

**Forest Health Advisory Council (FHAC)**  
**August 30, 2019, 9:00 AM – 4:00 PM**  
**Morgridge Commons, Glenwood Springs, CO**  
**Meeting Summary**

**ATTENDANCE**

*FHAC Members:* Carol Ekarius, Aaron Kimple, Mike Lester, Paige Lewis, Mark Morgan, Michael Preston, Chuck Rhoades, and Ben Tisdel

*Partners:* Carolyn Aspelin, Sylvia Bierman, Mike McHugh, Amy Moyer, Will Murray, Lisa Pine, John Ring, Mike Smith, Jeff Underhill, and Amanda West-Fordham

*Facilitation:* Heather Bergman and Samuel Wallace

**ACTION ITEMS**

<b>Ben Tisdel and Mike Lester</b>	Contact Colorado Counties, Inc. (CCI), forest engineers at the US Forest Service (USFS) regional office, and Colorado Motor Carriers Association to discuss how to improve access for timber hauling in Colorado.
<b>Carol Ekarius and Molly Pitts</b>	Continue work on improving job capacity in the timber industry. Potential contacts include Ellen Roberts for Fort Lewis College and Mark Morgan on the strength of the Front Range Community College program.
<b>Aaron Kimple, Paige Lewis, Mike McHugh, John Ring, and Samuel Wallace</b>	Organize a panel for the next FHAC meeting on creative funding mechanisms. Potential panelists include a representative from Utah's Watershed Restoration Initiative, Rio Grande Water Fund, and Blue Forest Conservation.
<b>Jeff Underhill, Mike Lester, and Amanda West-Fordham</b>	<ul style="list-style-type: none"> <li>• Send the invitee list for the Forest Action Plan focus groups to FHAC.</li> <li>• Contact Ben Tisdel if CSFS is interested in presenting on the Forest Action Plan at the CCI winter conference in Colorado Springs.</li> <li>• Send base maps and composite maps to FHAC members for them to provide feedback.</li> </ul>
<b>Mark Morgan and Carol Ekarius</b>	Send names of forest industry companies to Jeff Underhill so the companies can receive surveys to inform the forest product section of the Forest Action Plan.
<b>Sylvia Bierman</b>	Research if revenues generated from taxes and permitting stay in the same USFS sale area.
<b>Ben Tisdel</b>	Send information and databases on carbon sinks to Mike Lester to send to Amanda West-Fordham.
<b>Paige Lewis and Amy Moyer</b>	Send an update to the FHAC about governmental immunity and prescribed burning policy developments by October 10.
<b>Heather Bergman</b>	Send Rocky Mountain Restoration Initiative (RMRI) executive summary and talking points to FHAC.
<b>All FHAC Members</b>	<ul style="list-style-type: none"> <li>• Provide feedback on the Forest Action Plan base maps and composite maps using the form that CSFS provided by September 30.</li> <li>• Provide feedback on the Forest Restoration and Wildfire Risk Mitigation (FRWRM) grant program by September 30.</li> </ul>
<b>Peak Facilitation Group</b>	Send out a Doodle to schedule the next FHAC meeting.

## **UPDATES ON ROAD CAPACITY ON US FOREST SERVICE AND COUNTY ROADS**

Ben Tisdell, Commissioner of Ouray County, and Mike Lester, State Forester and Director of Colorado State Forest Service (CSFS), provided updates on road capacity on U.S. Forest Service (USFS) and County Roads. A discussion about timber hauling and road capacity with the whole group followed their update. Their comments are summarized below.

- Some counties under their legal authority require permits for timber hauling on county roads. County governments restrict the hours during which timber companies can haul and the number of permits that they issue. The hauling permits are intended to address the concerns of residents who do not want to see timber hauls or forest treatments in their area. When counties set rules and regulations around hauling permits, it impedes forest health treatment efforts.
- One way to collect more information on county regulations for roads is to distribute surveys to county staff. The survey questions could further identify which counties have limits and rules on hauling and why they have those rules. Colorado Counties, Inc. (CCI) could assist in writing and distributing the survey. Another way to collect information on the hauling rules on USFS roads is to contact the engineers at the USFS Regional Office.
- There may be overlapping jurisdiction on county roads, requiring haulers to follow multiple sets of rules. Snow plowers encounter this problem when plowing on roads with overlapping jurisdictions. For snow plowers, there are overlapping permits that set the same standards for plowing and gate access for these roads. This type of overlapping permit could be a solution for hauling on roads with overlapping jurisdictions.
- Counties and the USFS potentially could use revenue from permits to fund the repair and maintenance of damaged roads.
- Some participants said that they had had success when talking to county commissioners about hauling permits to support forest health treatments. In these cases, once the counties approved permits for timber hauling, the county administration planned the hauling routes, road maintenance, and road capacity limits in advance.
- Commissioners must listen to a variety of constituents, and some constituents do not want to see timber hauling. Two discussion points to consider when approaching commissioners are public safety and public asset maintenance (i.e., road maintenance). Some participants said that it is important to emphasize that the forest treatments serve as a public safety measure.
- Haul costs are an important consideration for the timber industry. Haulers already pay a federal excise tax, in which the federal government is supposed to apply that funding to road maintenance.
- On the Bureau of Land Management (BLM) land, they take 20% of the revenue from firewood permits and direct it towards road maintenance. This policy results in \$100,000 to \$200,000 in the BLM budget for road maintenance.
- There was a question if the revenue generated from permitting and taxes stay in the same sale area. The USFS was uncertain of the answer and will follow up with more information.
- In the southwest region of Colorado, haulers are crossing state lines and moving wood from Colorado to New Mexico and vice-versa. Crossing state boundaries requires haulers to address different rules and weight limits in each state.
- Recreational traffic damages the roads to the point in which the timber industry cannot haul on them. It is not the weight of the load that corresponds to road damage but the diameter of the tire which better corresponds to the degree of road damage.
- Counties do not want to hinder recreational use as it is a major source for economic development. The damage on the road makes it difficult for the USFS to plan a treatment because the roads are often not accessible until they do maintenance immediately before a project. CCI could begin to address motorized recreation impacts on roads.
- Most rural counties struggle to fund their road maintenance. Requesting a hauling permit and potentially creating an individual permit system for individual recreational vehicles could be ways

