

**BAHIA GRANDE UNIT 10**  
**LAGUNA ATASCOSA NATIONAL WILDLIFE REFUGE,**  
**TEXAS**

**DECLARED WILDFIRE REVIEW**



**01/07/2026**

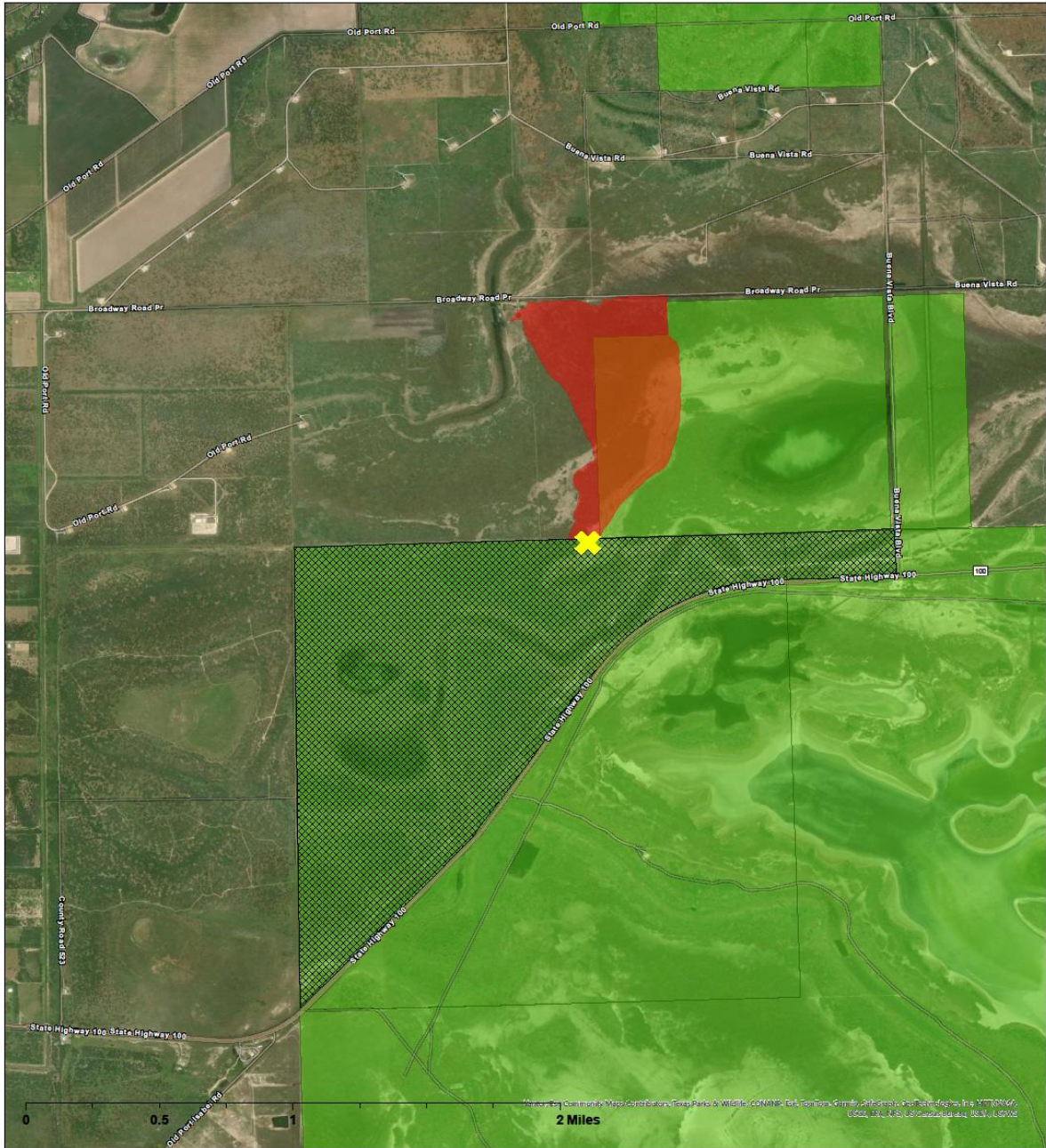
**Prepared By:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Brett Idol, Fuels Specialist**

