creek Unit have been targeted for commercial thinning treatments. The forest in this unit naturally regenerated following widespread logging in the early-mid 20th Century with no timber management apart from prescribed fire. These stands also have a high density of trees and are susceptible to the same risks as the pine plantation areas.

D. Future Direction

Although a formal, park specific monitoring plan was not developed for Big Thicket, the fire ecology program will continue to follow the latest SOP manual for TLS data collection (Section E.). Big Thicket will be hiring a Scientists-in-Parks intern for calendar year 2026 and one of their tasks will be to finalize a fire effects monitoring plan for Big Thicket and any other programs this office absorbs with the creation of the US Wildland Fire Service.

At Padre Island, initial conversations were had with Dr. Aditya Singh at Texas A&M University – Kingsville to use remote sensing for fire effects monitoring. Due to logistical

challenges of timely visits to the island by fire ecology staff and the large scale of treatments, the utilization of remote sensing will be crucial to monitoring efforts. These efforts will be renewed in 2026 in conjunction with the development of a new prescribed fire plan for the park.



Big Thicket National Preserve

Areas of interest for potential commercial thinning operations in Big Thicket National Preserve. Identified stands in Village Creek Corridor and Canyonlands are high risk loblolly pine plantations. Stands in Big Sandy are mature, naturally regenerated stands.

National Park Service

December 2025

Data Source: NPS Park Data, ESRI Basedata

Created by: C. McInerney

Legend

-  Logging Areas
-  BITH FMU
-  NPS Boundary



E. References, Links, and Additional Reading

[Terrestrial 3D Laser Scanning for Ecosystem and Fire Effects Monitoring](#)

[Points2Pano](#)

[IntELiMon Viewer](#)

Appendices

Appendix A - Staffing and Accomplishments

Appendix B - History of Fire Effects Plots

Appendix C - Fire/Fuels Treatments and Associated Monitoring

Appendix A. Staffing and Accomplishments

Table A-1. Fire Ecology Staffing 2025

Ecologist and Monitors	Position	Appointment Length	Training and Development
Conor McInnerney	Fire Ecologist	PFT	NWCG Training: RT130, Rx-310, S-236, PFTC Prescribed Burn Plan Writing Workshop Position Task Books: finalized FEMO and FIRB, HEQBt NPS Training: Electrical Safety Awareness, Hazard Communications, Vector Borne Diseases Conferences: Texas Society of American Foresters, Texas Longleaf Team meetings

Table A-2. Fire Ecologist 2025 Accomplishments/Focus Areas

Category	Percent Time	Accomplishments and/or areas of activities
Planning	30%	- Burn plan development/review (Village Creek, Turkey Creek Burn Plans) - Program of Work planning and cost estimations for fuels treatments - BITH Timber Management Plan - Multi-year fuels planning for Southeast Texas Zone
Presentations	1%	Final preparation and delivery of Treatment Implementation presentation for the IMR Fuels Management Workshop
Meetings/task groups	5%	- Fire Management weekly staff meetings - Regional fuels, FMO, and DO meetings attended sporadically - NPS Steering Committee member for the Texas Longleaf Team
Wildfire assignments	5%	- REAF assignment for South Rim fire at Black Canyon of the Gunnison National Park - Local wildfire staffing/response
Prescribed fire/fuels treatment projects	10%	- FEMO and FIRBt for BITH prescribed burns - LURG planning for BITH
Research	0%	No research conducted, beginning discussions with local university for PAIS monitoring
Field work/data collection	20%	- Post-burn rapid assessment for burn severity - Terrestrial Laser Scan plot work - Live fuel moisture - Overstory survival checks
Data management	10%	- IFPRS Reporting - GIS data management

Category	Percent Time	Accomplishments and/or areas of activities
Data analysis	10%	• GIS data analysis • R projects for FEMO reporting
Supervision/ admin tasks	2%	• Travel authorization/vouchers • Scientists-in-Parks proposal and hiring process
Training	5%	• NWCG training • NPS Safety Training • Various forestry, fire ecology, and environmental webinars
Miscellaneous	2%	• Workdays with Resource Management (includes archeology work, herbicide application, plant surveys)

Appendix B. History of Fire Effects Monitoring Plots

Table B-1. All Fire Effects Plots Established

Park	Monitoring Unit	Plot Type (FMH Forest/Brush/Grass plot, photo point, Rapid Assessment, CBI, etc.)	Years Data Collected (start-end)	Total Plots
Big Thicket	Big Sandy Creek	BITH FFI	2001-2015	22
Big Thicket	Hickory Creek	BITH FFI	2001-2015	2
Big Thicket	Lance Rosier	BITH FFI	2001-2015	8
Big Thicket	Turkey Creek	BITH FFI	2001-2015	16
Big Thicket		BITH FFI TOTAL		48
Big Thicket	Big Sandy Creek – Central	TLS	2024 -	20
Total				68

Appendix C. Fire/Fuels Treatments and Associated Monitoring

Table C-1. Summary of 2025 Fire/Fuels Treatments and Associated Monitoring

Park	Fire/Treatment Name	Monitoring Conducted	Acres
<i>Big Thicket (BITH)</i>	Hickory Crk FY25 Mastication – BIL	Yes (Qualitative)	44
<i>Big Thicket (BITH)</i>	Big Sandy S FY25 Rx – BIL	Yes (RBA)	2,452
<i>Big Thicket (BITH)</i>	Big Sandy C Chem – WRR*	No	308
<i>Big Thicket (BITH)</i>	Big Sandy NW FY25 Mastication*	No	20
<i>Big Thicket (BITH)</i>	Lance Rosier FY25 Mastication – BIL	Yes (Qualitative)	4
<i>Big Thicket (BITH)</i>	Pitcher Plant East 2025 WF	Yes (RBA)	80
<i>BITH Total</i>	6	4	2,908
<i>Padre Island (PAIS)</i>	Front Country FY25 Mow – BIL	No	28
<i>Padre Island (PAIS)</i>	2 Mile 2025	No	137
<i>Padre Island (PAIS)</i>	5 Mile 2025 WF	No	5,747
<i>PAIS Total</i>	3	0	5,912
Total	9	4	8,820

*Denotes Resource Management led project