USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

Nez Perce – Clearwater National Forest / Salmon River Ranger District April 2025

Windy Shingle North Rx and Shingle WF

Declared Wildfire Review

☒ Forest Supervisor Delegation
☐ Regional Forester Delegation

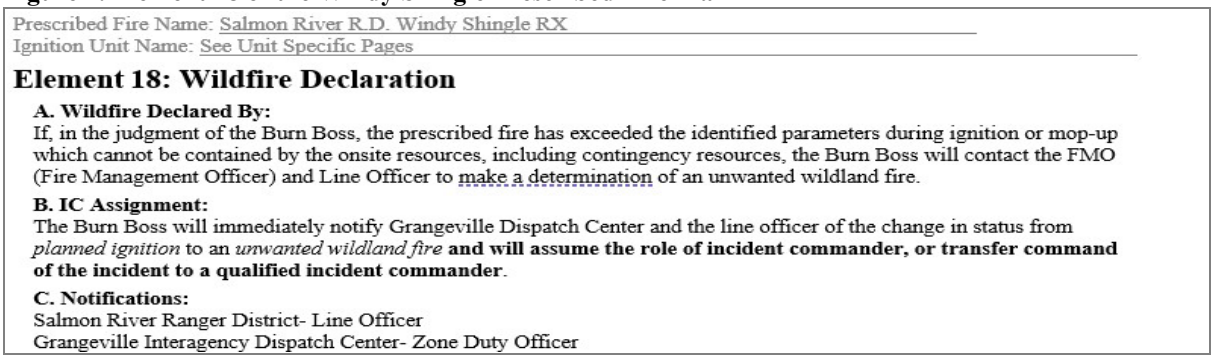
Table of Contents

Executive Summary

On May 5, 2025, a prescribed burn intended to treat activity fuels on Unit 6 of the Windy Shingle Timber Sale harvest units was declared a wildfire. Windy Shingle Unit 6 and Unit 7 were originally ignited on April 25, 2025 and initial burning went smoothly under benign weather and fuel moisture conditions.[1] In fact, there was concern that the units would be too wet to meet burn objectives. Portions of the road needed to be plowed for access and snow was still present in the area above the units. In addition, moisture was forecasted within the next 24 hours. A ground-based terra torch was employed to generate enough heat in the first strip to meet consumption objectives and sustain subsequent hand ignitions. To the local District, "we had the conditions on a silver platter" for burning these units, meeting objectives and minimizing risk on difficult ground. Furthermore, leaving this slash untreated was also a risk as the fire season heated up.

However, the story of this declared escape started years before the match was lit for the test fire. Due to various resource concerns and mitigations during the planning process, the bottom edge of Unit 6 was moved to a steep location that made holding difficult instead of the ideal location for holding. Often, many competing variables besides optimal holding features determine unit boundaries for timber sales and other vegetation management actions. In these common situations, prescribed burn operations can become more complex and less secure compared to units where control line locations are optimized for burn containment. Days after ignition, as natural fuels outside the unit became increasingly available, patrol resources began to struggle with rolling material igniting fuels below the unit on the steep slope. Although grass was still in green up, pine litter had dried enough to carry fire. Soon rolling material ignited fuels lower on the slope on increasingly steep grades quickly reaching a large cliff face, completely inaccessible to firefighters. As snags "tobogganed" down the hill and rocks tumbled over the cliff near the base of the slope below the unit, the Agency Administrator, FMO and Burn Boss engaged in a risk management process and determined that no safe or effective direct containment options were possible due to terrain, despite fairly benign fire behavior. With no direct containment possible, the prescribed fire met conditions identified in the Windy Shingle North Prescribed Fire Plan to consider wildfire declaration. At this point, following agency policy, the decision was made to officially declare this prescribed burn a wildfire.

Figure 1. Element 18 of the Windy Shingle Prescribed Fire Plan



Prescribed Fire Name: Salmon River R.D. Windy Shingle RX
Ignition Unit Name: See Unit Specific Pages

Element 18: Wildfire Declaration

A. Wildfire Declared By:
If, in the judgment of the Burn Boss, the prescribed fire has exceeded the identified parameters during ignition or mop-up which cannot be contained by the onsite resources, including contingency resources, the Burn Boss will contact the FMO (Fire Management Officer) and Line Officer to make a determination of an unwanted wildland fire.

B. IC Assignment:
The Burn Boss will immediately notify Grangeville Dispatch Center and the line officer of the change in status from *planned ignition* to an *unwanted wildland fire* **and will assume the role of incident commander, or transfer command of the incident to a qualified incident commander**.

C. Notifications:
Salmon River Ranger District- Line Officer
Grangeville Interagency Dispatch Center- Zone Duty Officer

The review team believes there are opportunities for learning and growth in the pages that follow. This is particularly true in the context of current agency priorities to increase harvest levels which increases our exposure to this type of situation. As the Agency Administrator stated, "the more you get on a horse, the more you'll get bucked off."

[1] The escape was initially from Unit 6. Due to the close proximity of Units 6 and 7 and ignition on both units occurring during the same operational shift, both units were included in the wildfire declaration.

Setting

-Social and Political Setting – National and Regional

Prescribed burning is a commonly used tool for hazardous fuels reduction, brush disposal following timber harvest, and a variety of other purposes. On average the Forest Service treats over a million acres of National Forest System ground annually.

A number of factors have recently led to a backlog of planned burning in many areas. Some of these factors include a 90 day burn pause in 2022 as well as many districts being short-staffed. Timber sales have fiscal and contractual constraints on completing burning within a certain timeframe to allow for planting. This has the potential for added pressure to burn.

-Project Area Location & Description

A. Physical Location:

The Windy Shingle North project area is located in Idaho County, Idaho, approximately five miles west of Riggins. The sale area boundary is 4950 acres, located on National Forest System lands. A small area of private land exists within the project area, but not within any treatment area. No activities are undertaken on private lands as part of this project.