\_\_\_\_\_ **Date:** \_\_\_\_\_  
**Chayne Best, Prescribed Fire Specialist**

\_\_\_\_\_ **Date:** \_\_\_\_\_  
**Jeff Adams, Fire and Fuels Planner**

**Reviewed By:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Don Devriendt, Fire Management Officer**

**Approved By:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Brandon Jones, Agency Administrator**



**Legend**

- |                        |                  |                  |
|------------------------|------------------|------------------|
| UNR_10_RX              | Easement         | Easement         |
| Unit_10 Wildfire       | Lease            | Lease            |
| FWSInterest_Simplified | Agreement        | Agreement        |
| Primary Interest Type  | Partial Interest | Partial Interest |
| Fee                    | Permit           | Permit           |
| Secondary              | Unknown          | Unknown          |

Point of Origin



Date: NAD 83

## **INTRODUCTION**

On the morning of January 7<sup>th</sup>, 2026, while conducting prescribed fire operations on Unit 10 of the Baha Grande tract of the Lower Rio Grande Valley National Wildlife Refuge (NWR), a slopover onto private land was declared a wildfire that spread to 188 acres in size. The escaped fire burned approx. 95 acres of private land and approx. 93 acres of refuge land outside the planned burn unit. Resources from several local departments and the Texas Forest Service responded and aided in suppressing the wildfire within the initial operational period.



The Bahia Grande tract is located in the southeast corner of Texas, approx. 10 miles northeast of Brownsville and 6 miles east of Los Fresnos. The tract is part of the Lower Rio Grande Valley NWR but managed as part of Laguna Atascosa NWR through a verbal agreement. The planned subunit that day involved the northwest portion of the unit, north of Texas Highway 100 along an interior dirt road that ran parallel with the highway and the refuge boundary to the west and north. The planned subunit totaled 735 acres.

The prescribed fire was planned and executed by the staff of the South Texas Fire Management Zone with assistance of 2 firefighters from Pharr Fire Department.



Chayne Best – FWS Arizona Fire Management Zone, Prescribed Fire Specialist

**The following participated in the review:**

South Texas Fire Management Zone, Fire Staff

Laguna Atascosa NWR Project Leader – Agency Administrator

**SUMMARY NARRATIVE:**

Planned operations on the morning of January 7<sup>th</sup> started off as expected. Briefing was conducted onsite with all resources necessary to implement the prescribed fire. Based on the on-site winds, it was determined to implement the test fire downwind at the northwest corner of the unit. From there, one firing team would light along the west control line headed south while the other team would advance along the north control line headed east. The west and north lines consisted of a sixteen-foot-wide disk fuelbreak installed by a Bipartisan Infrastructure Law (BIL) funded contractor. It was noted that portions along the line consisted of heavy loads of Gulf cordgrass. It was also noted that disked cordgrass thatch was continuous through portion of the fuelbreak.

Once the test fire was complete and deemed acceptable, firing operations continued as planned along the north and west lines. As operations progressed, the fine fuels continued to dry and became increasingly receptive to ignition, responding to the local environmental conditions and the strengthening south/southeast winds.

Fuel load and types also varied along the north line. By late morning the lead north line ignitor had progressed three quarters of the way down their line with no major holding issues noted. As ignitions continued along the north line, a strip of dense Gulf cordgrass was ignited causing poor visibility and intense heat along and over the control line. A crewmember from the lead holding resource (Type 6 engine) pulled hardline hose ahead of the engine to extinguish clumps of thatch that were actively burning with the potential to carry fire through the disked line. The engine crewmember was successful in extinguishing a couple pockets of thatch in the line but due to the smoke and heat had to pull back. This allowed enough time for additional stringers of thatch to carry fire across the line. Due to the increased winds and thick smoke, fire quickly become established in the adjacent heavy fuels. The lead engine was unable to extinguish the sloop and prescribed fire operations quickly shifted to full suppression of the wildfire.

**Incident Timeline:**

**1/07/2026 - Unit 10 Implementation**

0810 – Operational briefing at the Unit 10 staging area (south line parallel to State Hwy 100).

0847 – Briefing complete. Resources headed to DP-A (NW corner of burn unit) for test fire. It was noted, while enroute, resources saw the unit and their responsible section of line for the first time. No time was allocated for all resources to evaluate the entire burn unit.

0931 – Test fire complete. Continuing with firing operations along the West and North lines.

1045 – Operations normal, progression is more than halfway complete. Holding resources patrolling lines. Continuing with firing along both the West line (DP-A to C) and the North line (DP-A to B).

1100 - Burn Boss calls into a scheduled meeting with the regional office for UAS discussion and is temporarily unavailable by radio.

1115 – Fire reported across the North line. FMO (assigned crewmember/FFT1 on E-2462) calls dispatch to request contingency resources from Los Fresnos Fire Dept. Requested resources includes, 1 water tender, 2 brush trucks.

