

About Silviculture

Written by Administrator

Wednesday, 05 September 2012 13:52 - Last Updated Wednesday, 05 September 2012 15:01

Silvicultural regeneration methods combine both the harvest of the timber on the stand and re-establishment of the forest. The proper practice of sustainable forestry [2] should mitigate the potential negative impacts, but all harvest methods will have some impacts on the land and residual stand. [

3

1

The practice of sustainable forestry limits the impacts such that the values of the forest are maintained in perpetuity. Following are some common methods:

- **Single-tree selection** - The single-tree selection method is an uneven-aged regeneration method most suitable when [shade tolerant](#) species regeneration is desired. It is typical for older and diseased trees to be removed, thus thinning the stand and allowing for younger, healthy trees to grow. Single-tree selection can be very difficult to implement in dense or sensitive stands and residual stand damage can occur.

- **Group selection** - The group selection method is an uneven-aged regeneration method that can be used when mid-tolerant species regeneration is desired. The group selection method can still result in residual stand damage in dense stands, however directional falling can minimize the damage. Additionally, [foresters](#) can select across the range of diameter classes in the stand and maintain a mosaic of age and diameter classes.

- **Clearcutting** - An even-aged regeneration method that can employ either natural or [artificial](#)

regeneration. Clearcutting can be biologically appropriate with species that typically regenerate from stand replacing fires or other major

[disturbances](#)

, such as

[lodgepole pine](#)

(
Pinus contorta

). Alternatively, clearcutting can change the dominating species on a stand with the introduction of non-native and invasive species as was shown at the Blodgett Experimental Forest near Georgetown California. Additionally, clearcutting can prolong

[slash](#)

decomposition, expose soil to erosion, impact visual appeal of a landscape and remove essential wildlife habitat. It is particularly useful in regeneration of tree species such as

[Douglas-fir](#)

(
Pseudotsuga menziesii

About Silviculture

Written by Administrator

Wednesday, 05 September 2012 13:52 - Last Updated Wednesday, 05 September 2012 15:01

) which is
[shade intolerant](#)

.

[
[verification needed](#)

]

- **[Seed-tree](#)** - An even-aged regeneration method that retains widely spaced residual trees in order to provide uniform seed dispersal across a harvested area. In the seed-tree method, 2-12 seed trees per acre (5-30/ha) are left standing in order to regenerate the forest. They will be retained until regeneration has become established at which point they may be removed. It may not always be economically viable or biologically desirable to re-enter the stand to remove the remaining seed trees. Seed-tree cuts can also be viewed as a clearcut with natural regeneration and can also have all of the problems associated with clearcutting. This method is most suited for light-seeded species and those not prone to [windthrow](#).

- **[Shelterwood](#)** - A regeneration method that removes trees in a series of three harvests: 1) Preparatory cut; 2) Establishment cut; and 3) Removal cut. The method's objective is to establish new forest reproduction under the shelter of the retained trees. Unlike the seed-tree method, residual trees alter [understory](#) environmental conditions (i.e. sunlight, temperature, and moisture) that influence tree seedling growth.

- **[Coppicing](#)** - A regeneration method which depends on the sprouting of cut trees. Most hardwoods, the [coast redwood](#), and certain pines naturally sprout from stumps and can be managed through coppicing. Coppicing is generally used to produce fuelwood, pulpwood, and other products dependent on small trees. In Compound coppicing or coppicing with standards, some trees of the highest quality trees are retained for multiple rotations in order to obtain larger trees for different purposes. A close relative of coppicing is [pollarding](#).

.