



## Tending Your Woodland

### Why?

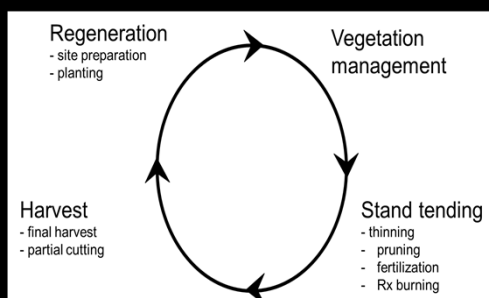
- To shape future structure and composition to match your objectives
  - Aesthetics
  - Forest health
  - Timber production
  - Diversity
  - Wildlife habitat



## Tending - Practices

Broad set of individual practices including:

- planting
- veg. management
- thinning
- pruning
- fertilizing
- Rx burning
- harvest



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## Tending - Systems

Management System:

- A planned process whereby a stand is tended, harvested, and reestablished

Generally defined by age structure and or regeneration approach:

- Even Age Systems
- Uneven (or multi) Age Systems

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## Silviculture

- The name comes from the Latin *silvi-* (forest) + culture (as in growing).

= The growing and cultivation of trees

= Tending your forest

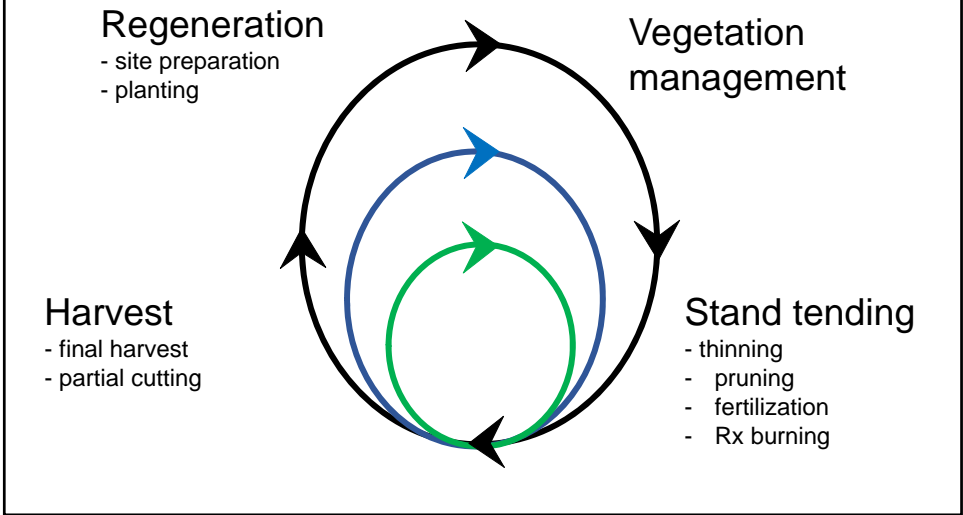


## Silviculture is Applied Ecology

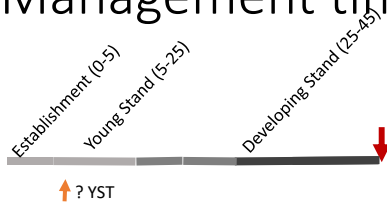
- Control disturbances to achieve desired results.
- Practices done in stands to shape the development of a desirable future condition (structure and species composition).



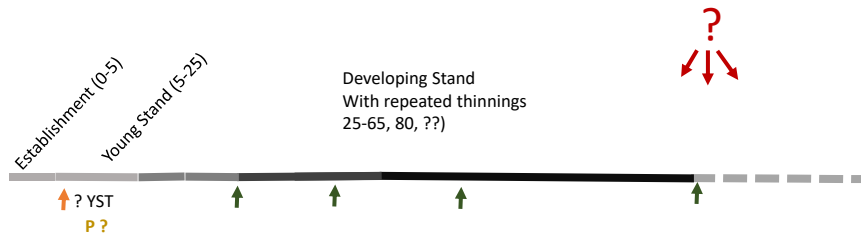
# Woodland Management Cycle (even age)