Figure 2. Project Vicinity: Windy Shingle Timber Sale Rx

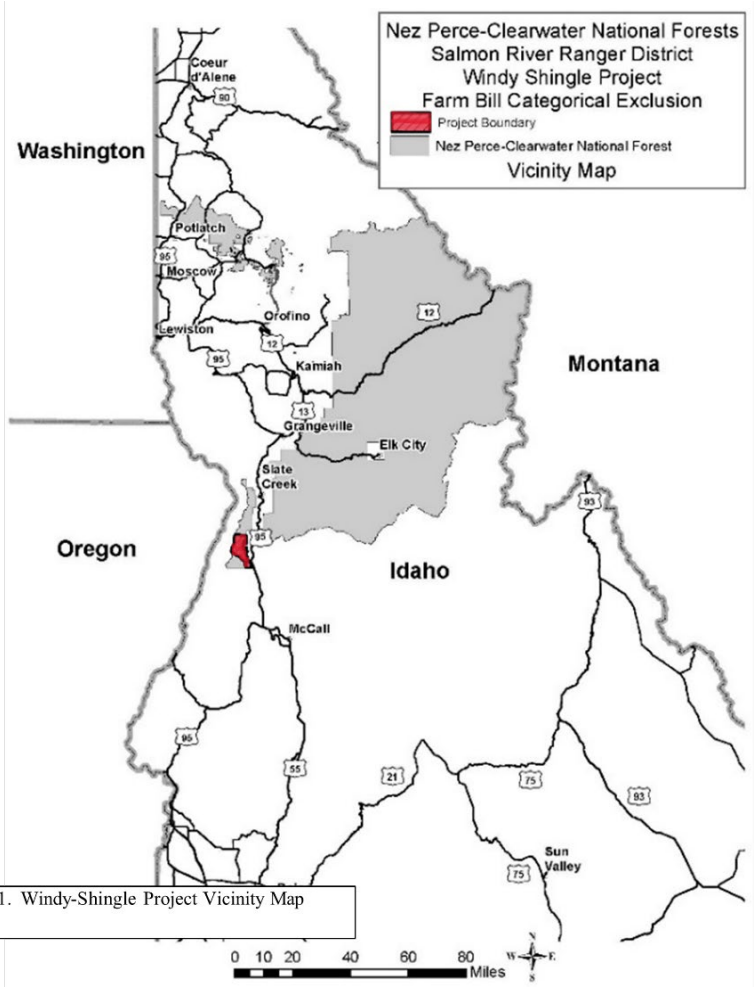


Figure 1. Windy-Shingle Project Vicinity Map

Figure 3. Project Area: Windy Shingle North Timber Sale Rx

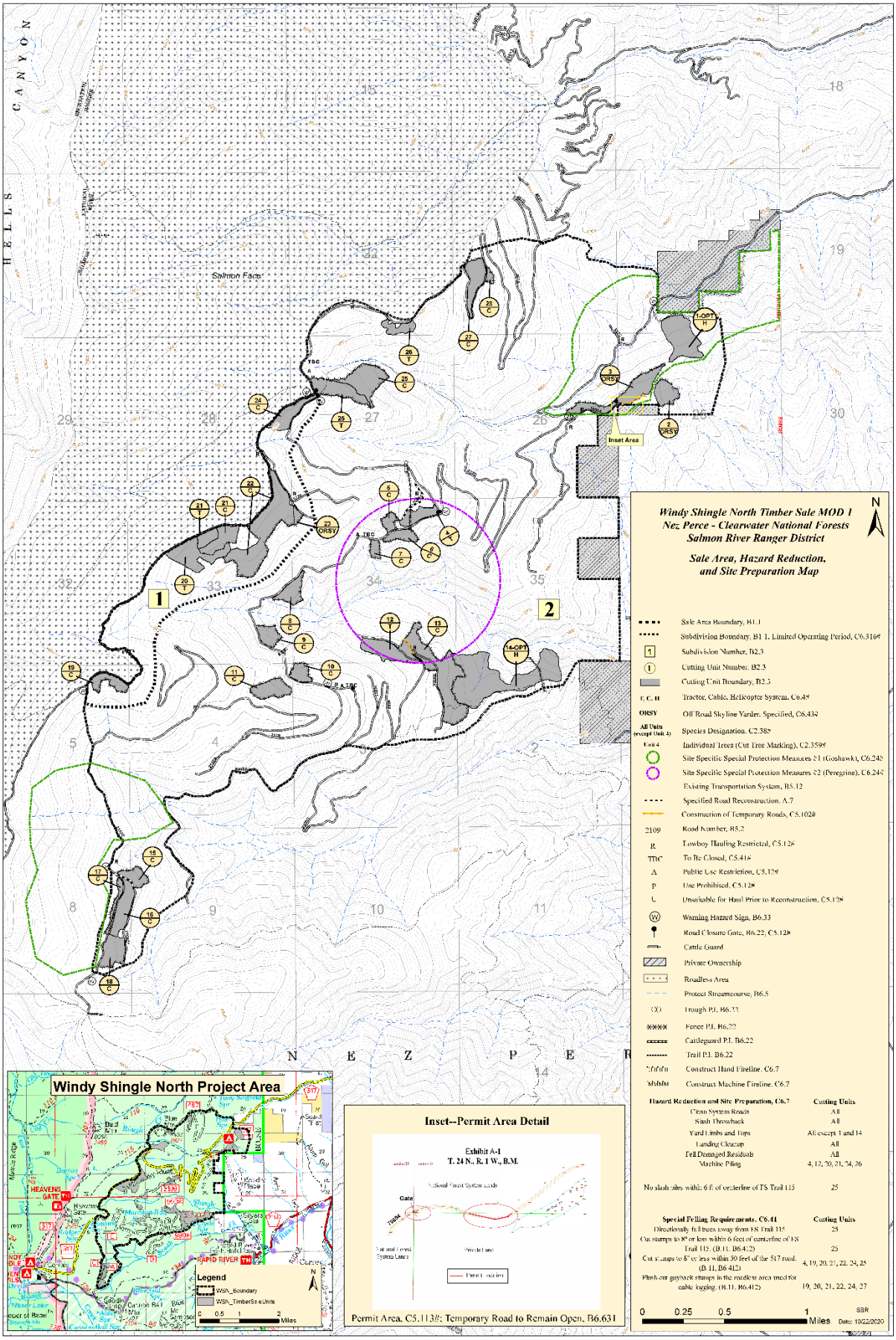
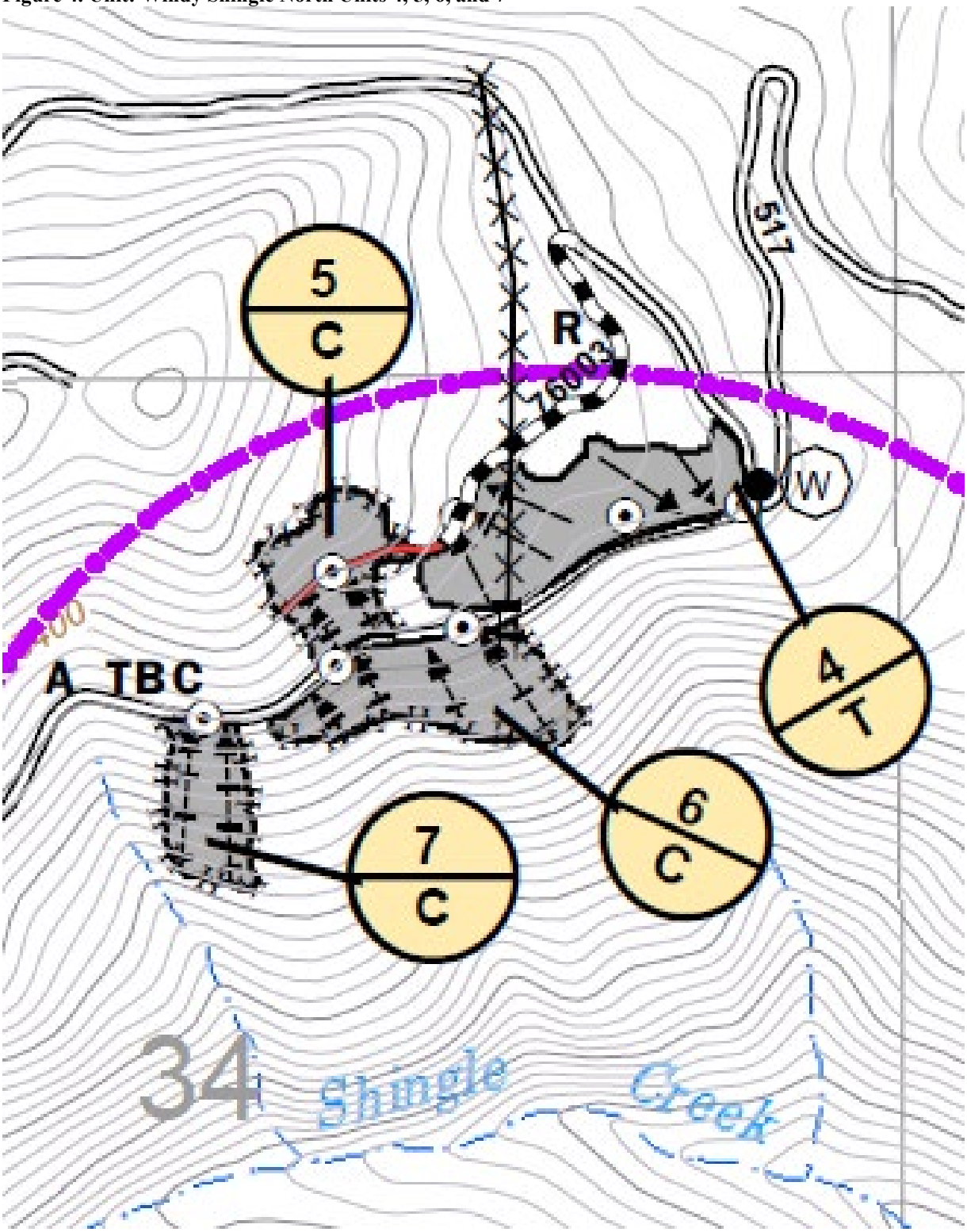


Figure 4. Unit: Windy Shingle North Units 4, 5, 6, and 7



Access to Windy Shingle North Units 6 and 7 is Forest Service Road 517. This road is also the main access to the Seven Devils area, southwest of Riggins, Idaho. Unit 6 and Unit 7 are adjacent to and below the road. Units 4 and 5 above the road were burned prior to ignitions in Units 6 and 7.

B. Vegetation, Fuels: (from Windy Shingle North Prescribed Fire Burn Plan)

1. On-site fuels data: The project area is primarily comprised of partial cuts and thinning in mixed conifer and representative of Fuel Model 11. Expected fire behavior in Fuel Model 11 would be fire burning fairly actively in harvest activity slash as well as the residual herbaceous material.
2. Adjacent fuels data: Fuel outside the unit can be described as Fuel Model 10. Fuel Model 10 will generally not aid in fire spread under the conditions required to burn the harvest units. Fuel Model 10 exhibits slow-burning ground fires with low flame lengths, although the fire may encounter an occasional "jackpot" or heavy fuel concentration that can flare up. Only under severe weather conditions involving high temperatures, low humidity, and high winds do these fuels pose fire hazards. Closed canopy stands of short-needle conifers or hardwoods that have leafed out support fire in the compact litter layer. This layer is mainly needles, leaves, and occasionally twigs because little undergrowth is present in the stand. Representative conifer types are lodgepole pine, ponderosa pine, fir, and larch. Fuel Model 10 will burn but not exhibit unmanageable spread and intensities predicted using the BEHAVE model using a spring ignition time (see appendix K). Fuel moistures will be higher during springtime. Fuel Model 10 will rarely exhibit erratic behavior and spread. If a fall ignition time is decided the potential for increased fire behavior and spread in Fuel Model 10 may exist. The adjacent area has a consistent slope as the treatment area.

-Environmental Conditions

A. Prescribed Fire Prescription (from Windy Shingle North Prescribed Fire Burn Plan)

Prescribed Fire Objectives:

1. Protect private property and public safety.
2. Remove 60% of activity generated fuels.
3. Improve safety and effectiveness of firefighters in fire suppression activities.
4. Reduce activity generated and/or natural fuel concentrations.
5. Reduce the level of ladder fuels and other flammable materials that would produce crown fires.
6. Reduce the effects and potential of large-scale fires in the area.
7. Retain live fire-resistant tree species and aid in their natural regeneration.

Prescription Parameters:

1. Environmental or Fire Behavior (or both)
    - Broadcast burning will remove the activity generated fuels and can be completed under moderate conditions. Under these conditions scorch heights of leave tress, and potential for fire to escape units is lowered. Primary ignition times will be spring and fall to utilize the weather to moderate potential fire behavior and reduce the risk of negative impacts.
    - Primarily using strip-head firing pattern in units will limit scorch height and will allow ignition operation to manipulate fire intensity.
2. Prescription Window

Prescription Window		
Element	**Acceptable**	**Preferable**
Temperature	58 to 80	65 to 75
Relative Humidity	20 to 45	23 to 34
Midflame Windspeed	0 to 10	2 to 6
Fuel Moisture: 1hr	5 to 12	6 to 8
10hr	7 to 16	9 to 12
100 hr	8 to 21	10 to 16
1000 hr	10 to 45	14 to 22

Site Specific Narratives:

The Windy Shingle North Prescribed Fire Plan also included site specific narratives for each unit. These included environmental conditions as well as additional information and considerations.

Windy Shingle North Unit 6	
Treatment Type	Broadcast burn
Size	7 acres
Slope	35-45%
Aspect	SE
Elevation	5600’
Location	T24N R1W Sec34 N 45°22.820’ x W 116°26.450’
Boundaries	Refer to project/unit map
On Site Fuels Data	Fuel Model 11
Adjacent Stand Data	Fuel Model 10
Unit Specific Resource Management Goals and Objectives	1. Minimize tree scorch on leave trees in unit. 2. Retain 7-15 tons per acre, 3 inches in diameter and larger. 3. Burn logging slash.
Pre-Burn Considerations	Make sure control line is complete and concentrations of slash/snags are not close enough to compromise control line.
Minimum Organization	(1) Type II Burn Boss (1) Firing Boss (4) Ignitions Personnel (1) Holding Boss (1) Type 6 Engine with 5 Personnel
Contingency	(1) Type 6 or Type 4 Engine with 4-5 Personnel (1) 10 Person Suppression Module
Mop-Up and Patrol	Category 3: Patrol and monitor until weather conditions eliminate the need or the burn is declared out.
Special Considerations/ Critical Holding Points	Limited medevac sites immediately adjacent to project area. Identify prior to ignition. Do not light directly in seeps, bogs, or riparian areas.

Windy Shingle North Unit 7	
Treatment Type	Broadcast burn
Size	4 acres
Slope	40-50%
Aspect	SE
Elevation	5600’
Location	T24N R1W Sec34 N 45°22.730’x W 116°26.660’
Boundaries	Refer to project/unit map
On Site Fuels Data	Fuel Model 11
Adjacent Stand Data	Fuel Model 10
Unit Specific Resource Management Goals and Objectives	1. Minimize tree scorch on leave trees in unit. 2. Retain 7-15 tons per acre, 3 inches in diameter and larger. 3. Burn logging slash.
Pre-Burn Considerations	Make sure control line is complete and concentrations of slash/snags are not close enough to compromise control line.
Minimum Organization	(1) Type II Burn Boss (1) Firing Boss (4) Ignitions Personnel (1) Holding Boss (1) Type 6 Engine with 5 Personnel
Contingency	(1) Type 6 or Type 4 Engine with 4-5 Personnel
Mop-Up and Patrol	Category 3: Patrol and monitor until weather conditions eliminate the need or the burn is declared out.
Special Considerations/ Critical Holding Points	Limited medevac sites immediately adjacent to project area. Identify prior to ignition. Do not light directly in seeps, bogs, or riparian areas.

