

**HAVASU NATIONAL WILDLIFE REFUGE  
DECLARED WILDFIRE  
REVIEW**



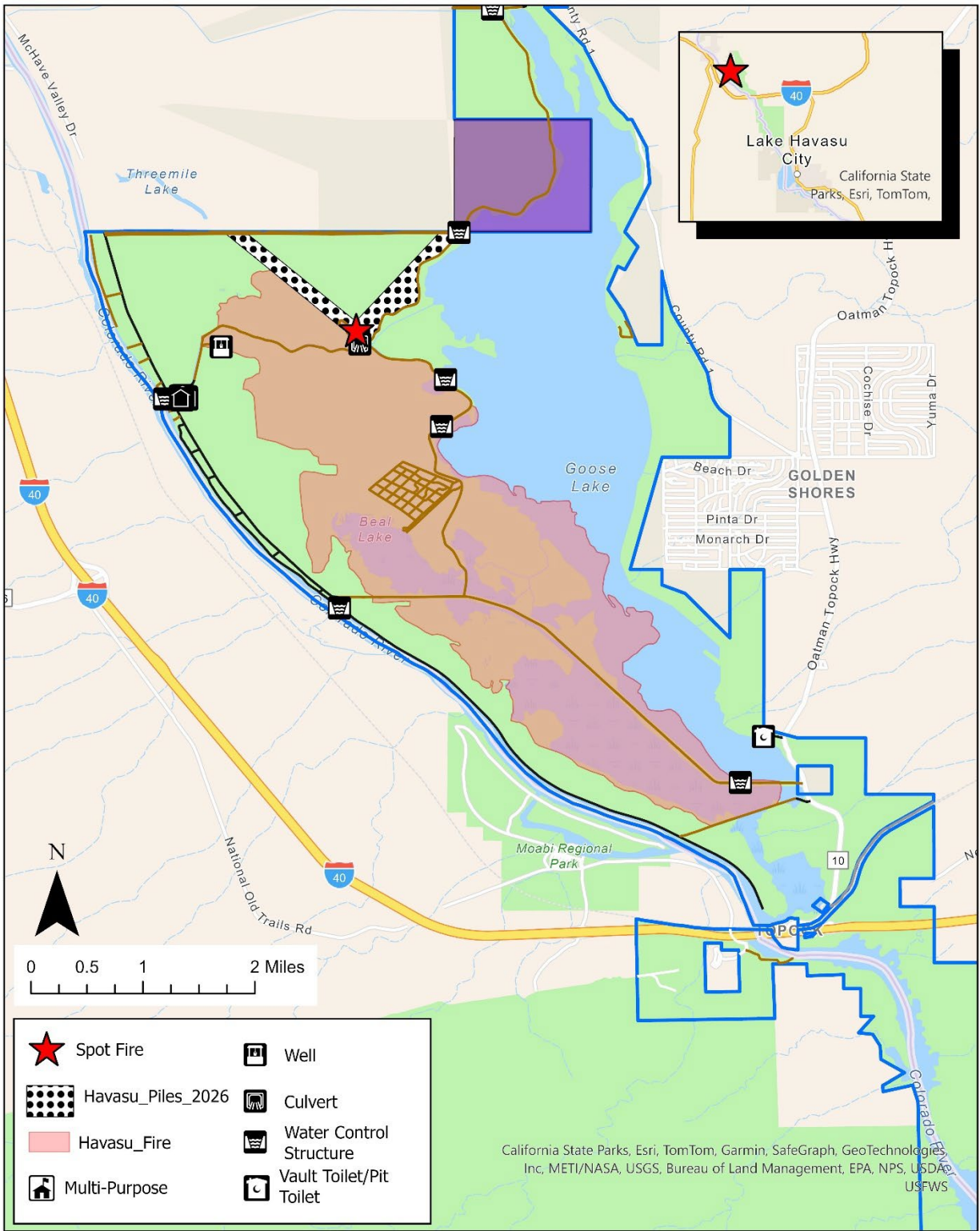
**Final REPORT  
03/27/2026**

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# Havasu Piles RX - Escaped Fire Review





**INTRODUCTION**

The Havasu Fire on Havasu National Wildlife Refuge began on the morning of January 19, 2026, as a result of a prescribed fire that extended beyond the designated project area into adjacent receptive fuels, consuming 4,084 acres of refuge lands. The Arizona Fire Zone initiated the prescribed fire on the Havasu NWR along the Colorado River in Arizona as part of a hazardous fuel removal and habitat improvement project. The planned prescribed fire area involved 185 acres of previously constructed mechanical piles of salt cedar, which were ignited under an approved program of work, prescribed fire plan, and fire management plan. The wildfire was declared and managed as a Type 3 Incident with 88 firefighters engaged and resulted in minimal damage to infrastructure but consumed multiple habitats for threatened and endangered species. The wildfire remained within the boundaries of the refuge but threatened the community and infrastructure of Topock, AZ and impacted the local area with dense concentrations of smoke.