1118 – Burn Boss hears radio traffic of a slopover, contacts dispatch to inform on slopover. Dispatch reply's back they are aware and they're on the phone with Los Fresnos FD.

1131 – FMO contact's dispatch to inform them of the additional communication frequency for the slopover/escape, identified as "EVENT 2".

1207 - Identified (declared wildfire) IC contact's dispatch to request resources from Texas Forest Service. FMO, Burn Boss/AFMO, and IC/FOS meet face to face to develop operational plan for slopover/escape.

1324 – IC updates dispatch with resources on-scene and progress of fire.

1517 – IC reports to dispatch the Northwest corner looks good. There's dozer line from the Northeast corner to the South. Northeast is the only active flank with active fire along the dozer line.

1713 – IC updates dispatch slopover/escape contained. Assessing the initial prescribed burn unit.

2049 – All FWS resources meet for AAR back at the Rx burn briefing site.

2112 - All resources leave the burn area and return to station.

### **1/08/2025 - Unit 10 Monitor and Patrol**

0701 – Burn Boss arrives to evaluate Rx burn and escape.

0836 – Additional FWS resources arrive including fire dozer from Santa Ana NWR to patrol and mop-up.

1642 – IC reports to dispatch that the Rx burn and slopover/escape portion looks good. Some smoke on the North line but not a threat. One engine remains on scene, but all other resources would be returning to station.

## **PRIMARY FINDINGS & RECOMMENDATIONS**

***An analysis of seasonal severity, weather events, and on-site conditions leading up to the wildfire declaration. Include fire weather forecasts including any spot forecasts, Remote Automated Weather Station (RAWS) data and National Fire Danger Rating System (NFDRS) data:***

## Findings

- The locations of the Unit 10 prescribed fire and escape was experiencing a moderate level of drought classified by the U. S. Drought Monitor (fig. 1).
- Laguna Atascosa NWR has one permanent RAWS Station (ATRT2) located at the refuge Headquarters approximately 9.5 miles from the burn unit. Keetch Byrum Drought Index (KBDI) values from the Laguna RAWS were within prescription at 478 (fig. 2) and the last measurable rain occurred 3 weeks prior on December 17<sup>th</sup> when 1.00" of rain fell.