## Management timelines

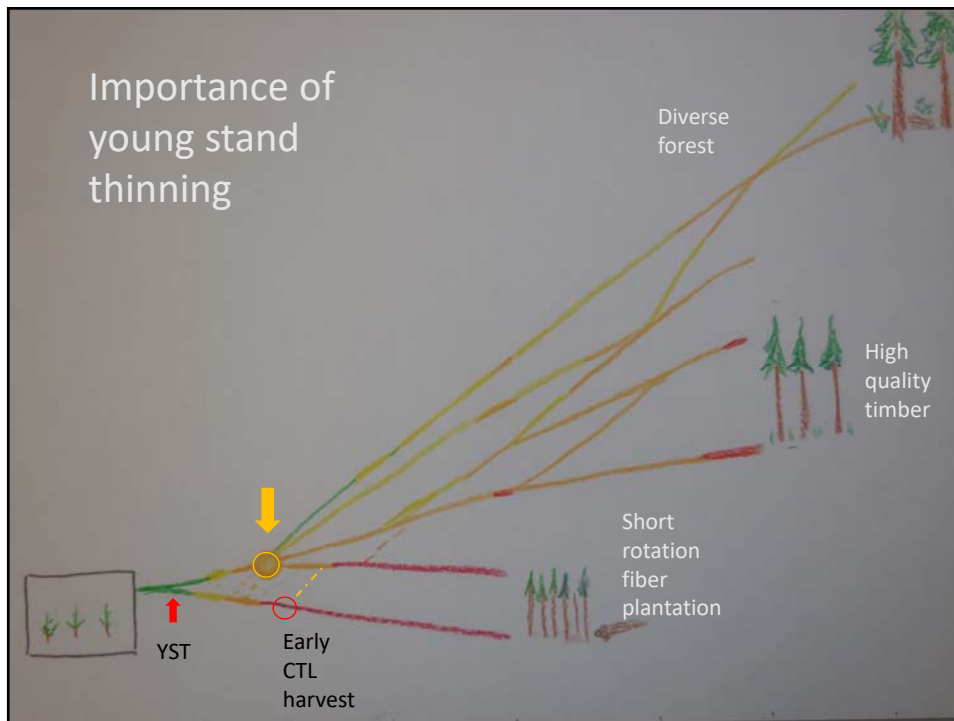
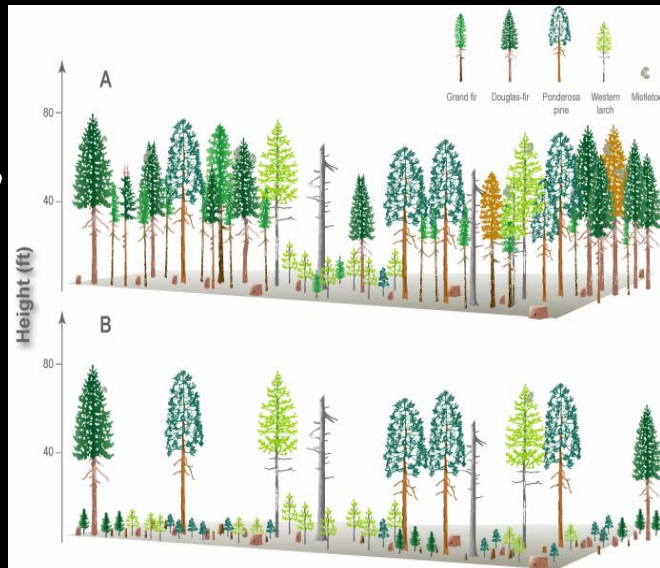


Typical timeline for short rotation management (corporate owners) showing establishment, a possible YST and a clearcut.

