

Forsythe II Multiparty Monitoring Group (MMG)
September 11, 2019, 4:30 PM to 8:30 PM
Nederland Presbyterian Church
Meeting Summary – FINAL

ATTENDANCE

Participants: Karen Blakemore, Teagen Blakey, Chad Buser, Marin Chambers, Tania Corvalan, Jim Cowart, Aurelia DeNasha, Lynne Deibel, Mark Foreman, Angela Gee, Alex Markevich, Paul McCarthy, Mark Mendonca, Adam Mitchell, Susan Spaulding, Susan Wagner, and Kevin Zimlinghaus

Facilitation: Heather Bergman and Samuel Wallace

ACTION ITEMS

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| Angie Gee and Kevin Zimlinghaus | <ul style="list-style-type: none">Ask the contracting officer if it is possible to include a requirement in the contract that the designated representative talk to their crews in both English and Spanish.Provide GPS maps of the potential patch cut areas in Unit 10. |
| Kevin Zimlinghaus | <ul style="list-style-type: none">Look for opportunities to conduct treatments using procedures other than designation by prescription.Walk and collect information on Unit 11 for a later discussion on treatments. |
| Angie Gee | Contact the USFS Boulder District recreation manager to see if he would be willing to talk with the MMG about recreation management. |
| Aurelia DeNasha and Lynne Deibel | Share updated maps with layers on management area 3.5, interior forests, inventoried old-growth, and development old-growth with the MMG. |
| Magnolia Forest Group | Walk and collect information on Unit 10 for a later discussion on treatments. |
| All participants | <ul style="list-style-type: none">Sign up for the Boulder County Parks and Open Space newsletter if they would like.Check availability on December 9 for a rescheduled MMG meeting. |
| Peak Facilitation | <ul style="list-style-type: none">Send out a Doodle to reschedule the October meeting for a field trip.Send out a Doodle to find a time during the week of September 16 to continue the conversation about Unit 9, 10, 11, 102, 103, and 20. |

UPDATE ON UNIT 46

The US Forest Service (USFS) updated the MMG on the contracting mishap in Unit 46 that resulted in the contractors cutting the wrong trees. Their comments are summarized below.

- Unit 46 is by Gross Reservoir and is a part of the Phase 1 treatment. It is a five-acre mixed conifer unit where the objective is to reduce basal area.
- In Unit 46, the USFS marked the trees for the contractor to leave with orange paint. In the other units of Phase 1, the trees marked with blue paint indicated that the contractor should cut the trees. This created confusion on the contractor's part about whether the "leave" trees or "take" trees were marked and the contractor cut the marked trees in Unit 46 that were supposed to be left on the landscape.
- The USFS crew looked at the unit and found that the average size of the tree that the contractor cut was between four to eight inches in diameter. However, there were some larger trees that the contractor cut. The USFS designated Unit 46 for thinning, so the cutting of the wrong trees affected all five acres of the unit. Since the contractor cut the leave trees instead of the take trees in this unit, the number of trees cut were fewer than planned.

- In the original contract for Unit 46, the language did not explicitly speak to the orange paint indicating leave trees in Unit 46. Before the contractor conducted the treatment on the unit, the contractor and the Contracting Officer Representative (COR) had several conversations about the orange paint. The USFS Contracting Officer (CO) communicated their intent to modify the contract to contain explicit language about not cutting trees with orange paint. The CO gave verbal approval for the contractor to work in Unit 46 before they issued the contract modification.
- Unit 46 is the only unit painted orange because it was one of the first units that the USFS painted. There was a field trip during which the MMG discussed marking trees for the contractors to cut so that the trees left on the landscape did not have paint on them. After this field trip, the USFS changed their strategy to painting the cut trees blue instead of painting the leave trees orange.

Clarifying Questions

MMG members asked several clarifying questions about the Unit 46 update. Questions are indicated in italics with corresponding answers in plain text.

There were several large, leave-marked trees in the unit. Did the contractors cut those trees?

The contractor did take a 10-inch and 20-inch diameter tree. The USFS identified these trees from the stump measurement. The contractor did leave some of the large trees, including the large trees on the boundary.

Where are the trunks from the large trees that the contractors cut?

The trunks are on the ground. Unit 46 was a lop-and-scatter unit, so the contractor bucked and limbed the trunks and scattered it across the unit.

In Unit 46, the basal area reduction goal can be up to 50%, and the USFS marked the unit accordingly. Does the USFS know the total basal area reduction that occurred as a result of the treatment?

The USFS expectation is that the basal area reduction was 15% to 30%. Some participants said that they visited the unit and estimated that the basal area reduction was greater than 15% to 30%. The USFS will be conducting post-step transects and measuring the unit with ten plots to understand the forest structure and residual basal area.

What happens now with the contractor?

The mishap is officially on the contractor's record. When other federal agencies look at the contractor's record, they will see the Notice of Non-Compliance, which could impact the contractor's ability to receive future awards. The USFS has also penalized the contractor. They will only receive 50% of the payment for the unit, and they will forfeit the other 50%. The reason that the USFS is not penalizing the contractor for 100% of the costs is because the USFS recognizes their responsibility in the miscommunication. By not including explicit language in the contract and giving verbal agreement to proceed before they issued the contract modification, the USFS accepts partial responsibility.