to generate the revenue necessary for road maintenance. Colorado Parks and Wildlife (CPW) could potentially administer a permitting system for individual recreational vehicle use.

- There is a connection between the quality of the roads and water quality. Some participants said that it is worth exploring how erosion from damaged roads brings sediment into local water sources.
- The IRS categorizes forestry and agriculture together. Participants asked if there is a way to apply agricultural exemptions for hauling under the IRS to forestry projects. Other participants said that this has been an unsuccessful strategy in the past. CCI may have more information on whether legislative or interpretive changes of the agriculture exemption rule would be more appropriate to address the limitations on timber hauling in Colorado.
- FHAC members should not contact individual county commissioners until Ben Tisdell has contacted CCI.
- Colorado Motor Carriers Association is another organization with expertise in road regulation and legislation. They could be another resource in this conversation.
- The next steps to address issues of timber hauling access is to raise awareness in different organizations. Ben Tisdell and Mike Lester will approach the CCI transportation committee, the engineers at the USFS Regional Office, and the Motor Carriers Association to discuss ways to improve access for timber haulers. Participants said that the proposal would be more acceptable if CCI led the effort.

#### **UPDATES ON IMPROVING JOB CAPACITY IN THE TIMBER INDUSTRY**

Carol Ekarius provided updates on the information that she and Molly Pitts gathered on improving job capacity in the timber industry. A discussion about improving job capacity in the timber industry with the whole group followed their update. Their comments are summarized below.

- Front Range Community College has a certificate and associate degree program related to forestry. Many of those who earn an associate degree at Front Range Community College in forestry continue to earn a bachelor's degree at Colorado State University. The program at Front Range Community College prepares for students as foremen and equipment operators. The program has a chainsaw certificate and gives students a basic background in forestry.
- Front Range Community College showed interest in starting a similar program in Southwest Colorado. There may be interest from community colleges in Southwest Colorado too, but there has not yet been a conversation with the colleges. Ellen Roberts would be a good connection to Fort Lewis College.
- There are currently no available federal grants to start a similar program in Southwest Colorado. There may be grant money in a community college in Southwest Colorado, but starting a new program will be an ongoing project.
- There are immunity issues that currently limit a students' ability to get hands-on experience in the classroom. Timber industry businesses have to buy supplemental insurance policies that allow students to train and operate the equipment. For the colleges, it is difficult to get past issues around governmental immunity and insurance.
- Other opportunities to increase job capacity in the timber industry is through the State Wildland Inmate Fire Team (SWIFT) program. The SWIFT crews are composed of inmates who provide hand crew support and assistance on wildland fires.

#### **UPDATES ON ENVIRONMENTAL IMPACT BOND FEASIBILITY REPORT**

Aaron Kimple provided updates on the Environmental Impact Bond Feasibility Report. A discussion about environmental impact bonds and other funding mechanisms followed his update. Their comments are summarized below.

- Many people would benefit from forest health projects in their community but are unable to implement due to funding restraints.

- Mountain Studies Institute secured funding from the Walton Family Foundation to research how an environmental impact bond might fund forestry projects. Mountain Studies Institute analyzed proposed and ongoing projects, access and roadless areas, fire and fire risks, land ownership (e.g., private, federal, tribal), water resources, and transportation corridors to determine where work would be most effective. They also looked at access to railways to transport forest products and opportunities to support a biomass market or facility.
- The forest health prescriptions under an environmental impact bond would include thinning and prescribed burning. Mountain Studies Institute is continuing to refine and target their scope of work.
- The bond terms would be \$8 million over 20 years with 16 payments. Initially, the payments for the bond would be smaller, grow over several years, and then level off. After the completion of the initial treatment, the funding from the bond would continue to grow to fund ongoing maintenance work. Colorado Water Resources and Power Development Authority (CWRPDA) could potentially circulate the money through a revolving fund.
- Environmental impact bonding for forestry work is a new concept. There is potential for it to be a funding strategy that brings benefits to counties, municipalities, water utilities, electric utilities, and tribal lands. The next step is to continue to secure payers and investments.
- The Mountain Studies Institutes will release the full Environmental Impact Bond Feasibility Report soon.
- There has to be an organization that is the primary signer for the bond with the CWRPDA. The bonding model may not be effective if it relies on one county or provider to sign for the bond because one county or one provider may not have the capacity or funding to sign individually. The challenge will be creating a legal system that allows a group of organizations to create one legal organization that allows them to sign for a bond with the CWRPDA.
- One option to create a legal organization to sign for a bond includes approving a special district. When voting for a special district, voters also have to approve a tax to fund the district. Creating a dedicated revenue stream is necessary to support a special district.
- Utah's Watershed Restoration Initiative follows a model in which the county, state, and federal governments have an agreement to provide funding to a central fund. They all then use the funding to support watershed restoration projects. Restore New Mexico and Rio Grande Water Fund also follow a similar model.
- Setting up a bonding process will require reviewing the relevant legislation that gives entities the specific authority to bond. The Forest Improvement District legislation is one example. CWRPDA also needs to be a part of the discussion.
- Some participants said that FHAC should dedicate a meeting to the subject of funding and how to use creative and alternative sources of funding to move projects to scale.
- Aaron Kimple, Paige Lewis, Mick McHugh, John Ring, and Samuel Wallace will put together a panel to talk about creative funding mechanisms for the next FHAC meeting.

