Eastern redcedar Forest Management and Silvicultural Prescription Guidelines
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Nebraska Forest Management Guidelines

Nebraska’s Forest Management Guidelines are based on each species’ ecological adaptations to natural disturbance and stand development processes; most commonly described as ecological forestry. Ecological Forestry uses traditional forest management practices to emulate, to the extent possible, natural forest development processes; including the role of natural disturbances (fire, ungulates, etc...) in the initiation, development, and maintenance of stands and landscapes. There are seven generally accepted elements of ecological forestry that are consistent to all definitions of ecological forestry (and perhaps all good forest management practices):

1) Forests have intrinsic value,
2) Humans need to extract products from the forest,
3) Silviculture should follow natural processes, to the extent possible,
4) Foresters should plan for the long term,
5) Forestry is implemented at the stand scale but must be in balance with the larger ecosystem,
6) The social and economic context matters, and
7) Science and place-based experience should guide silviculture.

By emulating natural processes Ecological Forestry should maintain (or even restore) natural forest processes and structures (Evans, 2006)

Despite science's best efforts, forest management remains an art in its application, informed by science. Therefore, it is expected that Nebraska Forest Service Foresters will use their experience and imagination to apply these guidelines to meet each landowner’s individual goals in the context and the limitations of the land.

Overview

Eastern redcedar (Juniperus virginiana) is a medium-sized, evergreen, coniferous tree that is native throughout the eastern half of North America. The wide natural distribution of eastern redcedar demonstrates its adaptability and its ability to grow on a wide-range of soils and climatic conditions.

Eastern redcedar grows on ridgetops, slopes, and flat land and is most often found on dry, exposed sites.

Eastern redcedar does not grow well on alkaline soils (pH of 7.8 and above) and is, in fact, among the least alkali-tolerant of drought-hardy trees and shrubs.

Because it is adapted to such a broad range of soils and climate it readily colonizes disturbed sites and will aggressively spread into areas adjacent to plantings.
Eastern redcedar has two distinct growth forms. The most common form is narrowly conical with its branches growing up and out at a sharp angle to form a compact tree. The second form is more broadly conical with branches that spread widely. Both forms can be found throughout eastern redcedar’s range.

Although generally not considered to be an important commercial species, its wood is highly valued for posts, paneling and specialty furniture because of its beauty, durability, and workability. It is often used to make or line chests and drawers (as a moth repellent) and for fence posts (because it is rot resistant).

Eastern redcedar grows slowly, on most sites and long rotations are required to produce conventional sawlogs. However, because the wood is most often used for posts and paneling, there is wide latitude in acceptable defects, shortening of rotations and intermediate harvesting of merchantable wood are possible; approximately 20 to 30 years are required for posts and 40 to 60 years for sawtimber.

Fire suppression has resulted in the spread of eastern redcedar into grasslands and open woodlands throughout its range. In areas that once burned periodically, eastern redcedar was protected from fire on dry or rocky sites lacking sufficient herbaceous fuel to carry fire. As fire frequency decreased, eastern redcedar spread out into adjacent and apparently stable plant communities. Large trees and dense stands shade out and suppress other vegetation and, in as little as 30 years after a fire, a treeless pasture can be converted to a closed canopy eastern redcedar forest.

Uses

Erosion control:
Eastern redcedar is one of the best trees for protecting soils from wind erosion and reducing the desiccating effects of wind on crops. It is often preferred for windbreaks and shelterbelts because of its ability to withstand extremes of drought, heat, and cold. The fibrous root system also helps to hold soil in place, especially on shallow soils.

Livestock:
Eastern redcedar’s fruit is high in crude fat and crude fiber, moderate in calcium, and high in total carbohydrates. While valuable for many wildlife species it is considered poor quality forage.

Wildlife:
Eastern redcedar provides food and cover for numerous birds and mammals. Winter food and protection is particularly important for pheasant, mule deer and whitetail deer. Many birds and small mammals eat the berrylike cones of eastern redcedar, especially in winter.

Wildlife species that eat eastern redcedar fruits include waxwings, bobwhite quail, ruffed grouse, ring-necked pheasant, wild turkeys, rabbits, foxes, raccoons, skunks, opossums, and coyotes. Deer may browse the abundant foliage of eastern redcedar when no other food is available and are more likely to browse mature (seed bearing) than juvenile eastern redcedars.
Wood products:
Although eastern redcedar is generally not considered to be an important commercial species, its wood is highly valued because of its beauty, durability, and workability. Throughout its range eastern redcedar is primarily used for fence posts, though it is also used for lumber, poles, boats, paneling, closets, chests, and pencils. The aromatic heartwood is commonly used for chests or closet lining.