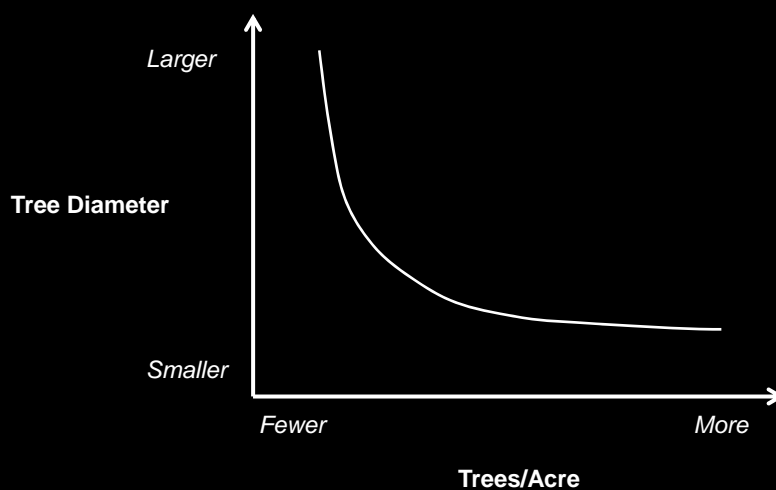


Typical timeline for extended rotation (many family forest landowners) showing establishment, then maybe YST and pruning, with repeated selective thinning harvests and eventually a clearcut.