#### **UPDATES ON THE SHARED STEWARDSHIP AGREEMENT**

Several participants updated FHAC on the current progress of the Shared Stewardship Agreement between the USFS and the State of Colorado. Their comments are summarized below.

- The Shared Stewardship Agreement is an agreement between the USFS and the State of Colorado, including the Colorado State Forest Service, that outlines a framework to increase the pace and scale of forest health treatments. It includes high-level themes of how the two entities will continue to work together to achieve this goal.
- The Governor's office has reviewed and commented on the Shared Stewardship Agreement. They have sent the revised agreement back to the USFS who is reviewing the comments.

## **UPDATES ON ROCKY MOUNTAIN RESTORATION INITIATIVE**

Participants updated FHAC on the current status of the Rocky Mountain Restoration Initiative. Their comments are summarized below.

- Rocky Mountain Restoration Initiative (RMRI) is an effort to scale up forest health treatments in Colorado. They have identified three focal areas to potentially work: Southwest Colorado, Central Front Range, and I-70 Corridor. RMRI is currently convening meetings with local stakeholders in the three focal areas. Members of the FHAC have attended these meetings.
- The local stakeholders in each focal area will be able to submit a proposal to RMRI partners in mid to late October. RMRI will then select one or two of the proposals.
- RMRI partners are meeting on September 6. Heather Bergman can send out more information on the talking points and executive summary for RMRI.

## **FOREST ACTION PLAN UPDATE PRESENTATION**

Jeff Underhill and Mike Lester, Colorado State Forest Service, gave an overview of the statewide Forest Action Plan and shared updates on the current status of the plan. Their comments are summarized below.

- The FHAC meeting represents the first external outreach meeting for the action plan.
- The 2008 Farm Bill prompted the creation of the Forest Action Plan. States had to complete the plan in order to be eligible for Farm Bill funding. The intention was that states would create a plan that outlines their intended strategies and priorities for the forest. The action plan would then inform where and how the USFS directed federal funding to forestry projects.
- CSFS and The Nature Conservancy (TNC) developed the first Forest Action Plan in 2010. The USFS did not like the initial plan, and CSFS reassessed how they were going to write the next plan. For example, the initial plan focused on efforts to suppress fires, which CSFS has revised in the new plan. CSFS rewrites the plan every ten years and reassesses it every five years to comply with Farm Bill regulation.
- Three years ago, the CSFS attempted at redoing the action plan and received some negative feedback. Comments on the revised Forest Action Plan indicated that the plan was too focused on data and did not have a narrative component to it.
- The deadline for the completion of the plan is June 2020. CSFS organized a professional team to write the action plan, which will include more narrative elements of what the state is trying to accomplish.
- A component of the plan requires selecting priority areas and needs. There are too many acres to treat and not enough resources to treat every acre, so the plan strategically identifies the most important acres for treatment. As a result, CSFS is seeking feedback from selected groups on the priority areas and needs in the plan.
- The Forest Action Plan includes a resource assessment. It analyzes current forest conditions and trends, identifies issues and priorities, and outlines strategies to address the issues.
- The CSFS is updating three documents for the Forest Action Plan: the Colorado Statewide Forest Resource Assessment, the 2010 Colorado Statewide Forest Resource Strategy, and the 2017 Priority Landscapes Assessment. Originally, CSFS created two separate documents for the statewide resource assessment and the statewide strategy. For the 2020 Forest Action Plan, the CSFS will combine the assessment and strategy into one document.
- There are several goals of the Forest Action Plan. The first is to develop a 10-year forest management plan based on the resource assessment that identifies the key resources, issues, threats, vulnerabilities, and potential impacts across Colorado's forests. Another goal of the plan is to identify priority sub-watersheds at the 12-digit hydrologic unit code (HUC) level. The third goal is for the plan to inform how and where to apply grant funding to ensure that the funding aligns with state priorities and goals.
- CSFS is writing the plan so that all forest managers can use it. CSFS is trying to set priorities that are flexible enough so forest managers can adjust them to meet local needs but rigid enough so that not every sub-watershed is a high priority.