What is the USFS going to do in the future to make the contracting work clearer?

The USFS missed adding the language in the contract about leaving the orange trees before the USFS wrote and awarded the contract. They noticed the need for a change in the contract once they were on-the-ground in the unit. In the future, they would issue the contract modification to make sure the language was explicit and clear. In the near term, a CRO will be with the contractor on every unit before the contractor begins their work. The USFS can commit to this action in the near-term because they are only administering the Forsythe II contract. If the USFS needs to administer

more contracts in the future, they will not be able to have a USFS CRO with the contractor at the beginning of every unit. From an administrative perspective, the contractor has been passing USFS inspections of their work in other units. If there is a new contractor that takes on new work, the USFS CRO will be in the field with the contractor.

In the future, will the USFS contracting officer not allow the contractor to move forward without the modification?

It depends on the discretion of the USFS contracting officer, and it may change case by case. In the case of Unit 46, the CO and CRO gave the information about the orange paint to the contractor and foreman. There was a verbal agreement between the two legal parties that a contract modification would be released. One of the problems in Unit 46 was that the contractors knew about the modification, but the worker with the saw did not. After finishing Unit 4, the contracted crews started working in Unit 46 while using the procedure for choosing which trees to cut, i.e., choosing to cut the trees with paint.

Group Discussion of Unit 46

MMG participants discussed the update on Unit 46. Their comments are summarized below.

- Some participants said that this mishap was a result of internal procedure. The way to move forward from this mishap is to identify where there were points of systemic failure. For example, not having the USFS on the ground right before the contractor was going to cut, language barriers between those who speak Spanish and those who do not, and other communication challenges represent systemic failures in the contracting phase. Future treatments are more complex, and so the group needs to figure out how to cut through the complexity to prevent more mishaps.
- Some participants stated that during a previous meeting, MMG participants had discussed how the USFS was going to have employees on the ground with the contractors three out of every five days. The USFS does have people on the ground with the contractor three out of every five days. There is also someone on the ground with the contractor before the contract begins and when it begins. If a contractor is working through multiple units and passing inspections, then the CO will not be on the ground every time the contractor moves into a new unit. Some participants said that there should be a CO or CRO on the ground when there is a prescription change between units.
- Language barriers are one of the challenges during the contract work (some workers speak Spanish and others speak English). A contractor will often identify a designated representative as the key point of contact. This person is generally the foreman, but it does not have to be. The USFS requires the designated representative from the contractor to be English speaking. Some participants said that the designated representative should be someone who is on the ground during treatment and that that person should be able to communicate in the same language as the hand crews.
- Some participants said the USFS should write into the contracts that the designated representative will talk to their crews in both Spanish and English. The USFS will bring this idea back to the CO to see if this is possible.
- When the USFS is no longer able to have a CRO on the ground at the beginning of each unit, the USFS will notify the MMG. At that point, the group can discuss how they will oversee the correct implementation of contracts.
- There was a discussion about the complexity of future treatments. For the Aspen units, the USFS is going to designate by prescription based on diameter caps. Some participants expressed concerns about designation by prescription as there is an opportunity for misinterpretations, especially with language barriers. Other participants said that the USFS

had completed thousands of acres by designation by prescription in the past, and those treatments have been successful. The USFS will consider opportunities to use procedures other than designation by prescription for future treatments and report back to the group.

LODGEPOLE PINT UNITS – PRESENTATION 1: USFS PERSPECTIVES ON TREATMENTS

Kevin Zimlinghaus and Angie Gee, USFS employees, presented on the USFS's perspectives on treatments in the lodgepole pine units. Their comments are summarized below.

- For the Phase 3 and 4 lodgepole unit discussion, the USFS prepared posters and documents based on the MMG's previous discussions on mechanical versus manual treatments and slash piles. The documents and posters depict previous treatments on Taylor Mountain and James Creek. James Creek was a ponderosa pine area that the USFS manually treated. They achieved a 35 to 40% basal area reduction. Taylor Mountain was a mixed conifer area that the USFS mechanically treated. There are before and after pictures of mechanical and manual treatments and pictures of slash piles pre- and post-burning. The images serve as a place to begin discussions about different tradeoffs during forest treatments (fire suppression, wildlife, aesthetics, etc.).
- Habitat structural stages have several different classifications. A classification of 1M indicates a meadow, and 2T indicates a landscape of tree saplings and seedling.
- The number at the beginning of the classification indicates the size of the dominant trees on the landscape. A "3" indicates that most trees are 1 to 9 inches in diameter, and a "4" indicates that most trees have a diameter of greater than 9 inches. The letter which follows the number indicates the canopy cover. An "A" indicates a 10-39% canopy cover; "B" indicates 40-69% canopy cover; and "C" indicates 70% and greater canopy cover. Therefore, a 3B is a forest where 1- to 9-inch diameter trees dominant and the canopy cover is 40-69%. A 4A forest is one where 9-inch or greater diameter trees dominant and the canopy cover is 10-39%.
- The USFS conducted a thought experiment in which they went through the data and considered what the habitat structural stages would look like over space and time under the Forsythe II treatment.
- There are some challenges with this approach. First, there are differences between planning, GIS mapping, and implementation. Because of these differences, there needs to be on-the-ground verification of the data. Second, historical records are not always accurate. The USFS spent six weeks checking the habitat structural stages, and so they are confident about the habitat structural changes and cover types.
- One parameter for the thought experiment was the spatial scale. The analysis only includes Forsythe II units and does not include the broader analysis area. It is easier to capture the habitat structural stages changes over time on the Forsythe II unit level than the entire analysis area. Another parameter is that the thought experiment did not account for potential disturbances (insects, disease, fire, etc.). It also did not account for future management actions, such as prescribed burns.
- The histograms on the presentation show the initial conditions and the breakdowns across the entire landscape. The histograms include all cover types (e.g., ponderosa, conifer, aspen, and lodgepole cover types). The habitat structural stage projections are what will occur on the landscape after the Forsythe II treatments.
- According to the thought experiment, some of the manual treatments do not affect the habitat structural stage of the forest, especially in lodgepole. In the mixed conifer units with mechanical treatment, there is a larger change in the habitat structural stage.