Thinning  
is your  
most  
useful  
tool

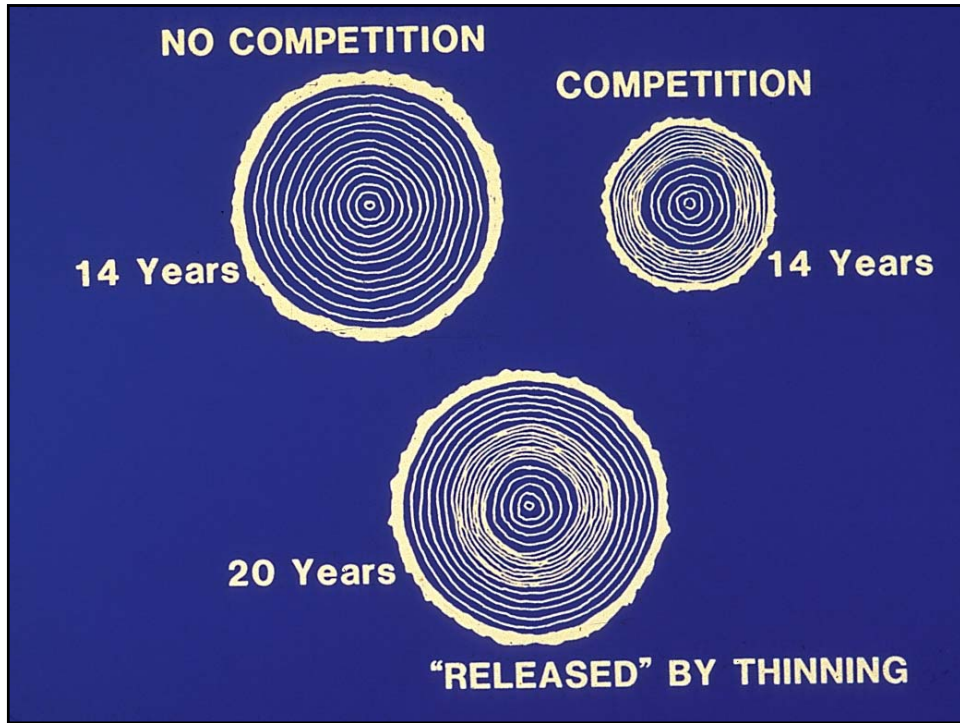


# Stand density has a limiting relationship with tree size.



