

Multiparty Monitoring Group (MMG)
January 20, 2022, from 5:30 pm to 7:30 pm
Zoom Meeting
Meeting Summary – Final

ATTENDANCE

Participants: Paul Alaback, Teagen Blakey, D Buchanan, Chad Buser, Marin Chambers, Clark Chapman, Y Chapman, Paul DeLong, Aurelia DeNasha, Jason Duetsch, Mark Foreman, Angie Gee, Tim Griffin, Patti Hirsch, Beverly Kurtz, Bruce Liebert, Suzanne MacAulay, Maya MacHammer, Alex Markevich, Mark Mendonca, Paul Orbuch, Sheila Ranegar, Mike Smith, Susan Wagner, and Kevin Zimlinghaus

Facilitation: Heather Bergman and Izzy Sofio

ACTION ITEMS

Chad Buser and Clark Chapman	Discuss how the USFS will monitor the prescribed burn area during and after the burn and how the USFS will address high winds.
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PRESCRIBED BURN PLAN PRESENTATION

Chad Buser presented the draft prescribed burn plan for Forsythe II. Below are key points from his presentation. *Please note that Peak Facilitation Group recorded this portion of the meeting for dissemination throughout the community. Here is a [link](#) to the recording.*

Overview and Objectives

- The prescribed burning aspects of the Forsythe II Decision are in the area near Gross Reservoir. The treatments for areas near the planned prescribed burn area are mostly complete. There are a few areas to the south and west side of the prescribed burn area that require additional work over the next several years.
- The presentation included several maps, which depicted treatments and developed burn units. The more burn unit segments there are, the USFS has more flexibility to control the fire. The units are between 50 and 200 acres, with most of them being closer to 50 acres. Most of the units are oriented towards the south aspect with some drainages.
- The objective of this prescribed burn is to restore ponderosa pine/mixed conifer stands, aspen, and meadows/shrublands towards their characteristic species composition, structure, and spatial patterns. Restoration should increase resistance and resiliency to future natural disturbances.
- Other objectives include reducing the severity and intensity of a wildfire within the wildland-urban interface (WUI), reducing under-story vegetation (ladder fuels) up to 75 percent across the project area, limiting overstory mortality to 25 percent or less across the entire burn unit, and limiting canopy scorch heights to 30 feet or less in conifers greater than 14 inches of diameter at breast height (DBH).

Common Terminology

- **Prescribed Fire:** Any fire ignited by management actions under certain predetermined conditions to meet specific objectives related to hazardous fuels or habitat improvement. A written, approved, prescribed fire plan must exist, and NEPA requirements must be met prior to ignition.
- **Prescribed Fire Plan (Burn Plan):** This document provides the prescribed fire burn boss information needed to implement an individual prescribed fire project.

- **Prescription:** Measurable criteria that define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.
- **Fire Weather:** Weather conditions that influence fire ignition, behavior, and suppression.
- **Test Fire:** A small fire ignited within the planned burn unit to determine the characteristic of the prescribed fire, such as fire behavior, detection performance, and control measures.
- **Surface Fuels:** Loose surface litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed enough to lose their identity; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branch wood, downed logs, and stumps interspersed with or partially replacing the litter.
- **Ladder Fuels:** Fuels that provide vertical continuity between strata, thereby allowing the fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.
- **Control Line:** All built or natural fire barriers and treated fire edge used to control a fire.
- **Hand Line:** A fire line built with hand tools that are scraped or dug into mineral soil.
- **Drip Torch:** Hand-held device for igniting fires by dripping flaming liquid fuel on the materials to be burned; consists of a fuel fount, burner arm, and igniter. Fuel used is generally a mixture of diesel and gasoline.
- **Slop-over:** A fire edge that crosses a control line or natural barrier intended to contain the fire.
- **Spotting:** Behavior of a fire producing sparks or embers that are carried by the wind and start new fires beyond the zone of direct ignition by the main fire.
- **Torching:** The ignition and flare-up of a tree or small group of trees, usually from bottom to top.
- **Mop-up:** To make a fire safe or reduce residual smoke after the fire has been controlled by extinguishing or removing burning material along or near the control line, felling snags, or moving logs so they won't roll downhill.
- **Escaped Fire:** A fire that has exceeded or is expected to exceed initial attack capabilities or prescription.

Ignition Patterns

Due to the steep incline of much of the burn area, a common ignition pattern that the USFS plans to use will be to start from the top and take the fire down and across the slope.

Opportunities to Burn with Snow

The project's south aspects are oriented so that there is an opportunity to burn south-facing slopes when north-facing slopes are still covered in snow. The north-facing slopes will keep snow longer into the spring, providing a lower-risk opportunity to burn due to the moisture covering the fuels on the other sides.

