



MINUTES FROM FRONT RANGE ROUNDTABLE Q4-14 QUARTERLY MEETING

Date of meeting: Friday, November 14, 2014, 9:30 am – 3:30 pm

Location: US Geological Survey

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Meeting presentation(s): Available at http://frontrangeroundtable.org/Meeting_Materials.php

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ANNOUNCEMENTS:

Chad Julian announced that he accepted a position at CSU-CFRI’s WUI office.

ABOUT THE ROUNDTABLE:

Terra Lenihan (Beh Management Consulting) gave the About the Roundtable presentation.

LEGISLATIVE UPDATE:

Senator Jeanne Nicholson gave a legislative update. She discussed how in August the Wildfire Review Committee invited experts to come and talk about what issues were happening on our front for the 2015 legislative session. They invited all different stakeholders. Emergency

management, non-profits, land use, etc. What policy opportunities are available moving into 2015? After hearing presentations, the committee they considered legislation. She passed around handouts that outlined these bills. They include wildfire risk reduction grant program, grants to promote woody biomass, volunteer fire departments, agricultural land that is destroyed by a natural cause. They also sent a resolution for wildland fire suppression support. The majority of the committee voted for the prescribed fire (Bill C). She explained how the process works. The committee votes on the bills, then if it passes, it goes to the legislative council before it goes to the floor. She said Bill A will move forward. Bill B got enough support in both committees but she thinks it may struggle. She thinks some at the Roundtable may be able to help the legislators understand. Need methods of incentivizing the use of these fuels and basically education. She thinks there will be pushback in spending general fund dollars for a school using woody biomass or some other public building (fight for general fund dollars) and the other concern is over air quality. They need to be educated of what air quality looks like for this type of heating. She believes there are places in Colorado that could make this cost effective – places that don't even have natural gas. Megan Davis (Boulder County) asked where the Woody Biomass grant program would be housed. Nicholson thought it may be Department of Local Affairs, since they are used to providing grants and working with local communities. She thinks there could be a board from different departments/players like energy department that would make up the board. Brett Wolk (CSU) asked about the Wildland Risk Reduction Program – 25% to build infrastructure – will that be continued in legislation because that could be part of the biomass utilization. She thinks yes. One change they made was not requiring it to be contiguous to federal property. The mapping is a challenge, and they don't know that it provides any benefit so they changed that. She thinks we can weigh in on that kind of stuff. Bill C was not passed out of committee. There was discussion that state employees already have immunity in their scope; that was the attorney general's perspective. The two people that sponsored the bill in the Wildfire Interim Committee will probably bring it back. Kristen Pelz (CSU) asked about the difference of a deduction and credit. Nicholson said deduction is not as great as a credit but you can deduct some. Joseph Hansen asked if that is annual? Yes, up to \$5000 worth of work. And you can take it up to \$2500. She thinks you can accumulate it over a couple of years. Travis Griffin asked about the codes; should the municipalities have construction codes and other ordinances that are thoughtful of wildfires and risks, like requiring certain roofing and construction materials. Colorado's a local control state, and the county commissioners like to think they can make the best decisions for their local communities. So they told CCI and the CML last year – you guys need to do something at the local level. But if you don't we will have to at the state level do some state-wide policy work since you are dragging your feet. You like to think you're autonomous until there's a catastrophic wildfire, then you call us and the feds for help. They put