- According to the 2018 SMART activity data, of the 10,881 acres treated, 61% of the acres were in low and moderate priority areas, and 39% of the acres were in high and very high priority areas. CSFS will redirect resources to projects that are in high or very high priority areas. They acknowledge that priorities change at a more local level, and they are incorporating the need to account for other, more local priorities into the plan.
- The 2018 SMART activity data does not have information on the complexity of projects, the cost per acre, or the amount of timber resources organizations removed from the treated acres. It only indicates the number of acres treated. The data also does not capture all of the treatments from CSFS and primarily captures the projects in which federal funds represent a portion of the funding source. CSFS is currently creating a new reporting tool to capture more treatment acres in order to reflect the actual treatment footprint more accurately. They will release this information in an upcoming Forest Atlas report.
- Preliminary discussion on developing the Forest Action Plan occurred with partners, like the Rocky Mountain Research Station and the Colorado Forest Restoration Institute, through August and October of 2018. The focus of the conversations was on wildfire risk and how to potentially combine wildfire risk assessments. In November of 2018, CSFS organized an internal working group to evaluate previous plans, including the 2010 resource assessment, to identify the top issues and threats facing Colorado's forests. In December of 2018, CSFS and partners identified the data needed for the Forest Action Plan and began collecting data from the best databases. The Natural Resource Ecology Lab began a draft analysis at this time based on the three different themes: wildfire risks, forest conditions, and watershed health.
- CSFS then worked on a communications plan to present the draft Forest Action Plan to a variety of groups. They also organized a climate change workshop to be incorporating climate change into the strategy, including efforts for carbon sequestration.
- CSFS completed the first draft of the priority-based maps and solicited feedback from CSFS divisions. They then adjusted the maps after reviewing the feedback.
- The next step for CSFS is to bring the Forest Action Plan to select groups around Colorado for their review and feedback. Each focus group should review and comment on the management strategies, goals, and geographic priorities in the plan.
- The outreach strategy of CSFS does not include an effort to solicit broad public feedback. By organizing only several meetings with specific representatives, the intent is to receive effective, focused-feedback from resource experts in the state.
- The content of the plan must incorporate the national priorities of conserve, protect, and enhance.
- CSFS and partners identified eight themes for the Forest Action Plan: forest conditions, urban and community forestry, forest legacy, forest products, watershed health, wildfire risk, and wildlife habitat. Climate change was originally a separate theme, but instead, the plan will incorporate climate change into each of the eight themes. These eight themes are not the only issues the plan will address. For example, the plan may also include sections on air quality and carbon sequestration.
- The Forest Action Plan operates at a high level and is working on the sub-watershed level (HUC level six). The plan is not meant to provide project-level information or capture local priorities.
- The table of contents for the Forest Action Plan includes sections on overarching goals, background, composite maps and methodology, themes (goals, conditions and trends, current threats and issues, and priority maps for each theme), management strategies and approaches, resources need, and stakeholder engagement.

### ***Clarifying Questions***

FHAC members asked CSFS representatives several clarifying questions regarding the Forest Action Plan. Questions are indicated in italics with responses below in plain text.

*Does the SMART activity data include treatment acres from projects that collaboratives manage and have federal pass-through?*

The data in the SMART activity database includes what CSFS is required to report based on federal guidelines.

*What is the Forest Legacy Program, and how does it work?*

The Forest Legacy Program is a USFS program for conservation easements on private forested lands. It is a nationally competitive program in which each state submits up to three areas to receive federal funding to place private land into a conservation easement. USFS requires a ten-year forest management plan for each property to ensure that landowners can manage the property appropriately for the next ten years. Landowners receive private benefits as well.

*Are there numeric goals outlined in the plan (acres treated, etc.)?*

The plan will include goals and desired conditions, but the plan is not going to specify the roadmap on how to achieve those desired conditions. In the "Resources Needed" section of the plan, they will outline goals, but those goals will be at a high level.

*Is a goal of the plan to address all the high-risk areas during the 10-year period of the plan? What is the percentage of the high-risk areas that the plan would like to treat?*

The number of acres that need to be treated in high priority areas more than likely is going to go beyond what partners can achieve in the next ten years. The plan discusses the resources needed in the next 10-year period, but the goals and desired conditions will have to look past the 10-year plan.

*Does the Forest Action Plan align with the Watershed Condition Framework process?*

The Forest Action Plan is looking at the full scope of the problem and does not focus on specific projects.

*What is the strategy for sharing the Forest Action Plan with the focus groups? What organizations are participating in the focus groups?*

CSFS created a comprehensive list of organizations to invite to the focus groups. In some cases, CSFS identified some individuals and organizations that matched with one of the eight themes and invited them because of their ability to address a specific theme. The organizations that CSFS invited to the focus groups varies by region. For example, some of the regional focus groups on the West Slope include more local groups than the focus groups on the Front Range.

*Can FHAC members make suggestions about who to invite?*

CSFS will provide their invitee list by email to FHAC.

*Is there going to be a comment period for the public-at-large?*

No, there is not going to be a comment period. The plan is due on June 2020, and the timeline is too tight to engage in a commenting period.

*How does the Forest Action Plan and RMRI align with each other? Does CSFS predict that the Forest Action Plan and RMRI will come to the same conclusion of high priority areas?*

No, primarily because of differences in scale. While RMRI has identified three distinct regions for potential projects, the Forest Action Plan is not at that project-level scale. However, the Forest Action Plan map includes RMRI polygons to see how the priority of sub-watersheds aligns with RMRI project areas.

### ***Group Discussion***

Participants discussed the statewide Forest Action Plan. Their comments are summarized below.

