

**Forsythe II Multiparty Monitoring Group (MMG)**  
**February 25, 2019, 6:00 pm to 8:30 pm**  
**MPR Room, Nederland Community Center**  
**Meeting Summary – FINAL**

*Attendance:* Teagen Blakey, Marin Chambers, Tania Corvalan, Jim Cowart, Mark Foreman, Alex Markevich, Pedro McMillan, Stefan Reinold, Yvonne Short, Susan Wagner, and Kevin Zimlinghaus

*Facilitation:* Heather Bergman and Dan Myers

**ACTION ITEMS**

<b>Marin Chambers</b>	<ul style="list-style-type: none"> <li>• Investigate the applicability of the PRISM Climate dataset to the Forsythe II project (e.g., is the data too coarse).</li> <li>• Investigate the applicability of Jonas Feinstein’s (Natural Resource Conservation Service) climatic mapping tool to the Forsythe II project.</li> </ul>
<b>Alex Markevich</b>	<ul style="list-style-type: none"> <li>• Send Susan Wagner information about the locations of slash piles of concern.</li> <li>• Check the unit tables for Phases 3 and 4 for the presence of aggregations.</li> <li>• Identify some important wildlife corridors to consider for the upcoming discussion on wildlife.</li> </ul>
<b>MMG Members</b>	<ul style="list-style-type: none"> <li>• Consider Marin Chambers’ two monitoring questions: <ul style="list-style-type: none"> <li>○ <b>IF</b> CFRI can do ecological monitoring in the Forsythe II area this summer and beyond, what should it monitor?</li> <li>○ Is current CFIR monitoring appropriate and adequate?</li> </ul> </li> </ul>
<b>Stefan Reinold</b>	<ul style="list-style-type: none"> <li>• Try to find information on the microclimate(s) and precipitation in the Forsythe II project area.</li> <li>• Ask Boulder County wildlife biologists if they could monitor bird populations adjacent to Forsythe II treatments or otherwise monitor the wildlife in those areas.</li> </ul>
<b>Susan Wagner</b>	<ul style="list-style-type: none"> <li>• Email the collective and ask about problematic slash piles on the landscape. Report back on this at the March meeting.</li> </ul>
<b>Kevin Zimlinghaus</b>	<ul style="list-style-type: none"> <li>• Update the unit tables for Phases 1 and 2 with acreage and basal area information and share that with the group when it is ready.</li> <li>• Send Marin the updated unit tables for Phases 3 and 4 for posting on the website.</li> </ul>

**UPDATE ON PHASES 1 AND 2**

Kevin Zimlinghaus of the US Forest Service (USFS) provided an update on Phases 1 and 2 of the Forsythe II project. MMG members discussed the update. Their comments are summarized below.

- The USFS has decided to delay treating Units 1 and 2 pending further consultation with the Design Advisory Team (DAT) and/or Nederland Board of Trustees (BOT) and hopes to address those units in Phase 3 of the project.