Markets:

Silvical Characteristics

Habitat:
Eastern redcedar is an early successional species that is adapted to full sunlight. Its foliage is adapted to minimize transpirational water loss and its root system is adapted to capture soil moisture on extremely dry sites. Because of this, slope and aspect play a significant role in where eastern redcedar are found in the landscape. Eastern redcedar is more likely to be found on south and south-west facing slopes where hot, dry conditions limit the establishment of other species. Eastern redcedar can also be found on north and east facing slopes where drier sites do not support hardwoods initially. Once established, redcedar may be replaced by hardwoods on these sites or remain as the dominant species where moisture is limiting.

Drought Tolerance
Eastern redcedar is considered one of the most drought tolerant species and is often planted on difficult sites because it can survive and grow where many other species cannot.

Soils
Eastern redcedar grows on a wide variety of soils, ranging from dry rock outcrops to wet swampy land. Like most species, eastern redcedar grows best on deep, moist, well-drained alluvial soils. However, it is most frequently associated with thin, rocky soils and rock outcrops.
Soil pH is rarely a limiting factor for eastern redcedar growth. However, it does not tolerate higher pH levels and is, in fact, among the least alkali-tolerant of drought-hardy trees and shrubs.

Rooting Habit
Eastern redcedar generally has a shallow, fibrous root system, though roots of mature trees may go down as much as 25 feet and lateral roots may spread as far as 20 feet from the main stem. Eastern redcedar seedlings have penetrating taproots; however, it is usually replaced by an extensive, shallow root system with age.

This shallow, far-reaching fibrous root system allows eastern redcedar to survive on shallow soils and dry sites giving it a competitive edge over other species.
Reaction to Competition
Eastern redcedar is a pioneer species and is intolerant to very intolerant of shade. It will readily colonize abandoned or disturbed sites as well as pastures that are protected from fire.

Eastern redcedar grows faster than associated species because it is adapted to full sunlight, drought-resistant, and has a long growing season.

On most sites, eastern redcedar is temporary and is eventually replaced by more tolerant hardwoods and pines. However, it is not uncommon to find trees that have lived for decades beneath a dense canopy of hardwoods or pines on medium- to poor-quality sites; possibly because it is a superior competitor for water and nutrients.

Response to thinning
Eastern redcedar grows slowly on most sites and long rotations are required to produce conventional sawlogs. However, because the wood is mostly used for smaller roundwood products like posts and paneling, a shorter rotation of approximately 20 to 30 years is required to reach a size reasonable to harvest posts and as much as 40 to 60 years for sawtimber.

Good growth rates can be maintained by controlling competition and stand densities. Maintaining relatively dense stands can maximize post production. Thinning one or more times before the terminal harvest can increase diameter growth but may not increase total board-foot yield. The ideal density for growing sawlogs is not known, but excessive thinning may promote greater sapwood (less desirable creamy, white wood) and growth of lower branches.

Silvopasture
Eastern redcedar is a viable choice for shelterbelts and living barns to protect cattle from severe winter weather conditions. However, these plantings need constant tending to insure they do not spread into adjacent grasslands.

Fire
The thin bark of eastern redcedar offers little protection against fire and has trouble colonizing sites subject to frequent fire. Sites where eastern redcedar occurs as a persistent, dominant species are unlikely to support frequent fire due to deep shade limiting fuel loads. Fire suppression has resulted in the expansion of eastern redcedar into grasslands and savannas.

Additionally, in the absence of fire eastern redcedar has been able to spread into ponderosa pine and hardwood forests where it displaces traditional late successional species.

Pests
Two foliage diseases, Cercospora blight and Phomopsis blight, can cause substantial defoliation and kill redcedar if not controlled. Cercospora blight is common and widespread. A third foliage disease, Kabatina blight, can kill branch tips but is not a serious concern. Spider mites occasionally cause damage, and young trees may require protection.