- There are similarities between the Forest Action Plan and 2012 Forest Plan Revision for the Grand Mesa, Uncompahgre, and Gunnison National Forests. Both plans look at current conditions and desired conditions. A difference is a forest plan revision will include numeric goals while the Forest Action Plan may not.
- The scale of the problem is large, and partners will have to continue to increase the pace and scale of forestry treatments to begin to tackle the problem. Some participants said that they would like to see the narrative differentiate between what partners are going to achieve in the next ten years and what work is needed on the landscape. There should be more clarity on how the next ten years are going to move the state towards achieving a vision for forests in 2050.
- Some participants stated that the plan should articulate that it will require financial investment, including investment from the state, to achieve what is needed on all forested lands in the state.
- The purpose of the Forest Action Plan is similar to the purpose of the Shared Stewardship Agreement. Both share the goal of bringing together governmental and non-governmental entities to identify priorities on the landscape. This prioritization allows groups to focus resources to address those priorities on a larger-scale with more meaningful outcomes.
- Some participants said that it is important to distinguish that the Forest Action Plan is not only for CSFS. The document addresses multiple agencies and federal and private lands, and it should indicate that forests are under a myriad of different ownerships.
- Regarding focus groups, some participants said that CSFS should invite those who are going to use and implement the plan, such as lawyers. They should also invite people who may oppose the plan later because CSFS did not invite them to participate. Others suggested that it is important to invite local collaboratives and county government representatives. Other participants said that it is not possible to invite everyone to participate, which may upset some people.
- There is an opportunity for the CSFS to present at Colorado Counties, Inc. winter conference in Colorado Springs. CCI has a presentation slot reserved for wildfire and forest health topics during which CSFS could present on the Forest Action Plan.
- Some participants said that there might be an opportunity for the Shared Stewardship Agreement, RMRI, and Forest Action Plan to better align strategies. Currently, some people are involved in multiple of these initiatives. There could be a more coordinated effort to show how each of these initiatives overlaps with each other. All these plans will not be effective if partners do not treat acres on the ground.

### **FOREST ACTION PLAN DATA AND SCIENCE PRESENTATION**

Amanda West-Fordham, Colorado State Forest Service, presented on the data from the Forest Action Plan. Her presentation is summarized below.

- CSFS staff worked with the Forest and Inventory Analysis (FIA) program and a long list of statewide geospatial data layers to develop the data for the Forest Action Plan. CSFS tried to use data layers to tell a story about each of the themes. All the maps are at the 12-digit HUC watershed-level scale.
- For the forest conditions theme, CSFS used three data layers. The first layer combined population growth projections and zoning laws to predict how the population will grow in the wildland-urban interface (WUI). The second layer looked at insect and disease disturbance to project potential basal area losses from disease and insects to 2027. Lastly, they looked at fire behavior under extreme burning conditions from CSFS 2017 data.
- For the wildfire data, CSFS conducted a wildfire risk assessment. The wildfire risk assessment combined data layers on WUI risk, riparian asset risk, forest asset risk, and drinking water risk. The data then multiplied the combined data against the probability of a wildfire in the area.
- The watershed data was more complex. There were three sub-themes for the data: source water protection, conservation, and post-disturbance vulnerability/effects. The data incorporated

impaired waters, water infrastructure, drinking water usage, stream temperatures, potential conservation areas, healthy rivers index, and Miller et al. 2011 post-fire erosion rates data. The CSFS staff might reproduce the predicted post-fire erosion rates study to generate a new layer that is more aligned with current conditions.

- The data team overlaid the forest conditions, wildfire, and watershed maps into a composite map. The composite map weighted the wildfire map with a multiplier of one and weighted the forest conditions and watershed map with a multiplier of two. They weighted these maps accordingly after receiving internal feedback from the field offices.
- The wildlife theme incorporated data on wildlife distributions, habitat quality, and habitat connectivity. Colorado Parks & Wildlife (CPW) has been giving CSFS feedback on their layers.
- The lead manager for the urban and community forestry theme data is the manager of the FIA team. The FIA team is still working on this model, but they have raw cover data for about 39 urban communities in Colorado.
- CSFS is contracting with Western Environment and Ecology to produce a map on Forest Legacy resources. They have contacted TNC, Trust for Public Lands, the Conservation Fund, Colorado Open Lands, Colorado Cattlemen's Agricultural Land Trust, and Keep It Colorado to gather information on conservation easements.
- The data for the forest products theme uses some spatial data but uses mostly qualitative data. CSFS is sending out a survey to three harvesting contractors to gather data. The CSFS also is using data that the University of Montana collected on timber harvest and forestry industry in Colorado.
- The goals of the forest products section are to evaluate ways to align the industry with forestry management needs, diversify the utilization of forest products to increase industry viability, and identify ways to maintain the capacity of the forest products industry.
- CSFS is creating an application that will make the data accessible. The application will allow people to zoom into specific watersheds and run a county report. The application is not available currently, but the CSFS is developing it to become public after they publish the Forest Action Plan.

### ***Clarifying Questions***

FHAC members asked CSFS representatives several clarifying questions regarding the Forest Action Plan data and science. Questions are indicated in italics with responses below in plain text.

*The maps of the priority sub-watersheds seem to be Front Range centric. Why are their priority sub-watersheds on the east side of Denver where there are no forests?*

There are high priority sub-watersheds on the east side of Denver primarily because the WUI maps indicate that the area is developing quickly. The map is accounting for the risk surface fires rather than canopy fires in an area with a rapidly growing population.

### ***Group Discussion***

Participants discussed the statewide Forest Action Plan data and science. Their comments are summarized below.

- Some participants said that CSFS should send out surveys to more than three harvesting contractors when collecting data for the forest products theme. Talking to only three contractors may not collect an appropriate amount of information to develop a strategy to grow the industry.
- Several contractors are missing from the list that CSFS could add. Carol Ekarius and Mark Morgan can provide additional contractors to receive the survey.
- Some participants suggested that the market has developed specialties with high angle and high exposure timber harvests. CSFS should send the survey to these specialty harvest contractors.
- The University of Montana data may be incomplete as industry representatives may be reluctant to provide information to the University of Montana researchers. There may also be a reluctance to supply sensitive and proprietary information.