**SUMMARY NARRATIVE**

During the week of January 19, 2026, the Arizona Fire Zone mobilized to conduct prescribed fires at both Havasu NWR and Bill Williams NWR, taking advantage of a critical weather window that provided suitable wind conditions for the Bill Williams NWR prescribed burns. Fire staff planned to incorporate pile burns at Havasu NWR during this period to optimize project costs.

The project area for the piles is directly adjacent to one of two identified habitats of the Northern Mexico Gartersnake within Havasu NWR. A 2023 Section 7 consultation recommended creating piles over 300 feet away from the habitat to reduce the likelihood of Gartersnake utilization. Fire management staff prioritized the burning of piles within 300 feet of

the habitat to prevent any potential future conflicts. Weather forecasts indicated that Monday morning would provide conditions aligned with the prescribed fire plan parameters, with deteriorating conditions anticipated in the afternoon due to high sustained winds and gusts.



The fire staff consisting of 6, conducted the prescribed fire briefing and go/no-go activities and initiated the test fire at 0800 hours. The objective for the day was to burn the piles located within approximately 300 feet of the Gartersnake habitat and complete firing operations before the forecasted increase in wind speed. The National Weather Service (NWS) spot weather forecast provided inconsistent data regarding the timing and intensity of the anticipated windy conditions.

Additionally, the local area was experiencing near-record seasonal indices for fuel dryness, with the Energy Release Component (ERC) exceeding the 98th percentile of the daily maximum over a 20-year period at the Havasu NWR Remote Automated Weather Station (RAWS).

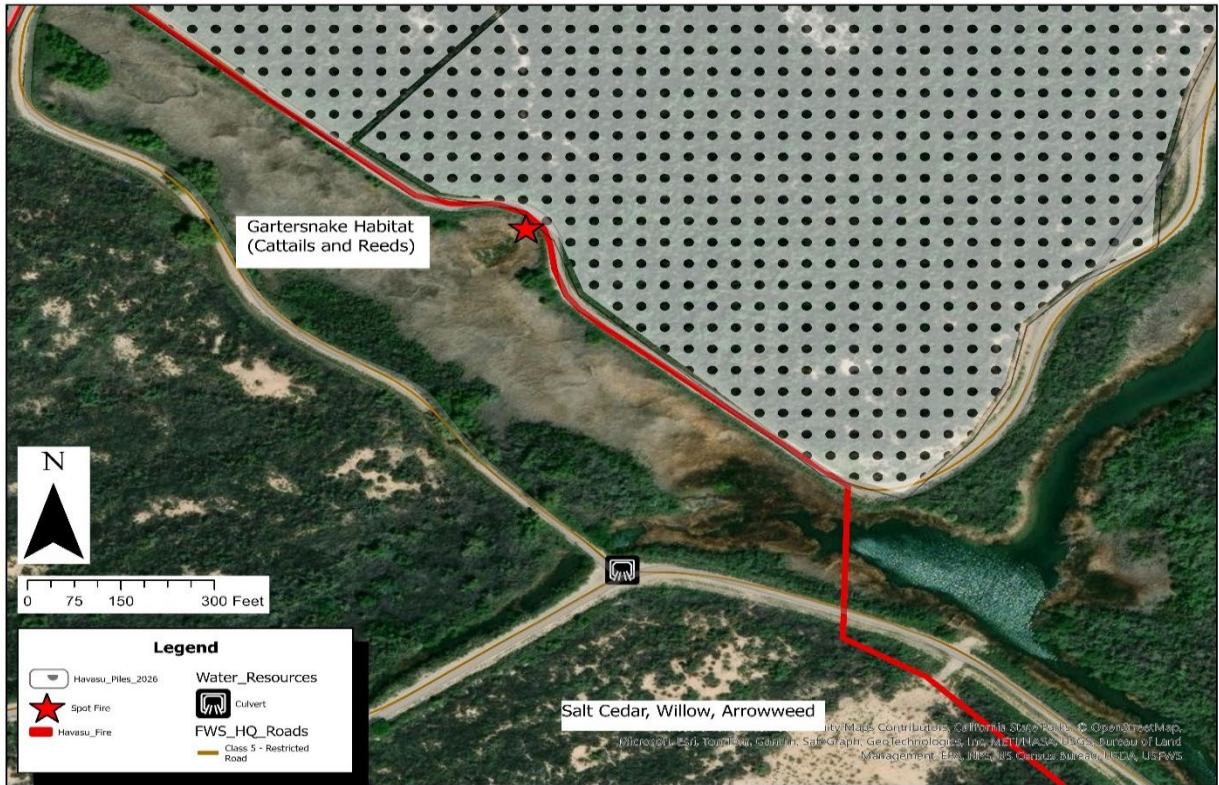
The test fire was deemed successful, and approximately 10 acres of piles were ignited along the road that served as a buffer to the snake habitat. Winds remained light, and all initiated fires stayed within the pile area. The Type 3 Burn Boss and the Zone Fuels Specialist contacted the local NWS office via phone for an updated forecast and timing of the increased winds. All ignitions were completed by 1030 hours before the expected higher winds. Previous mastication debris along the road and within the pile project area experienced a few spot fires, which firefighters promptly addressed.