B. Conditions Present Durning Implementation

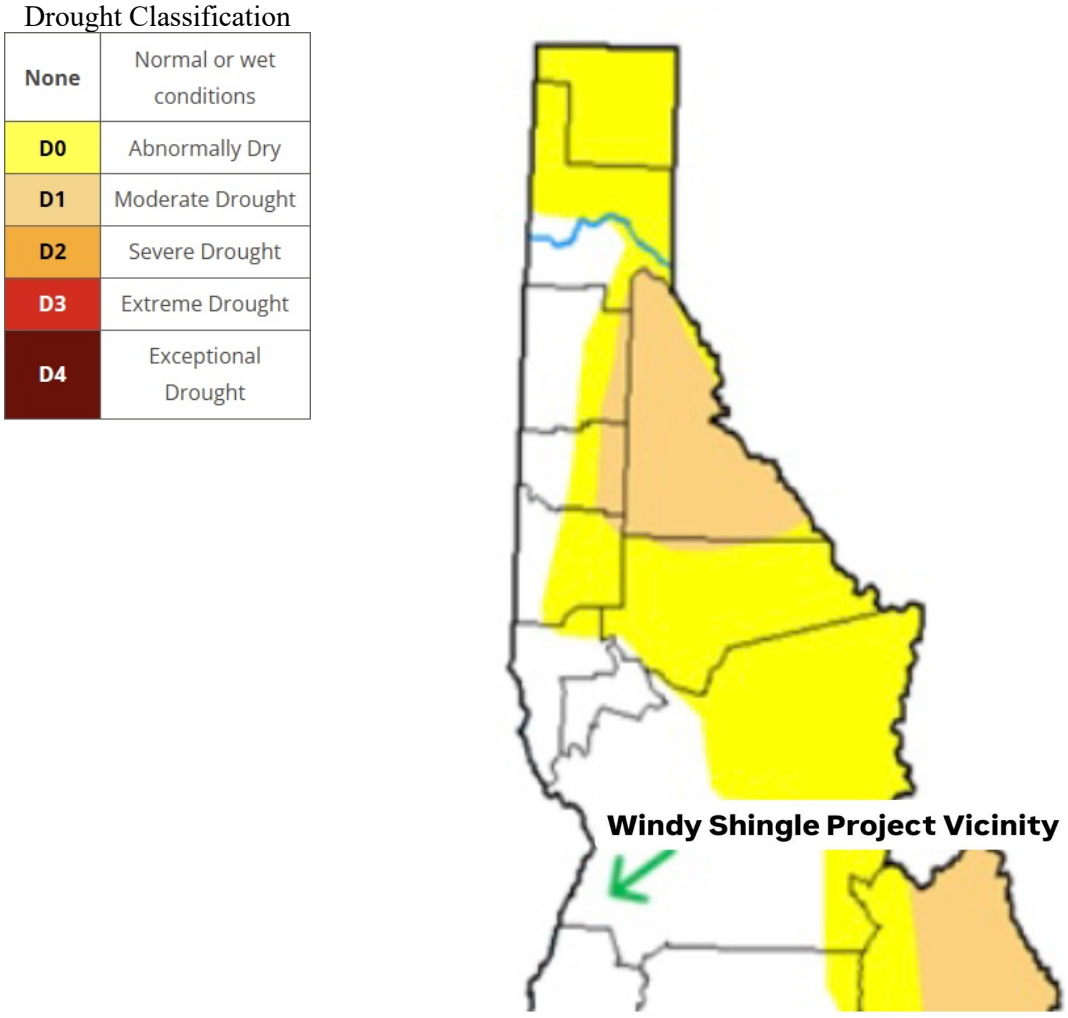
Activity fuels in the unit were available and within prescription in terms of fuel moisture by size class as outlined in the Prescribed Fire Burn Plan.

Note: Documentation of observed fuel moisture was lost prior to the review. The District took on-site readings with a protimeter prior to burn implementation. They noted that all numbers were within prescription but on the "wetter end" (relatively high moisture content). Although the observations should have been recorded, the review team found no conflicting information or reasons to suggest the information that was provided was not factual.

Drought Classification:

This area of Idaho County was showing "no drought" during the week preceding ignition (Figure 5).

Figure 5. Drought Classification for Idaho County week of April 22, 2025.



Temperature and Precipitation Outlooks:

The 6-10- and 8-14-Day Outlooks for April 28- May 2, and April 30-May 6 both showed above average temperature and normal or near normal precipitation for the time period after implementation of the prescribed fire (Figures 6 and 7). These outlooks were issued on April 22, 2025.

Figure 6. 6-10 Day Temperature and Precipitation Outlook.

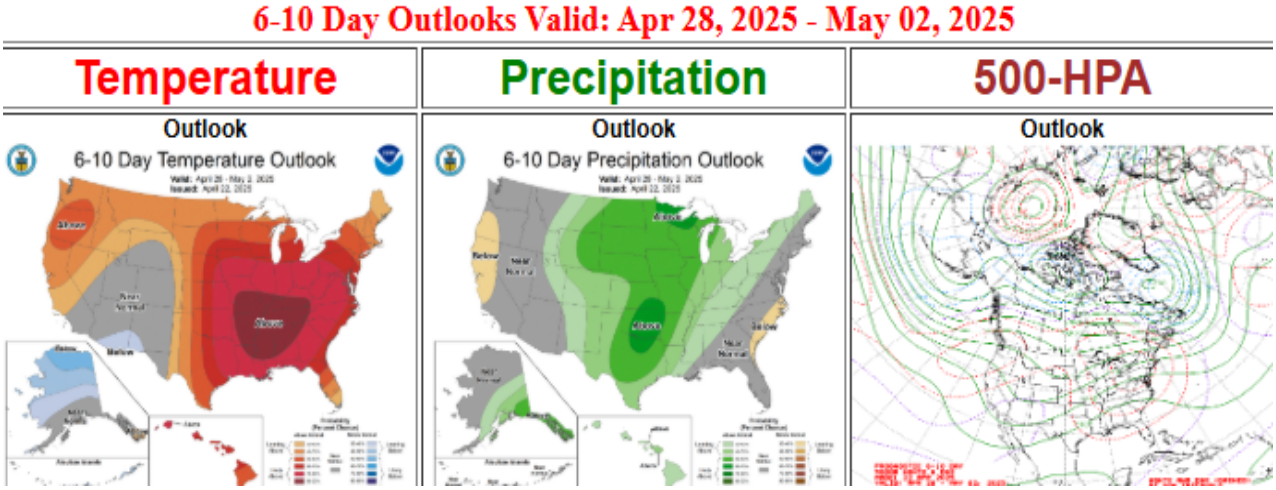
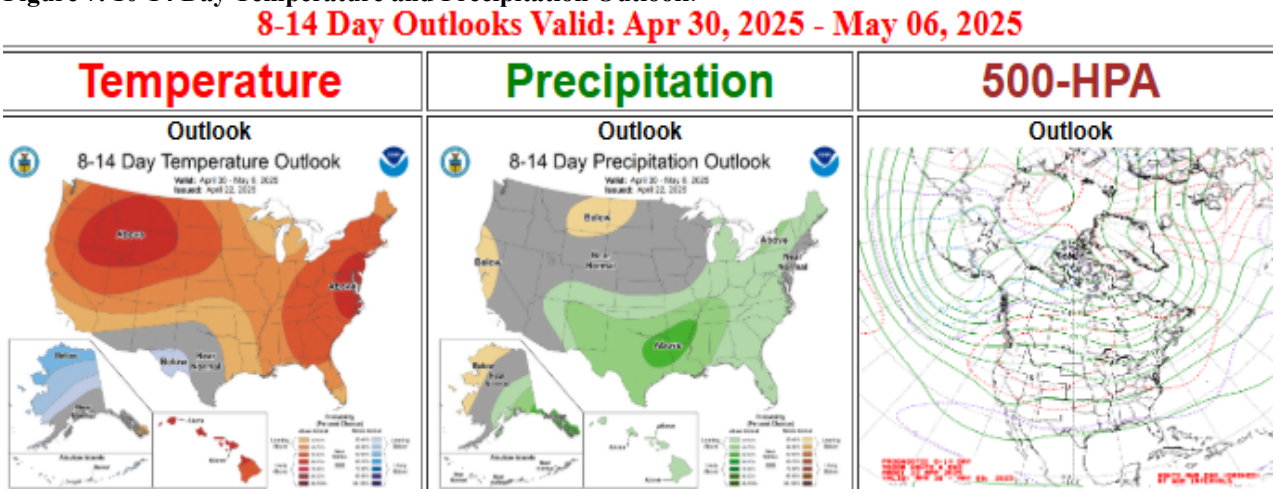


Figure 7. 10-14 Day Temperature and Precipitation Outlook.



Seasonal Severity:

In terms of seasonal severity, the Slate Creek RAWS was used to compare ERC values for the area near the prescribed fire site. It should be noted that the Slate Creek RAWS station sits several thousand feet in elevation below the Shingle prescribed burn but can be used as a reference to ERC percentile on the days before, during and post burn compared to average, the 90th and 97th percentile conditions.

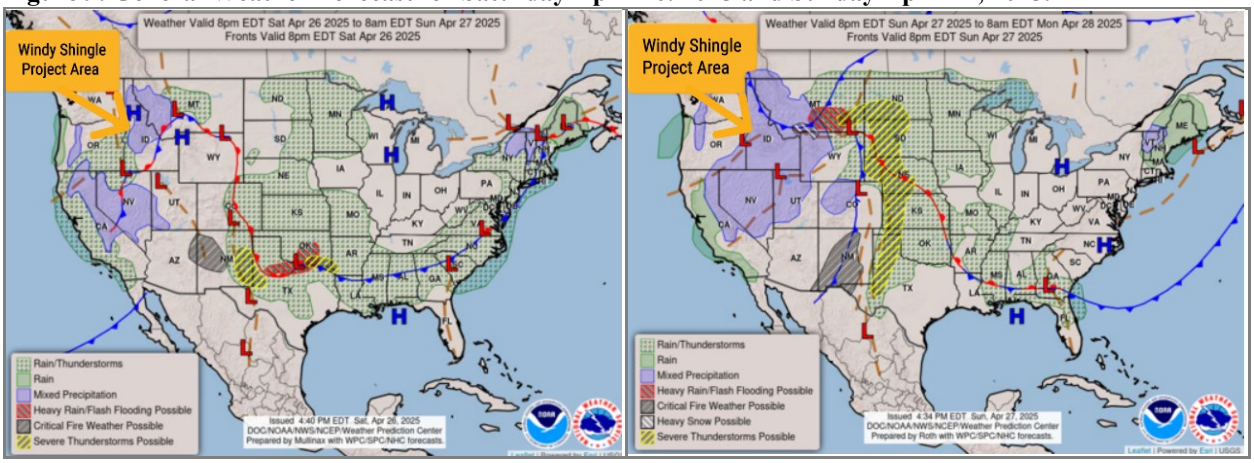
For the week prior to ignition the ERC value at the Slate Creek RAWS was above average for the time of year, but well below critical level of the 90th percentile. The red arrow in figure 4 represents the day of ignition of the Shingle prescribed fire unit (Figure 7).