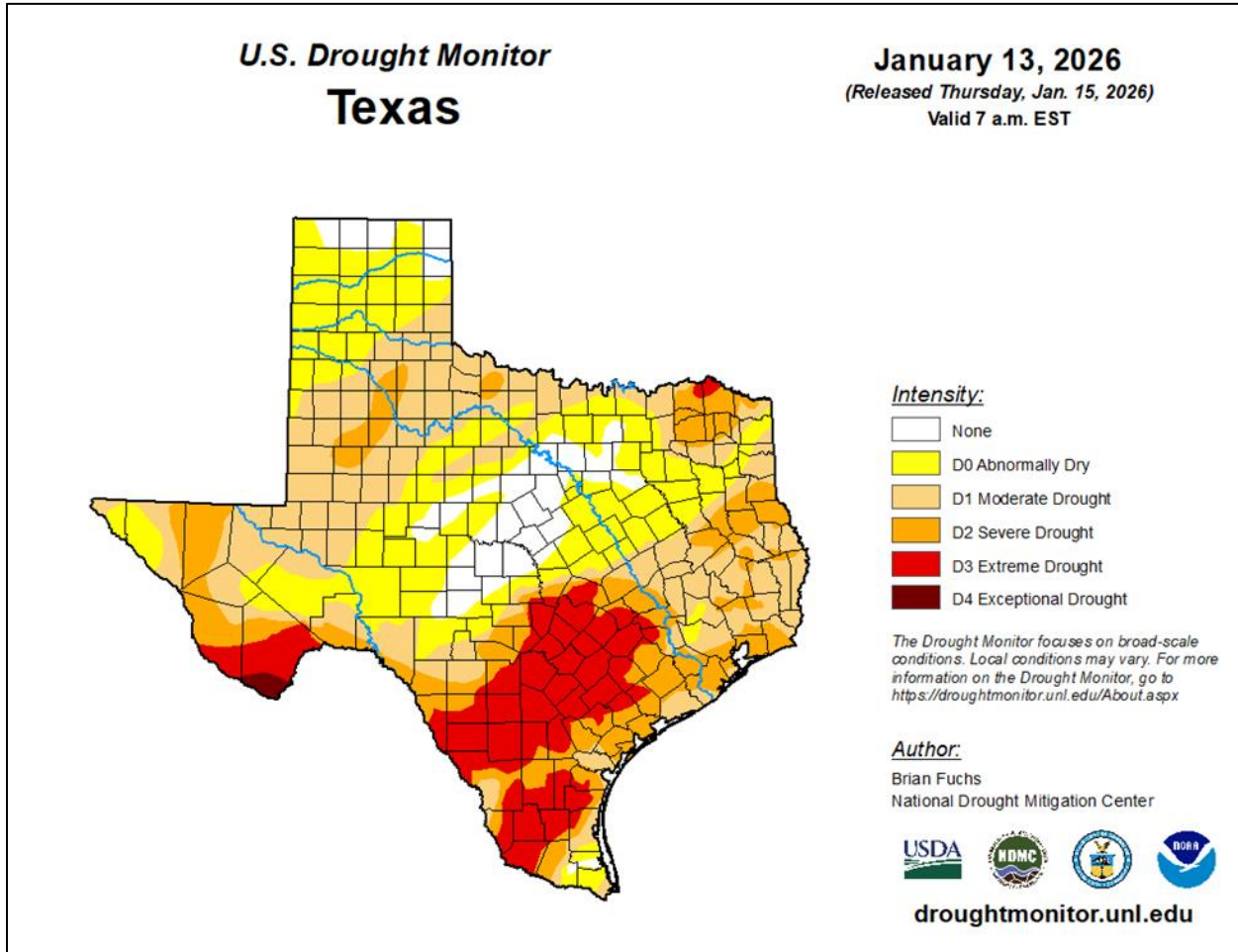


Figure 1

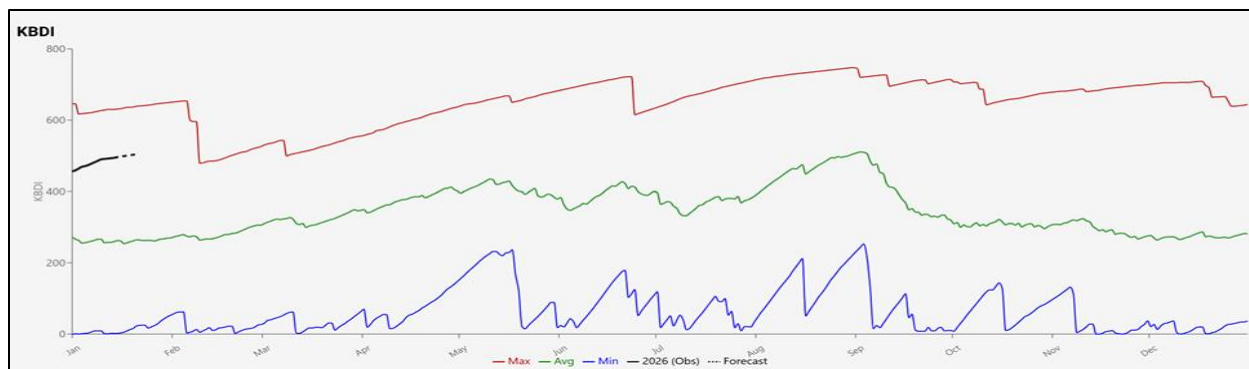


Figure 2

- Since the last measurable rain, the area has experienced a very dry period where National Fire Danger Ratings have quickly moved from below average values to meeting seasonal highs based on Energy Release Component (ERC) observations since 2005 (figs. 3 and 4).
- The day prior to the burn, in Fuel Model “Y” the ERC was 110% of the seasonal max, at value of 18.9 while the observed max since 2005 was 17.5. The day of the burn observations recorded an ERC value of 19.3, which was in the 93rd percentile of the seasonal max.