together a document of 64 counties with the work they've each done on progress they've done on wildfire risk reduction. All of the Front Range counties participated in this survey and had done a lot of work. One of the next steps would be for us to say, if you're not going to do it at a local level they will step in with a state standard. Marc Dettenrieder (Teller County) asked what if a local entity has been doing mitigation with non-profits and individual citizens? How would they respond? Nicholson thought, we care about the outcome. If you can get there in a different way, that's fine. Bill D – volunteer fire departments. They deal with fire differently. It's a quasi-non-profit type model they think might work. Bill E – Reclassification of Agricultural Land destroyed by a natural cause. Those landowners can't use their land for several years after a catastrophic fire. So do counties come in and charge them a different tax rate? Like a residential tax rate? It can take time for those parcels to be restored. The assessors would be able to say you still pay that agricultural rate until you get back on your feet. Committee also talked about an air fleet and how many planes would be needed. Final decision would be because federal government not providing as much air support as they have, it's probably good for us to have some, but it makes more sense to lease those planes. Gali Beh (BMC) asked if she could talk about the insurance topics that didn't make it. Nicholson said they shouldn't be requiring them to do specific work that would be punitive to the private property owner. It's a fine line they are walking when trying to protect individual rights while also taking care of the collective forest. The proposal introduced by the Governor's Task Force they thought was too heavy handed. What she knows from human behavior is people are more apt to change by incentives than by punishment. She thinks the insurance companies are doing better at understanding when a house is easier to defend, but they're on a big learning curve. She thinks agents need to come see the property rather than a blanket policy. They need more education about what kind of recommendations they should be making. Gali asked if it's becoming more of a priority. Yes, she thinks it's changing. Some of the insurance companies are not even going to cover the forest properties. Big insurance companies will probably just carry so much of the properties on the Wildland Urban Interface. Shelly Cobau (El Paso County) asked about the tax credits. She said in small areas will those homeowners still be incentivized because their lot size is too small. Nicholson said no, we would really want those. She also asked if the tax credit would be valid for commercial properties or just residential? She thinks it's just residential but that could change. Casey Cooley (CPW) asked why only five bills a year presented? Also as other bills come up in the legislative session would they have a role to endorse/support? No, not as a group, but they can endorse other bills as individuals. Five was an arbitrary number. Peter Brown (RMTRR) asked how we can help, especially the one on public building, would we write to individual legislators. She said we could write – not an email as they get thousands – a handwritten note is more likely to get read. That's the most passive way. You can also call the senate

sponsors and ask if you can participate in a stakeholder meeting. Then your voice is heard before the session even starts. Senator Matt Jones from Boulder will carry that bill and hold a stakeholder meeting in December or January. Call and ask to participate. You can also testify in committee (probably the ag committee). You can also figure out who your Senator/Representative is and call them. Peter asked how the Roundtable could help provide that stakeholder expertise. Megan Davis (Boulder County) said this is a high priority for them. She thought if we identify what our priorities are, she said they can relay our support. She can testify on our behalf if we come to agreement on bills we can get behind.

PARTNER UPDATES:

Jenny Briggs (USGS) gave an update about USGS.

NATIONAL INDICATORS UPDATE:

Mark Martin (USFS) gave an update on the 5-year ecological indicators report and the annual National Indicators report that were both recently submitted. He gave background on the Omnibus Public Land Management Act of 2009 requiring collaborative projects to submit a 5-year report. The Forest Service (FS) has to provide this document on progress toward meeting the desired conditions. He provided the scale in his presentation; start with 1.5 million acre CFLR project area. 1,085,000 acres are on National Forest system land, 31,600 acres planned for treatment in 10-year period which represents 7.9% of the available 400,000 acres. Over 14,000 acres have been completed. Talked about the desired conditions – target for fire regime restoration 100% change occurs on 7.9% landscape area by 2019 date. He showed how they measured those desired conditions: decreased basal area, increased quadratic mean diameters, increase ratio of ponderosa pine to other conifers, etc (see presentation for details). They scored treatments based on those conditions and showed those results. Showed some aerial imagery of pre- and post-treatment using NAIP imagery. Gives a good look at the effects. Shows the group-clumpy concept. Images are from the Ryan Quinlan project. They also answered desired conditions for fish and wildlife habitat and for watershed conditions. 0% change on watersheds because at the landscape scale it's not enough change to effect watersheds. The last desired conditions is Invasive Species Severity. They're still developing the protocol for measuring that. Early analysis using CSE – Paula Fornwalt (USFS-RMRS) getting that data. Scores indicated the treatments are meeting desired conditions; less than 1%. We're not increasing any occurrence. They also asked us to tell our story. So Mark showed bullet points of our achievements. These include identification of desired conditions, assessment of historic stand conditions, social and economic monitoring, developing an adaptive management process (has already been helpful),

wildlife monitoring. Next steps including to monitor the effects of the treatments, fully implementing monitoring of wildlife and understory plants, evaluate all data, etc. Opened the floor for questions. Joseph Hansen (Jefferson Conservation District) thought it still looked homogenous. Mark thought if you were on the ground it would probably look better. He said the program also breaks it down by groups and clumps and shows there are gaps.