- From the initial conditions to the 1-year post-treatment, there is an expectation of seeing an increase in 2T, an increase in 3A, a decrease in 3B, a decrease in 3C, an increase in 4A, and a decrease in 4B forests. The increase in 2T will be a result of the patchcuts.
- From 1-year post-treatment to 5-year post-treatment, there is not much change in the forest.
- From 5-year post-treatment to 10-year post-treatment, there is an expectation of seeing 2T cover become 3A cover as the saplings and seedlings grow into larger trees. This change results in an increase of 2T cover and increase in 3A cover and a slight increase in 3B cover.
- From 10 years to 20 years after the treatment, there is not much change in the forest.
- From 20 years to 50 years after the treatment, some of the 1M cover will become 2T cover as conifers begin to encroach into the meadows. Other covers in the forest become denser and move from the “A” classification to the “B” classification and from the “B” classification to the “C” classification. The trees also grow in size and some move from the “3” classification to the “4” classification.
- From 50 to 100 years, the 1M class continues to become the 2T class as seedlings encroach into more meadows. The 2T cover will move into 3A and 3B classification. Other stands become denser, and the trees become larger, leading to an increase in the 4C class.
- Another part of the thought experiment was showing the effect of Forsythe II treatments on the habitat structural stage of the analysis area. The USFS analyzed the analysis area with only USFS data.
- The Forsythe II treatment areas do not make a large impact across the habitat structural stages of the landscape. One reason that there is not a big landscape change is that the USFS is treating fewer acres. They are also treating more areas manually instead of mechanically. Mechanical treatments in lodgepole acres would have resulted in 4A, 4B, and 4C forests becoming 2T forests, some of which is no longer happening. On-the-ground verification also identified large rock outcrops and rocky soils which limits the USFS ability to implement.
- The last part of the thought experiment included looking at the change of the habitat structural stage from the Forsythe II and the West Magnolia units. This area includes previous projects like Lumpy Tung and Lumpy Gulch. In the Forsythe II and West Magnolia units, 2T represents 5% of the total cover type. After the treatment, 2T would represent 19% of the cover type, primarily in lodgepole pine units. The goal is to achieve 25% of the landscape in the seral stage.

Clarifying Questions

MMG participants asked several clarifying questions about USFS perspective on treatments. Questions are indicated in italics with corresponding answers in plain text.

Does the thought experiment include thinning treatments after cutting?

No, it did not assume any additional treatments after the original treatment.

How different would the thought experiment projections look five to ten years later if the USFS follows up with regeneration thinning, prescribed burning, etc.?

It is hard to determine. It partly depends on the scale of the follow-up treatments and timing. The thought experiment does not include effects from insects, wildfires, and wind.

Group discussion of the USFS perspectives on treatments

MMG participants discussed the USFS perspective on treatments. Their comments are summarized below.

- Some participants said that in areas where there are patch cuts, there are many small trees that are regenerating. Some of the regenerating trees will thin themselves out from the individual competition with other trees. The degree of competition makes it difficult to project whether 2T areas will become 3C areas or whether they will continue to grow and become 4Bs and 4Cs.
- The Colorado State Forest Service recommends to thin lodgepole in the wildland-urban interface (WUI) and on private lands for defensible space.
- In the decision notice, there are plans to thin the regeneration from the patchcuts. Another part of the decision is to plant limber pine, ponderosa pine, and douglas fir in the patchcut areas to create stand diversity. Stand diversity creates future management options for multiple different climate scenarios.
- Some participants said that the thought experiment should also account for different tree species differently because there are different management goals for different trees. The thought experiment could also look at a larger area beyond only the Forsythe II units. At this time, the thought experiment only captures the units because that is what the USFS can control.
- Some participants stated that the goals of having 25% of the landscape in the seral stages and 25% of the landscape in mature forests (80 to 100 year) does not make sense. For the trees to grow to have 9-inch diameters and shift from the 3 to 4 classification would take 80 to 100 years. Some participants said that the goal needs to adjust for time to create an even distribution of habitat structural stages.
- The thought experiment only included the Forsythe II units, which does not account for many untreated acres. Incorporating some of the buffer areas would shift the histograms. In the Forsythe II units, only 700 acres will change their cover type.
- Some participants said that there are too many areas with small trees in the 2T cover type. The adjacent Boulder County lands also have many areas in the 2T cover type, for which the thought experiment did not account.

