

Forsythe II Multiparty Monitoring Group (MMG)
October 18, 2019, 9:00 AM to 1:00 PM
Field Trip Summary – FINAL

ATTENDANCE

Field Trip Participants: Karen Blakemore, Teagen Blakey, Chad Buser, Jim Disinger, Mark Foreman, Angela Gee, Alex Markevich, Paul McCarthy, Yvonne Short, Susan Wagner, and Kevin Zimlinghaus

Facilitation: Heather Bergman and Samuel Wallace

ACTION ITEMS

Kevin Zimlinghaus	Gather and share information on the size of piles by volume for mechanical and manual treatment.
Angie Gee	<ul style="list-style-type: none"> • Gather and share information on the Congressional committees that oversee forestry management and set treatment targets. • Gather and share information on the US Forest Service’s (USFS) reporting requirements.
Peak Facilitation Group	Prepare and distribute the field trip summary.

OVERVIEW

Note: The October 18 meeting was broken into two parts. The first part included a field trip to the Unit 9 complex. The field trip consisted of traveling to Units 5, 7, 9, 10, 11, 99, and 103. Participants met at the Boy Scout Trailhead gate, south of Unit 4, at 9:00 am and proceeded on foot down to several stops that Teagan Blakey and Kevin Zimlinghaus had selected in advance. This summary is organized by the stops that the group made by various locations (in chronological order).

Unit 5/7

- Field trip participants stopped in Unit 5, which is a post-treatment aspen unit. In Units 5, 7, and 8, the US Forest Service (USFS) removed conifers to promote the aspen. Following the specifications, the USFS lopped and scattered the conifers for both aspen units and meadow/shrubland units.
- The USFS made piles of slash and located them 50 feet from the aspen stands. They also constructed the piles in the minimum size possible according to the Decision Notice specifications.
- There was a concern that the woody debris left on the ground as a result of the lop-and-scatter technique serves as surface fuels and poses a fire risk. Others said the woody debris left from the lop-and-scatter does create a fire risk in the short-term until the needles fall off the debris. In two to three years, there will be a negligible difference in the fire risk. The lop-and-scatter debris is a better alternative than keeping the regenerating conifers on the landscape. The USFS also uses lop-and-scatter as a part of the design criteria to benefit wildlife. There is a balance between fire and wildlife considerations. Some participants said they would like to know the amount of surface fuels needed to benefit wildlife and the amount of surface fuels that significantly increase fire risk.
- There was a question about whether a large amount of surface fuels presents more of a fire risk than a small amount of surface fuels. In areas where there are larger diameter trees, there will be more residual surface fuels, which presents a higher fire risk in the short term. Manual treatments will also result in more residual surface fuels in comparison to mechanical treatments.
- Some participants said that one reason to cut the conifers in the aspen stands is to mimic the effects of fire. When fire is absent on the landscape, conifers outcompete aspen. By cutting conifers, the goal is to set back the successional process and promote aspen growth. Removing conifers also improves the

aesthetics of the Unit. In the case of a large fire, firefighters can use aspen stands as a place to engage and stop fires, which is another reason to remove conifers from aspen stands.

- Some participants stated that they measured some of the stumps of the cut trees and found that the USFS crews had cut a Douglas fir whose diameter at breast height (DBH) was 14 inches and a lodgepole pine whose DBH was a little over 12 inches. There was a question about whether this constitutes a violation of the Decision Notice. Cutting the trees over the DBH limit represents a technical violation of the Decision Notice. As the USFS implements the treatments, they do not closely examine the details of every tree and every inch, so sometimes there are mistakes.
- Some participants stated that they would like to see more heterogeneity among the conifers in aspen stands to promote aesthetics. Instead of leaving only large conifers, they said the USFS should leave intermediate-sized trees too to reflect a more natural look in the area. The USFS should consider this technique in treatments in highly used areas, like the Boy Scout campground. When there are spruce trees in aspen stands, the USFS will not cut the spruce trees because of wildlife considerations, the close association between spruce and aspen, and the aesthetics. In Unit 5, there happens to not be many spruce trees in the aspen stands.
- There was a question on how the USFS prioritizes different design criteria. To some level, the USFS considers all design criteria. The internal staff of the USFS goes into the field, meets, and discusses treatments incorporating multiple perspectives, including the feedback from the MMG participants. The highest priority of the USFS is restoration and resiliency across the landscape. Under that high-level goal is the integration of all the resources and considerations brought forth by the MMG. For example, in Unit 1, the USFS found a spring that was not on their maps. The presence of a spring initiated a set of design criteria that required a buffer around springs and other waterways. As a result of finding this spring, there were on the ground changes in the treatment design.