RAWS data indicates that between 1052 and 1152 hours, calm winds escalated to sustained winds of 16 miles per hour with gusts up to 25 miles per hour, consistent with the initial spot weather forecast. At

1135 hours, a spot fire from ignited mastication debris spread into the dense and decadent riparian Gartersnake habitat, which has been affected by decreased water flows and increased

dry conditions. Suppression efforts were unsuccessful, and the fire rapidly consumed adjacent fuels, progressing across the service road designated for contingency.



With limited firefighting resources and few natural or prepared barriers that could be defended, the fire progressed rapidly to the south through the refuge. The vegetative fuels adjacent to the unit have no recorded wildfire or prescribed fire history (IFPRS/FMIS) and consist of upland desert scrub with dense beetle stressed salt cedar for the first half mile of progression. The established fire demonstrated high rates of spread and continued through the 2023 Willow Lake West RX treatment with little resistance.



As the fire burned through the Beal Lake Conservation Area (BOR/USFWS) fire management staff continued to consult with the project leader and the escaped burn was declared a wildfire at 1601 MST. A Type 3 organization remained in place until 1/25/26 and the fire was declared contained on 1/28/2026.

**The Review Team consisted of:**

Jeff Adams, Southwest Region Fuels and Fire Planner

Louis Prevatke, Nevada Zone Fire Management Officer

**The following participated in the review:**

Lake Havasu NWR Complex Project Leader

Lake Havasu NWR Complex Deputy Project Leader

Arizona Zone Fire Management Officer

Arizona Zone Prescribed Fire Specialist

Arizona Zone Engine Boss and Burn Boss (RXB3)

**Timeline of Events**

**07:50** - Go/No-Go briefing conducted.

**08:00** - Test fire initiated.

**08:10** - Test fire successful, igniting 10 acres of piles.

**09:45** - Called NWS about weather vs. predictions.

**10:30** - Second call to NWS on winds. Ignition completed.

**11:35** - First spot fire; considered additional resources.

**12:35** - Requested contingency engine.

**12:59** - Updated Agency Administrator (AA).

**13:00** - Winds shifted NNW; more spots occurred.

**13:08** - Ordered Mohave Valley resources.

**13:43** - Mohave Valley resources arrived.

**14:04** - Alerted AA to rapid fire spread affecting snake habitat.

**16:01** - Incident declared a wildfire by Project Leader. Ordered more resources, including two Type 2 crews, dozers, and engines.



## **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**

#### Location and Environmental Context

- Havasu National Wildlife Refuge (NWR) is located along the Colorado River, spanning both Arizona and California, east of Needles, CA.
- Vegetation includes riparian corridors composed of salt cedar, willow, cottonwood, and mesquite. Upland Mojave Desert species and marsh habitats are also present within the refuge.

- Annual rainfall is less than 5 inches, which means fuels are readily available to sustain fires throughout the year.
- Water levels are actively managed through water control structures, influencing holding features and fuel conditions.
- Marsh and associated backwater sloughs are currently affected by damaged water control infrastructure undergoing multi-year, multi-agency restoration efforts.

