

Shelterwood Method

Characteristics

- Form
- Appearance --- Removal of mature crop in a series of partial cuttings which (1) stimulate seed production, (2) prepare the site and (3) make room for regeneration
- Versatility --- Extremely versatile as far as use with different species and under different conditions

Shelterwood Method

Characteristics

- Relation to Other Methods ---- Establishment of regeneration precedes the final cut
- Protection of the Site
- Quality Growth of Residuals ---- species?

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Uniform Shelterwood

- Treatments applied uniformly over the whole stand. The *objective* of the method is to secure establishment of the new stand, but in addition to supplying seed, the shelterwood provides protection for the young seedlings. At some stage, the older trees start to interfere with growth of the new stand and must be removed.

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Uniform Shelterwood

- Thus, we are really describing sequences of harvest cuts used to secure seed, prepare the site, and then release the seedlings.

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Uniform Shelterwood

- Cutting Sequences
 1. Preparatory Cut
 2. Seed Cutting
 3. Removal Cutting
 4. Additional Removal Cuttings

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Uniform Shelterwood

- Normal Procedure ---- Could involve the 3 types of cutting, but normal procedure is a seed tree cutting and 1 or 2 removal cuttings. Known as a 2 or 3-cut shelterwood. Last cut is the final harvest cut.

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Modifications

- Strip Shelterwood
 - Group Shelterwood
 - Irregular Shelterwood
- refer to *Fischer et al. 1980* --- library

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Advantages of Shelterwood

- Reproduction is more certain
- More quality growth on residuals
- Protection of the site
- More complete utilization of the site
- Length of rotation may be shortened
- Aesthetics
- Possible to time cuttings with good seed year

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Disadvantages of Shelterwood

- Often leads to overstocking
- Cost of logging is greater
- More skill to apply
- Site prep is difficult

Shelterwood Method

- Use of shelterwood in different forest types.
- Quite versatile
- Range of light tolerance
- Not used for species that are not windfirm
- Not used where soil moisture is not adequate
- Not used for serotinous cone habit

Two-Aged System

- Essentially a Deferment Cut or an Irregular Shelterwood ---- *What is the difference?*
- Two-age classes in intimate mixtures, each going to rotation age
- Leaves 15 to 30 sq. ft. of basal area
- Residual trees are termed reserves or standards.

Two-Aged System

- Limited number of reserve trees allows abundant light to reach the forest floor and provides for rapid growth of the understory and the development of two age classes.
- The low basal area of reserves is necessary to ensure the continued growth of the regenerating age class

Two-Aged System

Provides

- Maintenance of sexual reproduction throughout the rotation
- Maintenance of advance reproduction development
- Reduced visual impact
- Development of large diameter, high value timber
- Development of wide range of multiple products

Two-Aged System

Problems

- Some loss of production
- Influence of larger trees on growth & development of younger stems
- Logging damage
- Cognizant of species difference, growth characteristics, light tolerances