- MMG members requested that Units 3 and 4 also be delayed. Those units will be discussed at the March meeting.
- The USFS is trying to get the contracts for the rest of the Phase 1 and Phase 2 units to Acquisition Management (AQM) staff and the relevant Contracting Officer for review as soon as possible. The contracts should all be submitted and reviewed in the next few weeks.
- The USFS will send the full Phase 2 contracts to Peak Facilitation for distribution to the group, and the Colorado Forest Restoration Institute (CFRI) will post them on the project website as soon as possible. The MMG may be able to discuss these contracts at the next meeting if time permits.
- MMG members asked to see the prescription details (acreage, basal area, etc.) in addition to the boilerplate contracts that the USFS has shown the group in recent months. The USFS keeps tables with tree counts so that the contractor knows what to expect in each unit. These tables from the contracts will be updated and shared with the MMG. The USFS will also update its spreadsheets summarizing prescriptions for Phases 3 and 4 and share those with the group.
- There was concern that the spreadsheet numbers for Phases 3 and 4 might not reflect the nuanced understandings of the aggregation question that the MMG has discussed at recent meetings. MMG members will look for instances of those aggregations in the spreadsheet, which should be scarce after the delay of Units 1 and 2.
- The USFS revised the Phase 1 contract based on input from MMG members.
- The USFS is creating a table with the inquiries it received on the Forsythe II project during the government shutdown.
- MMG members have asked why the original contracts for Phases 1 and 2 said that aspen could not be cut in lodgepole units but did not mention cutting bans on ponderosa and limber pine in those units. The USFS has changed the language in the contract to include those species. It will also mark limber pine trees as not to be cut.
- It was clarified that the basal area densities being addressed in the prescriptions are applied differently depending on a unit's species composition. Units will not be thinned homogenously.
- MMG members have brought several issues concerning wildlife in Units 3 and 4. Group members also stated that the trees in Units 3 and 4 are mature and well-spaced and expressed concern that the USFS wanted to space trees twelve feet from each other in those units. The USFS avoided cutting in certain areas based on Avenza points submitted by MMG members.
- There were questions about how the timing of a discussion of Units 3, 4, 63, and 107 would work given that the USFS has said that the contracts for those units are ready to be submitted. The USFS stated that it will wait until after the March meeting to submit those contracts and will discuss issues with those units with MMG members at that meeting.
- The USFS has had discussions with its wildlife biologists about the issues raised by MMG members on Units 3, 4, 63, 74, 107 and others. MMG members have noted the presence of buffer zones for treating in Unit 74 near Preble's jumping mouse habitat, but the boundaries of those buffer zones do not touch the treatment units nearby so those concerns will not apply to that area.
- MMG members have stated that the USFS is violating the Decision Notice by applying the 30% rule for aggregations in units with well-spaced, mature lodgepole. This issue should be raised to the USFS objection review process.
- There were concerns that the Forsythe II project would increase the danger by removing healthy trees instead of dealing with other fire hazards.
- MMG members stated that it would be great to see any new wildlife information that the USFS has.

### **REVIEW OF TIMELINE FOR PHASE 3**

Group members discussed the timeline for Phase 3 of the project. Their comments are summarized below.

- MMG members have expressed concern about the feasibility of meeting the March 3 deadline for submitting Avenza points for Phase 3 given the amount of snow currently on the ground. Points have only been submitted for one unit (Unit 12) in Phase 3 so far.
- There were questions as to why the USFS had not prepared more prescriptions last summer while the ground was clear and why the USFS needed to collect Avenza points to prepare the units for Phase 3 so much more quickly this year. The USFS wants to collect Avenza points for Phase 3 as soon as possible so that it can get ahead on prescriptions and allow more time to discuss potential issues with the MMG. The USFS also wants to have all of the Avenza data as soon as possible so that it can visit units efficiently without having to go back to the same area repeatedly.
- The group agreed to aim to submit all Avenza points for Phase 3 by May 12 so that CFRI can have adequate time to process them in time for the June 12 meeting. This deadline is subject to change based on weather and the March meeting discussion of the MMG's 2019 work plan.
- Submitting Avenza points on the proposed timeline will run parallel to the flagging of unit boundaries. The flagging and painting meanings will be the same as they were for Phase 1 and 2. The USFS will tell the group if those change and will let Peak Facilitation know when flagging and painting occurs for Phase 3 units so that the group can be kept informed.
- At the March meeting, the MMG will discuss the Avenza point system (how to be more efficient, what information is relevant, etc.).
- The government shutdown prevented the USFS from laying out many of the units for Phases 3 and 4. The USFS has planned 550 acres in total for Phases 3 and 4. Much of that total is from Avenza points submitted for portions of the Lazy Z area (near Units 45 and 47) that were not included in Phase 1.

### **REVIEW OF TABLE OF CHANGES MADE IN RESPONSE TO MMG INPUT**

Group members discussed a table prepared by the USFS describing changes made to prescriptions for Phase 1 in response to feedback from MMG members.