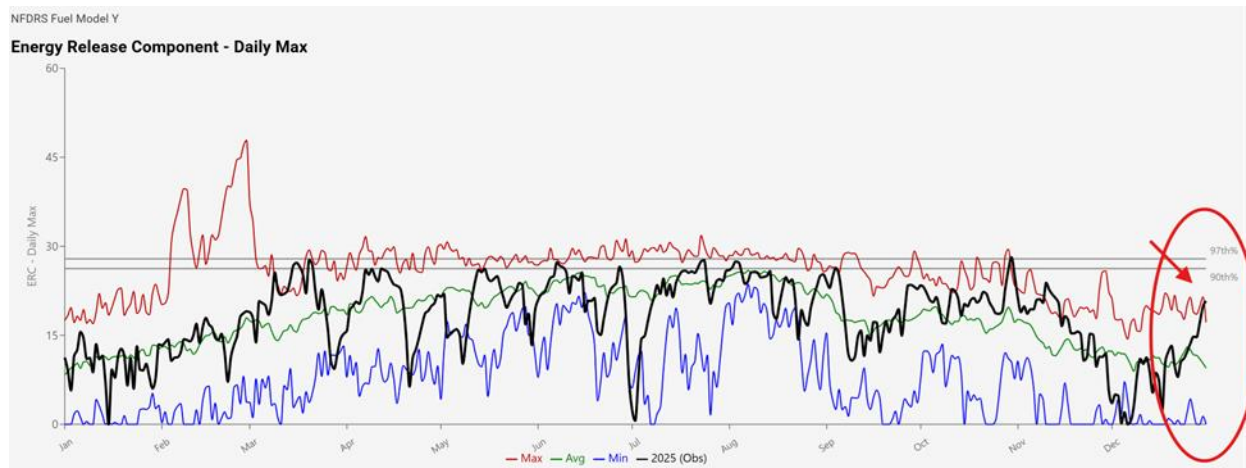


Figure 3

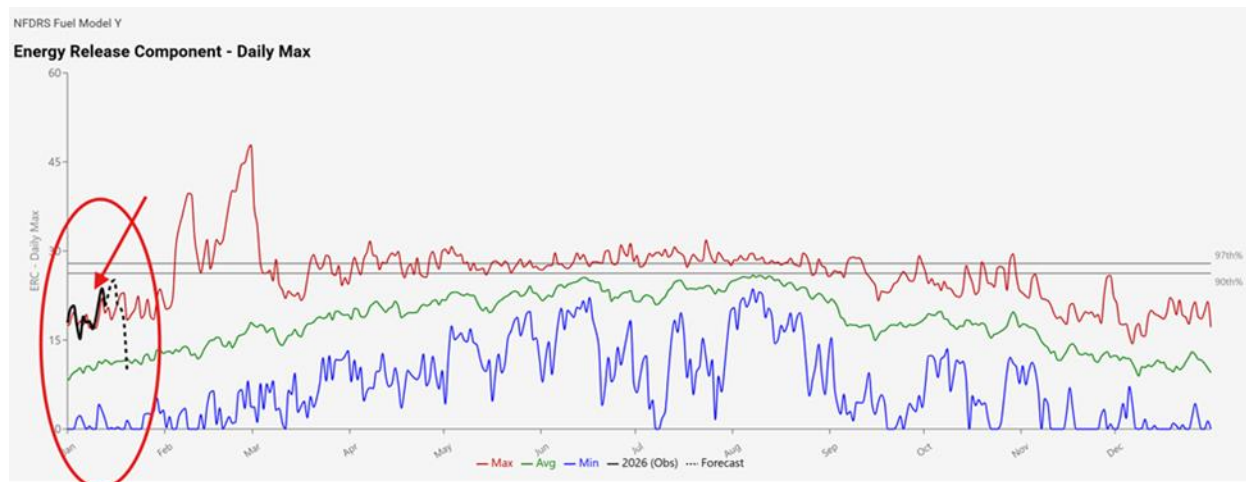


Figure 4

- Burn day conditions were within the predicted and observed conditions on all metrics as identified in Element 7 of the prescribed fire plan (fig. 5).
- The spot weather forecast predicted maximum sustained winds at 18mph after 3pm which equals the high end of the prescription (fig. 6). Despite being in prescription with sustained winds, wind gusts were predicted to be above 18mph with gusts to 24mph. RAWs data recorded actual gusts up to 27mph for an extended period (fig 7).
- At the time of the escape (~1100), all conditions were within prescription, with wind speed and gusts below the prescription limit.

- A HYSPLIT wind model was requested through the Spot Forecast but was delivered as a large-scale map which limits the ability to identify predicted smoke concerns at a local level.

<b>Scheduling</b>	<b>Proposed:</b> All year		<b>Actual:</b>
<b>Time of Day</b>	<b>Planned or Proposed:</b> 08:00-18:00		<b>Actual:</b>
<b>TARGET FUELS</b> Fuel Model: GR8	<b>Low</b> Fire Behavior	<b>High</b> Fire Behavior	Target Range
<b>Weather Conditions</b>	Acceptable Range		
Temperature ( F)	32	100	
Relative Humidity (%)	95	25	30-50
Wind Speed (mph)(20' forecast)	6	18	7-12
Wind Direction	* See appendices for wind directions per unit.		
Cloud Cover (%)	100	0	0-80
<b>Environmental Conditions</b>			
Soil Moisture (KBDI)	0	750	400-550
1 Hour Fuel Moisture (FM %)	20% +	5%	6-10%
10 Hour FM	N/A	N/A	
100 Hour FM	N/A	N/A	
Woody Live FM	N/A	N/A	
Herb. Live FM	>150%	30%	
<b>Fire Behavior</b>	Backing	Head	
Rate of Spread (ch/hr)	63	869	
Heat per Unit Area (Btu/ft <sup>2</sup> )	471	783	
Fireline Intensity (btu/ft/s)	545	12468	

Figure 5

Spot Forecast for Bahía Grande Unit 10...FWS  
 National Weather Service Brownsville TX  
 520 AM CST Wed Jan 7 2026

Forecast is based on ignition time of 0600 CST on January 07.  
 If conditions become unrepresentative, contact the National Weather Service.

