



Observatory Mesa Harvesting Operations *Lessons* Learned Using a DxD Cutter Select Method

Nov 2015

Background: In summer/fall of 2015, 475 acres of Section 18, part of the *Observatory Mesa Natural Area* owned by the City of Flagstaff, were mechanically harvested as part of the Flagstaff Watershed Protection Project (FWPP). Operations were implemented utilizing a slightly prescriptive “Designation by Description” (DxD) approach.



This operation attempted to achieve “restoration style” Desired Future Conditions (DFC’s) designed to increase variability in forest structure and reduce the risk and potential impacts of severe wildfire. More specifically, this treatment was intended to create variable sized openings and clumps of trees of varying densities (see *Observatory Mesa Harvesting Guide* for a more detailed description).

The DxD approach has both potential benefits as well as possible downsides:

➤ Potential Benefits:

- Decreased time and cost to prepare harvest unit (paint, staff time to mark, etc). leading to a speedier “available” date to begin operations;
- No residual painted trees upon project completion (if one were to mark “leave” trees);
- On-the ground management flexibility to adaptively manage (“fine tune”) cutting operations (within contractually defined Scope of Work).

➤ Potential Disadvantages:

- Increased on-the-ground management/oversight during orientation, operator training, and actual implementation (dedicated staff time);
- Potential for misunderstanding of intent and guidelines and/or errors by operator;
- Public misperception/mistrust of a “cutter select” approach (high-grading).

During implementation of treatments on Observatory Mesa several lessons were learned that may serve to increase the likelihood of successful implementation on other projects utilizing a similar DxD approach. The following list contains some of these observations.



- Select an operator experienced in the cutter-select DxD approach.
- Develop and provide the operator with a simple yet prescriptive Cutting Guide in as simple terms as possible. (Note – not necessarily as easy as it may sound.)
- Provide a thorough pre-operational briefing and harvest unit walk-through describing the harvest unit, explaining details of the cutting guide, performance standards, and expectations: answering any questions and addressing any issues that arise.
- Provide relevant reference photos (pre/post treatment aerial imagery and photo points) for projects treated following similar prescriptions in the area that the operator can visit.
- Relate similarities/differences to other like projects the operator may be familiar (especially those the operator may have implemented).
- Designate a single field operations point of contact to disseminate pertinent information to all workers on site.
- Mark trees in a small area (Demo mark) according to the prescription. This area should be located in an area representative of the overall harvest unit and where it makes operational sense to harvest first.
- Once the Demo mark area is harvested, identify one-or-more small (5-10 acres) unmarked harvest blocks for the operator to test-fly his understanding and gain a sense of comfort in what is expected. Only when that is satisfactorily completed, should the operator be given the green-light to proceed.

- Create and provide a production rate schedule for creation of designated openings/groups/deferrals according to the prescription and implemented within parameters of the Cutting Guide. For example, on this particular operation, we developed the following:

475 acres total: 35.5% openings = app 168 acres of openings

<u>%</u>	<u>Size (acres)</u>	<u>Total # to create</u>
1/3	5	8
1/3	2.5	22
1/3	1	55

<u>Cutting Rate</u>	<u>10 ac/day</u>	<u>15 ac/day</u>	<u>20 ac/day</u>
Days to Cut	47.5 days	31.6 days	23.75 days
1 ac openings	1 per day	2 per day	2 per day
2.5 ac openings	1 every 2 days	1 every 1.5 days	1 per day
5 ac openings	1 every 5 days	1 every 4.5 days	1 every 3.5 days

- Designate approximate location of openings/groups/deferrals for the operator as needed. Mark or flag a single point indicating the general location and then allow the operator to select trees to achieve the desired result with adherence to the Cutting Guide parameters.
- Provide the feller-buncher operator with a prism (10BAF recommended), conduct a simple training if necessary, and encourage its use.
- Encourage the feller-buncher operator to conduct a daily morning walk through of acres to be cut that day (and more) to help guide daily cutting operations (ID areas for openings, clumps/groups, deferrals and other site considerations): accompany the operator as often as necessary.
- Suggest the operator delineate groups by first cutting a “donut” of openings and interspaces around it before then thinning select trees to delineate smaller clumps within the group.
- As necessary, flag or otherwise mark deferrals, openings, groups or specific trees of extra significance or importance that the operator may not be familiar with or recognize.
- Don’t step-on operators’ pride of work. Be thoughtful of the quantity and quality of input to the operator.
- Provide constructive input for any necessary corrective action/alterations to help move forward in a positive manner. At the same time, allow the operator, particularly as they gain proficiency in the approach, to “train” the sale administrator. Adaptive Management in action – both directions.

- Provide positive feedback to operators when appropriate. Don't only comment on the negative.
- Use of GPS enabled smart phone apps can allow for ease of information transfer (points for specific tasks, openings, deferrals etc.) between the on-site sale administrator and the operator.
- Relate desired structure to hunting considerations where appropriate (AKA wildlife habitat). Many operators likely understand how forest structure influences the presence and behavior of wildlife.
- Pay for completed work promptly. Late or unpaid bills do not foster a trusting and positive relationship, the basis for this type of approach.



BEFORE
June 2015



AFTER
Sept 2015