

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

INTRODUCTION

Adam Mendonca, Forest Supervisor for the Gila National Forest (GNF), welcomed the group, shared his commitment to engaging with the public, and encouraged participants to share their thoughts and opinions. The purpose of the technical meetings is to offer stakeholders the opportunity to engage in deep-dive conversations about topics relevant to the GNF Plan revision. The topic of vegetation management tools provides an opportunity to consider desired conditions, and all public inputs will be important as the GNF moves forward in making decisions about preferred tools.

Participants introduced themselves. Participants represented a broad range of interests and organizational entities, including soil and water conservation districts, the Upper Gila Watershed Alliance, the Center for Biological Diversity, the New Mexico Department of Agriculture, New Mexico State Forestry, Catron County, the Natural Resource Conservation Service (NRCS), and Gila Tree Thinners.

ELEMENTS OF THE MONITORING PLAN

Matt Schultz, Forest Planner for the GNF, provided an overview of vegetation desired conditions and management tools, current conditions, management goals, and associated challenges.

- Desired conditions paint a picture of preferred outcomes for land management. They are developed for the Forest Plan revision, are specific to vegetation type, are based on best available science, and are iterative and adaptable. Once the Plan is final, the desired conditions will guide project-level development.
- Vegetation desired conditions contain several key elements, including composition (mosaic of tree ages), spatial factors (tree groups, interspaces, snags, and woody debris), processes (fire, insects, disease, and windthrow at natural frequencies and levels), and functions (biological diversity, wildlife habitat, hydrologic processes, and nutrient recycling). It is worth noting that wildland-urban interface (WUI) areas will have different desired conditions than non-WUI areas to encourage lower fuel loading and less-intense fire behavior.
- There is a high level of woody vegetation density and continuity on the GNF. These current conditions are indicated by woody species infill and encroachment, reduced herbaceous plants, loss of spatial heterogeneity, and increases in fuel loading uncharacteristic of historical conditions. There is also currently a higher probability of high-severity wildfire and insect and disease outbreaks than has been the case historically. The GNF is susceptible to drought and vulnerable to the effects of climate change. There is also an increased risk of loss of valued resources and functions, which poses a threat to local communities.
- The GNF's management goals are to:
 - Collaborate
 - Restore resilient structures, patterns, and disturbance regimes
 - Expand under-represented conditions

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

- Sustain the local workforce and infrastructure needed to accomplish stewardship
- Protect communities and key resources by decreasing the likelihood of extensive, high-severity wildfires and insect outbreaks
- Learn, innovate, and adapt
- The GNF may encounter several challenges associated with achieving desired conditions. Desired conditions may not be attainable in a single treatment. Operational feasibility (funding, workforce, industry capacity, etc.), may constrain the GNF's ability to achieve desired conditions everywhere. Landscapes and strategies must be prioritized to achieve management goals. There must also be continued management to maintain restored conditions with re-sprouting species.
- Achieving desired conditions would mean reduced severity of fire effects, reduced fire hazards and increased flexibility for managing fires, sustainable wood supply, improved forage production, improved plant and animal habitat, provision of ecosystem services, and increased resilience to climate change, insects, and disease.
- Several tools can be used for vegetation management. These tools include manual/mechanical treatment, fire, herbicide, and biological options.
 - The benefits of manual/mechanical treatments include the opportunity to fine-tune the control of effects and the possible provision of wood products. The risks and factors that should be considered include the high price, labor intensity, slope limitations, and ground disturbance from mechanical operations.
 - The benefits of fire are that it is a natural process and relatively inexpensive. The risks and factors that should be considered include less fine-tuned control, smoke management/quality, and the necessity of adequate fine fuels.
 - The benefits of herbicide include ease of use, effective control, and the fact that there is a range of products available. The risks and factors to consider include the need to follow label instructions to avoid unintended consequences and social concerns.
 - The benefits of biological options include the provision of livestock products, the fact that it is self-composting, and the ease of access to steep and uneven slopes. The risks and factors to consider include the palatability preferences that accompany the use of livestock, the requirements surrounding fencing and supervision of animals, and disease transmission to bighorn sheep.

FIELD TRIP DISCUSSION

The group visited three sites that had a range of land ownership types. Below are the highlights of their discussion during the site visits.