Eastern redcedar is an alternate host for cedar-apple rust, a serious disease of apples, but does little damage to either tree.
Management

Goals:
1. Maintain and enhance species diversity on a stand and landscape scale
2. Increase growth, quality and value of residual stand
3. Control the spread of eastern redcedar by removing seed producing trees unless management objectives warrants leaving seed trees
4. Reduce risk of catastrophic wildfire (crown fire)
5. Reduce fuel loads and ladder fuels

Establishment
Eastern redcedar reproduces solely by seed, trees reach sexual maturity at approximately 10 years. Eastern redcedar seed is dispersed by birds and small mammals. As a result, seedling density is generally greater near trees or along fencelines that provide perching sites. Seeds pass through bird digestive tracts within 30 minutes of ingestion, suggesting many seeds will be deposited near their source rather than transported long distances.

Intermediate Treatments

Mixed Stand Silviculture

Hardwood/Redcedar Stands
Management recommendations are based on the vigor of the trees and their ability to respond to management. Larger trees reaching biological maturity may not respond well to thinning and a regeneration harvest may be the most appropriate management activity while younger and more vigorous stands may respond with improved health and growth.

Hardwoods reaching economic maturity
1) Regeneration cut (butt log minimum dbh of at least 15 inches)
   a) Two-stage shelterwood harvest. Maintain approximately 40 ft^2 of basal area per acre limiting eastern redcedar to no more than 20 percent of the remaining total.
2) Commercial thinning (butt log minimum dbh of at least 11 inches)
   a) Selectively thin favoring removing no more than one-third of stand basal area. Eastern redcedar should not account for more than 20 percent of the remaining total.
3) Remove redcedar ladder fuels
4) Thin post and pole-sized redcedar by separating individuals or groups to achieve density targets, favoring crop redcedar trees.
5) Concentrate removals on seed producing redcedar trees.

Hardwoods vigorous
Implement a [crop tree selection system](#) (remove individuals to provide good crown separation for selected hardwoods), thin remaining stand to attain a stand density appropriate for the site and landowner objectives.
1) Harvest sawlog-sized redcedar (butt log minimum dbh of at least 11 inches)
   a) Selectively thin removing no more than one-third of stand basal area. Eastern redcedar should not account for more than 20 percent of the remaining total.
2) Remove redcedar ladder fuels
3) Thin post and pole-sized redcedar by separating individuals or groups to achieve density targets, favoring crop redcedar trees.
4) Concentrate removals on seed producing redcedar trees.

Bur oak/Redcedar stands
1) Remove redcedar ladder fuel in and around bur oak groups or from under individuals to reduce fuel loads to reduce risk of catastrophic damage from wildfire and encourage oak regeneration.
2) Follow up treatments with prescribed fire or mechanical means to reduce fuel loads and to encourage oak regeneration.
3) Harvest eastern redcedar sawlogs and thin remaining post and pole-sized redcedar to target basal area where not interfering with targeted oak management, favoring crop redcedar trees.

Redcedar and Ponderosa pine stands
1) Harvest redcedar sawlogs and remove ladder fuels from under and around groups of ponderosa pine to reduce risk of and protect pines from catastrophic wildfire.
2) Thin and/or prune remaining post and pole-sized redcedar to 60 to 80 square feet of basal area per acre in areas where pine is not present and/or where redcedar does not generally pose a wildfire threat, favoring crop redcedar trees.
3) Concentrate redcedar removals on seed producing trees.

Pure Eastern Redcedar Stands
High stand density with mixed age classes
1) Inaccessible areas (drainages with steep slopes)
   a) No treatment
2) Areas where management is possible on higher quality sites
   a) North and east facing slopes
      Implement a crop tree selection system (remove individuals to provide good crown separation for selected hardwoods). Select trees for harvest using the following order of removal.

   1) Selectively thin removing no more than one-third of stand basal area.
      a) Concentrate removals on seed producing redcedar trees.

   2) Identify redcedar crop trees based on potential to meet sawlog specifications
      a) Single stem
      b) At least five inches in diameter at breast height
      c) No more than 50 percent live crown
      d) Minimal taper (form class 72 or better)

   3) Remaining redcedar should not account for more than 20 percent of stand basal area.
      a) Concentrate removals on seed producing redcedar trees.
      b) Harvest sawlog-sized redcedar (butt log minimum dbh of at least 9 inches)
      c) Thin from below removing seedling and sapling sized trees.
b) South and west facing slopes
Implement a crop tree selection system (remove individuals to provide good crown separation for selected redcedar crop trees). Select trees for harvest using the following order of removal.

1) Concentrate removals on seed producing redcedar trees.

2) Harvest sawlog-sized redcedar (butt log minimum dbh of at least 9 inches)

3) Thin post and pole-sized redcedar by separating individuals or groups to achieve target density, see stand density recommendations by slope below, to minimize catastrophic fire.