Figure 8. Slate Creek RAWS ERC chart.

The ERC was below, but trending towards max from the day of ignition through declaration. Aside from this trend, seasonal outlooks and severity charts do not point to anything that arises to critical fire behavior, nor conditions that were not adequately addressed within the burn plan for the Shingle prescribed fire project.

General Weather Forecast:

Figure 9. General Weather Forecast for Saturday April 26. 2025 and Sunday April 27, 2025.



General weather forecasts showed mixed precipitation and/or rain for the weekend following ignitions.

Spot Weather Forecast:

A spot weather forecast was requested and issued for April 25th for the Shingle prescribed fire.

Figure 10. Spot Weather Forecast.

Spot Forecast for Windy Shingle National Weather Service Missoula MT
1033 AM MDT Fri Apr 25 2025

Forecast is based on ignition time of 1000 MDT on April 25.
If conditions become unrepresentative...contact the National Weather Service.

.DISCUSSION...It will be mild and dry today with the easterly wind gradient enhancing the upslope winds. By early evening, there will be a shift to the northeast that will last through the evening hours before switching back to a southeast. A weak system will bring a chance for a shower this evening, but they will be moisture-starved and

would only produce gusty winds to 25 mph and maybe a sprinkle. Another chance for a few showers Saturday morning but again, will be weak so the rainfall range is from 0.00" to 0.02". As it warms up Saturday instability showers may develop and produce anywhere from a trace up to 0.05'' of rainfall. There could be a brief lightning strike, but only a 20 percent chance. More instability showers are possible Sunday afternoon, but will be light in amounts (0.00" to 0.04"). Looking ahead, a more organized system may be able to bring between 0.02 to 0.10 of an inch of rainfall. There is only a 40 percent chance for a wetting rain with that system.

.REST OF TODAY...
*Sky/Weather.....Partly sunny.
*CWR (> 0.10 Inch)...Less than 10 percent.
*Chance Lightning....0 percent.
*Max Temperature   61-65.
*Min Humidity.....20-24 percent.
*Wind (20 ft).....Southeast 5 to 8 mph becoming east- northeast 5 to 9 mph with gusts to 11 mph after 5 pm.
*Mixing Height.....6000 ft agl increasing to 8500 ft agl in the afternoon.
*Mixing Winds.....Southeast 8 mph switching to the east- northeast 10 mph.
*Precip Amount   0.00 inches.

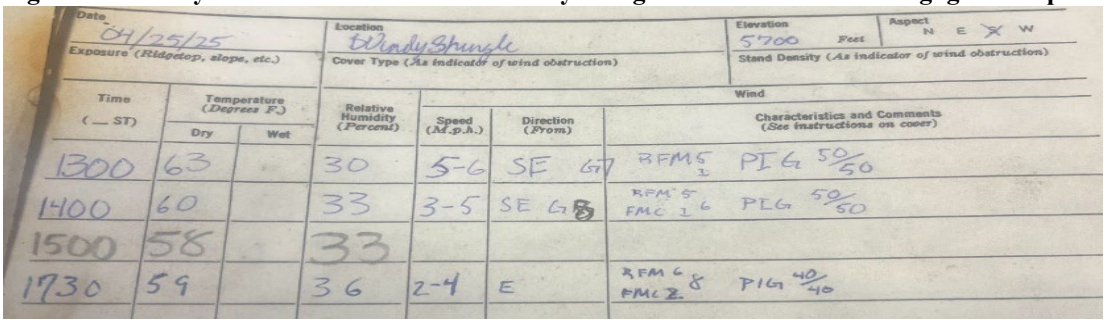
.TONIGHT...
*Sky/Weather..... Mostly cloudy. Slight chance of rain shower in the evening.
*CWR (> 0.10 Inch)...Less than 10 percent.
*Chance Lightning....0 percent.
*Min Temperature   49-53.
*Max Humidity.....50-54 percent.
*Wind (20 ft)..... Northeast 5-7 mph in the evening becoming southeast 3-6 mph. Gusty winds to 25 mph with showers.
*Mixing Height.....7500 ft agl decreasing to 1500 ft agl.
*Mixing Winds.....Southeast 5 mph.
*Precip Amount   0.00 inches.

.SATURDAY...
*Sky/Weather..... Mostly cloudy. Slight chance of rain between 6 and 9 am, then rain showers likely and slight chance of thunderstorms in the afternoon.
*CWR (> 0.10 Inch)...50 percent.
*Chance Lightning....20 percent.
*Max Temperature   57-60.
*Min Humidity.....40-45 percent.
*Wind (20 ft).....South-southeast 2-5 mph becoming northwest around S mph in the afternoon.
*Mixing Height.....3500 ft agl increasing to 5000 ft agl late in the morning.
*Mixing Winds.....Southwest 10 mph.
*Precip Amount   0.05 inches.

Observed Conditions:

Actual conditions at the burn unit were more favorable with observed temperature at the time of ignition (12:17 PM) of 60 degrees F and 33% relative humidity with winds 3-8 mph out of the southeast. Weather observations were recorded hourly for the rest or the day and are included in Figure 11.

Figure 11. Hourly weather observations on Windy Shingle Prescribed Fire during ignition operations.



Narrative

-Background

The year prior (2024) District Fire Management determined the probability of success was low based on conditions and chose not to burn Unit 6 or 7. They noted poor holding features below and did not want to burn unless environmental conditions were favorable.

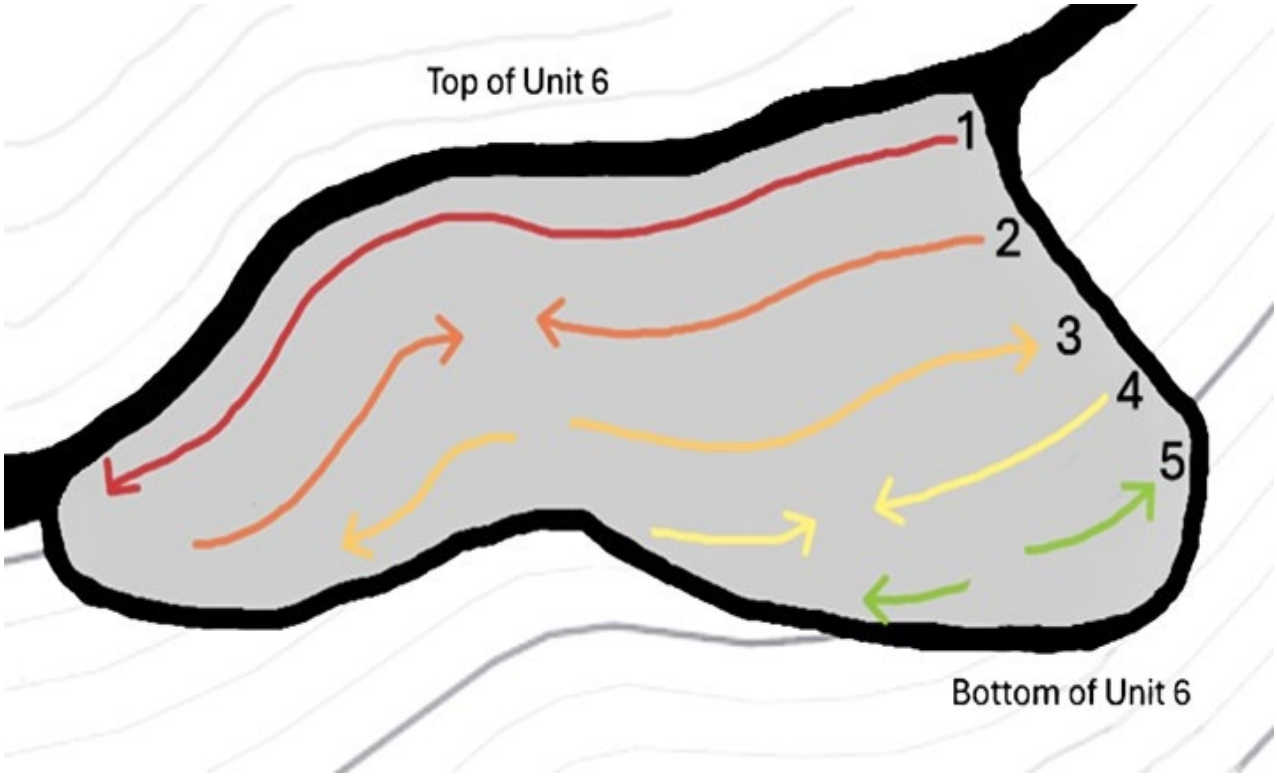
In the spring of 2025 Silviculture needed to plow into other units on the same road so there was access to Units 6 and 7 earlier. This gave the opportunity to burn while parameters were towards the low end of the prescription. Snow was present in many areas above and near the unit which could have further aided in holding.

-The Operational Plan

The plan was to broadcast burn Windy Shingle North Units 6 and 7. Ignitions for both units were expected to be completed within one operational shift.

The general firing pattern was to work from the top of the unit contouring down to the bottom as shown in Figure 12. A terra torch was used to light the first strip at the top of the unit from the road to generate heat in the moist fuels. Hand lighting with drip torches was used for subsequent strips.

Figure 12. General firing pattern for Windy Shingle North Unit 6.



-What Happened

The District knew the unit layout, with the steep slope near the bottom end, would be tricky. But with snow still present in the area, grass in full green up and additional moisture forecast over the next 24 hours, this was the window they were looking for. The District also weighed the risk of leaving untreated slash and associated risks going into fire season. Everything went according to plans through the first operational shift of active ignitions and several days of patrol following. Ignitions proceeded as planned for both Unit 6 and Unit 7 with no apparent holding issues.

The following shifts, the majority of the personnel from the district moved to a different area of the forest to conduct prescribed fire operations within another project area. Resources were sent to check the Windy Shingle Units to ensure everything was still within the unit boundaries.

Figure 13. Post-Burn Patrol Records.