LOGEPOLE PINE UNITS – PRESENTATION 2: COMMUNITY PERSPECTIVES ON TREATMENTS

Alex Markevich presented on the community perspective on treatments in the lodgepole pine units. His comments are summarized below.

- There are many tools to treat lodgepole pine units. The USFS has chosen patchcuts and clearcuts as the primary tools for treating lodgepole pine units instead of thinning. Some of the thinning in previous treatments produced results that addressed fire, aesthetic, and ecological values. In future treatments, the USFS should consider bringing in other tools, like thinning, to treat lodgepole pine units.
- It is important to preserve and develop old-growth forests. When we cut an old-growth tree, that is a 100-year mistake. It is also important to create an even distribution of age class diversity across the landscape.
- There is a need to manage weeds after patchcuts and clearcuts. In some cases, depending on the slope, putting woody matter on the ground could create moisture to propagate native species. Not leaving woody matter on the ground may help promote invasive weeds, like cheatgrass.
- There is a value discussion in play. Aesthetic, spiritual, and ecological values point towards lighter treatments than heavy ones. However, heavier treatments are necessary for fire and

structural diversity considerations. There is a natural tension between the values and the degree of treatment.

- There should be an even age distribution of the trees across the landscape. If a lodgepole pine lives to 120 years of age, then to achieve an ideal age distribution, there should be an 8% distribution for each decade of a tree's life (i.e., 8% in the 0 to 10 year range, 8% in the 10 to 20 year range, 8% in the 20 to 30 year range, etc.).
- The analysis assumes that the 2T cover type includes trees that are ten years old or less, "3" (1 to 9 inches in diameter) trees are between 10 years and 80 years old, and "4" (9+ inches in diameter) trees are greater than 80 years in age. Under this assumption, the current distribution shows 7% of the landscape with trees 10-years old or younger, 70% of the landscape with trees between 10 and 80 years of age, and 23% of the landscape with trees greater than 80 years old.
- To reach an 8% distribution in each decade, there is a need to move some acres from 3A to 2T. One way to achieve an equal age distribution is to gradually treat the three type-areas every ten to five years to create new 2T cover.
- Patchcutting up to 30% of the 3A, 3B, and 3C areas will create an uneven distribution by putting too many acres into 2T cover. The goal of patchcutting up to 30% of the lodgepole pine units is counterintuitive to creating a diversity of structural stages on the landscape. The treatments should be lighter to create more diversity and for aesthetic and social reasons.

Clarifying Questions

MMG participants asked several clarifying questions about the community's perspective on lodgepole pine treatments. Questions are indicated in italics with corresponding answers in plain text.

Did you use standardized growth models to estimate the size of the tree based on their ages, which is why you connected the ages to the size classes?

The analysis was not that scientific. The presenter based the relationship between the size and age of lodgepole pine trees on observation. The goal of the presentation was to outline another approach to thinking about structural diversity in the project areas.

Group discussion of the USFS perspectives on treatments

MMG participants discussed the community perspective on lodgepole pine treatments. Their comments are summarized below.

- The Colorado State Forest Service (CSFS) recommends not to thin areas of larger lodgepole pines because the wind will knock the trees down. The CSFS recommends to patchcut areas with large lodgepole pole pines and thin areas with small lodgepole pines. On past field trips, some MMG participants said that they noticed that there were areas of mature lodgepole pine that the wind did not knock down. This observation demonstrates the sometimes difficult relationship between theory and reality.
- Mulching is one option for managing noxious weeds. It can make a difference in the right context as some participants noticed in the West Magnolia areas after treatment.
- Some participants said that the decision notice restrains the creativity of the group for this project. In the future, the USFS should build more flexibility into the decision notice to allow for more creative solutions.

WILDLIFE DISCUSSION – PRESENTATION ON WILDLIFE IN THE PROJECT AREA

Aurelia DeNasha, USFS wildlife biologist, presented on wildlife in the Forsythe II project area. MMG participants discussed wildlife topics and asked questions throughout the presentation. Their comments are summarized below.

- Based off of a list of wildlife topics from prior meetings and previously submitted Avenza points, there are four main species of concerns: elk, flammulated owls, goshawks, and American Marten.
- MMG participants have mentioned other species in the past, like songbirds and moose. Those species are not among the four main species of concerns because the USFS does not consider them sensitive species. Since they are not sensitive species, the USFS does not have specific direction on how to manage the forests for them. Often, there are overlapping concerns among species. For example, by managing the forest for elk, it will also benefit other generalist species, like moose.
- The main areas of concern are habitat maps; wildlife corridors; management across landownerships; drainages; management area 3.5, interior forests, and old-growth forests; and species-specific monitoring before and after treatments.

