Draft Summary Notes: Tuesday May 7, 2019 11:00am – 3:15pm

Location: Pine Room Restaurant, Burns, OR

**Attendees:** K.D. Burman, Russel Johnston, Melissa Ward, Lori Bailey, Pam Hardy, Calla Hagle, Carter Crouch, George Heinz, Rick Minster, Glen Johnston, Paul Weil, Shane Theall, Jim Campbell, Mark Owens, Roy Walker, Frances M. Preston, Bob Hassmiller, Ben Cate, Dave Hannibal, Tom Segal, Jon Reponen, Steve Grasty, Tony Svejcar, Steve Rickman, Dustin Johnson, Dave Traylor, Billie Jo George, Greta Smith, Jack Southworth

**Action Items:**

* Resend common ground document out to the group
* Contact USFS staff about content development for Idlewild prescribed fire trail signage.

**Introductions**

Meeting began with the usual round of introductions & though provoking question from facilitator Jack Southworth

**Idlewild Trail update:** High Desert Partnership was successful in applying for the National Environmental Education Foundation grant. Small grant of roughly $4,000 to cover costs of an educational event (held at Idlewild campground on May 3rd with Tu-Wa-Kii Nobi and the Kid’s Club) and interpretive signage. Ben Cate showed a brief slideshow of the youth event held on May 3rd. Need a few USFS folks to help develop the content for the signs.

**Presentation about using vegetation management on the Malheur National Forest to increase surface water yields to the Harney Basin** - *Dustin Johnson and Tony Svejcar (w/ added points from Bob Hassmiller - USFS Hydrologist)*

This idea has been developed by the Vegetation Management working group as part of the Community Based Water Planning (CBWP) Collaborative effort. (Effort stemming from Oregon Water Resources Dept. identification of water rights in the Harney Basin being overallocated)

Mark Owens (County Commissioner) provided background on what the water collaborative is, how it was formed, etc.

*Notes from the presentation:*

The Veg Management work group is interested in the role that vegetation management can play in snow distribution & drifting. This plays into evapotranspiration and potentially water availability.

The models (at the Watershed Management Research division of ARS in Boise) are focused on snow distribution, primarily drifting, because that influences late season flows – if snow is unevenly distributed and there are larger drifts, it will melt unevenly and last later into the season rather than if it all melts off at once.

Showed pictures of historical forest structure (more open) – you’re more likely to have drifting in an open forest rather than a doghair thick stand.

Trees absorb sunlight (called black bodies) – when solar radiation hits snow (white) it is reflected & isn’t absorbed. When it hits trees, it is absorbed & heats them up. This results in areas with more trees warming faster from solar radiation and melting snow faster.

There was discussion of a Climate Engine site (USGS): that explains (or is?) the model

Q: How do you actually measure the evapotranspiration of the forest?

A: They are measured by these really expensive towers (Eddy flux towers) that have sensors in and above the canopy that look at the change of water balance in the canopy vs. above the canopy.

With the Eddy flux towers – processing the data is actually the biggest cost.

Q: How about juniper?

A: We’ll discuss it later in the presentation.

You can go back in time and look at specific temporal scales, but it doesn’t have very fine geographic scale (1 km pixels)

Showed slide of pre and post fire model outputs (Egley Fire on ECRD)

Used a vegetation classification tool to look at the density of trees in 2 different areas (pre and post fire), one of which was burned in the Egley fire.

It was obvious that there was a reduction in veg cover post fire. They then looked at ET in those two different areas (burned vs. unburned).

Miller Canyon restoration: talking about juniper

* Juniper reduction project followed up with jackpot burning.
* Similar decreases in ET with juniper removal

Q: Have there been any studies that correlate the evapotranspiration (reduction of trees) to increase in surface water and/or groundwater??

A: Yes, for surface water – groundwater is extremely difficult to quantify (once it goes underground, it’s very difficult to track).

They have generally seen a 20-25% increase in streamflow (surface water) after removal of vegetation

Q: What is the closest study to our location?