POST-BURN PATROL RECORDS

PROJECT AREA or SALE AREA NAME: windy shingle North Rx

UNIT NUMBER: 6/7 IGNITION DATE: 4/25/25

TYPE OF BURN: BD

(UNDERBURN) (BROADCAST) LANDING PILES OTHER PILES

WEATHER CONDITIONS DAY OF BURN: WIND: (SPEED & DIRECTION) SE 4-6

TEMPERATURE: 60° RELATIVE HUMIDITY: 27%

IF PILE BURNING, SNOW ON GROUND? N/A

CONTROL PROBLEMS DAY OF BURN i.e. SPOTTING, SLOP OVER, ETC.?
Rollout Unit 6 into Cliffs / 10-12 small spots above Rd unit 6
IF SO, WHAT, WHERE AND TYPE OF CONTROL ACTION TAKEN?
(describe here and illustrate on the map on reverse side)
Rollout in Cliffs monitored / small spots above Rd suppressed

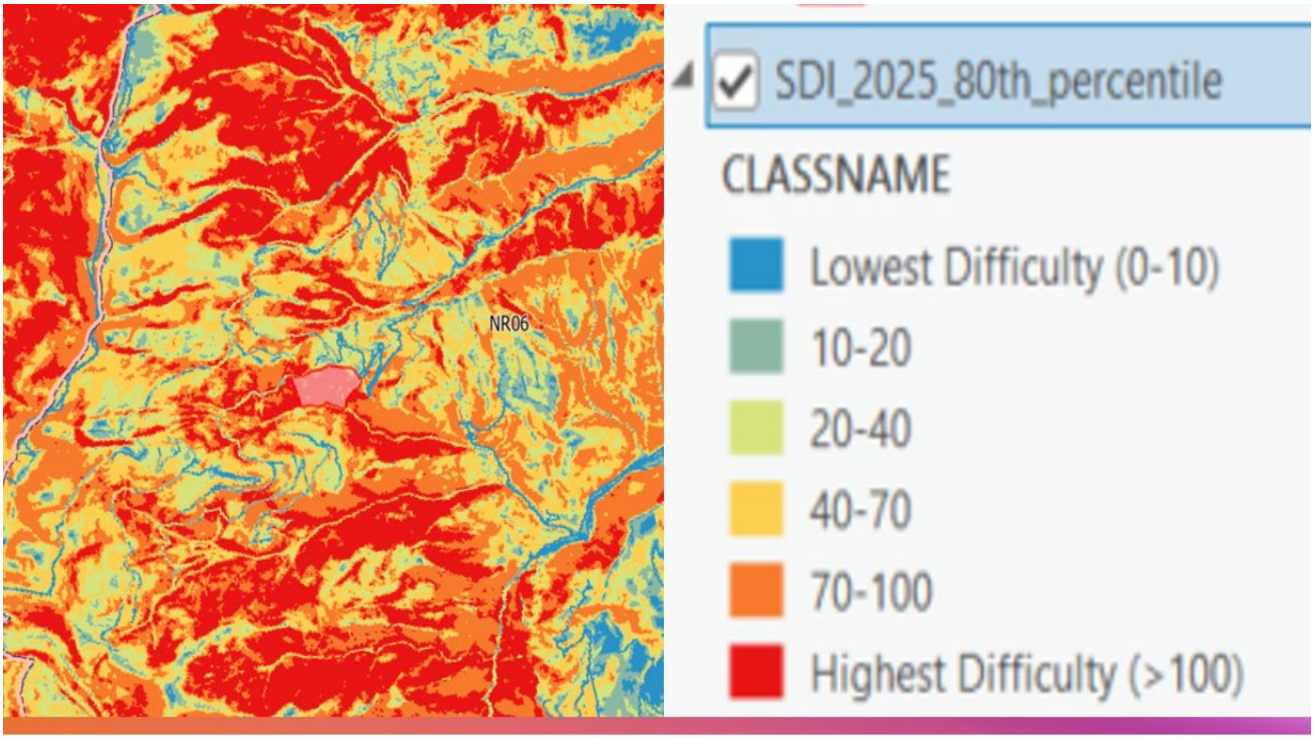
POST IGNITION CHECKS

DATE & TIME	WHO CHECKED	WEATHER (WIND, TEMP, RH)	WHAT FOUND & ACTION TAKEN (#of smokes, spots, slop-over, etc. shown on map also
4/26	RXB2, E-6XX	49° 100% RH	Monitor Rollout unit 6 Put in Line E Flank of Rollout Unit 6 / Rain
4/27	RXB2, E-6XX	27-32° 58-63% RH	Improve line on E Flank
		NE - 6-10 mph	
4/28	E-6XX		Smolding Cliff Band
4/29	E-6XX		Improve E Flank Handline / Monitor cliff Band
4/30	E-6XX		Monitor / smolding in cliffs more Rollout
5/1	IA Mod		Extend line Down E flank
5/2	DFMO, AA		Fire Rolled out Estimate 75-100 acres slop
5/3	DFMO, RXB2, FIRB, E-6XX, E-6xx		Scout Potential control lines/line construction
5/4	DFMO, RXB2, FIRB, E-6XX, IA Mod		Snow / Rain

What happened in the days and weeks that followed deviated from the District's plans and expectations. Most notably, the potential moisture in the forecast didn't show up. The spot weather showed a 40-50% chance of wetting rain (discrepancy between "Discussion" and "Saturday" predictions within forecast, Figure 8), however, several general/zone forecasts showed higher chances. These forecasts were not included in the burn documentation but had been discussed during the weekly Forest Rx Coordination Call days prior. Additionally, the drying trend that followed cured the needle cast enough to carry fire, even though grasses did not readily burn. Some of the larger size material became dry enough to hold heat as well. Patrol resources began to pick up rollout lower and lower on the slope below the unit on steeper and steeper terrain during routine patrols. While the fire behavior remained easy to contain, the terrain became more and more dangerous.

During the afternoon of May 2nd, the District Duty Officer was notified that visible smoke was coming from the area where the Windy Shingle prescribed burn took place. Upon arriving on site, he concluded that some rolling material or fallen snags had rolled further below the Unit 6 boundary and ignited the fuels at the base of a cliff face well outside the unit and project boundary. The decision was made to not send resources into the steep and rugged terrain to engage the slop-over. There were still trees falling and rolling material coming down the slope that could endanger anyone working below. In addition, medivac of an injured firefighter from the area would have been extremely difficult and time consuming. A review of the Suppression Difficulty Index map for the area confirms that this is a very difficult area to conduct suppression operations, even under the milder 80% ERC.

Figure 14. Suppression Difficulty Index Map 80% ERC.



Suppression Difficulty Index 80th Percentile ERC

RMA Analytics

After discussions with the Burn Boss, District Fire Management Officer, Fire Staff, District Ranger, Forest Supervisor and Deputy Forest Supervisor, the decision was made to convert the prescribed fire to a wildfire. This prompted the ordering of a Type 3 Incident Management Organization and resources from outside the local Forest organization. An indirect strategy was chosen after weighing the risk to responders against the values to be protected. Indirect line was constructed using machine and hand lines to essentially build a bigger box around the fire. These indirect containment lines could be used later in the fire season if necessary, keeping firefighters on more favorable terrain, closer to roads and natural containment features and areas where they would have a high probability of success.

> "I'd rather have a box built to catch our problem in May than August."
> *– District Fire Management Officer*

Figure 15. Shingle Wildfire Perimeter Map.

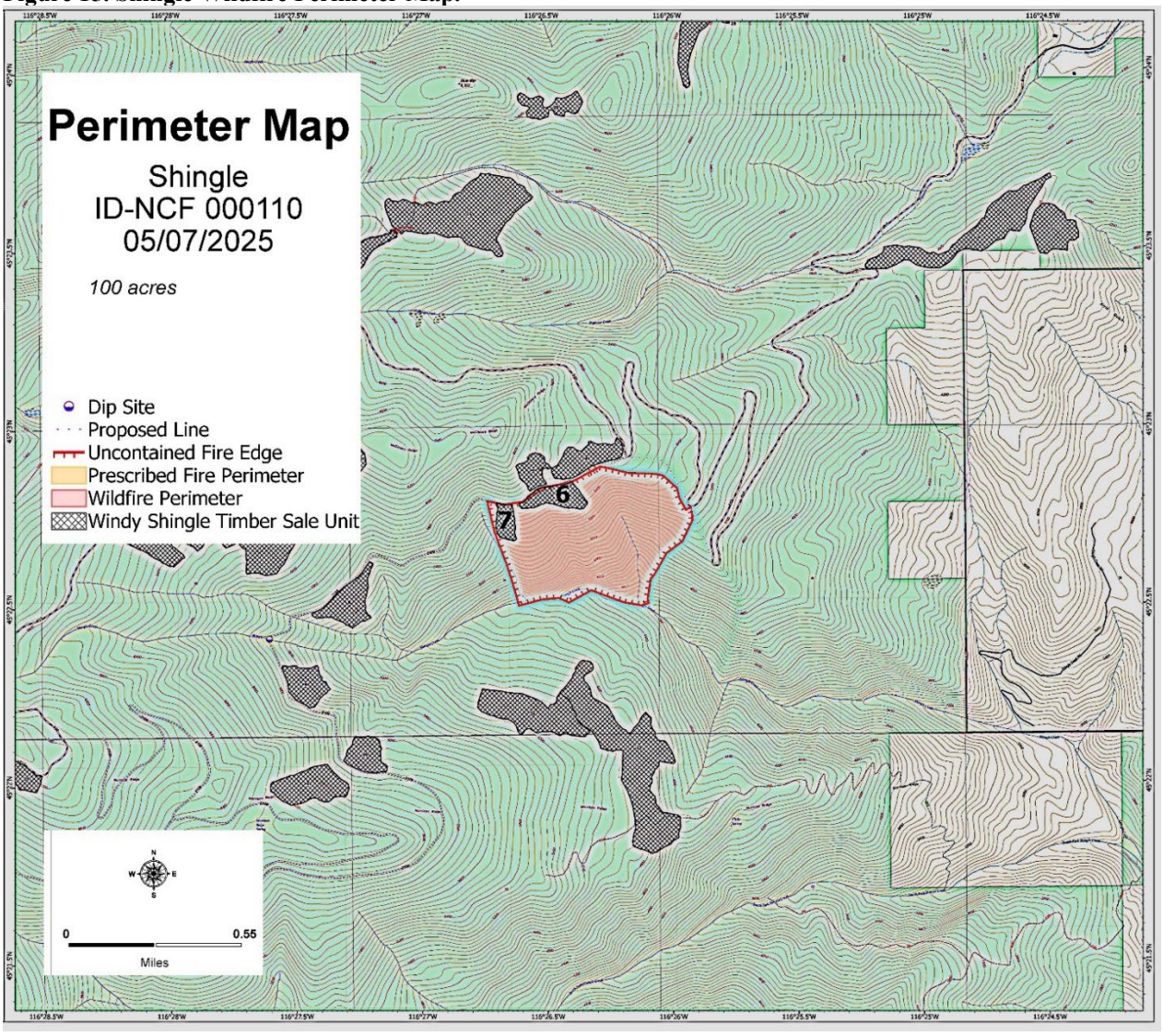


Figure 16. View from Vantage Point #1 looking up-drainage to the west.