Patrol and Monitoring

- Residents should expect to see patrols and monitors around the perimeter of the unit during and/or after the burn.
- At some point, patrols and monitors may mop-up areas that could create potential issues.

Burn Plan Components

- The project decision determines the unit design and layout of the burn plan.

- The burn plan also includes a complexity analysis, which is when the line officer goes through the burn plan and area to identify risks and the overall complexity rating of the project.
- After the completion of fire prescription modeling and assessments, another burn boss will perform a technical review of the burn plan to ensure that it follows the National Wildfire Coordination Group (NWCG) guidelines. NWCG has a standard format for all burn plans, which requires certification before anyone can be certified to use the burn plan.

Planning and Implementation

- The burn plans require several documents. Once the fire behavior prescription and modeling are complete, the other following steps must occur before ignition:
 - The burn plan needs to be signed and approved.
 - The burn plan needs to go through a complexity analysis.
 - The burn plan requires a technical review of the burn plan by a different burn boss.
 - The burn plan needs a smoke permit from the Colorado Department of Public Health and Environment (CDPHE).
 - The USFS needs to complete notifications for nearby residents.
 - The burn plan requires concurrence from the agency administrator to ignite.
 - The burn plan requires that all resources identified in the burn plan are available.
 - The burn plan requires adequate weather and fuels within the identified parameters in the burn plan.
 - The USFS needs to complete a test fire before ignition.
 - The USFS needs to go through the Go/No-Go decision document prior to ignition.

Potential Constraints to Burning

- Burn parameters include eye-level wind speeds and fine dead fuel moisture, which incorporate the aspect, temperature, and humidity.
- Red flag or fire weather watch events, which is when wind speeds are higher than the eye-level wind speeds are higher than the acceptable parameter.
- Fire restrictions, especially in the fall, are common constraints to burning.
- The prescribed burn falls within an area rated at a Preparedness Level 4/5 (PL 4/5) based on the National Multi-Agency Coordination Group (NMAC) Preparedness Level stages.

What Happens When Things Do Not Go as Planned?

- The USFS has contingency resources through cooperating agencies in the area including, federal, state, county, and FPD agencies along the Front Range. There will be aviation resources later into the year available through the state and federal levels.
- If a slop-over becomes an escape and then a wildfire, and the public needs to be notified, the county sheriff would be responsible for activating any sort of evacuation notification or other notification for residents.

Lessons Learned

- The USFS learned several lessons from the Winiger Ridge Prescribed Fire in October 1998, including 1) the effectiveness of handlines, where necessary, 2) that wet lines are temporary and may require additional resources, 3) that relying on a fall burn window can be challenging due to higher winds, late-season drought, and fire restrictions, and 4) patrolling after the burn can be necessary for several weeks until the fire is completely out due to a precipitation event.

- The USFS also learned several lessons from the Gross Dam Escaped Pile Burn in April 2021, including 1) that increased monitoring and patrolling standards are necessary to better ensure boundary operations are thorough and 2) that the tracking of daily updates from perimeter patrols during the patrol phase of prescribed fire should improve.

Post-Burn Monitoring

The picture on this slide depicts an example of the desired outcomes for this prescribed burn through before and after pictures of a burn-in Clear Creek County several years ago.

How to Stay Informed

- There will be a press release notifying the public of the planned ignition several days before the burn window approaches.
- For the latest updates on when and where burning will occur, residents should follow the USFS on Twitter and Facebook @usfsarp.
- For those who would like to receive updates from the USFS, send an email to katherine.armstrong@usda.gov that includes the general area you are interested in (i.e., Boulder, Gilpin, Clear Creek, and/or Grand).

Past Questions and Additional Resources

- Chad Buser shared questions that the USFS answered before the presentation regarding prescribed burning. Please find the past questions and answers in Appendix A.
- Please find additional resources on prescribed burning in Appendix B.

PRESCRIBED BURN PLAN DISCUSSION AND QUESTIONS

Meeting participants had the opportunity to discuss and ask questions about the presentation and prescribed burns. Additionally, meeting participants expressed prescribed burn-related concerns. Below are key points from the discussion, concerns, and questions and answers.