# Growth ring response to competition







## Young Stand Tending

- Pruning
- Thinning



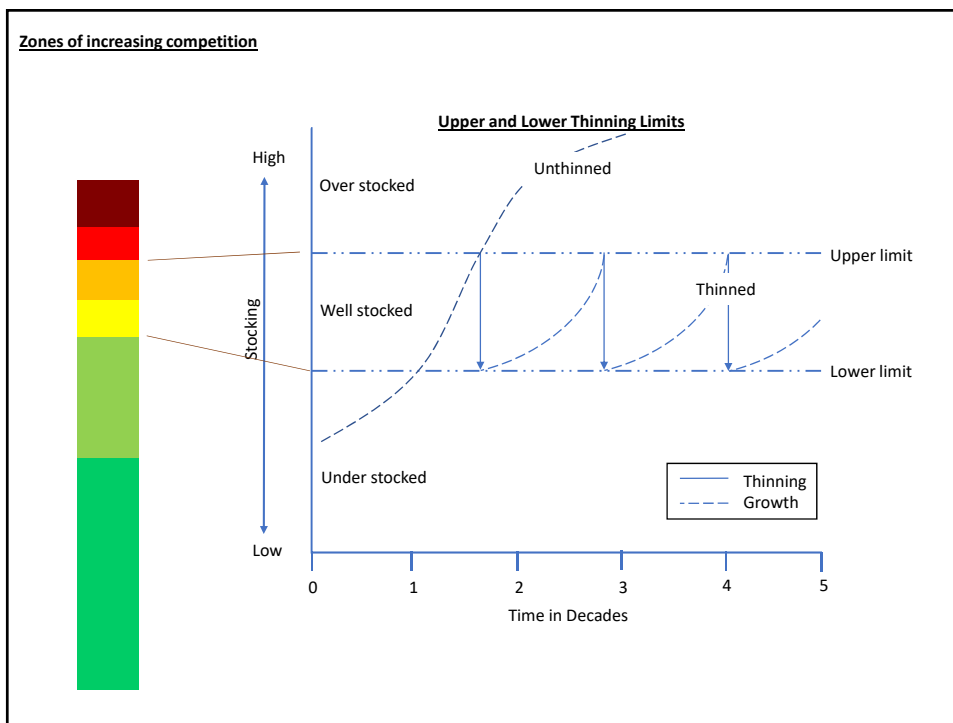
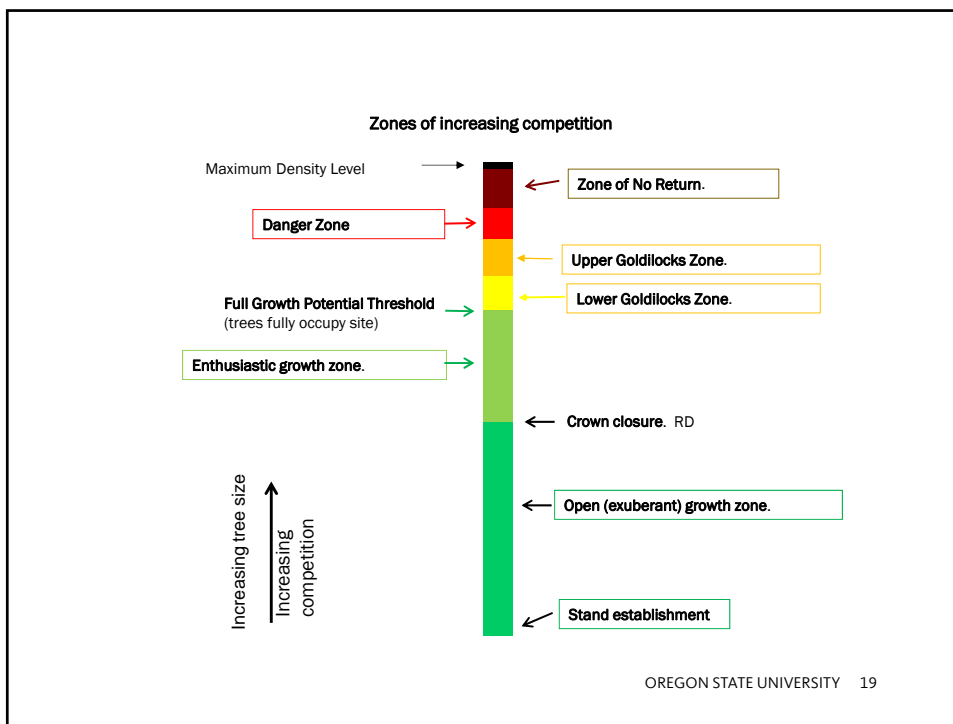


