

SITE PREPARATION PRACTICES

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ABSTRACT

Site preparation practices on the Eastside are not much different than anywhere else in western forestry. What is critical about site preparation on the Eastside is the importance of obtaining total competition control and anticipating what weed species may invade after initial treatment. This paper deals with considerations to be made in matching the site preparation method to site conditions and looking for plants that will invade after initial treatment.

SITE PREPARATION PRACTICES

The objective of site preparation for reforestation is to control competing vegetation and to make the planting site accessible. Because of the characteristically dry climate on the Eastside, competition control is a serious consideration. Even grass must be treated as a serious competitor. Other site preparation objectives are to reduce fuel loading and habitat modification to aid in the control of seedling damaging animals and insects.

EVALUATION IS THE KEY!

When selecting a site preparation method or equipment to use on a given site, first consider such on-site factors as topography, soil conditions, and vegetation to be controlled. Also, give consideration to what competing plant species may invade after the site is treated.

Flat to moderate topography can be operated by most any kind of wheel or track laying tractor. However, as topography becomes steeper, the operation of tractors becomes more expensive and safety hazards increase.

Soil conditions such as rock content size and erosion hazard also need to be evaluated when selecting site preparation methods. A

good deal of surface rock, for instance, will eliminate the use of mowers or choppers. Mechanical treatments on soils that are prone to erosion due to slope factors may have to be eliminated in favor of a brown and burn treatment.

Competing vegetation, both presently on the site and anticipated, is the most important factor in determining what site preparation method to use.

The following questions need to be addressed: Are sprouting species present on the site? If sprouters are present, if removal is by brush rake, can the root systems be removed? If sprouters are present, and a mechanical mower or chopper is used, are you able to follow up with the needed chemical treatments? Once the overstory brush has been removed, will grasses and/or herbaceous weeds invade the site? In the case of brown and burn treatments, is the seed of the major species to be controlled stratified by fire?

REAL LIFE EXAMPLES!

To illustrate these points, the following examples are used:

Example #1-A dense brush field resulting from a wildfire 30 years earlier.

Topography:	Rolling to moderate - slopes less than 20%.
Soil Conditions:	Coarse sandy-loam; except for a few out-croppings, rocks are not a problem.
Species Composition:	Mostly greenleaf manzanita (<u>Arctostaphylos patula</u>) with some snowbrush (<u>Ceanothus velutinus</u>) and brush chinquapin (<u>Castanopsis chrysophylla</u>). All are sprouters. Total crown cover - 90%.
Anticipated Invaders:	Annual grass and herbaceous weeds two growing seasons after site preparation.

Method Chosen: Brush rake, cleared early in the summer, using circular piles which are to be burned that fall. Planting to follow the next spring.

Discussion

The brush rake and pile method was chosen because the major brush species present could be effectively removed with a brush rake. With brush pile burning to follow, this method provides a quick, two entry site preparation. Circular piles were chosen over windrows to allow for more complete pile combustion and to reduce rodent habitat. Partially burned windrows provide cover for seedling damaging rodents. Circular piles, on the other hand, break up these continuous rodent runs otherwise afforded by windrows.

On slopes where erosion could be a problem, care was taken to avoid rake and "cat" tracks at right angles to the contour of the slope. All such tracks were made along the contour giving much the same effect as contour plowing, thereby reducing the risk of rill erosion.

Example #2-A sparse brush field with many openings that are covered with annual grasses. This unstocked area resulted from a wildfire nearly 50 years ago.

Topography: Flat to rolling - slopes less than 5%.

Soil Conditions: Coarse sandy-loam; no rocks.

Species Compositions: Brush species: (total brush density 40% crown cover) bitterbrush (Purshia tridentata) a non-sprouter, with sparse populations of rabbitbrush (Chrysothamnus spp.) and sage (Artemisia spp.) both sprouters. Grasses: numerous annual grass species (approx. 60% ground cover).

Anticipated Invaders: Annual grasses in the next growing season.

Method Chosen: Disking with a Rome Rangeland disk. Power source was a D-9 "cat" with a "V" blade to clear brush and make a path for the disk. After disking and before winter sets in, follow up with a pre-emergent, grass control herbicide.

Discussion

This site is very well suited to machine planting. Disking will prepare the site for machine planting by breaking up underground obstacles while leaving a uniformly prepared soil surface. The combination of the "V" blade and disk will control bitterbrush. The sage and rabbitbrush will most likely resprout but their population is not high enough to be of concern.

The biggest post site preparation concern is annual grass since it is currently covering 60% of the site and certain to have a great deal of seed already in the ground. These annual grasses can be controlled with an application of atrazine during the fall, preceding planting. This herbicide application will provide pre-emergent grass control, thereby preventing a grass problem before it gets started.

CONCLUSION

The examples just cited are a demonstration of matching the machinery and methods to the site. Matching site preparation techniques to a given site is certainly nothing new. What is important to remember about site preparation on the Eastside is that Eastside conditions do not allow a margin for error. In most cases moisture competition will be your limiting factor. Competing vegetation (including grass) must be effectively controlled. This should begin with the forester's ability to recognize and understand the growing requirements of not only conifer species, but weed species to be encountered as well.