A: Umatilla – USFS has this study that happened in the 70’s.

Paired watershed approach (project) in Umatilla that demonstrated this.

Showed a graph of juniper site vs. sagebrush site and talked about the reduction in ET in sagebrush vs. tree cover system.

Q: Is this going to turn into a water availability as well?

A: Yes, they are going to go in and treat 4 watersheds. Not treat 4 and compare the water availability of each.

We investigated where we should work if there is a limited number of acres that we can treat? Highest priority areas.

* Research shows that increasing water yields through tree reduction is only available in areas that receive 17.7" of precipitation annually (this may be a limited number of areas in Harney County)

*Additional Comments:*

I think that this is great stuff, something to consider is that certain types of forest have different amount of runoff and certain types of forest will be able to retain more water. The geology also plays a factor, where are the fissures, etc.

The question we’re trying to answer is can we make a difference in the water budget through vegetation management? And can the USFS start to consider water availability and the water budget when planning/implementing projects.

**James Johnston Presentation - the tools we can use to achieve our desired forest**

The goal of HCRC is to: Restore resilient forests

* + Meaning – restore forests historical range of variability (HRV), resiliency to fire & insects, economic gains, etc. (pulled from our common ground doc)

Effects of various types of disturbance (thinning, fire, insects, etc.)

*Thinning*: morality (killing trees & taking to mill), mortality of residual trees likely decreases with less competition, surface fuel loading likely increases with mechanical thinning (more fine fuels on the ground post treatment), not a lot of invasive species increase with thinning

Showed Data from Marshall Devine (MD) thinning project: graph showing fine surface fuel in tons per acre in MD unit. There is a decline in surface fuel loading over time (but a spike initially after treatment). This is likely do to more open stands, more solar radiation & more decomposition. We would expect to see a similar decline in fine surface fuel loads over time in other areas.

*High Severity wildfire*: increase in mortality, decrease fuel loads immediately, but there will eventually be an increase in heavy fuels when those snags start falling down. Likely an increase in invasive species such as cheatgrass, ventenata, medusa head.

*Low & moderate severity fire*: Similar to thinning, it kills some trees, but can make the residual trees more tolerant & stronger. Have not detected invasive species responses to this type of fire, but there is some potential for that to occur with any type of fire (disturbance).

*Thinning & Burning* – reduces surface fuel but doesn’t clear out fuel like a high severity fire. Haven’t detected increase in invasives with this, but the opportunity is there (with any disturbance). The theory is that in hot dry sites fire will increase cheat grass abundance & in more moist mesic sites it can actually decrease cheat grass by providing natives with more light.

*Insects* – Both tree mortality & fuel loads increase.

Discussion around Roads & Roadless Areas

Showed a map of different fires compared in roadless vs. roaded area on USFS land. About 1/4 of the area in the Blue Mtns. is roadless, but account for half of the acres in fire.

We’re talking about two things when saying roadless: 1. Wilderness area and 2. 2001 inventoried roadless areas (as part of the 2001 Act).

Comment: Most of our roadless areas are generally the highest elevation & highest precipitation areas and therefore can grow more biomass.

Predication: We will continue to see large fire events in roadless areas. & They are less inclined to stick crews in roadless areas than they have been, etc.

In these areas that have already burned, there are hazardous snag fuels, and that adds to the difficulty for suppression (personnel safety), which increases the likelihood they will burn again.

Less than 20% of the area is managed as wilderness or inventoried roadless, but accounts for 40% of the fire on Emigrant Creek Ranger District.

*Discussion around Forest Travel Management Plan:*

There was conversation around the 2005 USFS Travel Management Rule that included:

* Description of the rule that states that areas (off road/cross country travel) are closed unless specifically designated as open
* Malheur National Forest has NOT implemented the 2005 Travel Management Rule, although they (as an agency) are required to do so.

**CFLRP program**

Q: With a 15% treatment over the past 8 years that is roughly a 50-year return interval, is that going to be enough to get the desired outcome we are looking for across the forest?