Unit 9 Retention Patches

- Field trip participants stopped at a retention patch in Unit 9. This retention patch is one in a series of three retention patches in the northern part of the mechanical treatment area of Unit 9. The area of the retention patches represents a good place for hiding and thermal cover for wildlife.
- There was a question about whether there was an option to connect the three retention patches. The USFS wildlife biologist's recommendation was to locate the retention patches in this way. Some participants asked if the directions given to the wildlife biologist were to find areas for retention islands or to enhance wildlife. The wording of these two different directions would affect the approach of the wildlife biologist. There were no specific directions on how to place retention islands given to the wildlife biologist. Some participants stated that they prefer a continuous area rather than patches.
- There was a question about the goal of the treatment. The treatment in the area will remove 40% of the trees. Some participants said that if the USFS removed 20% of trees rather than 40%, as the USFS did in the Lazy Z Road area, then there would be areas to connect the retention islands.

Unit 10 West

- The Unit 10 west patchcut is long and narrow. At its widest, the treatment area is 60 feet, and at its narrowest, it is 40 feet. The plan is to treat the Unit 10 west patchcut mechanically.
- The cycle of a lodgepole pine forest begins with the trees growing together. As the lodgepole pine trees continue to grow, they will begin to self-thin. Once the forest is mature, it will be susceptible to the mountain pine beetle. Depending on the severity of the event, trees will die, which will build fuels on the ground. It will take more than one cycle of the mountain pine beetle, but eventually, there will be a fire which will collectively burn the lodgepole pine forest.
- Some participants said the Unit 10 west patchcut is a strategic place for firefighters. The wind patterns in the summer are a result of thermal heating and cooling. As the sun warms the air throughout the day, the wind travels up the canyon. As the air cools in the evening, the wind travels down the canyon. This wind pattern, known as diurnal winds, facilitates the movement of

wind uphill and downhill from multiple directions, not solely up and down the canyon. Diurnal winds would affect the direction of a large-scale wildfire. In the summer during drought, up-canyon winds directed previous fires like the Black Tiger fire and the Walker Ranch fire.

- The Unit 10 west treatment is along a ridgeline that continues into Boulder Canyon. By placing a treatment along the ridgeline, it creates a holding point for fire crews for a fire coming up the canyon to Nederland and for a fire going down the canyon towards Boulder. Outside of this ridgeline, there is not a lot of workable ground from the bottom of Boulder Canyon to the top of the ridge to put in a holding line.
- This treatment area would represent a strategic holding point to buy firefighters extra time when fighting a fire. A holding point is a location that provides an opportunity to drop aerial retardants or allow access for on-the-ground firefighters. The usefulness of a holding point depends on the behavior of the fire.
- Some participants asked if the fire crew would be comfortable putting firefighters in the Unit 10 west patchcut if there was an active fire. Based on the behavior of the fire, they could have hand crews in the treatment area to dig handlines to connect the area to the bottom of Boulder Canyon.
- There was a question about whether a patch cut is necessary to create a strategic holding point. A patch cut gives firefighting crews a head start on fighting a fire. Without a patch cut, the firefighting crews could not treat as much area in case of a fire.
- The plan is for the USFS crews to transport slash from the treatment area in Unit 10 to a landing in Unit 9, provided that the treatment is mechanical. The landing in Unit 9 would serve as a centralized location for slash from mechanical treatments in both Unit 9 and Unit 10. A manual treatment in Unit 10 would result in many smaller piles across the landscape.
- Some participants said that there is currently not a large amount of surface fuels in Unit 10 west. If the USFS treats the area and leaves behind surface fuels, it will increase the fire risk in the short-term.
- The treatment in Unit 10 west is an indirect tactic. By having a treatment in place, it gives firefighting crews more time to create a fire break across the ridgeline. This opportunity to create a fire break in combination with more aerial retardant increases the chance of success to stop or slow down a fire.
- Some participants stated that there are three or four roads that go from the canyon to the ridge. They asked why the USFS cannot prepare those already existing roads instead of creating new skid roads and treatment areas. One reason for treatments along this ridgeline is the proximity to Nederland. The Cold Springs Fire came down Boulder Canyon and spotted across the bottom of the canyon. Fire crews were able to manage the new fire before it established itself. If the Cold Springs fire had established itself on the other side of the canyon, the diurnal winds could have directed the fire towards Nederland. This ridgeline creates the opportunity to manage a fire, like the Cold Springs Fire had it crossed the canyon, from coming into Nederland.
- There was a concern that creating new skid roads diminishes wildlife values, introduces weeds, and creates new opportunities for ignition, in part because people will use those skid roads for recreational purposes.
- Some participants stated that the group should consider the costs of cutting trees against the benefits gained from the treatment. The Unit 10 area is a healthy north-slope facing forest. They said that they want to understand the firefighting strategy in a bigger context to understand the gained benefits of putting a patchcut in Unit 10 west, which was planned for discussion later in the day.
- Some participants said that in the event of a catastrophic wildfire, fire managers are looking for the highest chance of success to contain the fire. The goal of placing a patchcut in this location is not to stop a fire. A single patchcut cannot stop a fire, but it can create opportunities to hold one. Creating multiple, strategically placed patchcuts across the landscape creates a variety of opportunities to contain a fire depending on the weather and fire behavior. Having only one patchcut reduces the number of options for a fire crew to contain a fire. The patchcut in Unit 10