Discussion - Previous Prescribed and Pile Burns and High Winds

- In the past, residents witnessed unmonitored fires during high-wind events, specifically a pile burning on Magnolia Road and the 1998 Winiger Ridge burn. Many residents would like to understand how the USFS plans to monitor the burns.
- Typically, high winds in the winter come after a snowstorm. When the weather system begins to move out of the area, and the high winds begin to enter the area, that is the USFS's burn window for pile burning. Although it is not ideal, it is the safest way for firefighters to apply fire in areas where there are constant winds. Treatment plans can account for scorched trees, for example, as an effect of high winds. Wind can also help ventilate the fire and smoke and can allow firefighters to burn faster.
- Although it may appear that a burn is unmonitored, it is often the case that the crew is lighting other piles in the area with the intent to return to each pile.
- Chad Buser and Clark Chapman will connect offline to discuss past pile burnings during high winds and the USFS plan for monitoring during high-wind events.
- The first three units that the USFS plans to burn are relatively small units. Smaller units allow the USFS to take their time with each burn to ensure that the burn creates the desired outcomes.
- Recent pile burns in the patch cuts led to more trees burned than the treatment called for, which instigates some distrust amongst residents in the work the USFS is doing with fire. USFS representatives agreed that there is room for improvements with the patch cut pile burns. When the USFS needs to conduct accelerated pile burning to fit within the burn

window, the piles can become so hot that it can be challenging to control the fire and avoid scorching or killing nearby trees.

- If there are hurricane-level winds, for example, firefighters will be out monitoring the burn area, and other resources will be on the scene. However, when there is a low-to-no risk that a fire will spread due to weather or nearby fuel, it is important to allow firefighters to rest so that they can continue to monitor the fire. The USFS makes these decisions based on weather models.

Discussion – Monitoring

- Capacity for monitoring is a challenge for the USFS. The MMG could discuss different ways to involve residents during fire-related events at a future meeting.
- The USFS now has remote cameras to assist with monitoring the area during and after the burn work.
- When the USFS conducts fire-related work, nearby fire protection districts (FPDs) and fire departments provide support if needed.

Discussion – Fuel Reduction

- Some residents would like the USFS to prioritize new areas for burning to reduce fuels rather than going back into already burned areas for the second time.
- If the downed timber around the Winiger Ridge trail is not part of the burn, it should be. The top of the ridge frequently sees lightning strikes, and if the burn starts on the top of the hill and goes down, there will be a lot of fuel near the top.

Discussion – Cheatgrass

- There is a lot of cheatgrass near the top of and along Winiger Ridge, too. If the plan includes burning the cheatgrass, then there may be more cheatgrass than there was to start.
- The burn plan does not specifically address cheatgrass or other noxious weeds after burning. The Forest Botanist has a new herbicide, tested on Boulder County Open Space land, that may help manage cheatgrass.
- There is not a great deal of research focused on the interaction between fire and cheatgrass in this landscape. However, some research that does focus on the interaction in this landscape suggests that fire helps to manage, rather than spread, cheatgrass.

Clarifying Questions

Meeting participants had the opportunity to ask several clarifying questions about the prescribed burn presentation and the resulting discussion. Below, questions are indicated in italics with their responses in plain text.

What is the minimum eye-level wind speed that prevents ignition?

The minimum eye-level wind speed that could prevent ignition will depend on the conditions. The USFS is working on writing dual prescriptions for this area for more flexibility to conduct the burn with snow cover or without snow cover. If there is snow cover, then the 15 miles per hour (mph) would be the minimum. If there is no snow cover, then it would be a little bit less than 15 mph.

What is the difference between the colors on the sub-burn unit map?

The USFS plans to target the gold/orange-colored areas this winter or spring if there is a burn window. The purple-colored areas will be planned for future years, as will the blue-colored areas. The USFS needs to conduct additional preparation and pile burning in the blue units, too. There are

a few more piles in the gold/orange-colored 38c unit that the USFS will try to burn to reduce the fuel load before the broadcast burn.

During the Winiger Ridge burn in 1998, there were several above-ground cisterns holding water to put out a fire if it escaped the unit. How many cisterns will this burn plan include, and in what locations will they go?

Whether the USFS uses water tanks, which is the term they use in place of water cisterns, for water holding depends on if the location will require water. In 1998, firefighters heavily relied on hose lays to help control fire, whereas firefighters now rely more on hand lines. Hose lays require a considerable amount of water. Digging a one-to-two-foot hand line is the typical practice today. Additionally, water can freeze, which could be more problematic than helpful.

How many days will the prescribed burn work take?

It could be that each unit takes one day. If there are lighter fuels in the units, it is possible that the USFS could do two units in one day. Ultimately, the USFS intends to burn when the conditions are right. Ending the burn as early as possible during the day can mitigate the amount of smoke that reaches residents, too.

Will access routes created by the burn be closed and obliterated to avoid fragmentation after the burn for recreation?

As soon as the burn is implemented, the USFS works to restore the area. Chad Buser designed the burn plan so that it would use as many of the natural features as possible.

During what conditions, in terms of snow coverage and wind speeds, will the USFS conduct pile burns and prescribed burns?