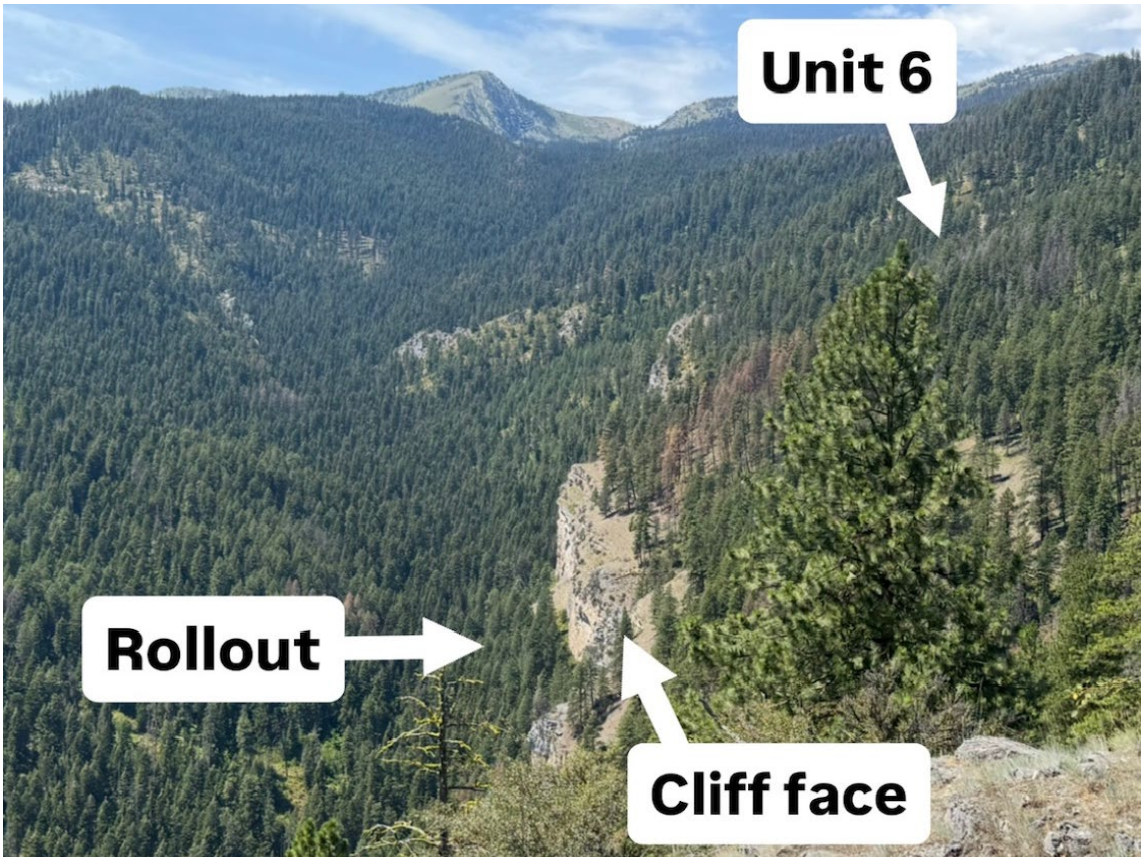


Figure 17. View from Vantage Point #1 looking southwest at the indirect handline from Forest Service Road 517 to the drainage bottom.

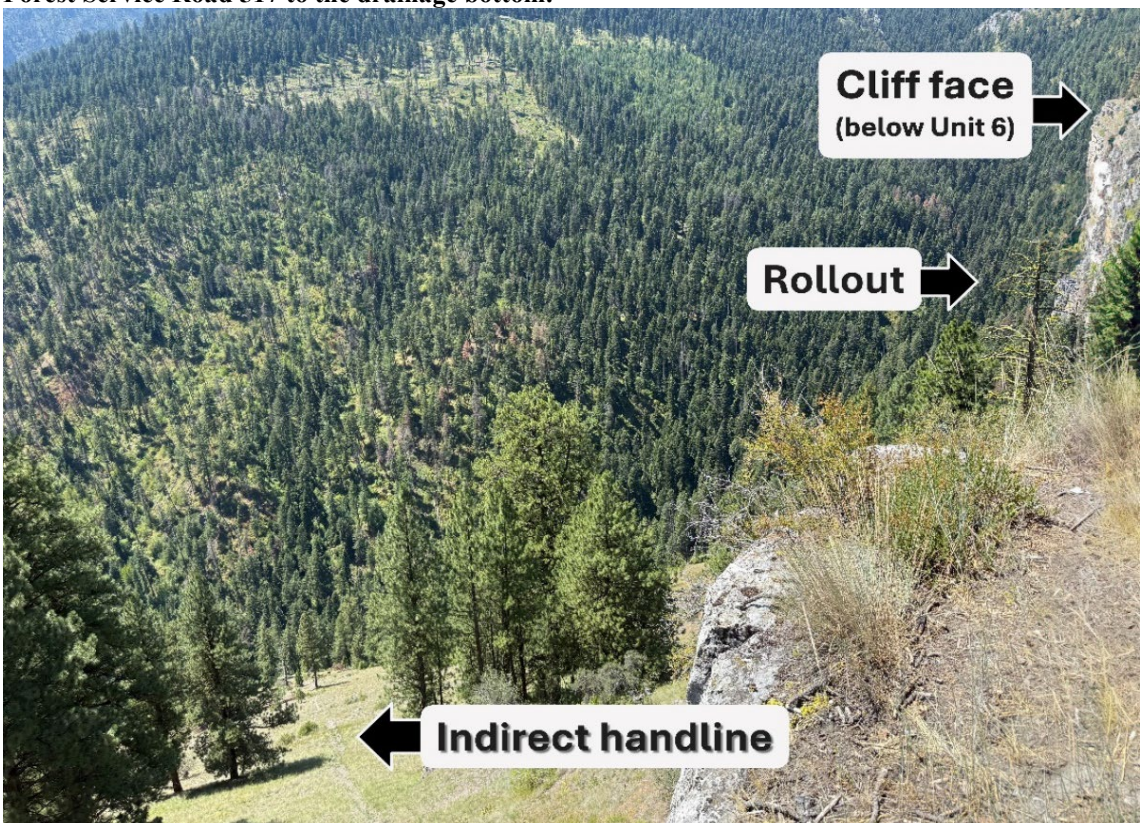


Figure 18. View from Vantage Point #2 looking cross/down-drainage to the northeast.

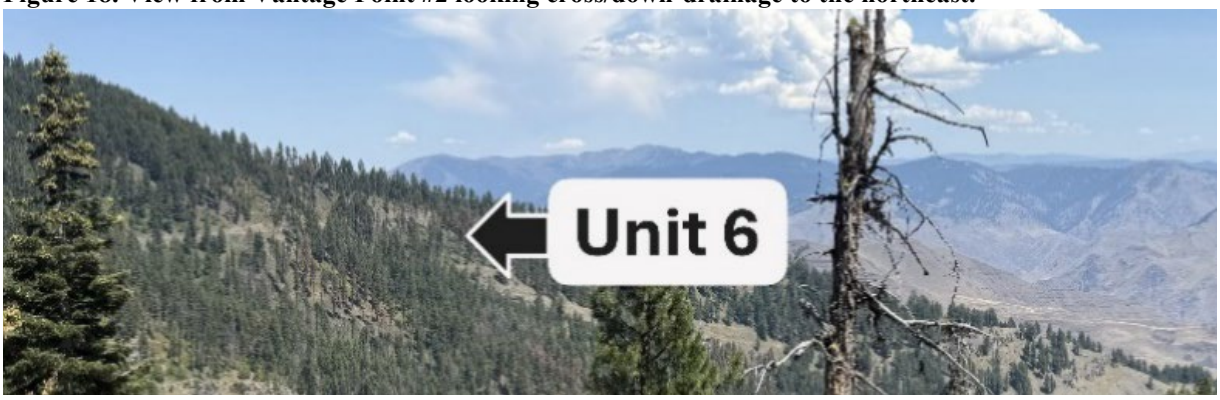


Figure 19. View of Unit 6 from northwest corner facing east, July 30, 2025.

The escaped burn, now a wildfire, was then put in a monitoring status which included several UAS flights. Despite the initial stubborn fire spread, no substantial fire growth was observed through the remainder of the fire season and no additional actions were required. As of October 1st, the fire was still not considered contained, although no smoke or active fire had been observed for several months.

Conclusion

Ignition operations in Windy Shingle North Unit 6 and Unit 7 were conducted under favorable conditions (towards the moist end of the measured prescription parameters) given known terrain and unit layout challenges. Subsequent weather that did not fully match predictions combined with burning material rolling below the cliff band resulted in fire establishing outside the unit boundary in an area management deemed unsafe to send fire personnel. This, paired with the potential for increased fire activity throughout the rest of the fire season prompted the conversion to the Shingle Wildfire. Indirect fireline was constructed to keep the fire contained if activity increased while also keeping firefighters in a safer location with higher probability of success if needed later in the fire season. Fire activity continued to be monitored throughout the summer and remained well within control lines.

Lessons Learned

-Lessons Learned by The Participants

"I'd do the same thing again. The probability of success was very high."
– District Fire Management Officer

Implementation

Overall, those involved with the prescribed burn suggested that at the day-of implementation level there was little they would have changed The review team concurred it seemed was a good decision to burn the units that day, based on the best available information they had at the time including favorable observed conditions and spot weather forecast.

Planning

Unit design and boundary decisions were made years prior during the project planning and layout phase, with the Windy-Shingle Project Decision Memorandum signed in October 2017.
The feasibility and probability of prescribed fire success should be a bigger part of early planning phases and given greater consideration in unit layout and design if there is an expectation to keep fire within unit and/or project boundaries. There is a plan for brush disposal included in sale packages, but the overall feasibility of burning is generally not a primary consideration of the harvest unit layout as more focus is given to other factors such as sale feasibility and equipment capabilities. It was clear to local fire managers and the review team that the timber unit boundary location on a steep slope was not optimal for subsequent underburning.

Consideration of the use of tethered piling may help in difficult terrain like this. This option could allow for machine piling on steeper slopes rather than broadcast burning (generally most slope greater than 35% are considered too steep for ground-based logging operations and are not machine piled). While the chance for rollout would still be present, piles could potentially be burned when the surrounding fuels were significantly less-susceptible, possibly even snow-covered. This option does appear to meet purpose and need of the project described in the Decision Memorandum, but this technology was not widely available during the planning phase of this project. There may have also been fiscal, feasibility, or other reasons this was not considered, although no documentation was found.