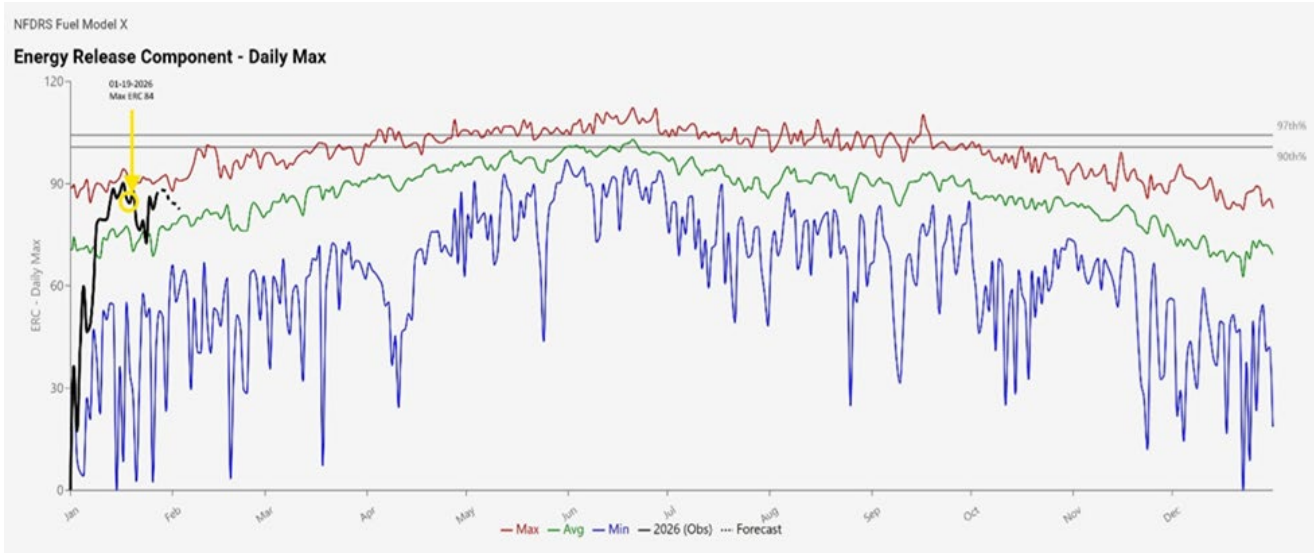
### Rainfall and Seasonal Conditions

StationName	Date	ObservationType	TemperatureMin(F)	TemperatureMax(F)	RelativeHumidityMin(%)	RelativeHumidityMax(%)	Precipitation24hr(in)	WindSpeedMax(mph)	GustSpeedMax(mph)
HAVASU	12/27/2025	O	49	68	30	87	0	6	13
HAVASU	12/28/2025	O	34	66	27	100	0	19	32
HAVASU	12/29/2025	O	52	67	17	30	0	23	36
HAVASU	12/30/2025	O	47	69	16	46	0	15	27
HAVASU	12/31/2025	O	36	60	32	100	0.15	4	9
HAVASU	1/1/2026	O	49	53	89	100	0.19	5	11
HAVASU	1/2/2026	O	51	68	63	100	0.01	4	10
HAVASU	1/3/2026	O	49	62	77	100	0	4	8
HAVASU	1/4/2026	O	44	71	55	100	0	9	18
HAVASU	1/5/2026	O	44	71	42	95	0	5	12
HAVASU	1/6/2026	O	38	67	53	100	0	3	8
HAVASU	1/7/2026	O	38	68	49	100	0	4	9
HAVASU	1/8/2026	O	41	64	30	100	0	15	27
HAVASU	1/9/2026	O	42	58	17	37	0	22	35
HAVASU	1/10/2026	O	47	63	18	37	0	22	35
HAVASU	1/11/2026	O	33	68	19	63	0	16	31
HAVASU	1/12/2026	O	28	71	18	70	0	16	27
HAVASU	1/13/2026	O	33	78	13	71	0	16	28
HAVASU	1/14/2026	O	39	80	12	62	0	18	33
HAVASU	1/15/2026	O	35	80	14	66	0	12	23
HAVASU	1/16/2026	O	31	78	11	69	0	20	35
HAVASU	1/17/2026	O	50	75	12	31	0	22	38
HAVASU	1/18/2026	O	27	76	15	61	0	11	18
HAVASU	1/19/2026	O	27	75	14	72	0	18	36
HAVASU	1/20/2026	O	41	74	12	48	0	14	23
HAVASU	1/21/2026	O	29	68	19	60	0	6	11
HAVASU	1/22/2026	O	32	70	21	68	0	7	12
HAVASU	1/23/2026	O	38	75	19	67	0	5	9
HAVASU	1/24/2026	O	40	68	22	66	0	15	26
HAVASU	1/25/2026	O	36	68	10	38	0	14	25

- Rainfall totals for the 2025/26 winter season were measured at the Havasu RAWs (20118), amounting to 2.89 inches since October 1, 2025.
- The last measurable rainfall occurred from December 31, 2025, to January 2, 2026, totaling 0.35 inches.
- In the week preceding the Havasu Pile RX and Fire, fuels experienced significant drying due to low daytime relative humidities and poor nighttime relative humidity recovery.
- This drying period resulted in elevated National Fire Danger Ratings (NFRDS), which were well above average and approached seasonal highs.

