

**FORSYTHE II
MULTIPARTY MONITORING GROUP (MMG) MEETING
April 16, 2018, 6:00-8:00 PM**

*Nederland Community Center, MPR Community Room
Meeting Summary - FINAL*

ATTENDANCE

Participants: Todd Adelman, Teagan Blakey, Marin Chambers, Steve Durkee, Mark Foreman, Alex Markevich, Paul McCarthy, Yvonne Short, Kevin Zimlinghaus

Facilitation Team: Heather Bergman, Dan Myers

ACTION ITEMS

Marin Chambers	<ul style="list-style-type: none">• Send a PDF of the maps of the Phases One and Two units to group members.• Put all units on the new maps (rare plants, wildlife migration, etc.).• Help find partners with technical expertise to conduct pre-treatment monitoring on wildlife and fuel reduction (particularly from the Front Range Roundtable Landscape Restoration Team).
Kevin Zimlinghaus	<ul style="list-style-type: none">• Email unit design criteria to the group.• Notify MMG when the wildlife biologist's survey data is available in the spring.• Report back from the April 18 DAT meeting.• Finalize rules and commitments document with Teagan Blakey.
Heather Bergman, Marin Chambers, and Kevin Zimlinghaus	<ul style="list-style-type: none">• Prepare a presentation on monitoring processes for a future meeting.

REVIEW OF REMAINING PHASE ONE UNITS

Marin Chambers, Research Associate at the Colorado Forest Restoration Institute (CFRI), reviewed the remaining Phase One units (excluding Units One and 2) with the group. A summary of the review and discussion is provided below.

- Marin Chambers and Jim Cowart are mapping data that has been compiled to date. They did not receive additional Avenza points for the remaining Phase One units. However, they received a substantial number of geotagged photos from Jim Disinger; these photos can potentially be mapped at a future time but is time consuming and CFRI/Jim Cowart do not have the capacity to do this. Due to potential challenges of mapping Jim's photos, some group members expressed interest in redoing the group walk of the project site and plotting the Avenza points of the walk. Some group members stressed the importance of mapping Jim's photos, because they show old-growth forest that they believe should be exempt from treatment.
- Unit 74 is a Phase One unit in its second treatment phase and is composed mainly of Douglas fir and mixed conifer forest. In Stage One of this unit treatment, the plot will be thinned, hand-piled, and burned. Stage Two will take place in two or three years.
- A survey to identify old-growth forest characteristics will inform treatment strategies on Unit 74. The US Forest Service (USFS) operates under specific guidelines when harvesting

units with old-growth forest, which is defined as 25% or more of 14-20 inch-diameter trees. When the USFS encounters old-growth forest on 30% or more of a given unit's acres, they are only permitted to cut down trees with a maximum diameter of 14 inches.

- Some community members feel that Unit 74 is uniquely important to the health of the local ecosystem. The unit is composed of steeper terrain on the south side, a transition area from meadow to tree line in the north where a single-track trail is present, an aquifer on the west end, and a riparian area along the creek. Around Placemark 19, owl feathers were found.
- There is some old-growth spruce-fir and ponderosa forest on all of Todd Adelman's acres on the western two-thirds of Unit 74.
- USFS staff conducted flammulated owl and goshawk surveys across the Phase One and Phase Two units, and identified goshawks on Units 9,10, and 11, adjacent to Boulder County lands. The USFS will direct its wildlife biologist to look at the area of Unit 74 where owl feathers were found.
- Some group members expressed support for preserving spruce and fir along the riparian zone of Unit 74, with a buffer of 100 feet extending from the stream.
- A group member also stated that from a firefighting perspective, there is a massive firebreak near the meadow area and that a fire might burn itself out there instead of doing damage in the more densely forested portions of Unit 74.
- Units One and Two will be discussed at the next meeting in May. Units discussed at previous meetings will not be revisited. It is important to note that many of the units of old-growth forest identified in Jim Disinger's photos fall within the Phase Two project area, but they will be not discussed in detail at the May meeting due to the difficulties of mapping these photos.

Clarifying Questions

Participants asked several clarifying questions regarding the Phase I units. Questions and responses are summarized below.

Can Jim Disinger's photos be uploaded into Avenza?

No, unfortunately. All photos are saved in CFRI/Jim Cowart's Google Drive, but CFRI staff cannot currently map Jim Disinger's photos or determine which of these photos show locations within the Forsythe II project area. A further challenge is that the geotags for many of these photos are clustered closely together, which would require a map to be closely zoomed in to show the distance between photographs and would result in displaying an overwhelming number of posters at meetings. All of the photos are of locations within the Boulder Ranger District (BRD) but not necessarily of places in Forsythe II.