Poll on Whether Desired Conditions Are Being Met: Gali polled the group: 1) Is this the desired condition. Most people said “yellow” or not sure. 2) Are we moving toward desired conditions? Most people said “green” or yes.

Jenny discussed how it was not easy to define desired conditions... they are continuing to define. Kristen Pelz said the numbers can really help. Chuck Dennis (West Range Reclamation) said he’s observed in regards to the Adaptive management aspect, they are seeing an increased difficulty in the prescriptions from their perspective. He sees why. But they are finding it difficult to translate that to our operators.

MASTICATION PANEL:

Gali gave a brief update on the mastication debate that began at the last meeting. Gali introduced Brett Wolk (CSU) who put together a panel of experts on mastication. Brett’s goal is to keep it not personal but the science. He thinks that a lot of the confusion comes back to unclear objectives. Having more clear objectives will help us in better management outcomes. He asked if the Roundtable has a definition of restoration? He said this might be a place we can start. The Society for Ecological Restoration has this definition: “The process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed.” Mastication – big or small – rearranges woody material from standing to surface. But is chipping the same as mastication? He showed a chart on the difference between the two. Today’s goals are to learn the latest science about the ecological implications for mastication. We have a lot of objectives and many tools, and they all have ecological benefits and drawbacks. When is mastication the right tool? That’s what we’ll decide today with our flags. CFRI and some of the people here can summarize what we decide today in summary. What do we know; what’s the current science? Brett introduced the experts, who each gave their presentations. Jill Alexander, Douglas County gave her presentation on how they are using mastication in Douglas County. (Presentation available on website). They typically use bobcat equipment with a masticating head. They have a target basal area. They favor prescriptions where they remove stems in the 8” to 10” dbh , but that’s not always possible. They prefer ladder fuel reduction and aerial fuel reduction. Showed a project they did this year

where they did some thinning from below but their tree spacing was okay. Also continuous gambel oak; did clumping and grouping with larger breaks and openings. Showed the material that they get. Showed another project that the State Forest Service did in a mixed conifer stand. None of the wood was removed. Larger trees than the Douglas county trees; more accumulation of material. Made significant strides in ladder and aerial fuel reduction. Gambel oak re-sprouts quickly though. They try to mow it and treat for weeds. Jenny asked how big the units were. 100 acres, 38 acres, and 9 acres. Travis Griffin (JeffCo Sheriff's Office) asked when they did these. Late July. Depth is not as much as they thought it might be; asked about the chip head on the conifer – yes that was deep. She thought a good 6 inches or so. Joseph also asked why they hydro-axed verses treating it. Jill thought it was the slopes and the material. Mike Battaglia (USFS-RMRS) gave the next presentation. “Mastication as a fuels treatment: Fuel Loads and tree regeneration.” He talked about a project started in 2007 with Chuck Rhodes, Monique Rocca, Paula Fornwalt and Michael G. Ryan. The project was refunded to look at 6-8 year effects. They installed 17 study sites in 3 different ecosystems. They're one of the first groups to study this. He said we should remember mastication treatments goal is mainly to reduce the crown fire hazard. Also they were interested in how much fuel loads were being put on the ground. They also found the depth of the mulch beds were pretty patchy; very heterogeneous. Most of the time ½ - 2 inches in depth. Also they were able to see tree seedlings able to establish in depths up to 3” but they prefer shallower. Showed some images of before and after mastication. Creating openings and decreasing basal areas. Showed a chart on how much crown fuels are reduced. Showed how forest floor after mastication is switched from a needle litter to a 1 – 10 hour pieces of wood. (Charts all available in the presentation on website). Results were not as deep as they expected. The bulk density values indicate more compact fuel beds. Finally talked about the fear or regeneration on mastication. They found that seedlings are good at establishing with a lot of mulch on the ground. The amount of material they are putting on the ground is not detrimental to regeneration. Shello Cobau asked from a stormwater treatment perspective, have they looked at that? No, they haven't looked at that. Chuck Rhodes gave a little background; said on one of his projects they got more water but less sediment from the treated areas. Kristen Pelz (CSU) asked if reducing regeneration is a good thing? Yes, Mike said, it's a good thing. They see lower regeneration levels but it's enough to restock the forest. They think it's reduced. Chuck Rhodes (USFS) gave the next presentation. His “takeaways” are operational mulching does not chase a general decrease in nitrogen, mulch depth is important to soil N application of <3” (see more in presentation). Mulch has physical and biological effects. Effects can be positive and negative. Nitrogen is the primary nutrient that can limit ecosystems but it can also be a negative; it's sensitive to plant uptake. In their research they looked at varying depths. Keeps cooler in the summer and warmer in the cold. Talked about soil moisture; mulch creates a