First Site – Private Property

- Two growing seasons have passed since the first site was treated with herbicide. The site is 20 acres. Before treatment, there was heavy ponderosa pine and juniper. The landowner wanted a meadow to be developed during treatment. A four-to-one herbicide mixture was

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

used, and regrowth has been stunted. There has been less re-sprouting in shady areas. The wood products from the site went to a mill. Contractors used saws and equipment to masticate the material. Mastication leaves larger pieces of wood on the ground and ensures a higher soil moisture content. Nearly all the trees can be eliminated before a hand crew piles the slash. The contractor used a track steer that rides high, which decreases the amount of ground disturbance. Brush was placed in gullies to help control erosion. Nothing on this site has been reseeded; it has regenerated naturally.

- The objectives of the prescription were to achieve 40-60 basal area (BA) in pinion-juniper and 70-90 BA in ponderosa pine areas. While silviculturists write the prescription to account for re-sprouting, it is important to consider the high cost of re-doing treatments.
- There are benefits to mastication: heavier material will not wash away with rain; mastication keeps the ground temperature low; there are no slash piles; pieces are all variable in size, so they do not interlock (which allows air and water to get beneath them). There are also risks associated with mastication. For example, the fire hazard can be reallocated from the crown to the ground. Some people also think mastication prevents grass growth.

Questions and Group Discussion

The group asked questions and discussed the treatment at the first site. Questions are indicated in italics, followed by the response.

What are the desired conditions for tree-stand diversity, and how many treatments would it take to achieve the desired conditions?

The desired condition was likely 150 BA and above. There was the initial treatment, then another treatment to control re-sprouting. There would likely need to be six treatments done, and it would take approximately 60 years to reach desired conditions.

In the past, fire has aided in decomposition and regeneration, but now there are issues associated with decomposition. What are the best strategies to bring low-intensity fires back to the GNF? Is there a benefit to raking the duff away from the trees?

There are risks associated with raking the duff away from trees, as it creates a concentrated donut around the tree. It is also expensive. Raking 20 feet away to get away from the fine roots may be useful. Decomposition rates are high because the shape and size of masticated materials encourage diverse fungal communities. Grant County has seven species of oak. While most oaks stay shrubby, gambel and silver-leaf oak can become trees.

Is there a market for smaller wood?

Pinion-juniper is hard to sell. Transporting the wood out of the forest is the biggest issue.

If money was not an issue, what would be the preferred treatment method?

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

If money were not an issue, sprouts would be sprayed after the treatment and foliage would be removed after it re-sprouts. Alternatively, a contractor could use a Bobcat to pull all sprouts (although this is time-consuming). The objective is to reduce the fire hazard. Using herbicide eliminates the cost of needing to conduct an archeological survey because there is no ground disturbance.

Do local landowners contribute money to the treatment?

Yes, there is a cost-share component. State agencies apply to get 50-50 match. Some of the money used for this site was from the Bureau of Land Management (BLM).

When working on private lands, how is the prescription written?

For this site, all crew members were experts and were familiar with different prescriptions. Often, one strategy is to remove all trees with dead tops and all large quantities of mistletoe. Contractors have more freedom on private property. With Collaborative Forest Restoration Project (CFRP) projects, there are often sample areas with marked/painted trees.

Second Site – BLM Property

- The BLM asked that a 20-40 foot swath be cut to create a clear corridor. Two growing seasons have passed since the treatment.
- There are resprouts at this site because the area was not treated with herbicide.

Third Site – Little Walnut

- The initial treatment was done 18 years ago. The community did not want there to be any broadcast burning because they did not want any smoke. Bio-controlled goats were then used, but unfortunately, dogs ate the goats. The brush-hog was used twice, and brush was maintained by hand because there was a lot of juniper and oak re-sprouting.
- The main reason for the chosen prescription was that this was a highly concentrated WUI area. Pile burning began in 2004, but there was a lot of controversy surrounding the use of fire, so the pile burning was not completed. This site creates a fuel break that extends and parallels the USFS boundary, but unfortunately, the site cannot be maintained fast enough. Since 2002, there have been five fires in this fuel break, and the fuel break has proved effective. However, there is a time limit to its effectiveness. If there were another fire, it would likely not get off the ground because there is not a continual fuel ladder.
- There is no gambel or silver-leaf oak on this site. It was classified as pinion-juniper, and the contractor opened up the canopy more than they might have at a different site because it is a WUI area.
- This site would need to be masticated every ten years to be properly maintained. Re-treatment would likely cost \$800 - \$1,200 per acre. The USFS spends an average of \$225 – 250 per acre for lop and scatter but spends more to cut trees to a certain length. Logging and hauling typically cost between \$300 and \$500 per acre.

