Ladder fuels

To keep fire out of tree crowns, it is necessary to disrupt a fire’s pathway to branches, needles and leaves. The strategic removal of lower tree limbs — which act like rungs of a ladder that a fire can climb — can make the difference between a scorched trunk and a tree stripped of all foliage.

Most wildfires start on the ground in the smallest fuels — needles, leaves and dry grass. Fire will continue to spread upward — up a hill, up a tree — unless pathways to fresh fuel are interrupted (left). Removing ladder fuels helps to keep fire on the ground, where it is manageable, rather than in the tree crowns, where fire is difficult to control.

How high can flames fly?

About three times taller than the height of the understory plant that is burning.

<table>
<thead>
<tr>
<th>Understory vegetation height</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladder fuel pruning zone distance</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>15</td>
<td>18</td>
<td>21</td>
<td>24</td>
<td>27</td>
</tr>
</tbody>
</table>

All measurements in feet

Ladder fuel pruning zone = Understory veg. height × 3

Option 1: Remove tree limbs within the pruning zone

Option 2: Remove the understory vegetation