- The original version of this document (shared with the group before the November meeting) was much longer and featured identical USFS responses to some types of feedback. The USFS has continued to refine the document and has consolidated it from 58 pages to 8-10 pages summarizing the most influential input.
- The input that caused the biggest changes concerned lodgepole units (stand conditions, the presence of doghair thickets, the presence of rare plants, the location of drainages, etc.). MMG input on wetlands, riparian areas, rocks, knolls, orchids, and cryptogammatic soil also helped inform prescription changes.
- Some units were laid out based on Avenza points or comments on maps provided by CFRI at MMG meetings.
- The Avenza point process could be streamlined if less input were provided on factors already included in the project's design criteria. For example, there was input asking the USFS not to cut large ponderosa pines with a 60-inch diameter at breast height (DBH). The Design Criteria prohibit the USFS from doing so.
- Input on the location of limber pine in mixed conifer units is not necessarily helpful to the USFS because stands in those units are typically widely spaced and it is easier to identify individual trees. Identifying limber pine, ponderosa, etc. in lodgepole units would be more helpful, as those units tend to be denser.

- There has been past discussion about what input on the presence of wildlife is helpful and what is not. MMG members said that while it might not be helpful to mark all animal trails and scat, there are places with an important wildlife presence that have not been considered so far, particularly as concerns the movement of animals across the landscape. MMG members will identify some of those important corridors to inform the discussion at the next meeting.
- There were questions as to why the USFS accommodated feedback on windthrow and fallen trees in Unit 2 when there is a lot of windthrow in old patch cuts in other units.
- The table of changes indicates that the USFS is responding to this concern in Unit 2, but MMG input on the windthrow problem will have a broader influence.
- The Unit 2 patch cuts in question are enveloped by Units 99 and 100. The USFS is planning to thin regeneration in those patch cuts and some areas to the north.
- There is not enough regeneration to make enough piles in Unit 2, so the USFS is expanding its regeneration thinning 25 feet beyond the edge of the regeneration where openings exist so that it can preserve more young trees (which could die if all of the regeneration was placed in the patch cuts). The thinned regeneration in Unit 2 will be piled and burned.
- It would be challenging for the USFS to replant mixed conifer species in smaller units where there are fewer large openings.
- There were questions about what forest conditions the USFS is trying to create in the project area by planting the number and type of trees that it plans to as part of the project.
- The Environmental Assessment and Decision Notice for the project note that a warmer and drier climate will mean that tree species that do well in drier conditions will move higher in elevation, so the USFS wants to ensure that existing lodgepole forests are better mixed with more drought and fire-resistant trees. The USFS envisions a forest with between 0 and 50 lodgepole pines per acre. If the climate warms, conifers will dominate the area. If it cools, lodgepole will return and dominate the area. As part of this strategy, the USFS is thinning lodgepole regeneration in patch cuts in the Winniger, Lumpy Tongue, and West Magnolia project areas.
- MMG members said that it would make sense for the USFS to replant trees in wetter areas or to avoid cutting in areas that have the appropriate mixture of species for their moisture levels. The USFS could consider emphasizing Douglas fir over ponderosa in those areas.
- The USFS has stated that the final basal area reduction in the manual conifer units from Phases 1 and 2 will be between 20% and 30% (between 25% and 35% for Phase 1 alone). The percentages for specific units will depend on what is on the ground. The contractors will find the basal area for each unit already marked. The MMG could monitor the implementation of the basal area reductions.

### **MMG/USFS APPROACH TO SLASH PILES**

Group members discussed MMG concerns about slash piles on the landscape. Their comments are summarized below.

- The USFS created a document for MMG members to use to identify existing slash piles on the landscape. It is important to define a slash pile. Branches on the ground might be from fuelwood cutting and are not necessarily planned for burning. Similarly, if a given acre has a few piles on it, those are probably being maintained for wildlife.
- The MMG could decide to monitor slash piles on the landscape and could appoint one member to compile slash pile information to avoid replication.
- The MMG does not have information on some of the geographic units the USFS uses (township, range, etc.), so the compiler of this information can use Avenza points. The compiler will need to make their best guess on the size of the area on which piles are found

to determine whether or not they are wildlife piles (of which there are typically fewer per acre than piles that were unintentionally left on the ground).