# Commercial thinning



# Commercial thin conifers older than 20 years

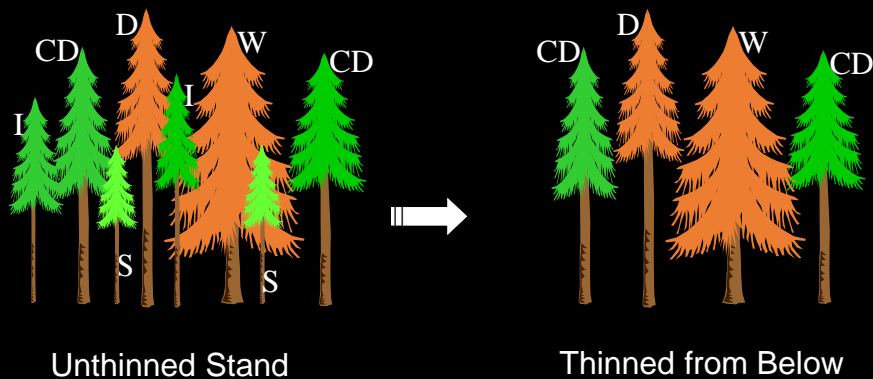




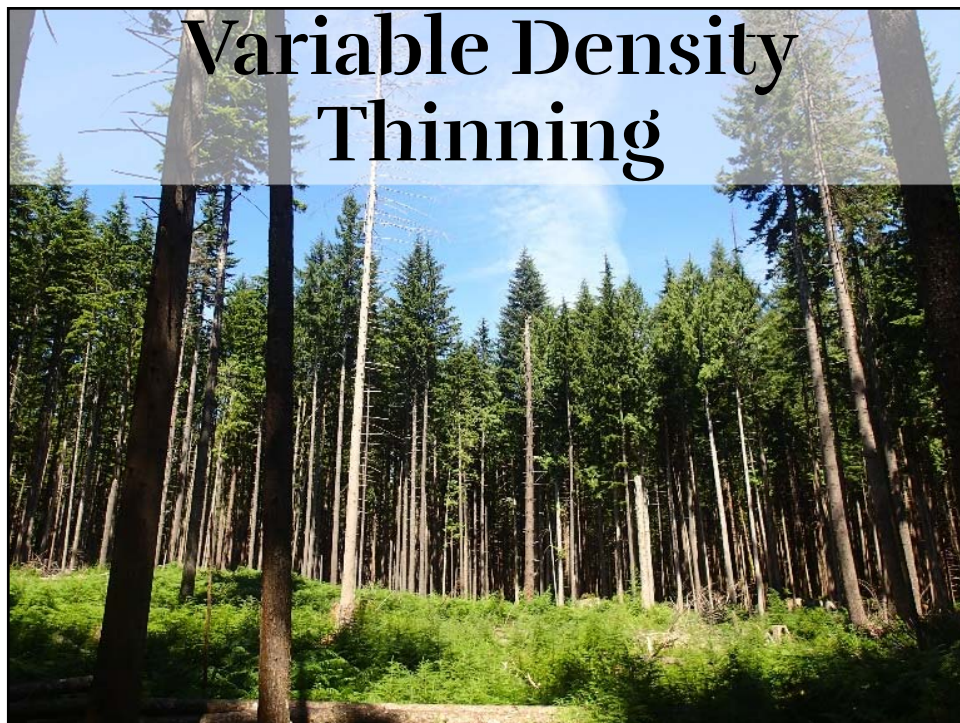
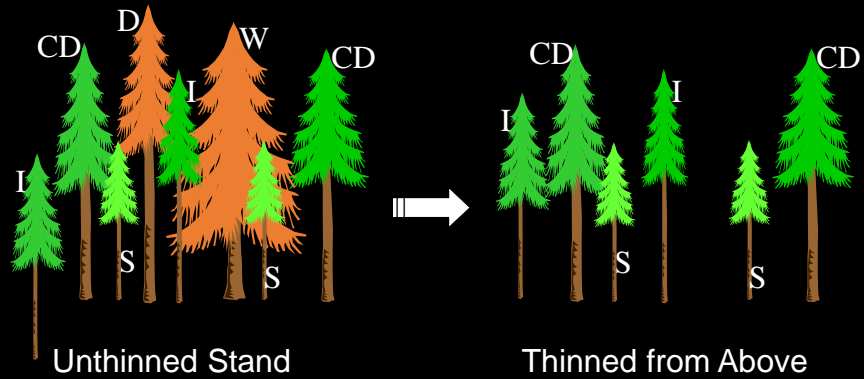
Windthrow and stem breakage may occur after thinning.