.DISCUSSION...Warming temperatures with falling relative humidity will occur today. Breezy winds with stronger gusts are likely.

.TODAY...

Sky/weather.....Sunny (20-30 percent). Patchy fog early in the morning.  
 Max temperature.....Around 84.  
 Min humidity.....55 percent.  
 Eye level winds.....South winds up to 10 mph increasing to 10 to 11 mph late in the afternoon.  
 Wind (20 ft).....South winds 6 to 17 mph becoming 7 to 16 mph early in the morning, then increasing to 16 to 17 mph late in the afternoon.  
 Mixing height.....3700 ft AGL.  
 Transport winds.....South 13 to 22 mph increasing to around 23 mph late in the afternoon.

TIME (CST)	6AM	7AM	8AM	9AM	10A	11A	12P	1PM	2PM	3PM	4PM	5PM
Sky (%).....	26	33	26	24	23	23	36	31	21	14	19	11
Weather cov.....												
Weather type....												
Tstm cov.....												
Temp.....	66	66	68	73	77	80	82	83	83	83	81	79
RH.....	98	98	96	89	75	65	60	58	56	55	59	63
20 FT wind dir..S	S	S	S	S	S	S	S	S	S	S	S	S
20 FT wind spd..6	7	8	10	13	14	15	16	17	17	18	17	17
20 FT wind gust.13	14	14	16	18	20	22	23	23	23	24	24	24
Eye lvl wnd dir.S	S	S	S	S	S	S	S	S	S	S	S	S
Eye lvl wnd spd.4	4	5	6	8	8	9	10	10	10	11	10	10
Eye lvl wnd gst.8	8	8	10	11	12	13	14	14	14	14	14	14
Mix hgt (kft)...0.3	0.5	0.9	1.4	2.1	2.8	3.4	3.6	3.7	3.7	3.5	3.0	2.5
Transp wind dir.S	S	S	S	S	S	S	S	S	S	S	S	S
Transp wind spd.14	13	13	17	20	20	20	21	22	22	22	23	23

Figure 6

Tabular Listing of 25 Observations from 01/06/2026 22:22 CST to 01/07/2026 22:22 CST (ordered last to first):

Time	2.0m Temperature	2.0m Dew Point	2.0m Wet bulb temperature	2.0m Relative Humidity	6.1m Wind Speed	6.1m Wind Gust	6.1m Wind Direction	Solar Radiation	Precipitation accumulated
(CST)	°F	°F	°F	%	mph	mph		W/m²m	in
22:22	73	71.5	72	95	8	17	SE	0	0
21:22	72	70.5	71	95	6	15	SE	0	0
20:22	72	70.2	70.8	94	5	11	SE	0	0
19:22	73	67.2	69	82	3	14	SE	0	0
18:22	75	65.7	68.7	73	6	22	SE	10	0
17:22	78	64.4	68.7	63	9	20	SSE	114	0
16:22	80	64.9	69.6	60	9	26	SSE	342	0
15:22	83	65.6	71	56	11	27	SSE	464	0
14:22	83	64.6	70.3	54	11	25	SSE	492	0
13:22	84	65.5	71.2	54	9	26	SE	586	0
12:22	84	66.6	71.8	56	10	20	SSE	531	0
11:22	81	70.3	73.4	70	8	16	SSE	351	0
10:22	78	75.5	76.2	92	7	16	S	327	0
9:22	74	74	74	100	4	9	S	220	0
8:22	69	69	69	100	2	5	SSE	53	0
7:22	65	65	65	100	2	4	SE	1	0
6:22	65	65	65	100	1	4	SSE	0	0
5:22	65	65	65	100	2	4	SSE	0	0
4:22	66	66	66	100	2	6	S	0	0
3:22	67	67	67	100	3	9	S	0	0
2:22	67	67	67	100	3	6	SSE	0	0
1:22	67	67	67	100	3	5	SSE	0	0
0:22	68	68	68	100	1	6	SSE	0	0
23:22	70	70	70	100	4	7	SSE	0	0
22:22	69	69	69	100	3	5	SE	0	0