- There were questions as to why the USFS is asking the MMG to do this monitoring. As has been discussed in previous meetings, the USFS is confident that it has identified most of the piles on the landscape. MMG members expressed interest in monitoring slash piles because some members have had concerns about the high number of piles left on the ground.
- It was suggested that MMG clean up debris from “lop and scatter” treatments near the edges of clear cuts around Unit 2.
- At past meetings, the USFS has discussed the possibility of increasing the pace of its pile-burning efforts. If MMG members provide input on areas of concern in terms of piles, the USFS can prioritize those areas.
- An MMG member sent the USFS an email about slash piles east of Units 19 and 21 from a previous project.
- There were questions as to how the USFS would keep track of newly created piles in the future, given that there are places near the Forsythe II area where many piles remain from previous projects. Not all of those remaining piles are wildlife piles.
- The USFS has burnt 2,100 piles covering 46 acres since February 15, mainly along James Creek east of Jamestown.
- If non-wildlife piles are identified in areas where it would be too dangerous to burn them (e.g., in clumps of trees), the USFS could chip them. However, the USFS does not want to award chipping contracts for, say, two piles in an acre. If older, more degraded piles are found, the USFS may lop and scatter those.
- The USFS does not retain information on the exact location of piles and whether or not each pile will be burned. However, burn crews and wildlife biologists know how many piles are being retained per acre and why they are doing so. Most of the units will feature 20-30 piles per acre before burning. It is difficult to say how many piles will be left after burning, but the USFS will estimate that and try to reach the target numbers set by the burn crews and wildlife biologists.
- The MMG could choose to monitor whether the USFS is meeting its pile-per-acre goals. If the USFS is off the mark on those goals and the group identifies that, the USFS could address surplus piles when it is working on neighboring units in the future.
- The USFS is hiring more staff to work on pile burning, fire suppression, offseason burning, etc. in and near the project area.
- There are concerns about the lack of precise information on where piles are located because piles near homes pose a fire danger. There are also concerns about the USFS practice of leaving new piles on the landscape for at least a year.
- The USFS has said that it would like to eventually create a schedule of pile burns for the District and Forest. The USFS also uses spreadsheets to track piles that it is burning and creating.
- An article advocating the use of mastication to remove piles and doghair thickets was recently published. The USFS does not support using mastication to remove piles and doghair thickets, because doing so merely rearranges fuel on the ground and causes it to smolder longer in a fire situation. Masticated fuels provide more surface area for fire to damage soil. In the West Fork Complex Fire, masticated fuels created a mat of embers that spread the fire after firefighters thought they had put it out.
- Boulder County is doing a lot of chipping and hauling on a 47-acre treatment to promote aspen growth along Magnolia Road. Boulder County is not taking any merchantable timber from the treatment. It has seven more acres to patch cut in the area and will work with volunteers to clean up the area this summer. The USFS does not have facilities to take wood chips like Boulder County Does, but Boulder County may buy wood chips from the USFS in the future.

- Susan Wagner will email her collective to ask if people know of any problem slash piles on the landscape. Susan will keep the group informed about the information she receives. Depending on how much input Susan receives, CFRI could map the identified piles using Avenza and create a table with information on the location, size, and number of piles on a given acre.

### **TOPOGRAPHIC WETNESS INDEX MAPS**

The group discussed topographic wetness index (TWI) maps that Marin Chambers of CFRI created. Their discussion is summarized below.

