Challenges in Forest Regeneration

John Kotar
Terra Silva Forest Ecology and Management

Silvicultural systems and terminology

Silvicultural system:

Planned program of treatment over entire life of the stand. Includes Regeneration treatments, tending operations, intermediate treatments and Protection measures

Silvicultural systems are named after the **regeneration** method:

- Clearcut
- Seed tree
- Shelterwood
- Selection

Although people more commonly think of these as harvest methods

Classification of Regeneration methods is based on two factors

1. Distinction between sprouts/suckers vs. seedlings (Low vs. High forest)
2. Arrangement of cutting in time (Even vs. Uneven aged methods)

Basic choices:

Natural

Artificial

Universal issues that need to be addressed:

Seed

- source
- supply (quantity)
- timing (season? Year?)
- potential predators (includes insects, fungi, etc.)
- viability

Universal issues that need to be addressed (cont.):

Germination

seedbed

weather

Universal issues that need to be addressed (cont.):

Seedling establishment

weather

predation

overstory influence

understory plant competition

time period required for success

Universal issues that need to be addressed (cont.):

Resources available:

funding

equipment

human resources

Factors that must be considered first:

Landowner's goals:


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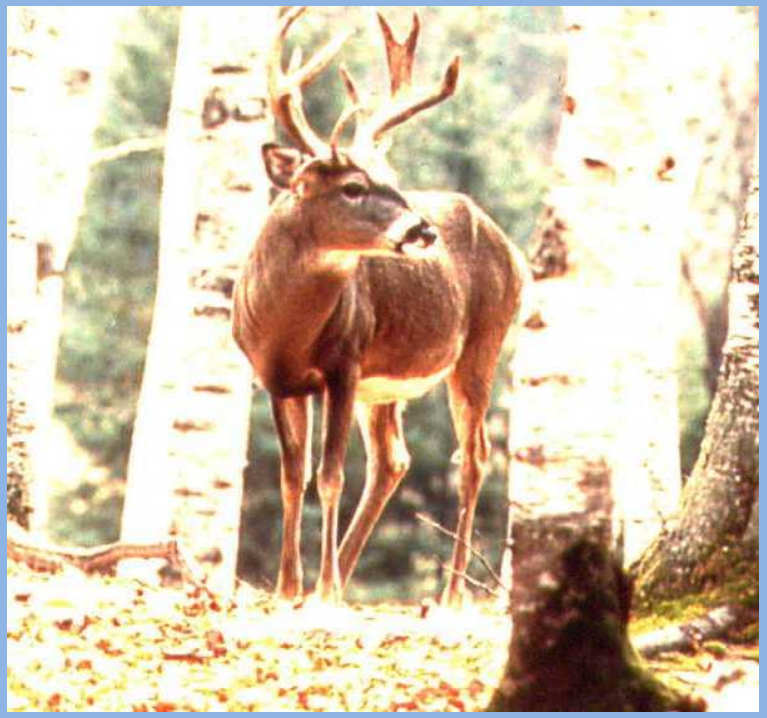
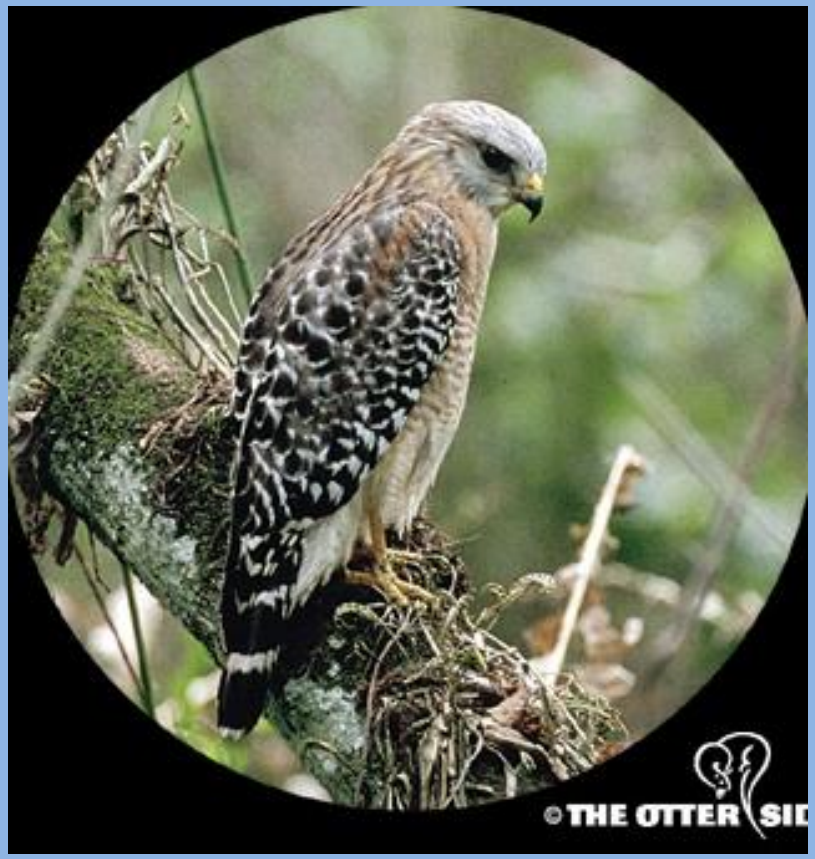



Sue Lietz April 2003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Landowner's goals (cont.):

Questions to answer:

Do current stand conditions require regeneration attempt now? If not, when?