- Some participants suggested that CSFS could create a survey specifically for smaller businesses. The questions could ask where the companies see themselves fitting into the Forest Action Plan. There is a need for more companies who specialize in the biomass market and smaller-diameter treatments to be involved.
- Other participants said that there might be a better response rate if the Colorado Timber Industry Association (CTIA) sends out the survey to CTIA members.
- In the composite map that combines the forest condition, wildfire, and watershed maps, a participant said that it might make sense to include elevation as another layer of analysis. Adding elevation as a layer could help prioritize areas where conditions will change rapidly and affect the desired future conditions and priorities.
- A participant said that CSFS should develop a map on treatability and on areas where there are no current treatments. Other participants said that those layers are more related to project feasibility and are not at the current scale of the Forest Action Plan.
- Another point of analysis could be financial feasibility. Some areas are more expensive to treat than others. Some of the current priority areas are very expensive to operate in. Adding financial feasibility could make the plan more realistic to implement.
- The composite map does not seem to capture some high priority sub-watersheds on the West Slope which provide drinking water to the Front Range. Integrating Denver Water and Colorado Springs Utilities source water maps could help to reflect those priorities on the landscape better.
- The composite map does not seem to capture high priority sub-watersheds on the Medicine Bow National Forest. There are dead timber and salvage logging operations on the Medicine Bow National Forest which the composite map does not reflect.
- Land use policy is important for county politics. Some participants said that projecting WUI can be difficult because the way the county manages the subdivisions and zoning laws into the future will affect the vulnerability of WUI communities. Dr. David Theobald is currently working on a new data layer that analyzes land conversion that CSFS hopes to have in time to incorporate into the analysis. It would be important to make sure all of the data is as up-to-date as possible.
- The way the maps look depends on what questions you ask. The focus groups should continue to ask what are the key questions that the maps should answer.
- Recreation is a priority in the Shared Stewardship Agreement, but none of the data layers reflect that value.
- Some participants said that water and community safety should be the highest priority. Values, like wildlife, recreation, and timber industry, are less important than water and community safety.
- FHAC members should provide feedback on what sub-watersheds they would work in and why. FHAC members should also provide the goals in the sub-watershed and the scale of any necessary project work. This type of information allows CSFS to calibrate the maps. If there are high priority areas that are not on the map, it may be that the CSFS missed some data and/or weighted the data incorrectly. CSFS will provide a form and a PDF with the base maps and composite maps for FHAC members to provide feedback by September 30.
- FHAC members can contact Jeff Underhill with programmatic questions and Amanda West-Fordham with technical questions.

## **GRANT OBJECTIVES**

Mike Lester, Colorado State Forest Service, asked the FHAC to provide feedback on the CSFS Forest Restoration & Wildfire Risk Mitigation (FRWRM) grant program. Their comments are summarized below.

- Some of the objectives when managing CSFS grants comes from state legislation. However, the FHAC can provide feedback on what their organizations value when applying for CSFS grants and what should be the criteria when evaluating Forest Restoration & Wildfire Risk Mitigation (FRWRM) grants.
- Some participants said that one of the unique opportunities for FRWRM grants is to apply for funding for capacity building. Not many grant applications dedicate funding for capacity building,

but it is an important element of project management. Other participants said that before dedicating funding for the purchase of equipment, CSFS should evaluate how many hours the recipients will use the equipment for the project and how many acres the equipment will treat. For capacity building, grants could look at loaning equipment instead of buying it.

- Some participants stated that the grant funding seems to go to projects with the most matching funds. The grants should go to a project based on its merits rather than the amount of matching funds. Allowing in-kind contributions to be a source of matching funds is important for communities with fewer resources.
- Smaller grants can be important for smaller communities where an additional \$10,000 or \$20,000 can make a difference.
- CSFS should consider awarding grants to fire districts to increase their capacity to conduct fire mitigation and chipping projects. Grants should not only go to counties and HOAs.
- Some participants suggested that CSFS should further spread out the funding geographically. Some reoccurring applicants frequently apply for funding. CSFS should work to support reoccurring applicants in other ways so CSFS can fund newer projects.
- There is an opportunity for CSFS to review post-fire applications instead of only fuels treatment projects.
- Some participants recommended that CSFS should better market the grant program in the future. The CSFS spends the grant money quickly. The annual request from the grant funds is about \$4 million, which exceeds the amount of available grant funding.
- FHAC members should continue to provide feedback to Mike Lester on the grant objectives by September 30.

#### **FOREST ACTION PLAN UPDATE PRESENTATION**

Mike Smith, RenewWest, presented on the impact of forest health on carbon and climate. His comments are summarized below.

- Current climate trends indicate that there has been about one degree Celsius of warming. Climate change has about a thirty-year backlog, which means that the current changes in climate are occurring from carbon that was released into the atmosphere thirty years ago.
- If we followed a zero-emissions profile, we could reach negative emissions by 2070. Other projections suggest that it is possible to reach negative emissions as early as 2050.
- As time goes on, it becomes increasingly more difficult to reach a negative emissions profile. The global middle class is growing, and as more people enter into the middle the class, they use more resources and release more emissions.
- Most carbon sinks are natural, including terrestrial and oceanic sinks. As the climate becomes warmer, it is important to determine the future conditions of the forest and how they will change.
- Emission profiles grow if the forest dies at a quicker rate than it grows. As the Colorado economy continues to grow, we emit more carbon from various sources. Over time, forest management has become a larger percentage of Colorado's carbon emissions, growing from 1.5% of our carbon emissions from 1990 to 1999 to 5.4% of the carbon emissions from 2010 to 2015.
- Colorado is becoming more interested in carbon. Colorado is still a part of the United State Climate Alliance. The Colorado legislature also passed Senate Bill 19-236, which requires the state to analyze future energy projects for the social cost of carbon; House Bill 19-1261, which mandates an emissions decrease of 90% by 2050; Senate Bill 19-096, which requires the air quality control commission to collect data on greenhouse gas emissions; and HB 19-1188, which requires an greenhouse gas emissions analysis for any bill in the Colorado legislature.
- As there is more effort to manage greenhouse gas emissions, people will turn to carbon sinks to address emissions. The Nature Conservancy Natural Climate Solutions report discussed various opportunities for natural carbon sinks, and forests were at the top of the report.
- For forestry projects in California, 50% of the merchantable timber goes into long-lived wood products. That means that the long-lived wood products represent sequestration of carbon for

decades. Timber harvest and climate are not on opposite sides of the spectrum. From a carbon perspective, many consider wastage from timber harvests, like sawdust, to be emissions.