### Fuel and Fire Danger Metrics

- Energy Release Component (ERC) values approached seasonal maximums for the two days prior to, and the day of, the planned burn.
- The Havasu NWR fire program is a signatory to the Arizona Central West Zone Fire Danger Operating Plan (FDOP), which utilizes Fuel Model X to represent fuels in the Colorado River corridor.
- On January 19, 2026, observed ERC in Fuel Model X from the Havasu RAWs was 87.9, representing the 98th percentile of the seasonal maximum of 89.8.



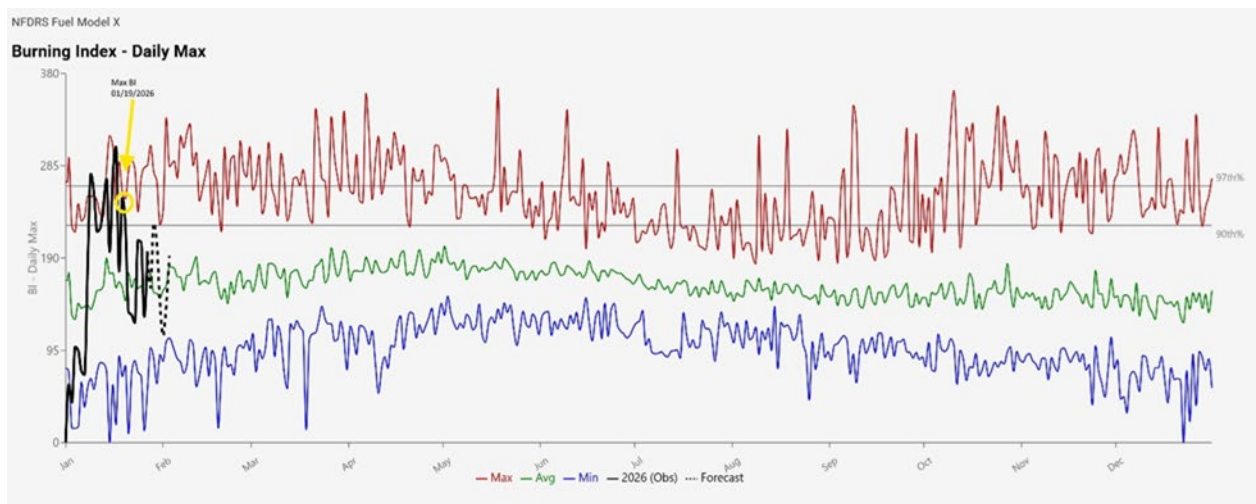
Weather Forecast Details

- At 0649 on the morning of the burn, a spot weather forecast request was submitted by the Burn Boss. <https://spot.weather.gov/forecasts/2600467>
- The local NWS office in Las Vegas, NV, noted breezy north winds and relative humidity dropping into the teens.
- Winds were predicted to be 5 to 10 mph in the morning, becoming 15 to 20 mph in the afternoon with gusts to 25 mph.
- Additional forecast details were delivered via email, including day-of and next-day tabular hourly forecasts and a HYSPLIT smoke trajectory graphic.
- The tabular hourly forecasts communicated that the winds were to increase within the 1100 hour, which aligns with the observed wind speeds on the Havasu RAWs.

Time:	6AM	7AM	8AM	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM
Weather:	☁	☁	☁	☁	☁	☁	☁	☁	☁	☁	☁	☁	☁	☁	☁	☁
Temperature, °F	43	42	47	57	62	66	70	72	73	74	72	69	65	61	59	58
RH (%)	51	53	47	34	27	24	21	19	18	17	18	21	24	27	29	30
Dewpoint, °F:	26	26	28	29	28	28	28	27	27	26	26	27	27	27	27	27
Wind Speed (mph):	5	6	7	9	12	16	18	21	22	22	21	17	17	15	15	14
Wind Gust (mph):	9	10	13	16	20	24	28	31	32	35	32	30	28	25	25	23
Wind Direction (°):	310	320	320	330	340	350	350	350	350	350	350	340	320	320	320	320
Wind Direction:	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰
Prob. of Precip.:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Precip. Amount:		0.00					0.00						0.00			
Snow:		0.0					0.0						0.0			
Ice:		0.0					0.0						0.0			
Sky Cover:	10	5	3	4	2	12	9	5	4	4	1	2	2	4	2	2
Prob. of Thunder:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trans. Wind Speed (mph):	5	6	6	7	7	13	17	22	22	22	21	20	17	15	15	14
Trans. Wind Direction (°):	320	320	320	330	340	340	350	350	350	350	340	340	330	320	320	330
Trans. Wind Direction:	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰
20 Ft. Wind Speed (mph):	3	5	6	7	9	13	15	16	17	17	16	14	14	12	12	12
20 Ft. Wind Direction (°):	310	320	320	330	340	350	350	350	350	350	340	320	320	320	320	320
20 Ft. Wind Direction:	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰	☰
Mixing Height (x100ft):	0	0	4	8	12	19	25	31	25	19	13	9	5	1	1	1
Vent. Rate (x1000 kt-ft):	0	0	2	5	7	21	38	60	48	37	24	16	7	1	1	1