blanket that keeps more water in the ground. Some concerned that in dryer sites it would make things more dry, but in the Pinyon Juniper sites that didn't seem to happen. Mulch can tie up inorganic soil nitrogen. The material that has been put down fresh doesn't contain much nitrogen so there's more carbon. It's not a great source of nitrogen. Mulch may function as a sink for nitrogen. Pile burning creates a flush of nitrogen; if you add mulch onto those sites you can drive those numbers down. If pile burning is along a stream, you may be concerned about water quality, mulching may be a way to work that out. If you look at landscape level, not much difference in mulched v unmulched sites in Pinyon Juniper and Ponderosa, bigger effects in mixed sites. This project has been going on for a while; going into second phase; looking at lasting effects. Immobilization effect goes away quickly. Response varies among ecosystems. Nothing looks like a long-term sink for nitrogen. Mulch persistence – how long will mulch stick around on the ground? Still working on the data. If they plot up they are seeing a decline – most realistic data shows breaking down between 5-7 years. In deep depths, losing about half of that stuff. Some generalizations – seems like mulching may not be unlike other forest management practices; amounts don't seem to be causing big concerns with soil productivity; expect changes to continue as tree and understory plants develop further. Monique Rocca (CSU) gave a presentation “Mulching Treatments Alter Understory” (see presentation). Asked how mulching impact understory plants? Could provide a barrier, maybe modifying and benefitting the soil, could be canopy opening which you'd expect to benefit understory plants. Also physical soil disturbance. Emphasized that the study included many ecosystems in Colorado. Findings include: at the fine scale deep mulch suppresses understory vegetation; however at operational scales, mulch is not uniformly distributed, no consistently deep; (see presentation). Showed results on a stand scale. 2-4 years after treatment mulched sites tend to have more graminoids. 6-9 years after treatment the effect was even more pronounced. Same type of results with forb cover. In shrub cover, not seeing an impact of the mulch treatment. Species richness was higher in mulched Pinyon Juniper sites. By 6-9 years species richness in Lodgepole/Mixed conifer had increased and not just exotics, but actually native. Showed exotic species there were new occurrences but only increase after 6-9 years in PJ. Some of the exotic plants were increasing in mulched and non-mulched areas. Study didn't find any severe negative consequences of treatments in any ecosystem. In a study she's doing in the Black Hills they're finding more exotics when treating and removal (burning) then treating and chipping. Jenny Briggs (USGS) asked why they combined the Lodgepole and mixed conifer; they think they will start to combine. Brett asked if there were any native and non-native plants that they can attribute to the mulch or is it just the canopy openings? She thought it could enhance Canada thistle. Joseph thought with mulched sites he seems to see the same plants and shrubs. Still researching the species composition. Jenny thought Paula may have good richness data that could be valuable.