- The growth profile for trees indicates that they grow slower at early and late stages of their lives. It is when trees are in the mid-stages of their life that they grow the fastest and are therefore sequestering more carbon. Managing a forest to keep trees in the mid-stage growth profile can lead to multi-structured forests and a better sink for carbon.
- Mass timber uses cross-laminated and glue-laminated timber to transform low quality timber into high-quality timber resources. Construction companies can use these timber resources to develop the structure of a building. The material is strong, flexible, and less flammable. Mass timber also is an effective use of small-diameter trees. From a carbon perspective, mass timber sequesters carbon into the structure of the building. As new ways emerge to use traditionally wasted wood products, wastage decreases, and long-lived wood products increase, leading to an increase of sequestered carbon.
- Bioenergy with Carbon Capture and Sequestration (BECCS) is a technology that captures carbon dioxide from bioenergy processes. Essentially, BECCS takes carbon dioxide from biomass and sequesters it somewhere else. For example, Fairplay uses a biomass boiler to heat their school.
- Pyrolysis takes wood products and burns them in a setting where there is no oxygen. This process transforms wood products into biochar, which people can use as a stable soil amendment. Biochar creates a chemical compound that may stimulate plant growth. Biochar also presents a large opportunity for carbon sequestration, according to the Natural Climate Solutions report. Although some estimates predict that biochar prices will not reach \$100/ton until 2030, there may be a more optimistic scenario to foster a biochar industry earlier than that.
- There is a place for reforestation and thinning when considering forest health activities for carbon sequestration. Although Colorado's forest emissions profile has increased, Arizona's forest emissions profile has decreased. Moreover, New Mexico's emission profile is now in the negatives.
- Under section 3.7 of the Forest Action Plan, it declares that the CSFS should "manage trees and forests to mitigate and adapt to global climate change." California has developed the California Forest Carbon Plan, which includes forest treatment prescriptions. The plan outlines goals for thinning, watershed objectives, and restoration objectives. California Fire, California Department of Natural Resources, and California Environmental Protection Agency jointly developed the document in 44 months. The plan is comprehensive, creates opportunities for rural development and entrepreneurship, and has changed the landscape of the local economy in California for the better.
- Plans like the California Forest Carbon Plan are not unfamiliar in Colorado's state government. The Colorado Water plan shares many similarities with the California Forest Carbon Plan. Both plans are comprehensive, jointly developed by multiple government agencies, and seeks to improve rural economic development.
- Colorado should create a Colorado Forest Carbon Plan that goes beyond the 10-year window and starts to manage forests in the long-term for carbon storage. The plan should stop making false choices between preserving old-growth forests and thinning and create an investment plan.
- Colorado should prepare for mass timber and BECCS markets. Shifts in local and state policy initiatives should make it easier to use mass timber in buildings. There is already some hard infrastructure in place in Colorado for the BECCS market. BECCS infrastructure in Colorado includes Biomass boilers in the National Renewable Energy Laboratory and Fairplay; biochar facilities in Pagosa Springs and Longmont; and the headquarters of Cool Planet, a biomass company.

### ***Clarifying Questions***

FHAC members asked Mike Smith several clarifying questions regarding the forest impacts on carbon and climate. Questions are indicated in italics with responses below in plain text.

*How responsive are markets to mass timber?*

The markets are coming around to mass timber. The best adoption occurred in Oregon when the public demanded changes in government regulation on building codes.

*Eventually, during the deconstruction of a building, the long-lived wood material will be placed into compost. What is the timeframe that you consider to be successful sequestration? Is it delaying carbon emission by ten years, 15 years, 20 years?*

Carbon dioxide remains in the atmosphere for a while. There is a 30-year delay to the effects of carbon dioxide from when it enters into the atmosphere. For carbon offsets, the tendency is to look 30 to 40 years in the future, but it depends on the government regulations and regulatory industry. In a 25 year timeframe, it is important to look at methane capture rather than carbon dioxide capture because methane is a shorter-lived but more potent greenhouse gas in the atmosphere.

*How can we keep the discussion going?*

Mike Smith presented to Mike Lester, Paige Lewis, and Joe Duda on the potential for a forest carbon plan for Colorado. The Department of Natural Resource (DNR) is currently looking at the forest carbon plan proposal as well.

*How will changes in the climate affect the forests ability to grow?*

The rate of climate change is exceeding a tree's natural ability to adapt to changing climatic conditions. Given enough time, a forest will move across the landscape to adapt to a changing climate, but the current rate of warming is too quick for that type of adaptation. At the individual tree level, the trees are more stressed, so they dedicate more of their energy to preserving themselves rather than growing.

### ***Group Discussion***

Participants discussed the forest impacts on carbon and climate. Their comments are summarized below.

