Localization and Calibration: Types of Multipliers in FVS

Four Types of Multipliers in FVS

- Automatic Calibration
- Multipliers applied before Calibration
- Multipliers that alter regeneration
- Multipliers applied after Calibration
Localization and Calibration: Types of Multipliers in FVS

Automatic Calibration

- Scales small tree height growth
- Scales large tree diameter growth
- These values are attenuated overtime
- Can be turned off with NOCALIB
Localization and Calibration: Types of Multipliers in FVS

- Multipliers applied before Calibration
  - Applied before Calibration
  - Permanent scale factor (not attenuated)
  - Large Tree diameter: READCORD
  - Large Tree height: READCORH
  - Small Tree height: READCORR
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Multipliers that alter regeneration
- Modifies regeneration establishment
- Height of seedlings: HTADJ
- Probability of stocking: STOCKADJ
- Species occurrence: SPECMULT
- Numbers of stump sprouts: SPROUT
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Multipliers after Calibration

- Not attenuated
- Can be changed cycle to cycle
- Large Tree Diameter growth: BIAMULT
- Large Tree Height growth: HTGMULTT
- Small Tree height growth: REGHMULT
- Small Tree diameter growth: REGDMULT
- Crown change: CRNMULT
- Mortality: MORTMULT
- End of cycle Diameter Growth: FIXDG
- End of cycle Height growth: FIXHTG
- End of cycle Mortality: FIXMORT
- End of cycle crown widths: FIXCW
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Example steps for correcting consistent bias large tree diameter growth

1. Insert CALBSTAT keyword to get values
2. Examine and throw out outliers
3. Re-run
4. Auxiliary file with provide average large tree diameter growth scale factors by species
5. Apply with READCORD keyword
### Table 1—Mean large-tree diameter increment correction scale factors by species and ecological section.

<table>
<thead>
<tr>
<th>Species name</th>
<th>Species number</th>
<th>Blue Ridge Mountains</th>
<th>Appalachian Piedmont</th>
<th>Ridge &amp; Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>shortleaf pine</td>
<td>5</td>
<td>&quot;&quot;</td>
<td>&quot;&quot;</td>
<td>1.304</td>
</tr>
<tr>
<td>longleaf pine</td>
<td>8</td>
<td>&quot;&quot;</td>
<td>&quot;&quot;</td>
<td>1.087</td>
</tr>
<tr>
<td>eastern white pine</td>
<td>12</td>
<td>0.842</td>
<td>&quot;&quot;</td>
<td></td>
</tr>
<tr>
<td>loblolly pine</td>
<td>13</td>
<td>&quot;&quot;</td>
<td>0.720</td>
<td>1.065</td>
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<tr>
<td>virginia pine</td>
<td>14</td>
<td>0.675</td>
<td>0.586</td>
<td>0.851</td>
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<tr>
<td>hickory species</td>
<td>27</td>
<td>&quot;&quot;</td>
<td>&quot;&quot;</td>
<td>1.041</td>
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<tr>
<td>yellow poplar</td>
<td>45</td>
<td>0.992</td>
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<td>&quot;&quot;</td>
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<tr>
<td>scarlet oak</td>
<td>64</td>
<td>0.728</td>
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<td>&quot;&quot;</td>
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<tr>
<td>chestnut oak</td>
<td>74</td>
<td>0.749</td>
<td>0.797</td>
<td>1.056</td>
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<tr>
<td>northern red oak</td>
<td>75</td>
<td>0.808</td>
<td>&quot;&quot;</td>
<td>&quot;&quot;</td>
</tr>
</tbody>
</table>

* Species does not occur in ecological section
** Insufficient data to create mean scale factor or no bias present.