Brett gave Chad Hoffman's presentation "Fire Behavior in Masticated Fuels: A Review." Chad couldn't make the meeting. What are the fuel treatment goals with fire: reduce fireline intensity, reduce potential for crown fires, enhance fire suppression and improve resilience to forest fires. They looked at a variety of scale. Opening up of canopy means more wind; mulch and fuel moisture can change because of the reduced canopy. Heat release changes after masticated – moves to surface not crown. Elevated amount of heat generation. Other studies found that deeper mulch burns longer and has higher soil heating. There's lots of different kinds of masticated material, there's intact and there's highly fractured pieces. Fractured materials burns longer with lower peak temperature. They compared lab studies with field studies. These look different, but there have only been a few studies. Rob Addington (CSU-CFRI) asked about the different size pieces. Brett said there is a big variety, but it all ends up on the ground. Jonas Feinstein (NRCS) said we have a pretty good feel for understory plant community and biogenetics, but we still don't know a lot about the fuels. Brett said very few people want to burn in masticated areas.

Panel: Joseph said he disagrees with Jonas because we thought we don't know a lot about the understory either. Brett thought distribution matters as much or more as the depth. Mike thought if we go back out in 15 years what is the understory going to look like? Takes a long time; that story is still unfolding. Chuck thought if there were red flags we would know; no there's not a lot happening; there's nothing huge (like major non-natives) happening. Joseph said that's not the question of but for him it's thinking about all the species where there's no natural disturbance analogous to that but there is going to be understory plant composition will be different than if you logged, etc. Monique said they saw an increase in native species richness; overall a net increase; in Black hills they did thinning, thinning and chipping and nothing and there were no real differences, but there were no effects of treatments and they have 3 years of effects so far. She thought a large loss would matter or a significant increase in invasives would matter to land managers but they are not finding those. Mike said it's not a flat contiguous cover, it's porous. Brett said that's a difference with chipping and mastication, it's mixed in with the soil. Chipping makes just a blanket on top. Jonas brought up that the objective of mastication is to modify fire behavior, so how are we modifying it as it relates to these variables re seedling material, etc? Mike said from a modified fire behavior: your increasing surface fire intensity but reducing crown fire material. A crown fire is harder to suppress than a hot surface fire. Jonas said there are some unintended consequences; like Lower North Fork. Mike said they have research plots there. Lower North Fork was a masticated area but had non-treated areas as well; stumps and logs produce embers. Chad Julian talked about a project with a 300 acre plot – mastication on about 17 acres; removed trees on rest of it. Looked like it used mastication as a great tool where it was needed. On a bigger unit 150 acres, rearranged fuels; At Heil the depths were up to 9-10

inches years ago. Big question he has is he thinks high mortality because you are rearranging fuels; not able to do suppression in that; you need to be very careful about that. Question for Chuck - is there natural duff below it? He said it was added on top of the forest floor. In PJ there is no forest floor, in ponderosa it's very thick. It's going to become part of the forest floor. It's definitely used to suppress tree growth. Travis asked about the emergency preparedness side - he's looking for a recommendation from the panel that they can give to zone 1 and 2 folks as it relates to access, egress, smoky, etc and law enforcement for evacuations. Can we get something on paper to have adequate recommendations? Should they be telling people don't chip on your property? Is that causing more headaches? Brett said there are very few studies out there. Mike said it's hard to get a broadcast burn without mastication, then Lower North Fork shut it down. This topic is being researched about burning and chipping and mastication. We don't have the fuel models to predict fire behavior. Research happening in Missoula and California. Lower North Fork they burned in the previous year it was hotter than expected but it didn't get away from them. The successes we have with prescribed burns never get the attention. Glenn Casamassa (USFS) said from the standpoint of managing landscapes - mastication does cost more than piling and burning, but on the flip side burning is more difficult and more variable you, have to work around the smoke etc. You start to look at the number of times you touch an area. Minimizing cost is a big factor. It's okay socially - maybe ecologically we don't like to see what's happening - rearranging fuels is acceptable. Rather than pile and burn it. Cost is a big thing from their perspective. Sometimes more acceptable to chip and mulch. Chuck Dennis (West Range Reclamation) said he'd like to see not necessarily statements but for the Roundtable to develop "best management practices for mastication." That would be useful. Brett said ecologically the effects aren't detrimental. Jonas said soil burn severities are typically higher where surface loads are higher. Andrew Perri (Denver Mountain Parks) thought it depends on what the surface fuels are. Jenny and others asked when do you make those risk tradeoffs. Joseph thought that's why we're having this conversation. Chris Wennogle (SRFSN) said with the Heil Ranch case, poses a big problem for firefights near the containment line. Also when a tree torches, it throws embers out and then the tree's done, but the mastication piles have the potential of a continuous flow; he said there's a lot of challenges for firefighters. Probably not like a thick forest, but there are big challenges. Brett thought if there is a fuel break you have - recommendation - reduce surface fuels near containment lines. Andrew said what about a wildfire, we don't know where that containment line is going to be; it's going to be site specific. Travis said they don't have any controls for the ecological research. Mike said there's the WUI issue and the landscape level issue. If we're going to do BMPs they will be much different. If you live in the woods, we should be focusing on what our houses are made of: Zone 1 no wood - no mastication. Travis would echo what Chris said about tactics. Our recommendations need