What is the definition of old-growth forest?

Old-growth forest is a form of mature habitat, and the term does not refer to the characteristics of individual trees. A high percentage of each acre in an old-growth forest is composed of large (14-20 inches in diameter) and mature trees. USFS wildlife biologists use a checklist to evaluate tree stands for old-growth characteristics.

Will treatment in this area proceed differently with these old-growth characteristics in mind?

Before any treatment begins, USFS wildlife biologists will complete the old-growth survey. They will determine if owl feathers found by community members in this area came from a flammulated owl, which would exempt the area from treatment. Goshawk identification would also exempt an area from treatment. The USFS will conduct the old-growth survey and look for endangered birds, and then bring back the results of these surveys to the MMG. Then, in the case of Unit 74, the USFS

will remove ground brush and small trees. The USFS will not cut trees over 14 inches in diameter. Another consideration is that the area near Gross Reservoir is characterized by ponderosa pine forest and is perhaps not classifiable as old-growth. Similarly, the higher elevation portions of the treatment area are savanna- or meadow-like and do not necessarily fit the USFS classification for old-growth forest. Potential old-growth forest areas are concentrated along the creek.

What are the treatment objectives for Unit 74?

This unit will likely be identified as a Douglas fir forest that is not old-growth. However, if it is identified as old-growth forest, the treatment will consist of thinning the forest by no more than 30%, mainly via thinning from below. Regardless of old-growth determination, the USFS will identify and preserve clusters of large-diameter ponderosa pines. Obviously, big trees are a component of old-growth habitat, but it should be noted that in the case of a fire, ponderosas adjacent to Douglas fir areas will likely be destroyed.

Where did the group walk during its Avenza plotting excursion?

The group came over the ridge from Lazy Z at the transition point from a north- to a south-facing slope.

Can future tree mortality be factored into the calculation that determines what level of thinning is required to reach the target of 15 feet of spacing between trees?

Not necessarily, because seeding will lead to regrowth in any gap in the canopy if there is no treatment. Future mortality is balanced out by the growth of new trees. Essentially, the USFS is thinning now instead of later, when it will be more expensive.

Are the treatment goals to create a healthy lodgepole forest that is regrown and not too dense?

Yes. A good example of what success will look like is the Front Range Trailhead, where the USFS did a similar treatment 30 years ago.

NEW MAPS OF THE TREATMENT AREA

Marin Chambers presented several new maps of the treatment area to the group that highlight issues of concern, including environmental conservation areas, high biodiversity areas, rare plant areas (RPAs), riparian areas, significant natural communities (SNCs), and wildlife migration corridors. Highlights of the new map presentation and discussion are summarized below.

- Because the data are not all from one source, Marin stressed that the origin of all the data could not be precisely determined. Much of this data is very coarse, and when spatially mapped, makes polygons appear larger than they actually are for things like wildlife or rare plants. The high biodiversity area data is from the Colorado Natural Heritage Program (CNHP), and the SNC and RPA maps draw data from many entities. Riparian areas were mapped using information from a Boulder County database.
- When evaluating the data, Phase One and Phase Two units were first pulled from the treatment shapefile, then a 500-meter buffer around each unit was created. This buffer was necessary, because it is helpful to know what natural features are adjacent to a plot containing a rare plant.
- Wildlife migration corridors are defined as known elk migration movement corridors (although it was noted that elk are probably migrating beyond these spatial corridors because the corridors are maps of suitable elk habitat, not the elk population per se).
- Marin identified a large dataset from Colorado Parks and Wildlife (CPW) that provides roughly 15 maps worth of distribution data for wildlife species in the Forsythe II project

areas. The data is very broad and of an indeterminate age, so it should be considered with a grain of salt.

- It should be noted that CNHP might place a large buffer around species with a high biodiversity impact to avoid disclosing precisely where the species can be located. This is done out of a concern that poachers will use that information to harvest the species. This use of broad buffer zones means that the areas shown on the maps are not always reliable and overestimates the size or abundance of rare plant communities.
- CFRI staff provided an example of how to use rare plant maps. Group members could consider marking the presence of rare species on Avenza, determine the rare species in their area, and look for those species during Avenza mapping so that USFS staff can be sure to preserve those species. More broadly, if riparian vegetation is present along dry creeks in Phase One and Phase Two units, USFS will stay out of those areas.

Clarifying Questions

Participants asked several clarifying questions regarding the maps that Marin shared. Questions are indicated in italics, followed by the corresponding answers in plain text.