Risk Management

Perhaps the most important lesson learned from this incident was the success story of effective local risk management dialogue. The local unit demonstrated excellent execution of risk management principles during implementation, patrol and post-declaration in very difficult terrain with many hazards. While there can be a lot of pressure to take actions that would avoid a declaration, the Forest and District leadership approached the situation with patience and made decisions firmly based on risk management principles. The Forest and District remain dedicated to their prescribed burn program and anxious to learn from this event to get even more work done on the ground.

"This isn't going to scare me off of doing more burning. Thinning and burning is the most effective treatment to reduce wildfire risk. It's the right thing to do."
– District Fire Management Officer

Appendix A: Analysis and Assessments

The ***National Wildfire Coordinating Group Standards for Prescribed Fire Planning and Implementation (PMS 484)*** requires the following analyses and assessments be made as part of any declared wildfire review:

1. An analysis of the seasonal severity, weather events, and on-site conditions leading up to the wildfire declaration.
2. An analysis of the prescribed fire plan for consistency with agency policy and guidance.
3. An analysis of prescribed fire implementation for consistency with the prescription, actions, and procedures in the prescribed fire plan.
4. The approving agency administrator's qualifications, experience, and involvement.
5. The qualifications and experience of key personnel involved.

#1: Analysis of seasonal severity, weather events, and on-site conditions.

Please refer to "Conditions Present During Implementation" for analysis of weather and conditions.

Overall summary:

Conditions present and predicted weather met prescription during ignitions, however predicted weather was not fully representative of the actual conditions in the days following.

#2: Analysis of the prescribed fire plan for consistency with agency policy.

Table A1. Analysis of Windy Shingle Prescribed Fire Plan Elements for consistency with policy and whether the element may have been a contributing factor to the outcome.

Prescribed fire plan elements	Consistent with policy (NWCG and USFS)[1] (Yes or No)	Comments	Contributing factor? (Yes or No)
Element 1: Signature Page	Yes	None	No
Element 2A: Agency Administrator Ignition Authorization	Yes	None	No
Element 2B: Prescribed Fire GO/NO-GO Checklist	Yes	None	No

Table A1. Analysis of Windy Shingle Prescribed Fire Plan Elements for consistency with policy and whether the element may have been a contributing factor to the outcome.

Prescribed fire plan elements	Consistent with policy (NWCG and USFS)[1] (Yes or No)	Comments	Contributing factor? (Yes or No)
Element 3: Complexity Analysis Summary and Final Complexity	Yes	While Element 3 met policy, the review team found that most post-plan risk elements went up in rating compared with preliminary ratings with two elements remaining the same. No elements went down compared to the preliminary risk. According to PMS 424, the intent of the burn plan development process is to mitigate risks identified in the preliminary phase to reduce the post-plan risk to the degree possible. Although the guide states that it is possible for an element to go up, such as when a new hazard is identified, generally these values should be reduced. The review team finds it would be very unusual for no element ratings to be reduced during the burn plan development process. It is likely this pattern is due to a misunderstanding of the complexity analysis process and not due to actual increases identified in the process.	No
Element 4: Description of Prescribed Fire Area	Yes	None	No
Element 5: Objectives	Yes	None	No
Element 6: Funding	Yes	None	No
Element 7: Prescription	Yes	None	No
Element 8: Scheduling	Yes	None	No
Element 9: Pre-burn Considerations and Weather	Yes	None	No
Element 10: Briefing	Yes	None	No
Element 11: Organization and Equipment	Yes	None	No
Element 12: Communication	Yes	None	No
Element 13: Public and Personnel Safety and Medical	Yes	None	No
Element 14: Test Fire	Yes	None	No
Element 15: Ignition Plan	Yes	None	No

Table A1. Analysis of Windy Shingle Prescribed Fire Plan Elements for consistency with policy and whether the element may have been a contributing factor to the outcome.

Prescribed fire plan elements	Consistent with policy (NWCG and USFS)[1] (Yes or No)	Comments	Contributing factor? (Yes or No)
Element 16: Holding Plan	Yes	The plan was sufficient for the general project area. It did have plans specific to Units 6 and 7 but did not note the potentially challenging terrain and fuels below the units. This had the potential to be a contributing factor if the burn had been implemented without further consideration.	No
Element 17: Contingency Plan	Yes	The plan was sufficient for the general project area. It did have plans specific to Units 6 and 7 but did not note the potentially challenging terrain and fuels below the units. This had the potential to be a contributing factor if the burn had been implemented without further consideration.	No
Element 18: Wildfire Declaration	Yes	None	No
Element 19: Smoke Management and Air Quality	Yes	None	No
Element 21: Post Burn Activities	Yes	None	No
Prescribed Fire Plan Appendices: **Appendix A:** Maps: Vicinity, Project (Ignition Units)	Yes	None	No
Appendix B: Technical Review Checklist	Yes	None	No
Appendix C: Complexity Analysis	Yes	None	No
Appendix D: JHA Risk Assessment	Yes	None	No
Appendix E: Medical Plan	Yes	None	No
Appendix F: Fire Behavior Modeling Documentation	Yes	None	No
Appendix G: Smoke Management Plan and Smoke Modeling Documentation (Optional)	Yes	None	No

1. National Wildfire Coordinating Group and United States Forest Service (include Regional and Forest level supplements if applicable)

#3: An analysis of prescribed fire implementation for consistency with the prescription, actions, and procedures in the prescribed fire plan.

Table A2. Analysis of Windy Shingle Prescribed Fire Plan Implementation for consistency with the prescription, actions, and procedures in the prescribed fire plan and whether that may have been a contributing factor to the outcome.

Prescribed fire plan elements	Implementation consistent with prescription, actions, and procedures (Yes or No)	Comments	Contributing factor? (Yes or No)
Element 1: Signature Page	Yes	None	No
Element 2A: Agency Administrator Ignition Authorization	Yes	None	No
Element 2B: Prescribed Fire GO/NO-GO Checklist	Yes	None	No
Element 3: Complexity Analysis Summary and Final Complexity	Yes	Actual implementation consistent with burn plan. *Please refer to #2 Analysis of Windy Shingle Prescribed Fire Plan Elements.	No
Element 4: Description of Prescribed Fire Area	Yes	None	No
Element 5: Objectives	Yes	None	No
Element 6: Funding	Yes	None	No
Element 7: Prescription	Yes	None	No
Element 8: Scheduling	Yes	None	No
Element 9: Pre-burn Considerations and Weather	Yes	None	No
Element 10: Briefing	Yes	None	No
Element 11: Organization and Equipment	Yes	None	No
Element 12: Communication	Yes	None	No
Element 13: Public and Personnel Safety and Medical	Yes	None	No
Element 14: Test Fire	Yes	None	No

Element 15: Ignition Plan	Yes	None	No
Element 16: Holding Plan	Yes	The plan was sufficient for the general project area. It did have plans specific to Units 6 and 7 but did not note the potentially challenging terrain and fuels below the units. The burn boss and duty officer did discuss the potential for rollout below Unit 6 and agreed they would not immediately engage personnel in that area for firefighter safety. During implementation they were successful in catching other spots/slops with the personnel on-scene.	No
Element 17: Contingency Plan	Yes	The plan was sufficient for the general project area. It did have plans specific to Units 6 and 7 but did not note the potentially challenging terrain and fuels below the units. The burn boss and duty officer did discuss the potential for rollout below Unit 6 and agreed they would not immediately engage personnel in that area for firefighter safety.	No
Element 18: Wildfire Declaration	Yes	None	No
Element 19: Smoke Management and Air Quality	Yes	None	No
Element 21: Post Burn Activities	Yes	None	No
Prescribed Fire Plan Appendices: **Appendix A:** Maps: Vicinity, Project	Yes	None	No
Appendix B: Technical Review Checklist	Yes	None	No
Appendix C: Complexity Analysis	Yes	None	No
Appendix D: JHA Risk Assessment	Yes	None	No
Appendix E: Medical Plan	Yes	None	No
Appendix F: Fire Behavior Modeling Documentation	Yes	None	No
Appendix G: Smoke Management Plan and Smoke Modeling Documentation (Optional)	Yes	None	No

#4: The approving agency administrator's qualifications, experience, and involvement.

There are three levels of AA prescribed fire qualifications:
("Red Book"/ Interagency Standards for Fire and Fire Aviation Operations, January 2024)

RXA3 - can review, approve, authorize, and provide oversight for the management of low-complexity prescribed fires.

RXA2 - can review, approve, authorize, and provide oversight for the management of moderate-complexity prescribed fires.

RXA1 - can review, approve, authorize, and provide oversight for the management of high-complexity prescribed fires.

The Windy Shingle Timber Sale Prescribed Fire Plan was rated as moderate complexity, requiring an RXA2 (or higher) qualification. The agency administrators were qualified at the level required to approve the prescribed fire plan and authorize ignition.

#5: The qualifications and experience of key personnel involved.

With a moderate complexity rating the burn boss was required to have the qualification of RXB2. The burn boss was an RXB2, qualified since 2019. Additional personnel were also qualified for the positions they held during the event. Nothing was found to suggest qualifications had a significant contribution to the outcome.

Appendix B: Contributing Factors

To better understand the factors associated with prescribed fires that result in declared wildfires, the U.S. Forest Service maintains the USFS Prescribed Fire Escapes Database. This database categorizes contributing factors present in each report to identify commonalities and trends over time across all such events to better evaluate the prescribed fire program.

Each declared wildfire review team is asked to identify any of the following contributing factors or conditions that pertain to the event to help the Washington Office's Fire and Aviation Management staff's understanding of prescribed fire risks and learning opportunities across the entire program. The team should also identify new or unique contributing factors Fire and Aviation Management could consider tracking in the future.

Table A3. Contributing factors for identifying commonalities and trends over time.

Category	Contributing Factor	Mark "X" If Observed
Planning	Burn area boundaries not aligned with favorable locations for fire containment	X
	Interdisciplinary team coordination lacking during design and planning of the treatment	X
	Lack of proficiency using fire behavior and related modeling tools	
	Insufficient holding plan	X*
	Insufficient ignition plan	
	Insufficient mop-up and patrol plan	
	Insufficient contingency plan	
	Insufficient technical review	
	Complexity rating did not adequately reflect the conditions experienced	
Operations	Burn could not be completed and secured before forecasted worsening weather arrived	X
	Test fire did not provide accurate representation of fire potential	
	Actions taken inconsistent with those described in the burn plan	
	Insufficient patrol after burn boss transfers control to local unit.	
Communications	Unit boundaries or special features not communicated or identified accurately	
	Instructions not given or well understood	
Equipment	Malfunction or breakdown	
	Improper use or selection of equipment	
	Equipment not set up and tested prior to need	
Fire Environment	Extended fire persistence – 2 weeks or more in patrol status	
	Actual weather experienced was outside what was forecast	X
	Severe drought conditions contributing to unusually dry fuels	
Fuels	Higher than typical fuel quantity/loadings	
	Large machine piles	
	Hand piles	
Human Factors	External influences or distractions	
	Internal stress or fatigue	

*Note: Insufficient holding plan is marked as there was not a specific plan for suppression if rollout below occurred, however the District did discuss the potential. They agreed they would not immediately send personnel to that area. This decision was based on factors including risk versus benefit as well as current and predicted conditions.