west could serve as an anchor point to connect to different pathcuts and openings to create a fire break.

- The USFS wildlife biologist had concerns in the Unit based on the wildlife values of the forest. They relayed through the USFS representatives present that if the project were strictly a wildlife project they would not be treating Unit 10. Because of wildlife concerns, the USFS is cutting three acres in this patchcut instead of four. Additionally, retaining the ponderosa pine and Douglas fir will create a corridor of mixed conifer, which will benefit wildlife.

Unit 10 East

- Field trip participants stopped in the Unit 10 east treatment area, which is designated for a patchcut. On the uphill side of the patchcut is an aspen stand, and on the downhill side, there is a mixed conifer stand.
- There was a question about whether this area could be a mixed conifer thin instead of a patchcut. Since lodgepole pine trees are dominant in this area, a mixed conifer thin would result in a 40% reduction of lodgepole. In that case, there would be groupings of lodgepole pine between the Douglas fir and ponderosa pine. If it were a mixed conifer thin, the treatment would also likely be manual because mechanical treatment would damage many other lodgepoles.
- Even in a mechanical treatment, the crews have to leave some surface fuels on the ground for nutrient cycling. Surface fuels create microsites for forests to establish themselves. The surface fuels hold soils from wind erosion. In narrow patchcuts, like the one of Unit 10 east, there are fewer concerns about nutrient cycling because needles from nearby trees will fall into the area. For wider patchcuts, placing surface fuels is necessary to provide nutrients. Surface fuels also allow for the use of prescribed burns.
- There was a question about what amount of surface fuels represents the threshold when fire risk outweighs the benefits of providing nutrients. In the case that there is an excessive amount of surface fuels, some participants said that USFS should remove the excessive fuels.

Unit 11 West

- The next stop was in the western treatment of Unit 11. The field trip group was at the very southern edge of the treatment area, which connects to Unit 9. The plan is for the USFS to treat Unit 11 west manually due to its steep and rocky terrain.
- In Unit 11, they can treat up to six acres based on the limits of the Decision Notice. The six acres will include 2.5 acres of Unit 11 west, a little less than 2.5 acres of Unit 11 east, and then a mixed conifer thinning that is about 1-acre in size. The mixed conifer thinning is more connected to the Unit 9 treatment area, but USFS is counting the acreage of the mixed conifer thinning towards the Unit 11 acreage value, not Unit 9.
- There was a question about whether the USFS sets the goal of cutting 30% and then looks for the acres to fulfill that goal. From the silvicultural perspective, the reason there is a mixed conifer thin area in Unit 11 adjacent to Unit 9 was to extend the Unit 9 treatment to increase the opportunity for prescribed burning in the future.
- From a wildlife perspective in Unit 11, elk tend to use higher elevations to move through the area. The area of Unit 11 east is suitable for a patchcut because the elk tend not to use the lower elevations to move. Some participants expressed concerns for other wildlife species other than elk who depend on deep, forested areas for habitat. Others stated that a patchcut creates a different habitat type than the other places in the surrounding area.
- In this treatment area, the USFS is planning on making the minimum size of snags to be trees with 6-inch DBH rather than 8-inch DBH as it is in other places.
- There was a question about whether grouse is a concern in this area. The USFS was not concerned about grouse in the area.
- The USFS wildlife biologist relayed through the USFS representatives present that if the project were strictly a wildlife project, they would not be treating Unit 11.