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

Questions and Group Discussion

The group asked questions and discussed the treatment at the third site. Questions are indicated in italics, followed by the response.

Could the USFS use a chemical treatment here?

The USFS has not done an environmental analysis of this site and is not sure how residents would perceive a proposed chemical treatment. This area is also the headwaters for a big ditch in Silver City

If there was no social resistance to fire, would it make sense to broadcast burn this area?

Yes, broadcast burning makes sense financially, and it keeps regrowth down. Going back to a site and burning after there has been a hand treatment is effective. However, it will take time to build trust with the community.

What are some strategies for reducing peoples' fears about fire escape during prescribed burns?

It takes a long time to write a viable, approved burn plan. Wagon Wheel has embraced the Firewise community concept and has pushed the county to require residents to have insurance and to build more fire-resistant homes. The USFS must do a better job of getting the word out before a prescribed burn and of communicating with fire stations on the day of the burn.

POST-FIELD TRIP DISCUSSION

For each vegetation management tool, participants addressed the following questions: 1) What are the benefits of this treatment type? Do those benefits accrue in all cases and in all places? If not, why not? 2) What are the concerns and risks associated with this treatment type? Do these concerns exist in all cases and in all places? If not, why not? 3) What measures could be taken to address the concerns and mitigate the risks of this treatment type? Does location, season, or implementation methodology matter?

Manual Treatment

The group discussed benefits, concerns, and potential mitigation measures that should be considered for manual treatments.

Benefits

- It can target a specific area or problem
- It is easier to write a tailored treatment plan and great for landowners who have specific goals
- It does not produce any smoke (unless there is a pile-burning component)
- There are socioeconomic benefits (crews can be employed year-round, and youth corps can be utilized for handwork)
- It produces mulch, fuelwood, and lumber (forest products)

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

- There is less erosion on steeper slopes because equipment is not used (however, the risk is transferred to the crew)
- It allows people to be more selective about the trees that are treated because there are eyes on the ground and treatments are done more slowly
- It is possible to retain more habitat (as visibility from the cab is limited)
- There is less soil impact than there is with mechanical treatment
- It may be the most socially-accepted treatment type in WUI areas
- It lends itself to creating smaller openings (leaving more trees)

Concerns

- There are safety concerns
- It is time-consuming
- There is a high possibility of crew fatigue
- It can lead to a lower production rate (acres treated) than other methods
- Few people do manual treatments, so finding a crew is challenging
- It may cost more per acre (depending on how many times the wood is handled)
- There is a longer noise impact due to the slower rate of production (which creates a prolonged impact on wildlife)
- It is harder to remove the biomass
- It is harder in more remote areas such as wilderness
- There is a limited forest product market, and there are investment challenges for the timber industry

Mitigation Measures

- There should be improved training for crews to increase safety
- There should be more robust, institutionalized programs that support the development of hand crews to address issues of safety and fatigue
- The treatments could be tailored so that crews handle the timber less often, which would decrease the cost per acre
- The timing of the treatment could be adjusted to account for wildlife issues
- New tools (e.g., battery operated chainsaws) could be considered

Mechanical Treatment

The group discussed benefits, concerns, and potential mitigation measures that should be considered for mechanical treatments.

Benefits

- It is possible to treat a lot of acres in a short amount of time (high production rate)
- There are advanced technologies (e.g., equipment that can operate on 65% slope)
- It is possible to chew up stumps, which leads to less re-sprouting

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

- It is safer than manual treatment because there are fewer people on the ground
- There is less soil impaction than there is with standard logging equipment
- It lends itself to larger openings and smaller clumps
- The overall cost per acre is less than manual treatment costs
- It produces mulch
- Excavators can pull small sprouts out of the ground
- It produces a merchandisable product

Concerns

- The upfront cost and maintenance of equipment is high
- There must be archeological clearances
- It is not possible to conduct mechanical treatments in wilderness areas
- There are slope restrictions
- It requires associated infrastructure (e.g., new roads and log landings) which can get expensive and create environmental tradeoffs
- Equipment and crews may not be available
- There is an increased risk of carrying invasive plants on the machinery and pulling out stumps creates a fertile environment for invasive plants such as cheatgrass
- There is a limited forest product market
- There are investment challenges associated with relying on the timber industry
- There is a slippery slope of profit motives that could drive the use of this method

