

Zimmer Ridge Escaped Prescribed Fire

Overview:

The Zimmer Ridge Fire was declared on the Mystic Ranger District of the Black Hills National Forest, on February 10, 2016. The genesis of the declaration was an escape from planned ignition of machine piles as a follow up treatment to the Elmo Timber Sale. The Elmo Timber Sale was completed in 2009 as whole tree skid, within the Mitchell Planning Area. The large machine piles that were left from this treatment were approximately one mile southwest of Hill City, SD. The Mitchell Planning Area has been identified as a priority areas for the Mystic Ranger District due to the proximity to and alignment with the Wildland Urban Interface (WUI) around Hill City, SD.

These machine piles as well as several more machine and hand piles across the district were included under a district wide level III complexity burn plan. This plan was written in October 2015, having a technical review and silviculturalist review completed in November of 2015. The plan was also approved and signed by the District Ranger in November of 2015. On November 30, 2015 the District Ranger, District FMO, and District Fuels AFMO met together and completed the Agency Administrator Ignition Authorization with an expiration date of February 29, 2016. The objective of the burn plan was to: Reduce piled activity fuels by 80-90% of each individual pile (as measured project wide). The environmental prescription in the burn plan requires two inches of continuous snow cover within the project area and that snow cover should be expected to last a minimum of 48 hours beyond implementation.

On the night of February 1, 2016 the Black Hills received a snowstorm that gave Hill City approximately six inches accumulation of snow by the morning of the 2nd. Mystic District personnel ignited 62 machine piles in the Elmo Timber Sale on February 2nd. These piles were patrolled and checked every day leading up to the escape on February 10th. As is common on the forest, a Forest Service dozer began working the piles on February 4th or 5th including the machine piles that escaped. On the day of ignition, the project area was not showing indications of drought. See attached February 2, 2016 Drought Monitor Map.

The table below shows the extended forecast for Hill City as issued by the National Weather Service on the morning of February 2nd. The table also shows the observed weather from Baker Park RAWS which is approximately 10 miles northeast of the fire.

| | Feb. 2 | Feb. 3 | Feb. 4 | Feb. 5 | Feb. 6 | Feb. 7 | Feb. 8 | Feb. 9 | Feb. 10 |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Predicted Temp | 25 | 28 | 37 | 40 | 47 | 35 | 32 | N/A | N/A |
| Predicted Wind Speed | 5-10 | 7-9 | 3-5 | N/A | N/A | Breezy | Breezy | N/A | N/A |
| Observed Temp | 25 | 29 | 37 | 40 | 55 | 34 | 41 | 49 | 59 |
| Observed Wind Speed | 3.3 | 4.5 | 4 | 5.9 | 6.2 | 12.3 | 8 | 5.6 | 7 |
| Avg/Max | 13 | 23 | 17 | 31 | 28 | 45 | 35 | 27 | 30 |

As portrayed in this table, winds became very gusty just a few days after ignitions. The increased winds melted snow quickly. Even with the quickly melting snow, the six inches of snow on the day of ignition remained above the minimum two inches as prescribed in the burn plan beyond 48 hours. The snow accelerated in melting on Sunday, February 7th and was nearly all gone on Monday the 8th. Fire crews were able to hold these piles through several windy days, but on February 10, 2016 one of the piles was declared an escape and named the Zimmer Ridge Fire.

For several days leading up to the escape all available district fire/fuels personnel were patrolling and mopping up the piles ignited on or around February 2nd. At about 1100 on the morning of the 10th, fire became established on a steep slope off Zimmer Ridge. Fire personnel were on scene of this pile within minutes but the gusty winds pushed it to the top of the ridge. Notifications were made to the District Ranger and SO staff at this time about what was happening but that success was high to catch the pile escape. Calls were placed to the other districts on the forest and additional resources were available and shortly enroute. By about 1600 the line was almost complete around the escape pile, when smoke was noticed just further up the road. Another pile had escaped and was burning up the ridge. The fire behavior was not extreme but having this second fire would exceed the capabilities of the resources on scene. At this point the District FMO and AFMO placed calls to the District Ranger and Forest Fire Staff to talk about options for more personnel. The decision was made to declare it a wildfire and order the local South Dakota State hand crews for the next shift. With the additional personnel on the fire it was lined quickly the next day and was contained on February 14th at 22 acres.