## Observed Weather and Fire Behavior

- The RAWS is located NNE of the spot fire by less than one mile and is representative of fuels.
- Prior to 1052 hrs, winds were calm with minimal gusts (3 mph with gusts to 8 mph).
- As reported by firefighters, in the 1100 hour sustained winds increased to 16 mph with gusts to 27 mph.
- For the next 5 hours, until the fire was declared a wildfire at 1601 hrs, winds remained sustained in the high teens with maximum hourly gusts ranging from 30 to 36 mph.
- The observed Burning Index (BI) was also near a seasonal maximum, over the 97th percentile, with an observed value of 251.5 and a maximum of 258.2.



## Recommendations:

- Consider refining the prescription parameters to limit the weather and fuels scenarios that are available to carry fire outside of the planned project area. (e.g. high humidity, low winds for the operational period, or coupled with precipitation events)
- Include prescription limits that consider the appropriate fuel models and NFDRS indices. Ensure resources are monitoring the indices and understand their limits when planning ignition operations. Utilize NFDRS Fuel Model X to represent the riparian fuels along the river, as identified in the FDOP.
- Base all actions on current and expected fire weather and behavior. Limit reliance on predicted narrow weather windows that can quickly change and become unfavorable.
- Ask the NWS to provide detailed hourly information within the Spot Weather Forecast products and to limit the multiple communication modes.

- Consider limiting implementation when predicted conditions will move out of prescription within the burn period.

**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:**

The prescribed fire plan states that when a fire escapes the defined area of pile(s) the Burn Boss will determine if it is necessary to suppress the fire. Understanding that the forecasted conditions were not favorable, the Burn Boss directed immediate suppression of the internal spot fires occurring in the old mastication material along the service road. Once the winds overwhelmed the suppression efforts and spotted into the riparian Gartersnake habitat, the fire became established outside of the defined boundaries. Suppression efforts to contain the fire within the service road loop and limit it to the snake habitat failed and the fire spotted across the second service road and established in decadent vegetation in multiple locations.

At this time (1130-1200) in the incident's progression the prescribed fire plan allows the fire to continue to burn under a confine and contain strategy as it is in the Maximum Allowable Area for fire management (Although the MMA is never defined for Havasu or this project). Fire staff engaged in suppression and scouting/sizing up the fire and containment options and determined to place the order for contingency resources at 1235 MST. At 1259 MST the project leader (located offsite) was notified by the Zone Fuels Specialist and an update to the fire's progression outside of the planned unit was given.

The prescribed fire plan states that the fire can only be declared a wildfire after consultation with the Burn Boss, FMO, Refuge Manager, and the Resource Advisor.

The Fuels Specialist with concurrence from the FMO advocated for the fire to be converted to a wildfire due to the likely spread and observed intensity. There was no consensus to convert the prescribed fire to a wildfire, and it was allowed to be managed under a confine strategy until stopped/extinguished by natural barriers or environmental conditions (decreased Temperatures, increased Relative Humidity and Fuel Moisture).

As the fire progressed, fire line leadership ordered additional resources from local mutual aid resources for assistance, and they arrived around 1345 MST. Fire behavior and progression continued rapidly, and the project leader was updated again at 1404 MST of the fire's resistance to control and that it was advancing quickly to the second population of Gartersnake near Beal Lake. The project leader continued to advise to keep fire out of the Beal Lake Conservation Area (BLCA) to the southwest and the "Island" in Topock Marsh to the east.

Efforts were made to utilize water control features in the BCLA to flood the units and limit fire spread, but the pumps were found inoperable. At this time fire was well established and resources were limited with the number and type of equipment for suppression. Fire moved through the BLCA and the Beal Lake Gartersnake habitat and progressed towards Topock. A follow up call to the project leader advised that fire had consumed the BCLA and continued unabated and the decision to declare it a wildfire was made at 1601 MST. At that time resources were ordered from Prescott dispatch to include 2 Type 2 Crews, 2 Dozers and 4 Engines.

### **Recommendations:**

- If a fire is allowed to burn within a MMA, ensure there are appropriate resources to manage the fire based on the current and expected fire behavior.
- Clarify Element 18 to allow the Burn Boss and/or FMO to declare a wildfire based on operational awareness, reducing required parties to Burn Boss and/or Agency Administrator.
- Define conditions and parameters (e.g., safety, weather, fire behavior) that need to or could be met to declare a wildfire.
- Include project-specific considerations for wildfire declaration in unit appendices. (e.g. critical values threatened)
- Provide clear maps of project units, MMA boundaries, and critical values at risk for each treatment.