- MMG members have expressed interest in using the TWI as a map layer for USFS planning.
- TWI is used to quantify topographic controls on hydrological processes but does not provide information on precipitation levels or soil types. Instead, TWI calculates the way that water may flow off of a given landscape. Chambers produced TWI maps (available on the project website) of the project area that show where water would probably accumulate, possibly accumulate, probably not accumulate, etc.
- The maps do not show the location of drainages.
- The MMG has expressed interest in knowing if Nederland and the Forsythe II project area are wetter than the surrounding landscape. CFRI can examine the relative precipitation levels over time in the area if the group has a strong interest in learning that.
- CFRI could use the PRISM Climate dataset to estimate 30-year normal levels of precipitation in the area. However, PRISM data is based on weather stations, and there may not be enough weather stations in the area for the data to provide much useful detail.
- It was suggested that TWI and precipitation could be used to create an index for deciding where treatments should take place based on the expected productivity of a given forested area.
- Soil is another critical factor in mapping forest productivity, but it is difficult to bring all three of those factors together on a single map. The Natural Resource Conservation Service (NRCS) has tried to do so. Understanding all three factors will be critical in preparing the landscape to cope with climate change.
- An MMG member spoke with a scientist who mentioned that there is a weather effect that creates higher precipitation in the project area relative to its surroundings. However, microclimatic variations do not necessarily mean that a site will be more productive.
- The NRCS has created a map of the Front Range divided into 50-odd climate zones based on precipitation, cycle variations, etc. CFRI does not have the Geographic Information Systems (GIS) expertise necessary to replicate that map for the Forsythe II area, so it would need to speak with the NRCS about how it created that map.
- CFRI and Boulder County will try to find more precipitation and climatic data for the project area by the April meeting.
- MMG members expressed interest in reviewing data on the slope of all of the units in the project area. TWI does not necessarily predict erosion potential in an area. CFRI can do soil erosion modeling, but it would be expensive to do so on this scale.
- The Decision Notice specified a maximum slope rate for using mechanical equipment above which the use of machinery could increase erosion. There is no slope limit on manual treatments.
- A USFS hydrologist visited Unit 1 to investigate specific MMG complaints about erosion there, but the USFS has not evaluated erosion potential in other units.

## PREPARING FOR THE MMG MONITORING DISCUSSION

Group members discussed potential next steps for MMG-related monitoring efforts. Their comments are summarized below.

- CFRI may be conducting monitoring for Denver Water's Forests to Faucets program this summer. Some of that project area overlaps with the Forsythe II project area, so CFRI may be able to put some of the monitoring plots for the Denver Water project in the Forsythe II area, although it cannot promise that it will be able to do so. CFRI wants to know what the MMG would like it to monitor (and where) in the project area if it can place its plots there. CFRI hopes to have this information in time for the April MMG meeting.
- If this monitoring occurred in the project area, CFRI would prioritize conducting pretreatment monitoring on units to be cut this summer.
- Options for what CFRI could monitor include overstory, canopy cover, fuels, botanical surveys, and forest floor characteristics. CFRI does not monitor wildlife.
- CFRI often conducts monitoring to determine whether the organization doing a treatment met its ecological goals (retention rate for a given species, percent basal area reduction, etc.). That monitoring can help to inform adaptive management for future treatments.
- The Forsythe II project is moving forward. In past MMG meetings, the group has determined that it cannot collect ecological monitoring and has elected to focus on implementation monitoring to protect specific places and address specific concerns.
- There is interest in asking CFRI to monitor how understory plant life evolves in patch cuts, in comparing mechanical and manual treatments in mixed conifer areas, and in assessing the effects on treatments in units with different slopes.
- There is existing research on those three variables, but that information is not available for the project area, so it could be useful to monitor those factors.
- CFRI typically conducts posttreatment monitoring one and five years after treatment, depending on the project implementation timeline. It was noted that five-year monitoring findings for Phases 1 and 2 would not be available in time to inform the prescriptions for Phases 3 and 4.
- There was concern that there has been no monitoring in the patch cuts from the West Magnolia project. CFRI has done some posttreatment monitoring on understory regeneration in those patch cuts but has no pretreatment data with which to compare it.
- There were questions as to whether the TWI data would inform how the USFS decides on what areas it would like to cut. The USFS said that TWI data does inform its treatments, in addition to other components like stand density. In lush areas, there are sometimes more trees than has been the norm historically, which poses problems for forest health and fuel mitigation. However, patch cuts can be located in areas with varying TWI values.
- An MMG member attended a USFS General Technical Report (GTR) workshop where CFRI monitoring data was discussed. The data's conclusions were intuitive: tree density decreases where the USFS cuts and the intensity of treatments as measured by basal area has increased over time. Native and invasive understory species grow more when large trees are removed.
- CFRI also requested feedback from MMG members on whether the current MMG monitoring strategy is adequate and, if it is not, what should be changed.
- MMG members would like to see the impact of treatments on wildlife monitored.
- The major priority for homeowners is monitoring project design; MMG members want to ensure that the USFS does what it says it will do. Posttreatment monitoring helps inform future projects but is of secondary importance to some MMG members; it does not help homeowners if the treatment is damaging and then posttreatment monitoring proves that the treatment is damaging. The focus should be on preventing harm in the first place.