Escape Review Required Elements

- Escape Review Team was comprised of Forest Supervisor (Advanced Level AA), Deputy Forest Supervisor (Working Level AA), District Ranger (Advanced Level AA), Zone FMO (RXB2), Zone AFMO (RXB2) and Forest Fire Staff Officer (RXM2). Local forest team members were utilized due to the fact that the escape was readily contained and impacted only NFS lands with little to no social or political impacts.
- The approved Level III Prescribed Fire Plan included all core components as required in PMS-484. The plan was prepared by a fully qualified burn boss exceeding complexity level of the plan. The plan was reviewed by a fully qualified burn boss that also exceeded complexity level of the plan. The plan was approved by an Agency Administrator with an advanced qualification level.
- On day of ignition, all personnel met or exceeded required qualification levels for a low (Level III) complexity burn. Throughout patrol status, all personnel met or exceeded qualification levels identified in the approved burn plan. Declaration of escape followed protocols set forth in approved plan.
- Upon declaration of escape and complexity analysis, the escape was managed as a Type III incident. All personnel met required qualifications for a Type III incident.
- All procedures, actions and implementation were consistent with approved burn plan direction.

Potential Lessons Learned:

- The Black Hills has a very active timber program that produces numerous machine and hand piles every year. This has created a backlog of piles to be burned. During one of the AAR's it was discussed that there are pressures, perceived or real, to get these piles burned. However, the fire and fuels personnel felt that there is no pressure to burn when conditions are not right. The team feels a duty to complete this work, but they feel there is full support from the District and SO Management to make good decisions on when to do it.
- Another area to look for possible lessons learned was in the area of predicted weather or prescription limitation that may have been missed in consideration and discussion on whether to burn that day. Although the gusty winds melted the snow sooner than was expected, there was still snow on the ground for 5-6 days. Respecting hind sight bias, there was nothing that the team felt they missed that would have resulted in a "no go" decision.

Lessons Learned:

1. **The process of wildfire declaration.** The burn plan states that the RXB3, Agency Administrator, District FMO or AFMO, district duty officer, or ICT5, during patrol status, may declare a wildfire. On the Zimmer Ridge Fire, the District FMO made the declaration based upon separate conversations with the Forest FMO/Deputy Forest Supervisor and the District Ranger. The ability for the district FMO on scene to accommodate a joint call was difficult. In this instance, the declaration was not time sensitive and the group recognized that there was time

for more communication between the Agency Administrator, district fire personnel, and SO personnel.