- From the wildfire perspective, some participants stated that Unit 11 patchcuts are on the same ridgeline as the treatment areas of Unit 10. By treating in Unit 11 west, it creates a fuel break that allows firefighters to create a holding feature for fire suppression or prescribed burning. Other participants said that geographically, the Unit 11 treatments do not appear to align with the ridgeline.

Unit 11 East – Northern Portion

- The next stop was in Unit 11 east. Unit 11 east is a long and narrow treatment area. There is a mixed conifer stand to the eastern part of the treatment area.
- Some participants asked if it would be possible to treat the eastern half of the treatment area as a mixed conifer thin instead of a patchcut. The USFS could do a mixed conifer thin in there instead of a lodgepole patchcut. The mixed conifer thin would still target the lodgepole pine. The Unit 11 east patchcut is designated for manual treatment.
- Some participants said that bears liked the downed lodgepole trees on north-facing slopes, about 800 meters down from the ridge. The field trip participants did not know how far away they were from the ridgeline. Others stated that a mixed conifer treatment would not likely adversely harm wildlife.
- One tradeoff between a patchcut and mixed conifer treatment is that after a mixed conifer thin, there will be more burn piles across the landscape. Burn piles are more likely to torch upper story trees or kill them by heat. Larger burn piles would increase the scorching effect of the piles and potentially hurt nearby trees. The strategy would be to create smaller piles to reduce potential impacts. In a patchcut, these concerns would not be present.
- From a wildfire perspective, the Unit 11 east patchcut has less strategic value in terms of holding fires. The treatment could modify fire behavior and create breaks off the saddle of the ridgeline. These breaks would add more options to create a holding line.
- Some participants said that it would be more beneficial from the wildfire perspective if the treatment was higher along the ridgeline. There was another suggestion the USFS use already existing old roadbeds as a break instead of creating new treatment areas.
- There was a concern that thinning would increase the opportunity for plants like ground juniper to grow, which may be a fire hazard.
- Some participants said that on north-facing slopes, fire tends to move up but not down the slopes and tend not to burn. Historically, the north-facing slopes did not hold fire for longer periods because of shading and moisture retention. Other participants stated that the Cold Springs fire started on a north-facing slope. While the dry, hot ground is more likely to burn than the cold, damp ground, north-facing slopes are not entirely fire-resistant.

Unit 11 East – Southern Portion

The stop on the southern portion of Unit 11 east was just below the ridgeline. Originally, there was the option to extend the treatment upwards towards the ridgeline and with a series of switchback trails. The USFS did not extend the treatment upwards because ungulates funnel through this area to move into the adjacent saddle.

Unit 103

- The field trip participants were in the area between the Unit 103 treatment area and Unit 20.
- The stand had the characteristics of mature, old-growth lodgepole pine stand. There was also a nearby aspen stand.
- This stand will be a part of a retention island, so the USFS will not treat it. At the edge of Unit 103, there is an aspen stand which the USFS will treat following the specifications under the Decision Notice for aspen stands.

Unit 9 – Retention Islands

- The stop was at a retention island located in the southeast corner of Unit 9. The retention island is 3 acres in size.
- The reason for locating the retention island in this area is to provide thermal and hiding cover for wildlife, the same reason for locating the retention patches on the northern part of Unit 9.
- There were no additional questions about the retention island.

Unit 99 – Regeneration Thin (Post-Treatment)