Appendix C: Chronology

Table A4. Shingle Chronology of Events

Date	Time	Event
04/14/2025	AM	Signed 2A, did not burn
04/23/2025	AM	Signed 2A, did not burn due to wind
04/25/2025	AM	Signed 2A
	1215	Test Fire Unit 7; *Flame Length: 1-2 feet, Temp: 60°F, RH: 27%*
	1217	Test fire meeting objectives, proceed with ignitions
	1304	Begin ignitions Unit 6
	1344	Ignitions complete for Units 6 and 7; *Temp: 60°F, RH: 33%, Wind SE 3-8 mph*
	1420	Multiple small spots above Unit 6- no issue/easily mopped up
	1500	*Temp: 58°F, RH: 33%, Wind SE 3-7 mph*
	1630	Rollout from Unit 6- no direct action
	1630	E-6XX released for wildfire response
	1650	E-6XX back on scene
	1755	All resources released
04/26/2025	0930	E-6XX and RXB2 on scene
	1000	Minimal slop- east flank of Unit 6, E-6XX work on handline
	1015	*Temp: 49°F, RH: 75%, Wind SE 1-3 mph*
	1020	E-6XX reports lots of rollers; plan to finish line and get out
	1314	Good progress on slop-over on east flank Some rain received
04/27/2025		Unit checked, improve line on east flank, no notable concerns
		Temp: 27-32°F, RH: 58-63%, Wind NE 6-10 mph
04/28/2025		Observe smoke in cliff band below Unit 6- no direct action
04/29/2025		Improve handline on east flank of Unit 6, monitor cliff band
04/30/2025		Monitor smoke in cliff band; note more rollout
05/01/2025		Extend line down east flank of Unit 6
05/02/2025	PM	Significant smoke from burn area reported
	PM	DFMO and Agency Administrator confirmed smoke below Unit 6 (below previous slop-over), estimate 75-100 acres
05/03/2025		DFMO, RXB2, E-6XX, E-6xx scout potential control lines/line construction
05/04/2025		Snow and rain on units
05/05/2025	1335	Declared Shingle Wildfire
05/06/2025	AM	Type 3 Incident Management takes control of incident
07/30/2025		Review team visits site
10/01/2025		Still listed as uncontrolled wildfire but no smoke seen for several months

Appendix D: Delegation of Authority and Conduct of Declared Wildfire Review

Forest Service

Nez Perce -Clearwater National Forests
Supervisor's Office

1008 Highway 64
Kamiah, ID 83536
208-935-2513
Fax: 208-935-4275

File Code: 5140 **Date:** July 29, 2025
Route To:

Subject: Delegation of Authority – Declared Wildfire Review for Windy Shingle Prescribed Fire

To: Terra Rintelen

This letter formalizes your appointment as Review Team Leader to complete a Declared Wildfire Review for the Windy Shingle prescribed fire that resulted in the Shingle wildfire on the Salmon River Ranger District of the Nez Perce-Clearwater National Forest. To ensure an objective and insightful review, I have approved your review team roster that includes subject matter experts from various US Forest Service offices as well as other federal, state and partner organizations.

As Team Leader, you have the authority of my office to execute and complete a thorough review as described in this document. Your Point of Contact for assistance and coordination with the Northern Region is Marty Mitzkus, Deputy Director Fuels at 406-670-5421. Your Point of Contact Nez Perce-Clearwater National Forest is TC Peterson Fire Management Specialist at 208-702-2201.

For necessary travel, equipment, salary or other costs related to this review use the Shingle Fire charge code P with override code 0117.

Your authority includes, but is not limited to:

- Controlling, organizing, managing, and directing the review
- Maintaining the confidentiality of the process
- Protecting and managing the integrity of documents, media or other artifacts collected
- Authorizing requests for additional personnel, including technical specialists, to support the Team, and releasing them upon completion of assigned duties
- Authorizing and coordinating the expenditure of funds
- Coordinating all media releases about the review with Jim Wimer
- Issuance of Safety Alerts, if warranted, in coordination with Dave Williams

Expectations for Conduct of Shingle Declared Wildfire Review

These expectations are intended to provide you with additional context to help guide you through the Declared Wildfire Review process for which your team has been assembled.

Policy

Per Forest Service Manual (FSM) 5140, all prescribed fires that result in a wildfire declaration must be reviewed according to the procedures found in the National Wildfire Coordinating Groups NWCG Standards for Prescribed Fire Planning and Implementation, PMS 484.

Controls

Given the sensitive nature of these reports, Team Leaders, Agency Administrators, Directors, and Staffs are expected to maintain close control over all drafts, final reports, and related materials. Use care and discretion when sharing these reports adhering closely to the processes described below.

In-Brief, Status Updates, and Out-Brief

You are scheduled to in-brief with my staff and I on 07/29/2025 at Nez Perce-Clearwater National Forest Supervisor's Office in Kamiah, ID. TC Peterson will be your logistical coordinator and my liaison to you throughout the process. Please contact him at 208-702-2201 to discuss your logistical support needs as soon as possible. If you have process questions or simply seeking advice or coaching related to the conduct of the Declared Wildfire Review, please contact Gabe Dumm or Marty Mitzkus.

I expect you will provide myself or my designee with status updates on your team's progress according to the terms we agree to during your in-briefing. I expect you to complete an initial draft within 30 days which will allow time for regional and national-level review and feedback needed to finalize the report and meet the requirement to provide a briefing to the Regional Forester within 60 days (FSM 5140). If you need more time, or if you discover information that would warrant a different type of review or investigation, please contact me immediately to discuss further.

I request that your team conduct an out-brief with myself and identified staff when your team is ready to leave the local unit which may or may not be prior to completion of your report. Your final report will be provided to me, and my office will be responsible for scheduling briefings with the next higher authority.

Review Protocol

Use the Declared Wildfire Review Implementation Guide as a reference to complete the review.

The goals of a Declared Wildfire Review are to:

1. Allow those directly involved an opportunity for individual learning and performance improvement through self-reflection as well as feedback and critique from third-party peers and other experts.

2. Provide for organizational learning and system-wide performance improvement by examining established policies, procedures, practices, and behaviors, offering advice to managers for actions to create systems that produce more reliable and less consequential results in the future.

3. Establish a factual account of the event that may be utilized in training, research, claims' proceedings, or similar uses.

To be clear, this is not a Facilitated Learning Analysis (FLA). A Declared Wildfire Review shares similarities with the FLA when it comes to interview techniques, storytelling techniques, development of the narrative, and providing an opportunity for read-back and validation by those interviewed, but it also differs in many respects. While the FLA is centered around learning and understanding of the event, it does not typically bring in the thoughts or opinions of third-party experts and relies almost exclusively on what was learned by those directly involved. The Declared Wildfire Review seeks to learn and understand what happened from the perspective of those involved but also employs the knowledge of review team members with applicable expertise to provide additional context to the story by providing a description of the setting and conditions surrounding the event, and a critique of how applicable policy standards were applied including training, planning, and implementation standards.

An understanding of the FLA process gained from attendance in NAFRI Learning from Unintended Outcomes Workshop or LFUO: Self Study is helpful for all team members but not required. I expect that you will use a similar approach to interviews and interaction with those involved as is described in the FLA process, but that you will be clear that this is not an FLA and rather this review is in pursuit of the goals described above. The Declared Wildfire Review Implementation Guide requires including a team member with expertise in conducting interviews who is trained in the FLA process, but such team members should be clearly instructed that the Declared Wildfire Review and the review document to be produced may differ from the typical FLA document.

Representing My Intentions

Employees or others you will be interviewing to learn about this event will be interested in the purpose and objectives of this review and how the information they provide might be used. They may want to know how this review might affect their employment status, and the degree to which they might face civil or criminal proceedings. I expect you will represent my intentions for how I will use the information provided to your team as follows:

In pursuit of full transparency and disclosure of the events that took place, I agree that no punitive actions will be taken by the Forest Service against any agency employee because of information provided to any member of your team. During the review, if it is discovered that willful negligence/illegal activity may have led to the outcome notify me immediately. I expect that employees are equally committed to the objective of this review to reduce the chances of a similar outcome in the future and will provide your team with honest and constructive accounts of their experience. Please ensure participants understand the limits of my authority and that actions taken by private citizens, or other agencies or organizations, are outside of that authority and administrative or legal proceedings could be pursued by others based on information from this review.

Format, Content and Organization

Declared Wildfire Review template is provided to help your team complete the report.

Use the Declared Wildfire Review Guide and template to format your report. The content and organization of the final report will meet the minimum standards as described in NWCG PMS

484 under the requirements of an "Outcome Review". Telling the story of what happened, the chronology of events, and perspectives of the individuals involved is the focal point of the report. The Declared Wildfire Review must also address the five required analyses specified in NWCG PMS 484. The methodology and format for addressing those analyses is discussed in the Declared Wildfire Review Implementation Guide Appendix C.

Final Report Review and Submission Process

Use the process for draft review, upward reporting and final submission found in the Declared Wildfire Review Implementation Guide.

I want to thank you for your willingness to lead this important review. Please contact TC Peterson at 208-702-2201 if you need to discuss the details of this assignment or to schedule key team meetings or status reports.

Approved By:

Deputy Forest Supervisor

Accepted By:

Review Team Leader

Enclosures: Declared Wildfire Review Implementation Guide, Declared Wildfire Review report template, Team Roster

Appendix E: Glossary of Terms

For terms and definitions please refer to: https://www.nwcg.gov/publications/pms205/nwcg-glossary-of-wildland-fire-pms-205.

Appendix F: Review Team

Heath Perrine
USFS, Nez Perce-Clearwater National Forest
Deputy Forest Supervisor
Team Co-Leader

Terra Rintelen
USFS, Nez Perce-Clearwater National Forest, North Fork Ranger District
Assistant Fire Management Officer – Fuels
Team Co-Leader/ Lead Facilitator

Gabe Dumm
USFS, Region 1
Regional Fuels Program Manager
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Justin Pappani
USFS, Nez Perce-Clearwater National Forest
Fire Management Specialist
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Fuels Technician
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Craig Roach
USFS, Nez Perce-Clearwater National Forest, Red River Ranger District
District Fire Management Officer
Prescribed Fire Burn Boss