Thinning from below removes the trees with the smallest DBH and crown.



# Thinning from above removes the dominant trees.

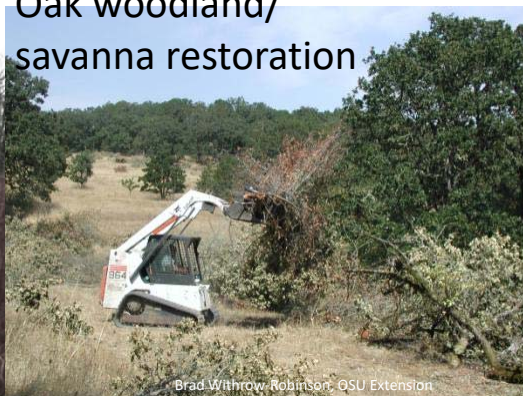


# Commercial Thinning – Red Alder

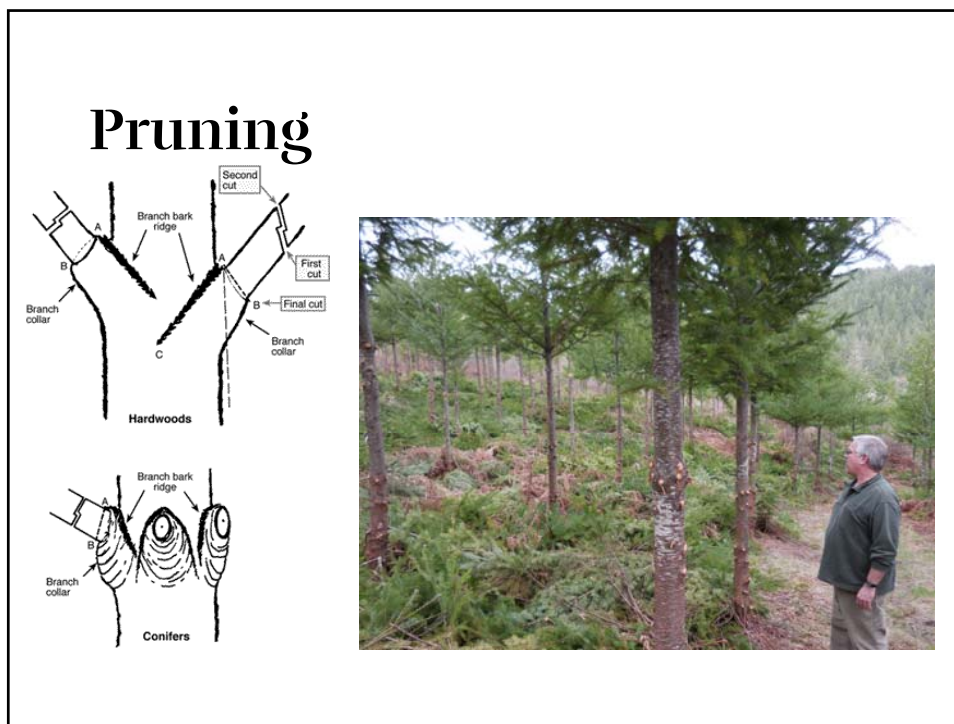


**General concepts apply to other  
forest types too**

**Oak woodland/  
savanna restoration**



**Riparian forest  
restoration**

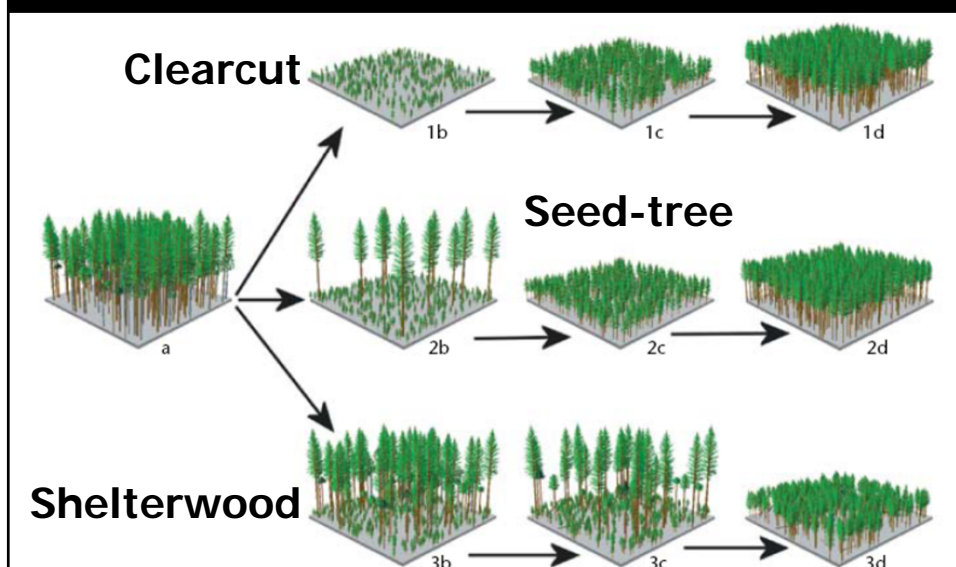


# Regeneration Harvest Methods

## Even-aged vs multi-aged

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• One or two age classes</li> <li>• Narrow distribution of diameter classes</li> <li>• Result of disturbance, or harvesting method</li> <li>• Rotation: beginning and end in terms of economic or biological maturity</li> </ul> | <ul style="list-style-type: none"> <li>• 3 or more age classes</li> <li>• Wide distribution of diameter classes</li> <li>• Created by periodic removals throughout all diameter classes</li> <li>• Perpetual cover with regeneration a goal of each cutting cycle.</li> </ul> |
|---|---|

## Even-aged regeneration methods



## Clearcut with snags



## Shelterwood system in Douglas-fir Stand





# Single Tree Selection & Group Selection



Excerpted from WSU Extension EB2000 "Silviculture for Washington Family Forests"

# Multi-age management in Douglas-fir





## Some take home messages:

1. Forests should be managed for those trees and plants adapted to that site.
2. Northwest forests historically established by major disturbances.
3. Most are even-aged at least within stands and patches that result from the disturbance.
4. Larger trees are not necessarily older trees if they are growing side by side.
5. Strive to allocate resources to trees meeting desired objectives .
6. Increase diversity and structure, but avoid introducing *exotic* plants.
7. Doing nothing is *NOT doing nothing* – the woods you have today will not be the woods you get tomorrow – you cannot preserve it as it is. Forests change over time.

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- Reforestation
- Water
- Harvesting
- Sensitive sites
- T&E species
- Fire
- Chemicals