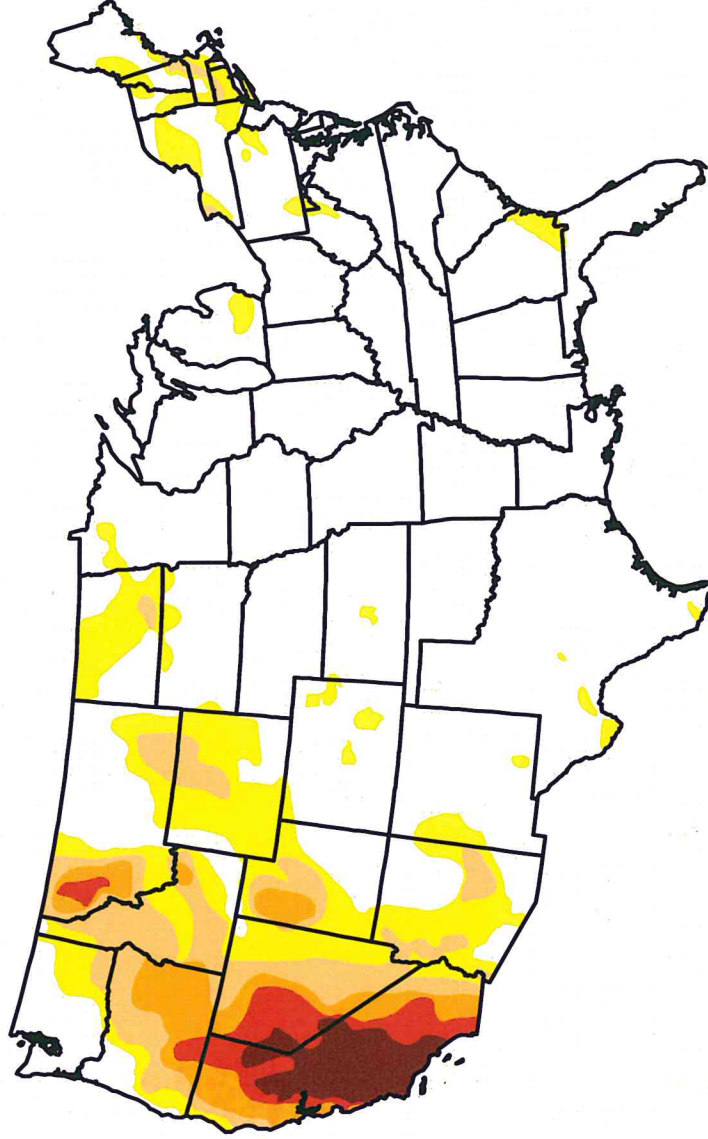
Although the burn plan does not require this communication to happen, we agreed that it is essential to have collective group discussion to assure the most informed decision is being made. There is no proposed change in policy, it is merely highlighting the critical nature to make sure of the communication/discussion (no slow to go fast). The group agreed that in some instances the declaration may be time sensitive, therefore there needs to be flexibility to declare wildfire promptly.

2. **Agency Administrators Ignition Authorization.** This was completed in November between the District Ranger, DFMO, and Fuels DAFMO. The lesson learned through discussion was that some of the information from that "Agency Administrators Ignition Authorization" meeting may not get to the RXB3 in charge of burning those piles. It was felt that having a meeting with all of the fire/fuels personnel and the District Ranger in the fall to share "leader's intent" of the authorization to ensure everyone had necessary information and intent would be valuable.

U.S. Drought Monitor

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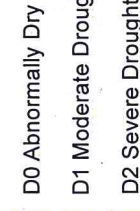
February 2, 2016
(Released Thursday, Feb. 4, 2016)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|-------|-------|-------|-------|-------|------|
| Current | 71.08 | 28.92 | 15.48 | 8.44 | 4.61 | 2.25 |
| Last Week 1/26/2016 | 71.99 | 28.01 | 15.48 | 8.51 | 4.61 | 2.29 |
| 3 Months Ago 11/3/2015 | 51.84 | 48.16 | 26.17 | 15.46 | 8.84 | 2.72 |
| Start of Calendar Year 12/29/2015 | 66.99 | 33.01 | 18.74 | 11.56 | 6.28 | 2.70 |
| Start of Water Year 9/29/2015 | 44.91 | 55.09 | 31.36 | 20.09 | 11.45 | 3.00 |
| One Year Ago 2/3/2015 | 50.35 | 49.65 | 28.44 | 16.04 | 8.87 | 3.12 |

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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<http://droughtmonitor.unl.edu/>



ZimmerRidgeSketch



All Roads



PVT_2015



LZ 43°54'17.729"N 103°36'3.071"W

Medical Incident Report

IRPG page: 108

Forest Service Pcode: P2J51M

State Code:

FFM166029