- Field trip participants visited the Unit 99 regeneration thin after the USFS had already treated it.
- Unit 99 was the largest of the regeneration thins. There were many stobs, which are the stumps of saplings, in the treatment area.
- The Unit was likely treated before the Winiger treatment. This timeline would place the trees in the range of 25 to 30 years old.
- The trees that were regenerating were primarily lodgepole pine, but there were other trees, such as aspen, Douglas fir, and ponderosa pine. They retained the aspen, Douglas fir, and mature ponderosa pine. Before the thinning, the area was very dense and difficult to walk through.
- There was a question about the USFS's strategy when managing the burn piles in the treatment area. The USFS can burn the piles with minimal scorch. The lodgepole pine raised their crowns because of the density of the area. Due to the density of the area, it was difficult for the USFS to make piles and retain trees in a way that burning the piles would not scorch the remaining trees.
- There was a demonstration of how the USFS calculates the remaining trees per acre. A surveyor will set a point that acts as the center of a circle. They will use a measuring tape to measure out the radius from the center of the circle to represent a proportion of an acre (e.g., a 16.7-foot radius creates a circle that is 1/50 of an acre). The surveyor uses the measuring tape to walk the circle and counts any trees in the circle. They then multiply the number of trees by the acreage proportion (e.g., ten trees in 1/50 of an acre is equivalent to 500 trees/acre).
- Some participants had roughly counted the trees in one of the regeneration thin treatment areas and found 150 trees per acre. The USFS thinned different regeneration thin treatment areas to different degrees. The Unit 99 regeneration thin was a fuelwood cut.
- Some participants observed burn marks on the trees and asked if there was a burn after the original treatment. It was likely that during the original treatment, there were piles that were burned. Some materials may have also been removed through a skid.
- One of the specifications for treatment was to maintain 10 to 15 feet spacing between trees. Some participants said that the spacing between the trees seems larger than that specification. A quick demonstration measured trees at approximately 15 foot spacing.
- There was a concern that the ground will get drier as a result of the treatment. Some participants said they would like to see a larger amount of small woody debris to keep the soil healthier and wetter. More debris may also make it more difficult for weeds to grow.
- Because of the proximity of the regeneration thin to aspen stands, the stand will likely become an aspen stand rather than a mixed conifer or lodgepole stand.
- The expectation is that they will be able to burn the piles sometime in the next two to five years. The USFS has to wait a year for the piles to cure. Additionally, piles on a south-facing slope have smaller windows of opportunity to burn. Once the USFS burns the piles, there will be an opportunity for prescribed burns in the Unit. Some participants stated that as the USFS waits to burn the piles, there is an increased risk of fire danger for homeowners.
- There was a question about whether the USFS accounts for the whole lifespan of a project, including pile burning, when they treat an area. The USFS is in the process of building up the fire and fuels team. Another challenge for the USFS is not only that there are short windows of opportunities for burning some of the piles, but there is not enough staff to take advantage of those windows when they arise. The USFS is bringing on more staff, including fire suppression staff, to take advantage of these windows. Surface fuels and piles do increase fire risk, and the

USFS acknowledges there is a backlog of piles across the landscape. Some participants said that they prefer USFS not to treat areas unless they have the resources to be able to manage the burn piles.

- There is also a tradeoff with the piles between manual and mechanical units. Mechanical treatments leave fewer piles on the landscape and can remove the slash from the treatment site.
- In a mechanical treatment, there is one landing for every 20 acres treated. A landing is a half-acre to an acre in size. On that landing, there could be up to five piles that would need to be burned.
- Some participants requested more specific information on the volume of different sized piles. It depends on whether the piles are from a mechanical or manual treatment; machine-created piles are larger than hand piles. On landings in mechanical treatments, the five piles contain slash from twenty acres of the treatment area. In mechanical treatment areas, the USFS cuts more trees by volume than in manual treatment areas. The USFS will get more specific information on pile size by volume.
- The USFS internally has discussed the tension between creating new piles from current treatment activities and the need to treat existing piles on the landscape. They have to balance expectations set by national targets that require the agency to reach the goals that Congress sets through appropriations. The USFS cannot completely stop other treatments in order to manage the piles, although they do share concerns about the number of piles on the landscape.
- Some participants said that the non-USFS members of the MMG could contact Congress to share information about some of the problems that cutting by targets creates on the landscape. Congresspeople may not know that setting targets without capacity creates increased fire risks. The USFS can share information on what Congressional committees oversee forestry management. MMG members could also talk to state representatives.
- There was a question about how targets and directives affect treatment strategies. The National Forests receive forestry targets, and then staff from the different Ranger Districts meet to discuss how they will reach those targets. Forsythe II was a priority for the Boulder District to implement. The Districts have a certain amount of discretion when to treat. Some participants said that they do not want to delay the implementation of Forsythe II because of the momentum that the MMG has gained over the past couple of years.
- The USFS also has discussions with Denver Water. Most of the conversations between Denver Water and the USFS is related to the Gross Reservoir Expansion. The USFS receives updates on the timing and status of the project. The USFS also sends them an end of the year report.
- Denver Water provides some of the funding to the Forsythe II project. The funding from Denver Water does not fund the USFS staff, but it does fund some personnel and budget line items. Funding for Forsythe II comes from internal USFS funding for hazardous fuels treatment, Denver Water, and the Collaborative Forest Landscape Restoration Program (CFLRP) grant.
- There was a question about whether Denver Water sets certain goals for the project. Denver Water's involvement is primarily to ensure that the USFS is completing work. In the past, in a year when the USFS did not complete work, Denver Water shared concerns. If the USFS delays the project or bypasses a year, Denver Water might be upset.
- Some participants said they would like to see precise definitions of the USFS's reporting requirements to Congress. Reporting requirements come from a variety of places. The USFS will gather that information and share it with the MMG.