Mitigation Measures

- The USFS could partner with other organizations to address costs and to identify goals and outcomes, which would create buy-in for the treatments
- The USFS should ensure that there are investment-backed assurances (e.g., long-term contracts or requirements to match the size of the treatment to the industry), which may also decrease treatment cost
- Timber sales should be scaled to fit industry capacity, and market factors should be considered
- There are opportunities to utilize new technology
- Volunteers could assist in filling the gaps associated with obtaining archeological clearance
- The USFS could examine and consider providing a product mix to ease the economic concerns

Prescribed Fire

The group discussed benefits, concerns, and potential mitigation measures that should be considered for prescribed fire.

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

Benefits

- It is cheaper than mechanical and manual treatment
- It is less risky than wildfire
- It can treat more acres in less time than mechanical or manual treatment
- It is a natural process
- It often achieves a level of spatial heterogeneity that mechanical or manual treatment cannot achieve, which improves wildlife habitat
- The nutrient cycling is better after prescribed fire
- There are burn plans in place that dictate weather conditions and resources needed to “pull off” a successful burn
- It consumes ladder fuels and fine fuels which drive fires
- It is a good tool for maintenance
- It creates less smoke than wildfire for a shorter duration

Concerns

- It creates smoke
- There are air quality issues
- There are impacts to other uses (e.g., grazing)
- There are impacts to other resources (e.g., water quality and soils)
- It does not create any biomass or products
- It could potentially escape
- It is harder to ensure that fire will create the desired conditions (especially if the stands are not burned at a temperature that is hot enough)
- Multiple treatments may be required
- It is technically difficult to implement due to high fuel loads
- It raises issues of liability
- There are social license challenges in the WUI
- There are often insufficient resources and staff to support the need for prescribed burns
- Weeds are a risk

Mitigation Measures

- It is possible to train more qualified personnel to conduct prescribed burns
- The USFS could conduct more public outreach to increase understanding and education
- Manual and mechanical treatments could be strategically placed and times (e.g., do a manual/mechanical treatment before the burn or around roads and meadows, then burn larger, interior areas)
- The USFS could engage WUI communities so that residents accept responsibility for their homes and do defensible space treatments
- The USFS should partner with insurance companies that can incentivize the treatment of private WUI communities

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

- The USFS could develop agreements to use state and local agencies for prescribed fire (as part of the Good Neighbor Authority)
- The USFS could increase flexibility around competing uses by providing options for permittees when they are planning to burn a unit

Wildfire

The group discussed benefits, concerns, and potential mitigation measures that should be considered for wildfire.

Benefits

- It is possible to use wildfire in wilderness areas
- It is cheaper than prescribed fire
- It is possible to treat a lot of acres
- It is more likely that wildfires will occur during the appropriate season to complement other natural processes
- It is low-maintenance over a long period
- The planning process is different/easier than it is for other tools
- There is a social benefit because people are used to seeing smoke and burned landscapes
- There is a “medium” level of associated liability, and the social response is different
- It is often ecologically beneficial, depending on the conditions

Concerns (note: some of these concerns are reduced when the fire is managed)

- The fire could burn too hot and there is a risk of crown fire
- Climate change and drought increase the likelihood of a high-intensity fire
- It is difficult to manage wildfires in remote areas
- Availability of resources is a challenge
- There is a higher risk to response teams
- There is a potential risk to life and property
- There are generally more severe impacts to soil, water and threatened and endangered species from wildfire
- It could lead to a loss of certain vegetation types such as spruce-fir and wet, mixed conifer
- It could have a greater impact on watersheds
- It could impact real estate values
- It could lead to a loss of infrastructure (e.g., roads, trails, etc.).

Mitigation Measures

- The USFS should ensure that there is a plan for management as soon as there is ignition (e.g., wrapping historic structures, back-burning, communication)
- There should be an operational delineation of areas where immediate suppression is appropriate

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

- The GNF could pre-position resources (e.g., water stations)
- It is important to have good plans and great communication with partners and stakeholders
- The GNF should provide the public with information about how, why, and how much the GNF is managing the wildfire
- Utilize other treatment methods (e.g., mechanical and manual thinning)

Herbicide

The group discussed benefits, concerns, and potential mitigation measures that should be considered for herbicide.