Species Habitat Maps

- The first area of concern is species habitat maps. The PowerPoint contains public links to the maps that the USFS uses to determine species habitat. Colorado Parks & Wildlife (CPW) creates these maps, which are interactive and available online.
- There are species habitat maps for elk, mountain goats, mule deer, etc. The interactive map layers also show the species' migration corridors, overall range, summer/winter range, seasonal concentration areas, and production areas. The USFS wildlife biologist uses these layers to create the maps that inform the Forsythe II treatments.
- There was a question about what data CPW uses to generate the layers and if there is an available database. CPW updates the layers annually. They are using data they collect from collaring animals, examining habitat requirements, and aerial counts. CPW data is looking at the entire migration corridor across the state. Some participants said that CPW has not collared the elk in the area yet this year and that homeowners have knowledge about the specific migration corridors that elk use. The USFS will update their maps as new data comes in from CPW.
- Some participants suggested that the USFS interview residents to collect the residents' observation as data. The USFS is considering that strategy. The Avenza points have been useful for identifying the movement of specific species.
- Determining the minimum acreage for a species is difficult. It is in part based on an animal's access to production zones (i.e., calving grounds), winter range, and summer range.
- There was a question about how wildlife maps influence the treatments in the units. For specific unit treatments, the USFS looks at the aerial mapping and then ground truths the aerial imagery by looking at the aspect of the unit and signs for wildlife. The information that comes from the on-the-ground observation informs the decision of the specific unit.

Wildlife Corridors

- There are two types of wildlife corridors: forested corridors and open corridors. There are different types of open corridors as well. Both forested and open corridors exist in the Forsythe II project area.
- Forested corridors are different from interior forests.
- There was a question about how wildlife corridors affect the layouts of the treatment. Previous USFS wildlife biologists worked with the USFS silviculturist to analyze wildlife

corridors, management areas, effective habitat, interior forests, and other CPW layers. This process does not mean that the USFS will protect every wildlife corridor, but they will consider all of them.

- An example of how the USFS wildlife biologist influences the treatment design occurred in Unit 48. In Unit 48, there was an elk path where there were many droppings. The USFS silviculturist and wildlife biologist reviewed and altered the treatment based on the findings. The original treatment was to reduce the basal area by 50%. They lowered the basal area and the diameter at breast height (DBH) cap from eight inches to five inches. The Unit also had a north-facing slope, which provides cover to wildlife, adjacent to a south-facing slope, which provides forage. As a result, the USFS designed a buffer strip in a place where they were going to originally cut, which leaves an area that connects the covered area to the forage area.
- There was a question about the state of the wildlife corridor around Nederland, from the West Magnolia units to Units 1, 2, 3, and 4. There is uncertainty about the plan in those units, but the USFS is taking wildlife into account and looking at specific areas that act as strongholds for movement. There has not been USFS' focus on these units as they are not up for immediate treatment.
- The USFS is finding places for wildlife islands, which are areas in which the USFS does not conduct any treatments to facilitate wildlife movement across the landscape.
- Some participants said it would be interesting to see a map that examined habitat structural stages and how they relate to wildlife corridors.
- In Units 9, 10, and 11, there is some preliminary work that is determining where there is potential to leave wildlife islands and old-growth forests to create wildlife movement.

Management Across Land Ownership

- The USFS is not working alone with wildlife management. They work with CPW and Boulder County Parks and Open Space (BCPOS) to plan around the treatments that other agencies are implementing. This collaboration helps create a corridor for wildlife that extends across the entire landscape.
- BCPOS and the USFS collaborate to strategically design prescriptions in different areas for wildlife, including elk and the Olive-sided Flycatcher. For example, the USFS and BCPOS identify where elk herds cross the roads and make sure they leave areas to facilitate that movement. BCPOS and the USFS also collaborated during the Forsythe I project.
- The USFS does not conduct treatments in wildlife islands. The USFS also does not protect a wildlife island in perpetuity. In future projects, the USFS would look at existing conditions on the ground to identify areas to create a connected landscape for wildlife. For example, the USFS would re-evaluate an area with old-growth forest to determine whether it is still old-growth or if it is decaying.

Drainages

- Drainages have a high value as wildlife habitat.
- Management indicator species are ones that live in a particular area and habitat that is specific to that species. By monitoring how that species is doing, the USFS can understand the health of the entire community for that habitat. There are different species for different habitats (old-growth, riparian, aspen, etc.). In the forest plan, there are directions on how to manage those different communities and species.
- There are a couple of management indicator species for the Forsythe II project: golden-crown kinglet and Wilson's warbler. The American marten is also an indicator species for

the entire forest. There is also a management indicator community for Forsythe II – montane/riparian wetlands.

- Another way to think of management indicator species is that they act as an umbrella species. If someone takes care of the indicator species, then they also take care of the other species in the same habitat. For example, elk and deer are indicator species for generalists. By protecting elk and deer, one also protects other generalists, like moose, bears, and mountain lions.
- There was a question about whether the USFS wildlife biologist Aurelia DeNasha has time to examine each unit. She has been able to spend time in the field and visit many units. Visiting the units is a priority for her, especially since she is new to the forest. When other USFS staff, like the silviculturist, are in the field, they identify areas where they need to gain more insight from the district wildlife biologist.
- Previous information on the presence of the American marten in Unit came from a retired Boulder County wildlife biologist. There was a question about whether there is updated data for American marten in Boulder County. BCPOS has documented marten recently as well.
- American martens live in downed woody debris, coarse woody debris, and are subnivean in the winter as they hunt underneath the snow. They also spend time in the trees and a significant amount of time on the ground. They look for dense cover and not open spaces.