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

#### **Findings:**

- The Lower Colorado River (LCR) Programmatic Maintenance Pile Burn Plan is current with all signatures and meets National Wildfire Coordinating Group (NWCG) standards.
- Technical review of the plan occurred within the zone fire program.

#### **Element 2A: Agency Administrator Ignition Authorization**

The ignition authorization was signed for the duration of calendar year 2026, 2 weeks prior to ignitions. Communications prior to ignitions were limited to the Prescribed Fire Specialist (PFS)

and Agency Administrator (AA) on the Friday prior to the burn and the PFS's attempts to connect with the AA the day prior, and the morning of the burn were unsuccessful.

#### Element 4: Description of Prescribed Fire Area

- Section B does not identify the fuel model that is represented in the Fire Danger Operating Plan (Fuel Model X).
- A project or ignition unit map is not included as required and an adjacent fuels map is not included but not required.

#### Element 7: Prescription

- The burn plan does not provide empirical documentation of fire behavior modeling for the intended piles nor the adjacent fuels.
- Prescription Parameters and Narrative do not align. The plan states that there will be no ROS due to unreceptive adjacent fuels, that pile burning will only take place when conditions would not allow spread, but the Acceptable Conditions Range allow for conditions that do not represent this.

#### Element 9: Pre-burn Considerations and Weather

- Pre-burn considerations and weather conditions were not met as stated within the plan. *Fuels adjacent to burn piles must be unreceptive to fire spread for project implementation. This will be accomplished through the use of wetting weather events, or the use of wet lines, or constructed cleared areas around piles.*
- The method and timeliness for obtaining spot weather forecasts and recording observed weather values was appropriate, although the information delivered from NWS should be consolidated and complete.

#### Element 16: Holding Plan

- Critical holding points are not identified in the plan, and considerations for resources or methods to hold adjacent fuels are not included.

#### Element 17: Contingency Plan

- Maximum Allowable Area is generalized and not clearly defined for the project area or refuge. No map is included in Appendix A.

#### Element 18: Wildfire Declaration

- Wildfire declaration can be made after consultation with RXB3, FMO, AA and Resource Advisor or when the fire moves out of the MMA. Without a clearly defined MMA operational resources have limited options to declare a wildfire without consultation.

#### **Recommendations:**

- Refine the prescription parameters to meet the intended fuel conditions acceptable for project implementation.
- Consider setting National Fire Danger Rating limits to when prescribed fire activities may NOT be initiated. Use a combination of ERC and BI in Fuel Model X to represent the conditions in adjacent fuels.
- Consider expanding the language in the wildfire declaration procedures to allow for a conversion when operational resources identify a need due to current and expected fire behavior and safety considerations.
- While the Ignition Authorization can be authorized for an extended period, it's crucial for more immediate communication between the Burn Boss and Agency Administrator to discuss burn day specifics and expectations. Consider adding intentional day of notifications or updates between the Burn Boss and AA to the Go-no-go process.

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

##### **Findings:**

- The mechanical piles of hazardous fuels cleared and contracted through a vendor were placed within 300' of Gartersnake habitat, necessitating the removal (burning) of the piles prior to the end of the snake's dormant season in order to prevent colonization of the piles.
- The planned unit of piles was directly adjacent to the location of Gartersnake habitat that had limited fire history and was readily available to burn under the fuel and weather conditions.
- Previous mastication along the roadside and in the pile burn unit was readily available fuel and receptive to spot fires. Several locations ignited and were being suppressed

when a spot into the Gartersnake habitat occurred. This mastication was likely the source of the spot.

- Reduction in water levels associated with marsh and water delivery features potentially exacerbated fuel dryness conditions and limited potential contingency holding features. The plan does not consider the influence of hydrological influences.



#### **Recommendations:**

- When developing the Scope of Work (SOW) for mechanically contracted projects, ensure that provisions are made to protect adjacent habitat and fuels. In the case of the Gartersnake, create the piles greater than 300' away from the habitat and that the onsite contracting representative inspects and communicates the specs to the contractor. Seek alternatives if the original SOW is obtainable.
- Refine prescription parameters and mitigations that include measures to protect critical values at risk and identify fuel and weather conditions that support successful operations. Include additional resources and equipment into the holding plan when conditions and proximity to critical values are warranted.