4) Remaining trees should be widely spaced with good crown separation. Trees must have a single stem and be at least six inches in diameter at breast height. See table below, Stand density recommendations by Percent slope, for spacing recommendations.

Table 1. Stand density recommendations by Percent slope

<table>
<thead>
<tr>
<th>Percent Slope</th>
<th>Maximum Basal Area per Acre</th>
<th>Maximum Trees per Acre</th>
<th>Minimum Acceptable DBH</th>
<th>Approximate Spacing¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 10%</td>
<td>70 ft²</td>
<td>100</td>
<td>6</td>
<td>25’ by 25’</td>
</tr>
<tr>
<td>11 to 20</td>
<td>60 ft²</td>
<td>45</td>
<td>8</td>
<td>35’ by 35’</td>
</tr>
<tr>
<td>21 to 30</td>
<td>50 ft²</td>
<td>25</td>
<td>10</td>
<td>45’ by 45’</td>
</tr>
<tr>
<td>31 to 40</td>
<td>40 ft²</td>
<td>16</td>
<td>10</td>
<td>55’ by 55’</td>
</tr>
<tr>
<td>41 to 50</td>
<td>30 ft²</td>
<td>12</td>
<td>8</td>
<td>65’ by 65’</td>
</tr>
<tr>
<td>Greater than 50</td>
<td>20 ft²</td>
<td>8</td>
<td>6</td>
<td>75’ by 75’</td>
</tr>
</tbody>
</table>

Dense, open grown redcedar stands on lower quality sites
1) Conduct a one-time biomass harvest (clearcut) to promote other desirable vegetation, followed periodically by prescribed fire, or mechanical control, to maintain grassland cover.

2) Manage as perpetual biomass crop by patch clear-cut harvest followed by natural regeneration of redcedar

Grassland / Open grown redcedar mix
1) Clear ridgetops and leave redcedar stands along steep slopes in drainages to create a landscape vegetative mosaic. Remove redcedar on flatter areas to enhance grass production. Thin redcedar by individual crop tree selection or group selection, on higher quality sites. Concentrate redcedar removals on seed producing trees.

2) Allow to develop a closed, high density mixed age-class stand and manage according to landowner goals and as described above.

¹ Approximate spacing is from crown to crown not from stem to stem (bole to bole).
Crop tree selection criteria

The selection of Crop Trees should be based on the following criteria; in order:

1) Good crown vigor
   a) Dominant - Well developed crowns extending above the general level of the forest stand canopy, which are receiving full sunlight from above and partly from the sides.
   b) Co-dominant - Crowns that form the general level of the forest stand canopy and receive full sunlight from above, but comparatively little from the sides; usually with medium-sized crowns more or less crowded on the sides.
   c) Foliage - Healthy, long needles dark green in color with a full crown over 1/3 or more of the tree.

2) Good stem quality
   a) Bole - Relatively straight bole / stem for at least 8 feet; not bent, broken or severely leaning.
   b) Leader - Single terminal leader with no forked (split) top.
   c) Physical - No physical damage from fire, animals or weather on more than ½ of the circumference of the bole or more than 3 feet in length of the bole.

3) Insect and Disease Resistance
   a) Disease(s) – Full, healthy crowns with no signs of infection from either Cercospora blight or Phomopsis blight.
   b) Insect(s) – There are no serious insect pests of eastern redcedar.

Seed Tree Retention

1) Viable seed trees must meet crop tree selection criteria as previously defined:
   a) Good crown vigor
   b) Good stem quality
   c) No visible evidence of damage to the stem or crown from fire or insects.
   d) Trees with totally black (torched) stems and / or brown (scorched) foliage do not qualify.

2) Seed tree groups ("islands" of live trees)
   a) Must contain minimum of three (3) live trees no greater than 50' apart.
   b) Maximum distance between groups shall be no more than 300'.

Reserve Tree Retention

Retain a minimum of at least five percent of the standing trees, individuals or groups, and allow them to develop into large, old trees and complete their natural lifespan. The trees selected may include large vigorous trees, hard and soft mast producing trees, as well as dead, dying and diseased trees that have or can easily develop cavities.

   a) Retain at least three snags per acre
   b) Retain at least three cavity trees per acre
   c) Retain at least three mast trees per acre

All trees retained should be at least 6” DBH and at least half of the retained trees should be larger than 10” DBH
Trees that may harbor insects or disease should be removed. Snags determined to be a threat to human safety can be cut and retained on site as coarse woody debris.