Management Area 3.5, Effective Habitat, Interior Forest, and Old-Growth

- The USFS breaks the forest into different management areas. A management area determines the use of that part of the forest. Management area 3.5 has an emphasis on wildlife to provide adequate amounts of quality forage, cover, escape terrain, solitude, breeding habitat, and protection for a wide variety of wildlife species and associated plant communities.
- There was a map that displayed the different areas that represent Management area 3.5, effective habitat, interior forests, inventoried old-growth, and development old-growth. The data on the maps might not be the most recent as some of the layers may be outdated.
- Some participants wanted access to the map so they could overlay previously collected Avenza points. Aurelia DeNasha and Lynne Deibel will share the maps on PDF so MMG participants can use them to combine different data layers.
- When the map shows an old-growth forest, the USFS wildlife biologist will go on the ground to verify it is an old-growth forest. The biologist also will examine recent forest inventories to make sure the classification is correct.
- Effective habitat is mostly related to whether an area is undisturbed by roads. Standards and guidelines ensure that the USFS destroy any temporary roads near effective habitat and/or there are no roads near the effective habitat at all.
- Interior forests are contiguous areas of relatively dense forests with large trees. These areas buffer wildlife from changes in temperature, light, and humidity. Unit 77 is an example of an interior forest.
- There are three different categories of old-growth forests: old-growth retention, old-growth development, and existing old-growth. Old-growth retention forests are areas that the USFS generally exclude from any management activities beside wildlife habitat improvement projects. Old-growth development is an area predicted to become an old-growth stand in the next century outside of any major change. The USFS allows management in the area so long as the treatment supports old-growth development. Existing old-growth are forests that the USFS has already inventoried as old-growth. The USFS will change the classification of a stand if they find that a previously non-identified stand is old-growth. They will also

change a classification if they find that a previously identified old-growth stand is no longer old-growth.

- There was a question about whether Boulder County uses a similar definition of old-growth and effective habitat. The Boulder County foresters do not have to follow the forest plan as the USFS does, but they do use similar definitions and aware of the different management types.
- There was a basic old-growth flowchart that displayed how the USFS makes decisions based on whether an area is an old-growth forest or management area 3.5. The Arapaho-Roosevelt finalized this flowchart in 2012, and it is an example of a tool that the USFS uses internally.
- They also use a scorecard to determine whether a stand is an old-growth forest. The scorecard asks about the general characteristics of the forest. The USFS developed the scorecards in 1992 when the USFS put in a large effort to inventory old-growth across the US. Old-growth are complex ecosystems and have multiple different characteristics.
- There was a question about whether the USFS had time to examine Unit 12 to determine whether it was old-growth. The USFS has not examined the unit yet. Because the USFS does not plan on marking that this year, it was not as high a priority. They did look at Unit 103 and created a wildlife island in the unit.
- Some participants said that the treatments seem to be silviculturally driven and do not seem to manage the tensions between removing trees and wildlife habitat. Other participants said that the USFS silviculturist has been working with multiple different people, including wildlife biologists and fire specialists. The USFS brings different specialists together to assess and manage tradeoffs for the treatment area. Some participants said it would be useful to discuss how different considerations come together to form the treatment.
- On Unit 45, the USFS changed the treatment based on the discovery of a goshawk in the treatment unit.

Species-Specific Monitoring

- The USFS and Boulder County share data and surveys. BCPOS keeps remote cameras on USFS land to track different species.
- Bird Conservancy of the Rockies also conducts bird surveys and shares their data with the USFS.
- BCPOS property known as Reynolds Ranch exists between the northern boundary of Units 3 and 4 to Highway 119 on the west side and extends westward. BCPOS currently closed Reynolds Ranch to the public.
- BCPOS began the Reynolds Ranch Management Plan, which was delayed by the 2013 floods. In the future, BCPOS will begin to develop the plan again. MMG participants are welcome to join the email list to receive newsletters and updates from BCPOS.
- Some participants said on the Reynolds Ranch property west of Units 9 and 10 and north of Units 3 and 4, there are many social trails. A future Reynolds Ranch Management Plan will look at finding a way to manage those social trails. Some participants said they are concerned about this area because wildlife is present. The presence of wildlife is due to the area having a north-facing slope and a dense forest. Other participants said there is a high wildlife value because there are goshawks in the area.
- There was a question about if the USFS uses citizen science groups to gather data. There are no citizen groups beside what the Magnolia Forest Group (MFG) has provided with Avenza points.

Group Discussion on Wildlife Topics

After the presentation, the MMG continued discussing different wildlife topics. Their comments are summarized below.