How can the information from these maps be incorporated into the treatment? The plan is already in place, so what can we do now?

The group will need to decide what it wants to do with the information. CFRI provided this information to elicit group input and for Avenza input mapping purposes.

What has the USFS already done with this kind of data? What data was incorporated into the planning and environmental assessment (EA) processes?

The USFS consulted with these datasets along with their own data. For example, the USFS has data on lynx that live across the Peak-to-Peak Highway. The USFS only surveyed for lynx at elevations of 9,000 feet and above, which only captures a small part of the potential lynx habitat in the area. This indicates that there is some discontinuity between the datasets. The USFS has also sighted elk on Units 26, 27, and 28 even though those units are not in the migration corridors identified by CPW. This could also indicate that the CPW data is out of date. In fact, the whole area could be considered an elk migration corridor.

Do riparian areas have a stand buffer?

Year-round riparian zones do, but intermittently-active riparian zones do not have a consistent buffer size.

What if there is no more snow this year? The streambed on the edge of Unit 74 appears dry, but it might need to be considered for a buffer zone.

Hydrologists have maps of dried-up areas and are looking closely at them to identify the presence of threatened and endangered species. For example, the Arapahoe stonefly is being considered for threatened and endangered species status and is associated with creek beds outside of the project area; some of those creek bed areas were taken out of the project area as a result of the fly's presence. Hydrologists are also looking for the presence of the endangered Preble's meadow jumping mouse based on elevation and will modify the unit designs if the mouse is found within the project area.

Group Discussion

MMG discussed the new maps and their applicability to the project, with highlights presented below. Action items are indicated in italics.

- Some group members supported the creation of maps based on the CPW distribution data for 15 key species, despite known limitations about the origin and broadness of the data. This data could be valuable if changes to the project are found to be necessary based on the presence of key species in the treatment areas. For example, the map of elk migration corridors shows that areas around Units One and Unit 2, as well as units near the Twin Sisters area, are important elk habitat. Similarly, riparian areas are narrowly defined, so the map of riparian areas will leave the USFS secure in the knowledge that it is not inadvertently damaging these areas during its planned treatments. Conversely, high-biodiversity areas, RPAs, and SNCs are quite broad, so it may be necessary to flag specific points of interest within the relevant areas of the maps.
- Some group members stated that while migration corridors do exist, different species require different migration corridor habitat. This means that there should be contiguous corridors of both cover and of open land maintained. If the Fire District needs to clear area around Nederland, that may be at odds with the need for contiguous and distinct habitat types.
- *Marin will map all of the discussed data on the treatment units, including data for the 15 species from CPW. This might take some time.*

UNIT DESIGN CRITERIA

Kevin Zimlinghaus, forester on the USFS Boulder Ranger District, provided an update on the design criteria for Phases One and 2. The USFS must abide by these criteria during treatment. Phase One will consist of manual treatments, and Phase Two will consist of mechanical treatments. Action items are indicated in italics. *The unit design criteria for Phase One will be emailed to the group and are already included in the EA.*

Clarifying Questions

Participants asked several clarifying questions about the unit design criteria. Questions are indicated in italics, followed by the corresponding answers in plain text.

What if the treatment plan for each unit changes from mechanical to manual once the USFS visits the sites?

Some units might shift from mechanical to manual treatment, but not many, because the intent of the two-phase format is to reduce the need to change treatment type at this point in the project.

Will this group see the results of biodiversity and endangered species surveys promptly?

A USFS botanist will complete the surveys this summer, including for flammulated owls and goshawks. Polygon buffers will be drawn around areas where these species are found (such as goshawk nests and orchid habitat) so that the species are not bothered. The buffer protocols differ depending on the species. The USFS will keep staff away from orchid habitat altogether, but if there is a goshawk nest, the USFS can treat units around the site outside of nesting season. Similarly, if flammulated owls are found, that area will either not be treated at all or there will be a limited operating period (LOP) for treatment.

Will all units be surveyed for flammulated owls?

The USFS will survey flammulated owls in areas with suitable habitat for flammulated owls.

Is there anything on the new maps that would change what is currently prescribed for treatments?

Generally, no. However, there could be modifications after the wildlife surveys are completed this spring. These maps can help determine which areas USFS specialists will go to for further analysis.

The areas mapped by CNHP could be surveyed for these characteristics. It may be helpful for MMG members to look for these species and values themselves and locate them in Avenza.

MONITORING OPTIONS

Marin Chambers led a discussion of the options available to MMG for monitoring the USFS projects. Highlights from the discussion are summarized below.