Landowner's goals (cont.)

Questions to answer:

Do landowner's broadest goals require future presence, or dominance of any particular tree species?

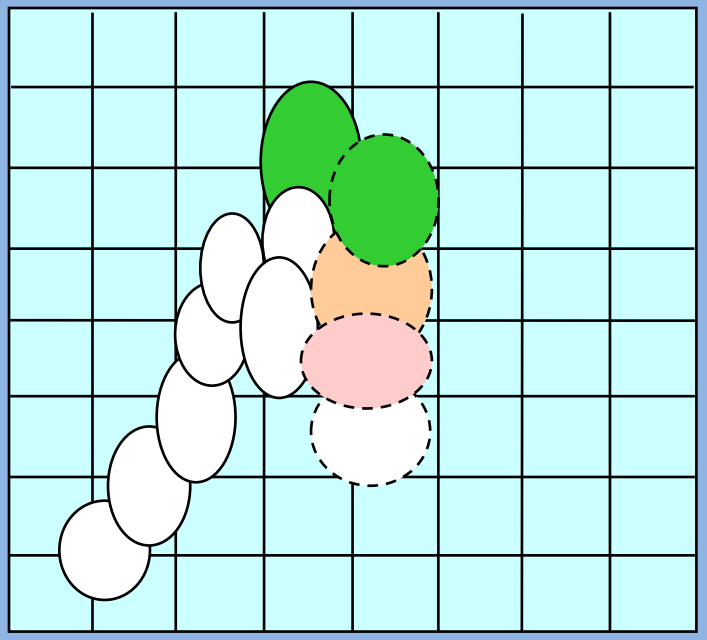
Landowner's goals (cont.):

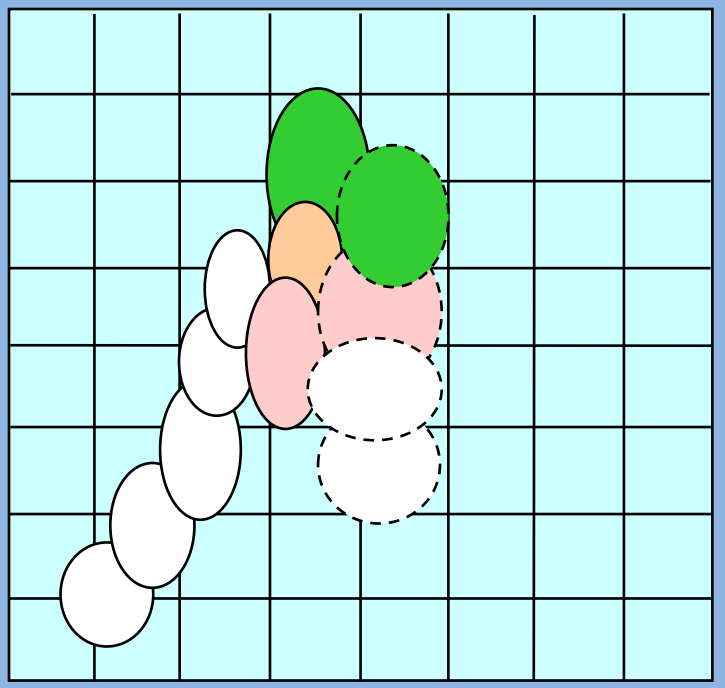
Questions to answer:

Can abundant, or successful advance regeneration of species not currently on the "desired species" list, be brought into harmony with landowner's goals?

Additional steps before proceeding with regeneration attempt:

Identify habitat type





Examine stand composition and age structure

Identify preferred/desired tree species

Identify possible regeneration methods for each species

Examine limitations of each regeneration method (include resources available)

Identify advantages of each method

Establish priority of species and methods

Habitat Type ATM

Species present in stand	clearcut			seed tree	shelterwood	single tree selection	group selection
	natural seed	broadcast seed	plant				
Sugar maple							
Red maple							
Basswood							
Hemlock							
White ash	2				1		
Yellow birch	2				1		
Red oak	2				1		
White pine			2		1		
Aspen							
White birch							

Landowner's goals (cont.):

May consider modifying landowner's goals

What about the “climate change” ??????????????

Global warming ????

Falling Sky??????


John Kotar, Terra Silva Forestry