For pile burns, having snow on the ground prevents the surface spread beyond the pile or very little as the snow melts. The wind speeds are not as significant in allowing the USFS to burn piles. To be more focused on the impacts of pile burning, the USFS recently brought in some experts in that field. The USFS is designing the prescribed burn plan so that there are two different prescription parameters; one for burns with snow-covered adjacent slopes and the other for burns during the fall with higher dryness and wind standards. The snow-covered adjacent slopes can help contain the fire, as the snow forms small fences that serve as breaks throughout the units.

USFS UPDATE

Angie Gee shared updates relevant to the USFS. Below are key points from her update.

- Angie Gee accepted a new position with the Regional Office (RO) as the Assistant Director of Cooperative Fire Protection within the Fire and Aviation Program. She will start in her new role on March 27. Until then, she will be the District Ranger and be involved with the hiring process for the individual who will replace her.
- If anyone wants to discuss this further with Angie, she is available to chat offline.
- The Forest continues to focus on fire recovery throughout 2022. The contracts that have been awarded will begin this summer, and the prescribed burn will occur if there is an appropriate burn window.

ADDITIONAL COMMENTS

Meeting participants had the opportunity to share additional thoughts before the end of the meeting. Below are key points from the discussion.

- The Everbridge Notification System demonstrated issues during the Cold Springs Fire. If that is one of the mechanisms to protect people if something goes wrong with a prescribed burn, then the system's issues should be addressed. Clark Chapman wrote the Sheriff and

Office of Emergency Management (OEM) a report on the notification system's issues but did not receive a response in return.

- Tim Griffin was part of the hotshot crew on the Cold Springs Fire. He shared that the firefighters had a lot of success with that fire, and he is interested to hear the perspectives of others offline if anyone wants to share those with him.
- Mike Smith was the Incident Commander for the Cold Springs Fire and the Marshall Fire. He is also happy to talk offline with anyone who is interested.
- Teagen Blakey notified Angie Gee and Matt about the disconnected gate on Forest Road (FR) 606 and a few other topics. Angie Gee will follow up with Teagen via email.

NEXT STEPS

- At the next MMG meeting, the MMG should discuss fire support for homeowners in a capacity that is different than volunteer firefighting as well as cheatgrass and other noxious weed support.
- Additionally, a future MMG meeting could include a presentation about the Cold Springs Fire and its unique fire behavior, followed by a field trip to the fire to examine the fire behavior.
- MMG members would like updated maps and spreadsheets with information on completed and planned work.

APPENDIX

Appendix A – Past Questions

1. We are wondering why another prescribed burn is planned for much of the same area just 24 years later. Did the 1998 burn not accomplish its objectives?

Since talking to the 1998 burn boss trainee and reviewing the Chapman's video, the 1998 burn did accomplish the objectives at that time. The Forsythe II prescribed burns planned will be a mix of 2nd entry prescribed fire and 1st entry. The average historical fire regime or fire return interval of the project area is 10-30 years. The 2nd entry burn units will maintain the historical fire regime while providing an additional buffer to burning 1st entry burn units. Once the planned burns are implemented, they will bring the area closer to a historical fire regime while allowing for increased resilience of the forest to future wildfires or other natural disturbances.

2. We will be wanting a buffer between private lands and the region to be burned. How wide a buffer is being planned?

Buffers to private land from burn units will be 300' unless the adjacent landowner has previously agreed to allow additional treatment within the adjacent buffer.

3. Will you be creating control lines by hand or via bulldozers?

Control lines will be created by hand.

4. What if the conditions change (i.e., increased wind) during the burn?

If conditions change during ignition and are no longer within the prescribed parameters of the burn plan, the burn boss will take appropriate action as identified in the burn plan to secure the burn until it is within prescribed parameters. Typically, prescribed burn parameters include wind speed, relative humidity, temperature, and probability of ignition.

5. How are you protecting [leave] trees within the burn perimeter?

If a particular tree(s) is pre-identified to be protected within the perimeter, firefighters may use a variety of tactics that may include one or several of the following: reducing adjacent fuels, establishing control lines, applying water prior to ignitions, specific firing patterns, or monitoring with holding resources.

Appendix B – Additional Resources

Prescribed fire smoke may affect your health; for more information see:

<http://www.colorado.gov/pacific/cdphe/wood-smoke-and-health/>

Wildfire Terminology:

<https://www.fs.fed.us/nwacfire/home/terminology.html#:~:text=Prescribed%20Fire%3A%20Any%20fire%20ignited,be%20met%2C%20prior%20to%20ignition>

Prescribed Fire videos and information: <https://nocofreshed.org/>