- The group agreed that their highest priority was to provide input to Kevin on the layout and design of the units.
- The group also determined that they would prioritize implementation monitoring (i.e., making sure that USFS is adhering to the project plan) over effectiveness monitoring.
- Marin asked whether and how the group wanted to conduct effectiveness monitoring, which assesses the effects of treatments on ecological and social attributes. Marin laid out four options for the MMG to engage in effectiveness monitoring.
 - *Option One:* The MMG does not participate in effectiveness monitoring. This may not really be an option, but it would mean that the group would only focus on design input and implementation monitoring.
 - *Option Two:* The MMG conducts effectiveness monitoring pre- and post-treatment with guidance from CFRI. This would mean three to four meetings to address monitoring questions, a meeting or two to determine study protocols, and maybe a subgroup for additional monitoring questions. This would require coordinating schedules and efforts for data collection (likely on the weekends) during this summer and subsequent summers. This option depends on the time commitment that MMG members can provide. Photo points could also be extremely valuable. This option would not necessarily include more rigorous data on factors such as how much fuel has been removed during the project. CFRI could guide these efforts on a few Saturdays.
 - *Option Three:* Same as Option Two, but volunteer groups would be recruited by the MMG to do the data collection.
 - *Option Four:* Capitalize on efforts already underway outside of the MMG that collect effectiveness monitoring data in the Forsythe II project area. The Front Range Collaborative Forest Landscape Restoration Project (CFLRP) conducts common stand exam (CSE) treatment monitoring that is presented to the Front Range Roundtable's Landscape Restoration Team (FRRT LRT) members for recommendations on an adaptive management feedback loop. CSEs involve collecting data on basal area and fuels, tree ages, and height diameter based on walking and transecting the plots. CSEs are the most common forestry exam method in the United States. Another monitoring effort is CFRI's contract with the USFS and Denver Water (DW) on the Forests to Faucets effectiveness assessment. CFRI provides technical and analytical support to this project. CFRI does this in DW's zone of concern (ZOCs) for Gross Reservoir, which happens to include the treatment areas being reviewed by the MMG. That monitoring may begin this summer, and CFRI could leverage monitoring efforts for both projects. If CFRI conducts monitoring this summer, staff could show MMG members what it is doing in terms of effectiveness monitoring with a guided Saturday tour and then those members could report back to the MMG.

Clarifying Questions

Participants asked several clarifying questions about the effectiveness monitoring options. Questions are indicated in italics, followed by the corresponding answers in plain text.

Can you explain what is monitored to determine ecological effectiveness?

CFRI uses Two protocols, a “simple” protocol that measures forest structure and fuels, and a more complex protocol, which consists of full botanical surveys in addition to measurements of forest structure and a more intensive analysis of fuels. CFRI is happy to share these protocols. The goal of the more complex protocol (“mothership protocol”) is to determine the response of understory species, surface fuels, trees, and tree regeneration to forest treatments. CFRI collects pre-treatment data. Additional data is collected one or two years after treatment and potentially three to five years post-treatment if funding is available. CFRI’s two standard protocols answer specific questions pertaining to improving forest management in the adaptive management cycle; some specific questions can be answered using these protocols.

Is pre-treatment monitoring now happening on most of this area?

Monitoring will be occurring in the entire watershed, potentially beginning summer 2018. The MMG can leverage that fact to have others pay for monitoring on these units.

Could we use this pre-treatment monitoring to conduct wildlife surveys or to reduce fuels?

Not with data from CFRI, but the FRRT LRT and others in Boulder County can do this sort of technical monitoring. CFRI can help find partners with that technical expertise.

How can the MMG leverage the data and knowledge of the LRT? Does the LRT have plots in this area?

CFRI recommends that the group connect with wildlife biologists that are currently monitoring in the Boulder Co. area. It is also important to note that it takes a few years to conduct meaningful data on some species.

Is post-treatment monitoring data only collected one year after the treatment?

That depends on the funding and technical capacity of the project.

What capacity does the USFS have to use monitoring findings for future projects?

The USFS has been following recommendations and input from LRT for eight years on how to adjust structure in forested stands. Most input affirms that an emphasis should be placed on mixed conifer and ponderosa stands. Based on those recommendations, the USFS has focused on treatment strategies that emphasize the presence of both larger trees and younger saplings in a stand to reduce risk of crown fire. Regeneration of ponderosa pine is episodic (every 6-20 years) here compared to other species, so the USFS wants to focus on regenerating ponderosa and cut out other groups of trees instead. The USFS will adapt its treatments as monitoring provides new data. Projects are tweaked as they go.