more a removal or a pile and burn; the smoke, exposure – what’s our net gain for doing mastication/chip? Gali brought up we have a lot to say about mastication in our vision book. There is a Recommendations Refresh team being led by Paige Lewis (TNC). We need to get this right; we have something in print – asking Rob if Paige could take this into the scope of their team to work with experts and get what we have right. Rob asked what the outlets are for the information. Chuck said we have one paper out in Fire Management Today; a couple in Forest Ecology and Management; another coming out soon; second round on ecological effects on soil/nitrogen. Chad Hoffman would be best to talk to on fire behavior. Glenn clarified what Gali and Chuck Dennis said we could make some statements without additional data or analysis being provided. Andrew said the state forest service put out some mastication BMPs, maybe we could adopt what’s already out there. Glenn said we do a rapid assessment of what’s already out there. Erin Connelly (USFS) said from a homeowner’s perspective what would she look for – there could be a benefit of having the different things available pros and cons of each – a matrix – how do we translate this science to the general public. Gali suggested we get a webinar 2-3 hours, 10 people or so come up with something. Brett thought we have these objectives already and we have these tools, so a homeowner can look at these tools. He thought we could look at the state forest recommendations. What are the tradeoffs? When is it a good choice? Chuck Dennis said he would take a stab at taking the materials and look at it through the state forest
Try to have something before February 1

Jenny suggested if the group could draw some general conclusions: there are no clear negative effects and hopefully that’s useful for homeowners or agencies. Seems less critical to think about the ecological effects than fire hazard effects. Chuck said they looked at a lot of sites and most don’t . This is valuable. They are general findings. Don Kennedy (Denver Water) said if you have 3” masticated over a 9 year period, what would you have left. Chuck said it depends on where you are. In a PJ probably all. In ponderosa pine, you’re down about 25-30%. Jenny wondered if they could implement experimental patches on any prescribed burns?? Andrew said Mt Evans burned 6 years ago so you could go look now. There’s also Heil.

WOOD USE TEAM:

Mike Eckhoff (USFS/CSFS) presented on the new Colorado Wood Energy team. Gali gave some background. Colorado recently won a proposal for Colorado wood utilization. Tim Reader is the director of that. He is asking the Roundtable; rather than having just a Roundtable group could we become a one stop shop – partner with groups like Bark Beetle group. Monthly conference calls to start and get the ball rolling. Folks from Roundtable be part of “wood energy/wood

everything” team. They’ve made several site visits around the state. Erin said it seems like a good idea – she’s wondering about processes about how we come to a conclusion. This group is already funded. The group voted unanimously to have Roundtable members on this new group. Chuck Dennis will be part of this group as well as Andrew.

HOUSEKEEPING:

Erin brought up the RFP will be going out got Roundtable coordination/facilitation; the contract will be going out not only to members but also to member organizations. If Executive Team members have comments on that RFP they should get with Paige. Megan added to the calendar December 12 is the next Community Protection Team meeting at the USFS-RO. Next Quarterly meeting will be February 20 in Colorado Springs. Gali gave a budget update. Costs so far \$25,000 annualized \$30,000. In reference to the RFP we submitted notice of raising rates. At new rates, this work would cost \$40,000 at new rates. No fundraising updates from Carol. Also we have seat that is expiring – Southern County Commissioner seat. If no one steps up and Sallie Clark (El Paso County) is okay with it, she will continue this post.

The meeting adjourned around 3:30 p.m.