- Some participants said that eventually, someone will deconstruct buildings with long-lived wood products and that carbon will enter into the atmosphere. Carbon sequestration through long-lived wood products seems as though it is only delaying the problem of climate change.
- Early in the industry's history, there was a decent amount of greenwashing. As a result, the industry moved in the opposite direction. There are third-party verification systems and auditing, which sometimes acts as a barrier for people to enter into the market.
- The regulation of BECCS and mass timber mostly occurs at the state and voluntary market level. The Environmental Protection Agency (EPA) is not heavily involved in regulation at this time.
- There is an opportunity with the Forest Action Plan to begin to incorporate the ideas of this presentation to develop more long-term planning of the forest for carbon storage. Participants said that there needs to be more data on the potential impacts of forest health on carbon and climate before incorporating it into the Forest Action Plan. There should also be more specific data on where there are opportunities for BECCS and mass timber markets. Considering that the deadline for the plan is June 2020, it might not be possible to include information on carbon storage in the final version of the plan. However, the plan is meant to be a living document, and CSFS could incorporate this information into future revisions.
- TNC is currently updating the Natural Climate Solutions report with additional state and regional specific analyses. The Arizona chapter of the TNC completed an analysis that determined that there could be forest carbon benefits from an aggressive thinning regime. There is a growing confidence that it is possible to achieve long-term carbon benefits from thinning.

- Mike Smith and Carol Ekarius are working on a protocol that describes how avoiding wildfires in forests that do not meet historic conditions decreases net carbon emissions.
- Rob Addington and staff from the TNC could talk about the science side of forest carbon planning.
- Other data sets that contain information on carbon sinks include the National Forests information on forests and carbon storage and the Woods Hole Research Center. This data could be useful in the Forest Action Plan.
- Some participants stated that FHAC should write a letter to Mike Lester, Dan Gibbs of the Department of Natural Resources, and Wildfire Matters Review Committee. The letter would say that the state should act on developing a forest carbon plan with appropriations. There were not enough members at the meeting to make a decision.
- The budget process is already underway, so it would be difficult to incorporate a budget item for a forest carbon plan at this point in the budget process.
- FHAC members took an informal vote about whether they would approve a letter. The vote showed all present in favor with one dissenting vote.

### **DISCUSSION ABOUT LEGISLATIVE STRATEGY**

Paige Lewis and Amy Moyer provided an update on current legislative outreach efforts. Their comments are summarized below.

- There are updates on the legislative outreach efforts to create governmental immunity to increase the capacity of the government to conduct prescribed efforts. The main challenge is with the CSFS. CSFS can act as a DNR employee and burn piles only on state lands. This rule limits the CSFS from broadcast burning on state lands or broadcast burning or pile burning on private lands.
- Changes to the governmental immunity structure may not require legislation. Opening up legislation on governmental immunity can be tricky with opposition from trial lawyers. The solution may involve revisiting the intergovernmental agreement between the DNR and CSFS.
- The Wildfire Matter Committee's next meeting will be on September 19 where they will discuss draft bill concepts. On October 10, there will be a meeting with CSFS in conjunction with the Wildfire Matter Committee where they can discuss opportunities for prescribed fire. These meetings will provide an opportunity to explore the different options for addressing governmental immunity and prescribed burning.
- During informal conversations between the CSFS, DNR, and Division of Fire Prevention and Control (DFPC), the agencies looked at where there are opportunities to increase government capacity for prescribed burning. There may be the opportunity to more broadly interpret the language in the DNR Division of Forestry statute to allow government-led burning under different landownership. DNR representatives need to discuss this possibility internally with their risk management and legal team.
- There are also ongoing conversations with the Department of Personnel and Administration (DPA) about how the state's insurance policy works. It may be possible to use state forest service employees for prescribed burning as long as there is a mechanism to distinguish when CSFS employees are working as DNR employees for the purpose of liability. The state must also have clearly outlined safety protocols.
- Some participants said that there is an opportunity to revisit the MOU, considering that the staff is different than when DNR and CSFS first developed the MOU.
- Governmental immunity goes beyond pile burning. It is a formula for risk management for the state in many areas, including liability during educational field trips and trainings, highway engineering, etc. Some participants said that they would like to see a more permanent legislative solution rather than a redefinition or reinterpretation of the MOU. Other participants said that it would be difficult for a single group to pass broader governmental immunity legislation.
- Governmental immunity legislation conversations tend to be complex and confusing. DNR and CSFS want to have more certainty that they could not be held liable for costs up to \$15 to \$16 million.

- There are still many questions to answer. Paige Lewis and Amy Moyer should not make any decisions on behalf of FHAC. They can provide a report with updates to FHAC before the October 10 meeting with the Wildfire Matter Committee.

#### **NEXT STEPS**

- Peak Facilitation Group will send out a Doodle poll to schedule the next FHAC meeting in December.
- Updates on appointments to FHAC: FHAC has reappointed Ben Tisdell; offered an appointment to Nadia EL Mallakh; and appointed Matt Jones, a former Colorado State Senator. Susan Liddle at the Legislature may have suggestions and influence to fill empty spots related to insurance, fire, and tribal representatives.
- FHAC members identified possible topics for future discussion during the meeting. These topics included:
  - Conservation financing;
  - Forest Action Plan and outreach meetings;
  - RMRI and Shared Stewardship Agreement updates;
  - Job capacity in the timber industry updates;
  - The science behind forest carbon planning;
  - Colorado Fire Commission updates;
  - Next steps related to a forest carbon plan;
  - Governmental immunity and prescribed burning;
  - Timber industry transportation barriers and road weight limit.