Group Discussion

The MMG discussed the options for effectiveness monitoring that Marin presented; highlights are presented below.

- The group decided that Option Four was the only realistic form of effectiveness monitoring. This group and homeowners are at capacity in terms of schedules. Also, this is complex monitoring and the group members may not be able to meet this standard.

- In the past, slash pile removal has not gone as well as community members would like. It will be important to see if slash piles have been removed in a couple of years. CFRI will not necessarily be measuring slash piles are part of their monitoring in the DW zone of concern.
- CFRI will walk the group through the monitoring protocols at a later time.
- A group member suggested that the group provide input via email on which units are selected for monitoring. This is a realistic form of participation, and it encourages transparency. CFRI may or may not be able to accommodate specific units selected for monitoring based on study design and stratification.
- The group discussed the units that concern them most. Some stated that it would be unwise to focus only on Forsythe. If the group starts looking at Phase One and Phase Two units, CFRI can find out how many plots can be put in for monitoring and how many will be needed per unit area for it to be scientifically effective. It would be helpful for there to be a day for group members to observe CFRI's monitoring, ask questions, and provide input. There also needs to be a conversation about whether and how CRFI can collect the data, and how serious of a commitment that will be. CFRI will be collecting data in the area based on their study design and stratification as defined by their agreement with Denver Water. CFRI will try to leverage these efforts to the best of their ability to include monitoring in the Forsythe II treatment area, but will may have constraints on where and how much data can be collected and what kind of data will be collected.

DAT UPDATE

Kevin Zimlinghaus provided an update on the Design Advisory Team's (DAT's) progress, as he also attends that group's meetings. The final DAT meeting will be on Wednesday, April 18. Dan Myers of Peak Facilitation will take notes at the meeting. The DAT will provide recommendations on Units One and Two. A summary of the update is provided below.

- Kevin Zimlinghaus and Sam Haas of Peak Facilitation attended the DAT field trip on March 22 and walked through Unit One. The field trip group pointed out that other treatments could have been performed in addition to patch cuts to lodgepole pines observed in that unit. Aspen was noted as a significant forest component there as well. The field trip group expressed a desire to maintain an old-growth area of the unit observed on the fieldtrip. The group created Avenza points along a spring and looked at an area of lodgepole pines being considered for treatment. The field trip group discussed treating 4.4 acres in total, which this will be discussed at the April 18 meeting
- The field trip group walked through areas in Unit Two that were dropped from treatment in the past because there were not enough conifers. Regenerating aspen and wind-thrown fuels were observed in these areas. Based on these observations, the group concluded that these areas should be mapped and additional treatment should occur, including taking down and piling the wind-throw, enhancing aspen, and doing additional harvesting. The field trip group did not go up to the ridge, but they observed trees that were larger than could be managed with manual treatments. Field trip members said that they would put Avenza points for smaller trees in that area to be marked for better treatment.
- Kevin will provide recommendations at the DAT meeting based on what the MMG suggested and see what DAT identified found in these units. Then the DAT will make recommendations on the units.
- The group expressed concern about the discrepancy between the amount of clearcutting recommended by the DAT and the proposed clearcutting by the USFS. USFS has recommended a 30% reduction in lodgepole stands, but there are still questions on how many acres will be targeted by the USFS for harvesting. The group expressed some support

for deferring to Town of Nederland interests in some parts of the project area and encouraging the USFS not to conduct the most extensive treatments in others.

- The USFS will incorporate the DAT proposal and bring it to the MMG. The USFS will also outline its plans at the DAT meeting, but nothing from the DAT meeting will be binding. The DAT has identified similar goals to the MMG. It has identified mostly lodgepole stands in Units One and 2, but there are other important components that will be mapped separately in order to restore specific forest compositions. The Town of Nederland will submit a request to that effect, and this will be brought to the MMG.

NEXT STEPS

- The deadline for input on Phase One Units One and Two has been changed to May 6, 2018.
- Teagan and Kevin will sort out the rules and commitments document, which will be sent to the group for reference. Anyone who wants to provide input on that document should contact Kevin and Teagan ASAP.
- The webinar slides will be corrected to include all of the missing images and posted on the website. For now, anyone with questions can follow up offline with any of the speakers from that webinar.
- MMG members had previously indicated that a follow-up call would be helpful so they could ask additional questions on the content from the webinar, but the attendees at this meeting stated that they had their questions answered offline already, so no additional call will be scheduled at this time.