A: No, it’s not, but the trend is encouraging, we’re doing more each year. I can see a time in the future where we treat 50K acres in a single project. A treatment won’t last 50 years, but we’re making progress to treat more faster.

We are starting to measure the individual trees physiological responses to fires/treatments, etc.

Q: You are saying that we have more high severity fires in roadless areas, what is your solution?

A: James’ solution: heavily treat areas surrounding the roadless areas and then prescribed burn the roadless areas under favorable weather conditions. The area will burn one way or another, it can either be managed in some way by us, or it will happen on its own (mother nature) likely in unfavorable conditions (hottest driest time of the year, resulting in catastrophic high severity fires)

CFLRP is asked to do a 10-year review:
1. Fish & wildlife

2. hydrology

3. invasive species

4. ?

Q: Is OSU working with the research branch of the agency?

A: Not really, the research arm of the USFS is a hollow shell of its former self. Not many resources put into that

Q: How do you move this knowledge into the agency so that this work gets moved to on the groundwork.

A: Simple information & knowledge sharing & a robust adaptive framework where we change our management based on information learned (monitoring)

This happens in NEPA documents: luckily ECRD is fast at producing NEPA documents and so we’re quicker to incorporate the science into USFS plans here than other areas. There is always a lag in the science and the implementation into on-the-ground work.

Comments about the fuel increase:

Q: What is the definition of an inventoried roadless area? What is the size area?

A: In 2001 the Clinton Administration took action to prohibit road building and logging activities in those areas. The area is a 5000 acre minimum.

Q: Does the lack of grazing and logging factor into why the roadless areas burn?

A: potentially, but I don’t think so in a significant way, it’s more a function of less options/resources/access for suppression activities.

Jack: Recap Q: Are we doing enough of the right things, in the right places, fast enough?

A: We’re doing the right things, mostly in the right places, and we’re on the right trajectory. We’re doing a better job over time (recently), but we’re not quite there yet (to understand) how landscapes respond to treatments.

James Johnston: The data that we have is imperfect, but it shows us that we know enough to know we want more low/moderate severity fire, more prescribed fire, more removal of small diameter trees, etc…

The risk of doing something and it going south is less than the risk of doing nothing… because we know that it will burn eventually if we do nothing (under undesirable conditions), and we have control over how & when it burns.

Q: Are you saying the treatment in Inventoried Roadless Areas (IRA’s) wouldn’t reduce the risk of fires?

A: It’s kind of a moot point, because we don’t do treatments in IRA’s. Logging/tree cutting is essentially prohibited in IRA’s. Lots of reasons why it doesn’t work out: logging doesn’t pencil out in those areas.

Q1: Are our treatments helping with suppression efforts in the roaded areas?

A1: Yes, its easier to put out a fire in a treated area. But roaded areas are generally less steep, can drive an engine to most places, etc.

Q2: What is currently known about the effectiveness of different types of treatments? I assume that all treatments are not equal

A2: True, some are better than others at moderating fire effects. There is a pretty large body of scientific literature on the effectiveness of fuel reduction treatments, but you don’t reduce a lot of the fire effects without putting prescribed fire on the landscape post mechanical treatment.

Q: Is there some kind of regulating that will occur naturally over time when an area burns multiple times? Will it keep burning, or stop burning eventually?

A: It seems like there are 2 feedback loops with this: 1. The fuel that comes back after a fire sets it up for subsequent fires and 2. The suppression is much more difficult due to snags & etc…

Additional Comments:

* It’s important to discuss solutions that are feasible when generating ideas: must incorporate some of the administrative hurdles that the USFS must comply with.
* It would be interesting to do a cost/benefit evaluation of suppression efforts for the large fires vs. prescribed fire & restoration/prevention methods.

**WRAP UP**

Rattlesnake EA will be out early June

Q: (Jack S. to Bob H.) Are you optimistic that we can have an impact on water yield in the southern Malheur via vegetation management.

A: Yes, very hopeful. I think that there is a lot of hope for understanding the coming USGS groundwater study.