Figure 7

### Recommendations

- The fire environment is influenced by several factors. When considering fuel and weather conditions on the day of a burn, it is important to understand both the short- and long-term metrics that will influence expected fire behavior.
- While the weather the day of the burn was within prescription, the unit had experienced a rapid drying period since the last measurable rain on December 17<sup>th</sup>, 3 weeks prior. Evaluating National Fire Danger Rating System (NFRDS) observations and predictions provides fire planners and burn bosses with additional environmental conditions that can influence fire behavior that may not be captured in the spot weather forecast. In this case the rapid drying event pushed ERC values to seasonal records.
- The Zone incorporates NFRDS values (ERC, Burning Index (BI), and Spread Component (SC)) in the planning process and develop break points by season (Summer, Winter, etc) to determine the condition of the fire environment.

***An analysis of the actions taken leading up to the wildfire declaration for consistency with the prescribed fire plan. This will include whether it was adequate and whether it was followed:***

### Findings

- In accordance with agency policy, the South Texas Refuge Complex Prescribed Fire Plan specifies that any fire spreading outside Federal lands will be reclassified and declared a wildfire.
- Notification of the slop on to private land was relayed to the Burn Boss, Fire Management Officer (FMO), Agency Administrator (AA), and upon verification of land ownership, the prescribed fire was declared an escape.
- The regional office was notified of the escape within 30 minutes of the incident occurring.
- Contingency resources were requested through dispatch and were on scene within 45 minutes.
- All actions taken regarding the wildfire declaration were consistent with the prescribed fire plan.

## **Recommendations**

- The prescribed fire plan and wildfire declaration process is clearly stated and was followed appropriately.

### ***An analysis of the prescribed fire plan for consistency with policy:***

#### **Findings**

- Max Allowable Area (MAA) definition and applicability were unclear.
- Complexity analysis was in the plan without signatures, discrepancies between pre and post plan risk evaluation, and did not have a completed final determination and rationale.
- Tech review was not fully completed and missing some elements of being satisfactory or unsatisfactory.

#### **Recommendations**

- Include explicit MAA definitions and ensure it is outlined for each unit in future plans.
- Ensure complexity analysis final determination is complete and includes rationale that is documented and included in the prescribed fire plan.
- Ensure all rating boxes have been marked satisfactory or unsatisfactory and signed approved.

### ***An analysis of the prescribed fire plan and associated environmental parameters:***

#### **Findings**

- Burn conducted under south wind conditions, but plan doesn't include south wind for Unit 10.
- According to the spot forecast winds would be on the higher end of the plan prescription.
- Test fire location was not a good fuel type representation for rest of the unit. RH Values were high when doing test fire in fuel type with less fire intensity.

#### **Recommendations**

- Validate wind parameters against plan prescriptions and document contingency measures.
- Adding additional personnel to organization to account for higher winds.
- Perform test fire in location with most common representation of fuel types in the unit.

### ***A review of the approving line officer's qualifications, experience, and involvement including adequate program oversight:***

#### **Findings**

- The agency administrator (AADM) has been qualified as AADM since November 9th, 2012, and most recently completed the biennially required refresher training (RT-300) on December 9th, 2025.

#### **Recommendation**

- Fire staff and AADM(s) annually review the burn plan as part of the fire zone preseason planning to ensure any updates or changes are identified and communicated.

***A review of the qualifications and experience of key personnel involved:***

**Findings**

- All USFWS Personnel on the prescribed fire were fully qualified in the positions they functioned in during implementation.

**Recommendations**

- Continue to ensure all employees are qualified and required training has been completed to avoid any unknown expirations.

***A summary of causal agents contributing to the wildfire declaration:***

**Findings**

- Fuel type and fuel loading varied across the burn unit and along the control lines. Lighter fuels were present at the test fire location with heavier fuels further down the line where the escape occurred.
- The control lines for the prescribed burn were being maintained by a contractor as fuelbreaks but still contained dry receptive thatch within the line, continuous enough to allow fire to cross into adjacent heavy fuels.
- Not all resources were able to “scout” or drive the control lines before ignition started. Not all resources were made adequately aware of potential areas of the line that could require adjusting ignition techniques or moving holding resources.

**Recommendations**

- Ensure control lines are evaluated and meet the requirements of the burn plan prior to ignitions or burn day operations
- The Statement of Work (SOW) for contracted fuelbreak maintenance be reviewed and clarified as needed, and that the Contracting Officer Representative ensure regular monitoring and verification of the contractor’s work to prevent conditions such as residual receptive thatch within control lines.
- Allow for sufficient time before ignitions to give all resources an opportunity to evaluate the burn unit, looking for “trouble spots” or areas requiring extra attention and preparation. The Burn Boss should consult with the Firing and Holding Bosses and discuss observations and mitigation strategies before the operational briefing.