- Some participants said that with all the development pressures (Grosse dam, expansion of housing, growing ski area), the group might be fighting a losing battle to protect elk migration corridors. On the landscape scale, BCPOS and USFS are working to protect these migration corridors. The USFS is putting consideration on areas that the wildlife biologist identified as pinch points for wildlife movement. Elk are also generalists, so they will be more tolerant of some of these pressures.
- There are several pinch points south of Big Springs on the eastern boundary of Unit 2 and Eldora Avenue between the high school and the Bobcat Ridge Development.
- There was a question about how bike trails intersect with wildlife. There are wildlife standards and guidelines related to social trails and roads. The USFS looks at where it makes sense to build trails and decommission social trails. There is a lot of room to negotiate with trail design. Boulder County and CPW are at the table as well because there are elk that move through the area and more trails in the wrong places may negatively affect the health.
- The USFS works with groups, like the Boulder Mountainbike Alliance, TEENS Inc., and another Nederland trail group to build trails.
- The USFS will see if they can bring in the recreation manager for the Boulder District to discuss sustainability and multi-use trails. Some participants said it is better to plan trails and treatments together, so the group does not plan treatments only for recreation to impede on wildlife habitat.
- There was a concern that monitoring a management indicator species may not be enough to protect other wildlife. For example, identifying a goshawk nest in a unit might not protect the area around a bear den in the same unit. MMG participants should notify the USFS if they find signs of wildlife, such as a bear den. The USFS will not just remove a bear den if they know where it is.
- There was a question about how the USFS determines if wildlife heavily uses an area. The USFS uses their best judgment. Scat can be a good indicator of the presence of a species. If MMG participants find scat, they should inform the USFS who will then go to the area to evaluate it further.
- The collaboration between the USFS and BCPOS is not formal (i.e., in a contract). However, the USFS does have a formal memorandum of understanding (MOU) with CPW. Mutual needs act as the basis of the partnership between the USFS and BCPOS. The USFS has the land for BCPOS to place the cameras, and BCPOS can place and watch the camera film.
- There is a private residence who has her cameras that captures mountain lions and bears. She then writes about it in her blog Romping and Rolling in the Rockies.
- To address the incidental taking of birds, the USFS has limited operating periods (LOPs) when they are not allowed to harvest. There are different LOPs for a variety of wildlife species. The USFS also considers the flight of bark beetles when timing their treatments. There is not an ongoing bark beetle epidemic at the moment. The last time there was an epidemic, the USFS continued treatments, and there was not an increase in the beetle activity from bark beetles or ips. In some spruce treatments, there was a problem with beetle infestation after the treatments. There was a spruce beetle concentration north of Nederland and south of Allenspark.

DISCUSSION ON MARKING UNITS IN PHASES 3 AND 4

After the wildlife discussion, some MMG participants stayed later to discuss marking in Units 9, 10, 11, 102, 103, and some of 20. Their comments are summarized below.

- The USFS has closed the contract bidding for Phase 2 and is currently evaluating the contracts.
- The USFS is currently working through Phases 3 and 4 of Forsythe II. The USFS crew is available until the end of October, and they are ready to begin marking Units 9, 10, 11, 102, 103, and some of 20, also known as the Boy Scout units. There needs to be enough of an agreement or support from the MMG before marking crews begin marking.
- The USFS brought maps to display where Kevin Zimlinghaus and Angie Gee walked the units. The maps also include the Avenza points. Kevin Zimlinghaus and Aurelia DeNasha also walked the units to review the treatments from a wildlife perspective. From that effort, they identified several places for wildlife islands.
- There are some areas of the Boy Scout units where the decision notice requires manual treatment. There are also opportunities to use mechanical treatments in some areas to achieve management objectives.
- The USFS crew has completed pre-step transects for the whole project area. The information is not on the map the USFS provided. The USFS can update the map to include the current and desired basal area for the project area sometime in the next month.
- The USFS has identified wildlife islands, including an old-growth one in Unit 103. There are some areas where the USFS has to treat manually due to the slope. The USFS is planning on manually cutting the lodgepole pine in Unit 103 to enhance the aspen. The aspen trees are in the southwestern portion of Unit 103. There are also diameter caps when cutting trees around aspen groves, so there will be many large trees left.
- The USFS plans on treating Unit 20 manually.
- In Unit 9, the plan is to use the old road system that the USFS put in place before and during the Winiger project to treat the unit mechanically. There will be some limitations in the area for mechanical treatment due to large rock outcrops. In places where the USFS cannot bring mechanical equipment, they will treat the stand manually. The plan would be to mechanically patchcut 8 acres in Unit 10 and 6 acres in Unit 11.
- Units 20 and 102 are aspen restoration units. Units 9 and 12 are Douglas fir mixed conifer units, and Units 10 and 11 are lodgepole pine.
- In previous iterations, the USFS reduced the size of Units 10, 11, 12 and 14 because the removed areas were on a north aspect. It would have been difficult for the USFS to access the areas and treat it mechanically as intended, so they removed the areas from the project. Removing the north-facing slopes from the project area aligns with wildlife values.
- For fire considerations, locations matter. The scale and size of the treatment in the lodgepole pine units matter too. Regarding location, ridgelines are important. Treatments along ridgelines give fire crews a better opportunity to put in handlines and hold a fire. They identified a ridgeline walking through Unit 9 and into Unit 10. Along the ridgeline, there were Avenza points that identified limber pine and wildlife. In Unit 20, there is the possibility to work off the treatments that the USFS completed in the past and off of the meadow features to create open areas for fire crews.
- Looking at the aspen and open areas, the USFS could mechanically treat from the open area in Unit 9 and follow the ridgeline to Unit 10.
- Mechanically treating the ridgeline between Unit 9 and 10 would be beneficial for fire crews as it leaves fewer surface fuels on the ground. Fewer fuels on the ground reduce the flame length and fire behavior and allow hand crews to get closer to the fire without relying on

heavy equipment and aerial methods. Similarly, in Unit 11, there is an opportunity to follow a ridgeline with mechanical treatment to reduce surface fuels.