Order of Removal
When selecting trees for harvest the following criteria should be followed, in order:

1) Concentrate removals on seed producing redcedar trees.

2) High risk of mortality or failure (unless retained as a wildlife tree)
   a) Bole - Severely bent, broken or deformed main stems so pronounced that a straight, 8 foot log cannot be cut from the trees.
   b) Forked - Trees with 2 or more terminal leaders forming split tops.
   c) Physical - Damage on ½ or more of the bole circumference and greater than 3 feet in length caused by equipment, falling trees, lightning, wind, snow, animals, etc.

3) Low (lower) crown vigor
   a) Foliage - Sparse, unhealthy needles that are yellow, reddish and stunted; holes / gaps occupy a crown that is 1 / 3 or less of the entire tree.
   b) Suppressed - Crowns below the general level of the forest stand canopy which receive only partial sunlight either from above or from the sides; they include leaning trees as well as trees with lopsided crowns.

4) Dead, Diseased or declining
   a) Dead - Standing trees 9.9" DBH and smaller down to 2 foot tall with red, brown and / or no needles in the crown.
   b) Disease - Full, healthy crowns with no signs of infection from either Cercospora blight or Phomopsis blight.

Harvesting Best Practices

Road Layout and design
1) Minimize the number of roads by using existing roads whenever possible.
2) Grades should normally be kept below 10 percent.
3) Stream crossings should be kept to a minimum and carefully constructed.
4) Culverts and bridges should be designed to minimize impacts on the stream.
5) Permanent roads must be located, constructed, surfaced, and maintained carefully.
6) Temporary roads are designed to be closed and revegetated following use. Road construction activities should be limited to dry periods and periods of low or normal stream flows.

Streamside Management Zones
One of the best ways to protect water quality and other watershed values is to establish Streamside Management Zones (SMZ's) beside perennial streams. Intermittent streams, which may flow only during or immediately after a rain, normally do not require this level of protection.
Roads should not normally enter a designated SMZ except where a crossing is needed. Prior to beginning any road construction examine the entire area to determine the SMZ and locate any other especially sensitive areas, such as steep banks or springs.

Table 2. **Guideline for Streamside Management Zone**

<table>
<thead>
<tr>
<th>Stream Width</th>
<th>SMZ Width (minimum)</th>
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<tbody>
<tr>
<td>Less than 20 feet</td>
<td>50 feet per side</td>
</tr>
<tr>
<td>20 feet to 40 feet</td>
<td>75 feet per side</td>
</tr>
<tr>
<td>More than 40 feet</td>
<td>200 feet per side</td>
</tr>
</tbody>
</table>

**Slash Treatment**
1) All whole trees and slash (green and brown needles) resulting from the thinning operation, prior timber harvest, past storm damage and insect / disease mortality will be skidded and piled along roadside landings, in-woods openings and meadows.
2) Old slash (gray, punky, lose bark and without needles) composed of dead / down trees from past storm damage or insect / disease mortality will be left in place; it will be driven over, crushed and reduced onto the soil surface via skidding operations.
3) All trees cut during thinning operations shall be felled so they lie on the ground
   a) No hang-ups or “jack strawing” will be allowed.
   b) No slash will be left up against "leave trees".

**Stump Height**
1) Stumps shall be cut at a flat, 90 degree angle perpendicular to the tree trunk, not to exceed 12” in height on the uphill side.
2) Trees shall be completely severed from the stump and cut below the bottom green branches.

**Firebreaks**

**Ridgelines**
Locate firebreaks along ridgelines to minimize the potential of fires burning up south to west facing slopes to burn up and over the ridgeline as well as to provide access to firefighting vehicles and equipment
1) Create a firebreak along the ridgeline that is at least 66 feet (one chain) wide.
   a) All trees on south and west facing slopes should be cleared to a distance of at least 16.5 feet (one rod)
   b) All trees on the ridgeline (ridgetop) should be cleared to a width of at least 49.5 feet (three rods) and continue down the north and east facing slopes as necessary to achieve the total firebreak width of 66 feet.

**Slopes**
1) Thin post and pole-sized redcedar by separating individuals or groups to achieve target density, see stand density recommendations by slope below, to minimize catastrophic fire.
2) Remaining trees should be widely spaced with good crown separation. Trees must have a single stem and be at least six inches in diameter at breast height. See table 1, *Stand density recommendations by Percent slope*, for spacing recommendations.