***Determine the level of awareness and understanding of procedures and guidance of the personnel involved:***

**Findings**

- All personnel on scene made proper notifications and followed the chain of command when declaring the incident a wildfire.

**Recommendations**

- Continue discussions with AAs and line personnel regarding escaped prescribed fire notifications and procedures.
- Continue to identify and confirm availability of contingency resources.

***Establish accountability:***

## **Findings**

- The complexity narrative was not complete, and complexity increased after mitigations without being fully captured.
- A verbal agreement between the managers of Laguna Atascosa NWR and Lower Rio Grande Valley NWR delegated management authority for the unit to Laguna Atascosa NWR. This agreement included Agency Administrator (AA) authority and responsibilities for fuels management activities, including prescribed fire. During the review, it was noted the intent of this agreement is to reduce bureaucratic barriers and enable more efficient implementation of hazardous fuels reduction treatments to lower wildfire risk.
- The tech review was signed but not filled out; missing maps, missing fuel models, and missing Behave modeling runs created gaps in accountability for required planning components.
- Conflicting dates for burn windows, unclear MMA boundaries, and discrepancies in required equipment all contributed to unclear accountability for compliance.
- Local landowner notifications were delayed; the communications plan lacked channels; the plan required all notifications on day of burn, limiting operational accountability.

## **Recommendations**

- Require a complete, accurate complexity analysis in all prescribed fire plans and validated by qualified reviewers.
- Establish a written delegation of authority between the Lower Rio Grande Valley NWR manager and the Laguna Atascosa NWR manager identifying AA authority and responsibilities for fuels mitigation treatments on identified management units. The Fire Management Plan and programmatic burn plan should note this delegation of management authority.
- Maps, fuel models, Behave runs, equipment requirements, and all review sections must be completed before signatures. Recommend an internal checklist tied to responsible officials.
- Allow notifications at least one day prior; update communications plan with complete channels; assign responsibility for landowner and interagency notifications.

## ***Synopsis of Lessons Learned:***

The review of the Bahia Grande Unit 10 prescribed fire highlights several important lessons that underscore the need for stronger planning discipline, clearer operational frameworks, and improved coordination across jurisdictions. Together, these lessons help shape a more resilient and predictable prescribed fire program for future implementation.

### **1. Strengthen the Foundation of Prescribed Fire Planning**

The review shows that core planning elements were incomplete or dated. These oversights reduced situational awareness and created uncertainty during implementation. Foundational products, including complete Behave runs, and accurate fuels maps are essential for safe and effective operations.

## **2. Clarify Roles, Authorities, and Approval Pathways**

Confusion around delegated authorities and the correct Agency Administrator signatures contributed to procedural gaps. Because the Bahia Grande units span two management jurisdictions, dual approval and ignition authorization must be clearly defined and consistently applied. Explicit documentation of responsibility helps ensure legal compliance and operational alignment before ignition occurs.

## **3. Reinforce Prescription Adherence and Operational Validation**

Executing the burn under south wind conditions, along with a test fire conducted in fuels that did not represent the broader unit, highlights the importance of confirming conditions before ignition. Verifying that weather, fuel characteristics, and test-fire results align with expected operational conditions helps ensure that the prescription remains appropriate and that planned strategies and contingencies will perform as intended.

## **4. Improve Fuels, Fire Behavior, and Risk Indicators**

Missing fuel models, inaccurate spreadrate values, and reliance solely on KDBI for longterm dryness masked important risk signals. Incorporating ERC and other NFDRS components provides a more complete picture of seasonal drying trends, fireline intensity, and resistance to control.

## **5. Enhance Communication, Coordination, and Notifications**

Adjusting notification language to allow earlier contact and improving communication systems helps reduce operational friction and builds trust with neighbors and partners.

## **6. Verify Equipment Readiness and Operational Support Needs**

Some equipment requirements were either overly prescriptive or not verified before implementation. Plans should specify equipment needs clearly but flexibly, allowing for alternate tools when appropriate. Ensuring that resources such as water tenders and line-building equipment are confirmed in advance helps teams maintain operational rhythm and reduces last-minute adjustments.

## **7. Upgrade Smoke Management Tools and Forecasting Products**

The use of statewidescale HYSPLIT outputs resulted in coarse smokeimpact predictions. Requesting localized products, such as an animated .kmz, provides better situational awareness and supports more informed decisions regarding smoke impacts on nearby communities, roadways, and partners.