- In Unit 10, there would be a big difference between the number of piles on the ground in a manual treatment versus a mechanical treatment. In a manual treatment, the contractor would need to leave 30 to 40 piles per acre on the ground. They could also not remove pile any trees with an 8-inch diameter or larger. The goal would be for the USFS to burn the piles eventually.
- Whether a fire crew could enter into Units 9 and 10 with roads so far away depends on other environmental factors and seasonality. However, fire crews would like to have the opportunity to get into the units to fight a potential fire. Ideally, the USFS would want to find areas close to the road, such as Magnolia road, and use the road as a boundary. Some participants said that there is an old road that connects up to Unit 10.
- From the wildlife perspective, the USFS placed several 3- to 5-acre wildlife islands to facilitate the movement of elk through and around old-growth. The map showed two potential islands in Unit 9 and one in Unit 103. The wildlife island in Unit 103 is bounded on the north, east, and west side by aspen groves. The island would provide areas of cover on the southern slope and guide them through the aspen stands.
- There is a significant wildlife trail starting in Unit 103 and going through Unit 9. The wildlife comes off the ridge on the boundary of Units 103 and 9 and travels through Unit 9 to the southern part of Unit 102. Some participants said that not conducting treatments in the northwest section of Unit 103 is desirable. They also said that selecting the ridge on the northern section of Unit 9 as it goes into Unit 10 for a patchcut is acceptable.
- To move mechanical equipment into the northern section of Unit 9 and Unit 10, there would need to be temporary roads and a landing spot in Unit 9. The USFS would purposefully locate wildlife islands away from temporary roads. The USFS still needs to determine the exact location of any temporary roads.
- There have been conversations with USFS recreation manager on the timing of the treatment and how the treatment integrates with recreational trails.
- There is also a need for a temporary to lead through Unit 9 so the USFS can access Unit 11 with mechanical equipment. The USFS uses bulldozers to create temporary roads. Once the USFS burns all the piles, they would rip the road and turn it into a one-track and reseed. Some participants said that the USFS should consider manually treating Unit 11 instead of creating a temporary road. Under a manual treatment, there would be a large number of piles in the unit with a lot of woody debris on the ground.
- Some participants said that they did not like the USFS's plan for Unit 20 as there are participants who have not walked the unit yet.
- There was a question about if the Unit 102 treatment will tie into Unit 9. The USFS is not sure about the plans to tie together the two treatments. Unit 102 is an aspen unit with mixed conifer, and Unit 9 is only a mixed conifer unit.
- The USFS has not GPS mapped the patchcut areas yet, and they still need to collect that data. They should be able to collect the data in Unit 10 in the next week. Once the USFS collects the GPS data, MMG participants can then overlay the potential patchcuts with the Avenza points for Units 10 and 11.
- The USFS is avoiding the rocky areas in Units 10 and 11, which means they avoid the Avenza points that indicated "do not cut" and limber pine areas. When the USFS was walking the units, they had the Avenza points on hand.
- Some participants said that they prefer manual treatments even if it results in more piles. Manual treatments also cut smaller trees which better fits social and wildfire protection values by removing the smaller trees that burn faster.

- There were concerns that a temporary road to Unit 10 would encourage people to recreate in the unit, which is close to goshawk habitat. Some participants said that there would be a buffer between where the USFS would be treating in Unit 10 and the goshawk habitat.
- Some participants said that they have concerns about treating Unit 10 mechanically. There was a question about why the USFS prefers mechanical treatments in Unit 10. The USFS prefers mechanical treatments in Unit 10 because of the size and density of the trees in the unit. From a wildfire perspective, they also do not want to put piles on the ground and leave behind surface fuels.
- Some participants said that the USFS should make the patchcuts smaller (i.e., 15% of the unit instead of 30%) to reduce slash on the ground. There were concerns that if the USFS reduced the patchcuts to 15% of the unit that they would not be meeting the treatment objective of mimicking fire on the ground.
- If the USFS treated Unit 9 manually, it would be uncertain what the implications would be for Unit 11. There needs to be more information to look for potential wildlife islands in Unit 9 and to potentially maintain connectivity of Unit 9 across the wildlife path.
- The USFS will gather more information on Unit 11, and MFG will gather more information on Unit 10.

NEXT STEPS

- The next meeting will be a wildlife field trip on September 14, which Teagen Blakey, Susan Wagner, and Kevin Zimlinghaus planned. The MMG looked at the agenda and did not add any additional topics to it. If there is time, the field trip participants will visit Unit 48, 74, and parts of 49 to see where USFS marked trees.
- The MMG will continue the conversation about Units 9, 10, 11, 102, 103, and some of 20 through a phone call next week. Peak Facilitation will send out a Doodle to schedule a phone call about these units for the end of the week of September 16.
- The October indoor meeting will be a field trip instead. Peak Facilitation will send out a Doodle to schedule the field trip on a weekend in October.
- There was a request to move the December meeting to December 9. MMG participants will check their schedules to see if they could attend this date.
- Other potential agenda topics for future meetings:
 - Discussion of how different considerations come together to form the prescription;
 - Landscape-scale considerations;
 - Recreation impacts on wildlife.