Fuel Breaks

Fuel Break Dimensions
The dimensions of the fuel break (width and length) shall be sufficient to reduce fire spread and intensity. Width on level ground shall be determined by average tree height and prevailing wind directions (see tables 3 and 4 below). Add 10 feet to the width for every 10 percent increase in slope (e.g., a width of 360 feet would be used on a 60 percent slope). Length shall match the length of the ignition source to the extent feasible.

*Table 3. Minimum Fuel break width*

<table>
<thead>
<tr>
<th>Stand Average Height (feet)</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
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<td>420</td>
<td>430</td>
<td>440</td>
<td>450</td>
<td>460</td>
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</tbody>
</table>
Thinning Stand Density

Crown separation is a more critical factor for fuel breaks than a fixed tree density level. A minimum 10-foot spacing between the edges of tree crowns is recommended on level ground. As slope increases, crown spacing should also increase. However, small, isolated groups of trees may be retained for visual diversity. Increase crown spacing around any groups of trees less for aesthetic reasons and to reduce fire intensities and torching potential.

Table 4. Recommended stand densities for pole and sawtimber sized trees within a fuel break

<table>
<thead>
<tr>
<th>Percent Slope</th>
<th>Minimum Crown to Crown spacing</th>
<th>Minimum bole to bole spacing</th>
<th>Maximum TPA</th>
<th>Maximum BA</th>
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<tr>
<td>0%</td>
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<td>21</td>
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<td>55</td>
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<tr>
<td>5%</td>
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<td>23</td>
<td>84</td>
<td>46</td>
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<tr>
<td>10%</td>
<td>14</td>
<td>25</td>
<td>71</td>
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<tr>
<td>15%</td>
<td>16</td>
<td>27</td>
<td>61</td>
<td>33</td>
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<td>20%</td>
<td>18</td>
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<td>53</td>
<td>29</td>
</tr>
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<td>46</td>
<td>25</td>
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<td>30%</td>
<td>22</td>
<td>33</td>
<td>41</td>
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<td>35%</td>
<td>24</td>
<td>35</td>
<td>36</td>
<td>20</td>
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<tr>
<td>40%</td>
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<td>13</td>
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<tr>
<td>60%</td>
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<td>45</td>
<td>22</td>
<td>12</td>
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<tr>
<td>65%</td>
<td>36</td>
<td>47</td>
<td>20</td>
<td>11</td>
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</tbody>
</table>

Roads

1) Remove all conifers (ponderosa pine and juniper species) and maintain grasses along established roads for a distance of at least 50 feet from centerline of the road (total width of 100 feet).

2) Hardwood species, no more than 40 ft² of basal area per acre, may be maintained in the firebreak. “Leave trees” with branches will be pruned (removal of side branches and low hanging branches) to 16 feet above ground.
3) All slash resulting from the thinning operation, prior timber harvest, past storm damage and insect or disease damage shall be mulched, shredded or chipped. Refer to slash treatment above for treatment of all other slash.

4) Where applicable along county and state roads with a fenced right-of-way (ROW):
   a) Remove all conifers (ponderosa pine and juniper species) and maintain grasses within established ROW fence lines.
   b) Slash will be piled outside both ROW fence lines and mulched, shredded or chipped.
   c) Broadleaf trees and shrubs will not be cut unless their removal is warranted for vehicle safety.

Ladder Fuels along Meadows, Roads, or Trails
1) Meadow defined as an opening in the pine forest canopy of ¼ acre or larger.

2) Along all meadow road and trail edges, “leave trees” with branch foliage (green or brown) will be pruned up (removal of side branches low hanging branches) to 6' above ground.

3) Branches that originate higher than 6' above ground with foliage (green or brown) 6' or less above ground will have that foliage cut from the branches.

4) Pruning of branches 6' or less above ground will have smooth stubs no longer than ½” remaining.

Wildfire Defensible Space (Zones 1 and 2)
1) Highest priority fuel reduction zones nearest the home or structure; 300' minimum and 600' maximum radius with home / structure in the center.

2) “Leave trees” with branch foliage (green or brown) will be pruned up (removal of side branches or trimming back low hanging branches) to 6' above ground. Pruning of branches 6' or less above ground will have smooth stubs no longer than ½” remaining.

3) All slash resulting from the thinning operation, prior timber harvest, past storm damage or insect or disease shall be mulched, shredded, or chipped.
Figure 2. Relation of height to dbh by stocking class.

Bibliography


