

Hood River Stewardship Collaborative Meeting

October 17, 2016

Waucoma Field Trip Notes

Field Trip lead by Dr. James Johnson (OSU Fire & Landscape Ecologist)

The following notes are intended to capture basic discussion and information presented during the field trip in order to inform future Stew Crew discussions.

Present for all or part of the field trip: Jon Paul Anderson (High Cascade, Inc.), Chad Atwood (USFS), Tyson Bestone-Riggs (OR Dept. of Forestry), Cathy Flick (retired USFS), Casey Gatz (USFS), Scott Holland (Bark), James Johnston (OSU), Hugh McMahan (HRVRC), Whitney Olsker (USFS), Russ Plaeger (Bark), Rick Ragan (HR Soil & Water Conservation District), Megan Saunders (HRWG), Cindy Thieman (HRWG), Janeen Tervo (USFS), Andy Tierney (USFS)

Notes: Catherine Flick

Waucoma Headwater Drainages:

- Make size of LWD proportional to size of watershed body
- Ponderosa Pine (PIPO) occurs in drier, shallower soils & more exposed ridgelines

Current Landscape Observation: Even-aged (~≤60 years) PSME (Douglas-fir) = one vegetation layer (*overstory*) with forest structure (*horizontally & vertically*) heterogeneity and tree species diversity LOW.

- A resilient forest landscape is one that can weather climate change and its effects from drought, insects, and fire.
- What is missing from the current Waucoma landscape? *It is now a dense, younger, closed-canopy forest.* Move towards integrating areas of ---
 - Older, more open forest, *which include*
 - More diverse tree species, age classes, tree structures and vegetation layers (herbaceous, sapling/shrub, mid tree canopy, overstory tree canopy) across the landscape.
- These aforementioned forest landscape elements are proportional to increased future management options.
- In other words, manage insect and fire effects so they have variable effects on the forest landscape's future... so that our eggs are not all in one basket.
- Hard, contrast edges create disturbance vectors. Contagious disturbance is defined.
- Break-up disturbance vectors by "feathering" (softening) forest edges between current large openings and future thinning stands.
- Avoid a static, deterministic view (*business as usual*) of the landscape, which does not serve the Pacific NW and west well due to climate changes. Think about how to manage future changes, including the accelerating local human population.
- We benefit in the Pacific NW from our proximity to the Pacific Ocean, which significantly modulates (tempers) the climate in our region.
- Future prediction is that the Mt. Hood NF will be managed for its water resource. There will be stronger demands from the southwest U.S. for water resources in the future.

Current Stand-level Observation: Diverse mix of regenerating conifer saplings seen in understory (*more occur in openings*) of commercial-thinning stand ?6-10 years post-harvest?: PSME (Douglas-fir);

ABPR (Noble Fir); THPL (Western Red Cedar); PIMO (Western White Pine); TSHE (Western Hemlock); PICO (Lodgepole Pine); PIEN (Englemann Spruce).

- Decaid Model is used as index for Snag Recruitment (*used to determine the retention of live trees, which will eventually be converted to snags*) in post-treatment forest stands (*developed in part by Kim Mellen, Forest Service Wildlife Ecologist*): Johnson is a critic of this model because he says it vastly *over-estimates* historic snag levels.

FOR Future Disturbance Regimes and Forest “Resiliency” (*if resiliency is a forest-landscape objective*):

- Resiliency means that when ubiquitous ecological events (*fire & insects*) occur across the landscape, they will strike in smaller, diverse mosaics rather than in uniform, larger landscape catastrophes (*as we are experiencing in recent years*) based on forest landscape characteristics: species diversity, tree structure diversity, age diversity and vegetation layers.
- If we want LARGE stumps and LARGE snags, then we must grow LARGE LIVE trees with structure, which means we must select our live tree at this current age, thin heavily around it in order to make the selected live tree OPEN GROWN. Put simply, growing a STRUCTURALLY OLD TREE means cutting a lot of young trees.
- Within every forest stand selected for treatment, observe the tree species composition. Provide a diverse portfolio of tree species into the future because each tree species responds differently to ecological events, in order to weather the peaks and valleys of climate change events (*super rain, drought, fire & insects*).
 - Put simply, there is enormous species diversity within Waucoma & each of these tree species will respond differently to fire, insects and drought. Tree species diversity will make for a more resilient forest in the future.
 - *A comparable example that we may relate to is building a personal financial portfolio over the long haul where we select stocks & bonds & etc. from USA & global economies, which can weather the peaks and valleys of the marketplace and meet a particular risk level that we comfortably accept based on our age, risk tolerance, and future, personal goals for \$\$\$.*

General Ideas Shared:

- All dead trees come from live trees.
- More dead trees mean leaving more live trees, but not all snags are created equally.
- Old trees are the scaffolding of the “resiliency” objective. *Timber’s cull trees are wildlife’s bounty. We saw one excellent example near the road.*
- Don’t worry about the “small” snags (*as we saw today*) – many will come into existence within these 2nd growth, even-aged forests. *We saw this example within a particular stand we visited with some post-harvest blowdown too (as Jon Paul previously shared with us: wait before immediately creating snags & CWD). We witness a small-diameter PSME’s root ball moving in super-saturated soil & windy conditions today.*
- Larger snags within specific tree species persist longer: PSME & LAOC vs. *true firs (Abies)*, *not as long.* **HOW about ?PIPO? large-snag longevity in comparison to PSME & LAOC.**
- Surface fuels REALLY carry fires.
- Masticating defined vs. chipping trees. Masticating means chopping individual trees into smaller tree chunks, but not chipping them.

Whitney Olsker, USFS Silviculturist, shared:

- Build gaps off of PSME (Douglas-fir) root-rot pockets.
- Stand Evaluations: Forest Service records pre-harvest snag levels.
- Snags adjacent to roads are high risk due to fire, safety & maintenance (*close snags strike and damage roads*).
- Two objectives for Waucoma: Forest Service project action and Archaeology huckleberry fields in Pacific silver-fir/big-leaf huckleberry (ABAM/VAME) plant association.

Janeen Tervo, USFS District Ranger, shared: Remember that the Matrix land allocation emphasizes timber outputs.

Tyson Bestone-Riggs, ODF, recommended: Don't sweat the "details." Focus on the big picture objectives for Forest Service recommendations. The Stew Crew shouldn't feel the need to propose specific silvicultural treatments, stream restoration techniques, etc. (although we can if we know them). If we provide a broad goal of increasing species diversity, for instance, we can critique the eventual USFS prescription without having to try to write one ourselves. Obviously, the more specific we can be, the better, and given the experience of this group, we may be offering detailed suggestions to the FS at some point.

Research Paper Discussion List:

- Hessburg, Paul F. and Derek J. Churchill, Andrew J. Larson, Ryan D. Haugo, Carol Miller, Thomas A. Spies, Malcolm P. North, Nicholas A. Povak, R. Travis Belote, Peter H. Singleton, William L. Gaines, Robert E. Keane, Gregory H. Aplet, Scott L. Stephens, Penelope Morgan, Peter A. Bisson, Bruce E. Rieman, R. Brion Salter, Gordon H. Reeves. 2015. *Landscape Ecology. Restoring fire-prone Inland Pacific landscapes: seven core principles*. Volume 30: 1805–1835.
- Franklin, Jerry F. and Norman Johnson. 2012. *Journal of Forestry. A restoration framework for federal forests in the Pacific Northwest*. 11 pages. Volume 110 (8): 429–439.