Benefits

- It is cheaper than mechanical and manual treatments (depending on what the goals are)
- It can be more effective than prescribed burning
- It is easier to target specific species
- It is a good maintenance tool
- There is a high success rate, based on the objective
- There are more time windows to work within
- It requires less maintenance and allows for more time between treatments
- There are new formulas with fewer impacts on the horizon
- It may have a greater potential to control the spread of invasive and non-native species that come into treated areas
- There is more social support for the use of herbicide on noxious weeds than on other woody species
- If the directions are followed, there are fewer health impacts from using herbicide than there are from prescribed fire (the health impact is more localized)

Concerns

- There is social resistance to herbicide because of its association with other chemicals
- People are concerned about impacts to livestock, pets, children
- People are concerned about drift (wind), social values, and impacts to other products
- There are lots of unknown factors surrounding safety and health impacts
- There is variable legality in different countries
- The Monsanto and Roundup cases have caused cascading impacts on the social license to use chemicals
- It is poison and has impacts on the landscape
- There are social licensing challenges
- There are systemic (watershed level) and localized (individual property level) concerns
- People are worried about spills
- If the label is not followed, it is possible to do a lot of harm

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

- Some crews do not want long-term exposure even when they know that it is safe (because there is ongoing stigma)
- People are worried about product disposal

Mitigation Measures

- Applicators could be trained to follow the label properly
- There could be improved public relations and education about herbicide use
- Buffers could be installed around watercourses
- It could only be used as a last resort or when other tools have failed
- The USFS could identify specific, localized areas that need herbicide and avoid using it on a broad, landscape level
- The GNF should monitor weather conditions
- The GNF should determine the most appropriate method for application (e.g., aerial, spray, paint, etc.).
- The GNF should identify methods that will not be used.

Biological Treatment

The group discussed benefits, concerns, and potential mitigation measures that should be considered for biological treatments.

Benefits

- There are socioeconomic community benefits (e.g., leasing animals from the community)
- There is no (or minimal) cost once it is started
- It has a comparatively low environmental impact
- It does not require an archeological survey
- It is self-limiting
- It does not create any smoke or noise
- It does not require the use of chemicals

Concerns

- There may be unintended consequences (e.g., the introduction of bugs)
- Dogs can eat the goats
- It can be cost prohibitive (if the goats get eaten)
- It may introduce noxious weeds or other invasive species
- It is difficult to get goats to eat the right plant species
- It may not be useful on a large scale
- Providing the right fences and infrastructure is both costly and logistically challenging
- There are impacts to native wildlife
- It is slow
- The goats could draw predators into WUI areas and put residents' pets at risk

Gila National Forest (GNF)
Technical Meeting: Vegetation Management Tools
August 30, 2018 – 9:00am – 3:30pm
Meeting Summary - FINAL

- The size of vegetation that can be accessed (they can only eat young age classes) is limited.
- There is a limited supply of operators/goat herders

Mitigation Measures

- It is possible to test the animals to determine what they will and will not eat
- They could be tied to a certain area
- There could be a buffer around bighorn sheep habitats to keep them from goats
- The treatment area could be monitored for invasive plant species after the goats are gone
- There could be more intensive oversight/supervision
- The goats could be sterilized for bugs

Group Discussion

- It is important to consider lands that are suitable for timber harvesting when talking about vegetation treatment decisions. While treatment that has a purpose of reducing fuels is critical, it is critical to also consider desired conditions related to timber. The Forest Plan will have different emphasis areas (some areas emphasize wildlife habitat and some areas emphasize timber production).
- When a wildfire starts, the GNF has a natural resource staff person who determines whether the fire would have benefits, and then the GNF manages the fire to meet desired conditions. The GNF has written values, which include human structures and natural resources. The GNF evaluates the fire's potential impact on those values.

Other Treatment Types to Consider

- The GNF could consider acquiring more undeveloped inholdings around the GNF that could become potential problems for WUI areas. This would be a prevention tool.
- The GNF could decide not to manage all areas.

NEXT STEPS

- The GNF is reading all the comments received for the preliminary draft plan and will update the draft plan based on the input received. The GNF planning team is considering different alternatives.
- The alternatives will be released with the draft environmental impact statement, and it will be important for the GNF to receive community input on the alternatives to ensure that they reflect all perspectives.