- Colorado Parks and Wildlife (CPW) has received funding to track elk with radio collars next January and February. Data from that tracking could inform future treatments.
- MMG members will consider what they would like CFRI to monitor if it can place plots in the Forsythe II project area this summer.
- There were questions as to why there had not been field trips to each unit. The USFS led field trips to some units, like Units 1 and 2. MMG members visited other units individually.
- There was a request for a field trip to Unit 3. Such a field trip would need to take place before the March meeting to have an impact on prescriptions. This will not be possible.
- MMG member expressed concerns in November that the lodgepole pines in Units 3 and 4 are mature and well-spaced and so should not be clear cut. The USFS is patch cutting large areas of healthy lodgepole, creating windthrow and hazardous ladder fuels.
- The MMG will discuss concerns about Units 3 and 4 at the March meeting.
- There were questions as to whether CFRI's monitoring data would inform future USFS treatments. The USFS stated that similar data collected in the past has driven changes to prescriptions and that any data collected in this area would inform future treatments. The treatments in this project reflect input provided by scientists involved with the Front Range Roundtable (FRRT), particularly concerning historic conditions in the forest and how best to adapt the forest to climate change.
- Ecological monitoring conducted in the near future in the Forsythe II project area could inform the design of controlled burns in Phases 7 and 8 of the project.
- There were questions as to what USFS wildlife biologists do in project areas after treatment. This will be addressed at the March meeting.
- There were suggestions that Boulder County could monitor wildlife on its property adjacent to the project area. Boulder County has its own projects to monitor, but its biologists do some bird monitoring in the Magnolia area, which may be pertinent.
- There were questions as to whether the USFS uses CFRI data. CFRI collects a lot of data, and the USFS does not use all of it, but its data has been used to create recommendations that have contributed to adaptive management on the USFS projects for which it has been contracted.
- CFRI collects its own data for its purposes to help inform land management agencies (including but not solely the USFS) of the ecological impacts and/or effectiveness of forest treatments; the USFS does not use CFRI data, rather is informed by CFRI's data.

## **NEXT STEPS**

- The next MMG meeting will be on Wednesday, March 13 from 6:00 pm to 8:30 pm at the Nederland Community Presbyterian Church.
- Agenda items for the meeting will include:
  - Discussion of MMG wildlife concerns (including what wildlife biologists do in units after treatment).
  - Discussion of the MMG's 2019 work plan.
  - Discussion of Units 1, 2, 3, 4, 63, and 107 (Note: Units 3 and 4 can still technically be changed).
  - Discussion of the USFS's views on landscape-scale strategies.
- Other possible agenda items for the March meeting or subsequent ones include:
  - Discussion of erosion potential in Forsythe II units.
  - Discussion of USFS tree replanting strategies.
  - Discussion of the Avenza point process (how to be more efficient, etc.).
- For now, MMG members should plan on submitting Avenza points on units in Phases 3 and 4 by May 12. This deadline could be moved depending on weather and how the discussion of the 2019 MMG work plan unfolds.