- Ensure fuels within the mechanical pile unit are not conducive to fire spread. Consider alternative ignition planning that may include blacklining to reduce the available fuels.
- Understand the impacts of water management features to fuels and suppression. The reduced water levels stressed associated fuels and made them more available to fire. Additionally, the lack of water in canals and infrastructure reduces the opportunities for them to be used as holding features in contingency operations.

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

#### **Findings:**

The Lake Havasu Complex Project Leader was the signatory to the prescribed fire plan and Ignition Authorization (IA). The IA was signed to expire on 1/1/2027 and includes all pile burning in the Lower Colorado River covered by the burn plan. Their qualifications as an Agency Administrator (AA) were current and they had completed RT-300 recently at the Regional Division of Fire Management annual meeting in November of 2025. They also have been involved in the hazardous fuels program and project design/implementation and had sufficient awareness of conditions.

The Project Leader is an experienced local AA and has previous operational qualifications in wildfire. The Project Leader was not on site for the operational briefing or operations until after the fire was converted to a wildfire but remained available via cell phone.

#### **Recommendations:**

When signing Ignition Authorizations that cover an extended period, ensure that communication between the Burn Boss and Agency Administrator regarding day of burn conditions and operations are timely and appropriate to ensure there is a common operating picture. Consider developing a list of items to cover.

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

#### **Findings**

All positions associated with the prescribed fire and the planning process were qualified at the positions assumed. The Arizona Fire Zone has recently (over the last 12 months) changed leadership with:

- a new FMO (hired outside of FWS) and,

- a new Prescribed Fire Specialist (promoted from within) who has extensive prescribed fire experience.
- The RXB3 is also an experienced long-time employee of the Arizona Fire Zone and familiar with the fire environment.

### **Recommendations**

Consider expanding personnels experience with National Fire Danger Rating System and fire behavior products and tools. Recommend that the Zone fills skills sets that could be acquired through NWCG S-491 and/or engagement with local fuels and fire danger operating committees.

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

#### **Findings:**

- Fire and Refuge staff associated with the prescribed fire were unfamiliar with the current National Fire Danger Rating System Indices that placed conditions near the seasonal maximum fire danger.
- Forecasted weather products provided a narrow window of acceptable conditions with high winds and low humidity predicted for late morning and early afternoon.
- Prescribed fire plan parameters allowed for weather conditions that were not aligned with the prescription narrative.
- Mechanical pile placement adjacent to receptive fuels without appropriate mitigations.
- On-site and contingency resources were not adequate to suppress the spot fire and resulting escape under the fuel and weather conditions. Available suppression equipment (Marsh Master and water tender) was not made readily available for use by fire management staff.
- Low water levels across all management units due to damaged water control systems may have exacerbated dry fuel conditions and limited control opportunities.

#### **Recommendations:**

- Utilize existing tools (FDOP, FEMS) to monitor fuel and weather conditions as they relate to fire behavior. Consider training for the Zone on NFRDS ratings and interpretation.

- Limit prescribed fire activities when predicted weather does not provide favorable conditions for holding.
- Refine prescription parameters, holding plan, and contingency plans to mitigate the potential for fire to move outside of the project area and/or MMA. Ensure adequate equipment and personnel are planned for.
- Confirm measures are drafted in the project SOW that reduce the potential for affecting critical values at risk. When projects are contracted, ensure compliance to the stated SOW by the contractors.

### **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 AADMs and line personnel regarding escaped prescribed fire notifications and procedures.

### **Establish accountability:**

The Agency Administrator and Burn Boss need to ensure that prescribed fire operations are planned with the appropriate NFRDS indices for both the current and forecasted fuel conditions. Also, the burn plan preparation should consider incorporating prescription parameters that reflect indices that are appropriate to the local environment, seasonality, and mitigations.

### **Synopsis of Lessons Learned**

The utilization of NFRDS indices to track underlying fire environment conditions allows for a greater understanding of expected fire behavior for planned and unplanned fire activities. This

is particularly important for ignition, holding, and contingency planning to ensure the appropriate resources are integrated, that the timing of activities aligns with predicted fire behavior, and that the proper contingency planning can be supported.

Refinement of prescription parameters that mitigate the potential for an escaped fire from the project area. Pile burning conditions, when possible, should include higher moisture scenarios or minimal contributing variables to fire spread.

Providing an appendix with elements for project specific details. Include project maps, MMA definitions, critical values at risk, contingency actions, and any unit specific characteristics that provide the appropriate common operating picture.

Including opportunities for operational staff to convert a prescribed fire to wildfire based on established criteria provides the maximum discretion for safety of fireline personnel. Prescribed fire policy allows for the authority to declare a wildfire to be articulated within the prescribed fire plan (Burn Boss or AA). Many factors could present themselves and warrant the Burn Boss or FMO to declare a wildfire in a timely manner to provide the appropriate response to the incident.