FRA Step 4- Wildlife Benefits

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Succession

- Changes in community composition over time
  - Begin with pioneer plants (small herbs)
  - Replace with fast-growing, short-lived shrubs and trees
  - Follow with slow-growing, long-lived trees
  - Final stage is a climax community that is in dynamic equilibrium

Wildlife Response

- Early succession species
  - Birds
  - Small mammals
- Middle succession species
  - Rabbits
  - turkeys
- Late succession species
  - Large mammals
  - Interior forest birds

Early Succession Species

- Looser soils allow seeds to germinate and grow
- Insects are able to move through the soil
- Insects and seeds attract birds
- Grassland birds move into early succession landscape

Early to Mid Succession

- Looser soils and available food source (roots, seeds, leaves) attracts small rodents, mice, voles
- Movement of birds and small rodents introduces seeds of shrubs & small trees
- Shrubs & small trees attract rabbits, turkeys, other species

Mid Succession

- Which in turn attract small to mid-size predators
- Deer move into the area
- Rabbits are common
- The abundance of prey attracts larger predators

Golden Eagle

Golden Eagle

- Early to mid succession
- Winters in Appalachian area
- Needs open areas with roosts to find prey
- Satellite telemetry studies indicate regular use of reclaimed areas with small tree/grass mix

Late Succession

- Large, long-lived trees attract forest interior species
- Trees provide cover and food for larger species such as bears
- Trees also shade streams which in turn provide food sources for the interior forest species

Cerulean Warbler

Cerulean Warbler

- Late succession
- Interior forest nesting bird
- Nests in closed canopy, deciduous hardwoods, large diameter trees
- Once abundant, logging removed nesting habitat, considered for inclusion on list of Federally-protected species
- FRA/ARRI part of conservation to keep warbler off of list

Indiana Bat

Indiana Bat

- Late succession
- Medium to large diameter trees with crevices, cracks
- Some sun exposure for maternity, so need some canopy openings
- Forages along streams for insects
- FRA practices included as part of Protection Plans as conservation effort

Artificial Mid-Succession

- Common practice prior to FRA/ARRI
- Plant quick growing, tolerant species to stop erosion (often invasive or exotic)
- Example: autumn olive, lespedeza shrub species
- Deer, rabbits, rodents, robins, mourning doves common

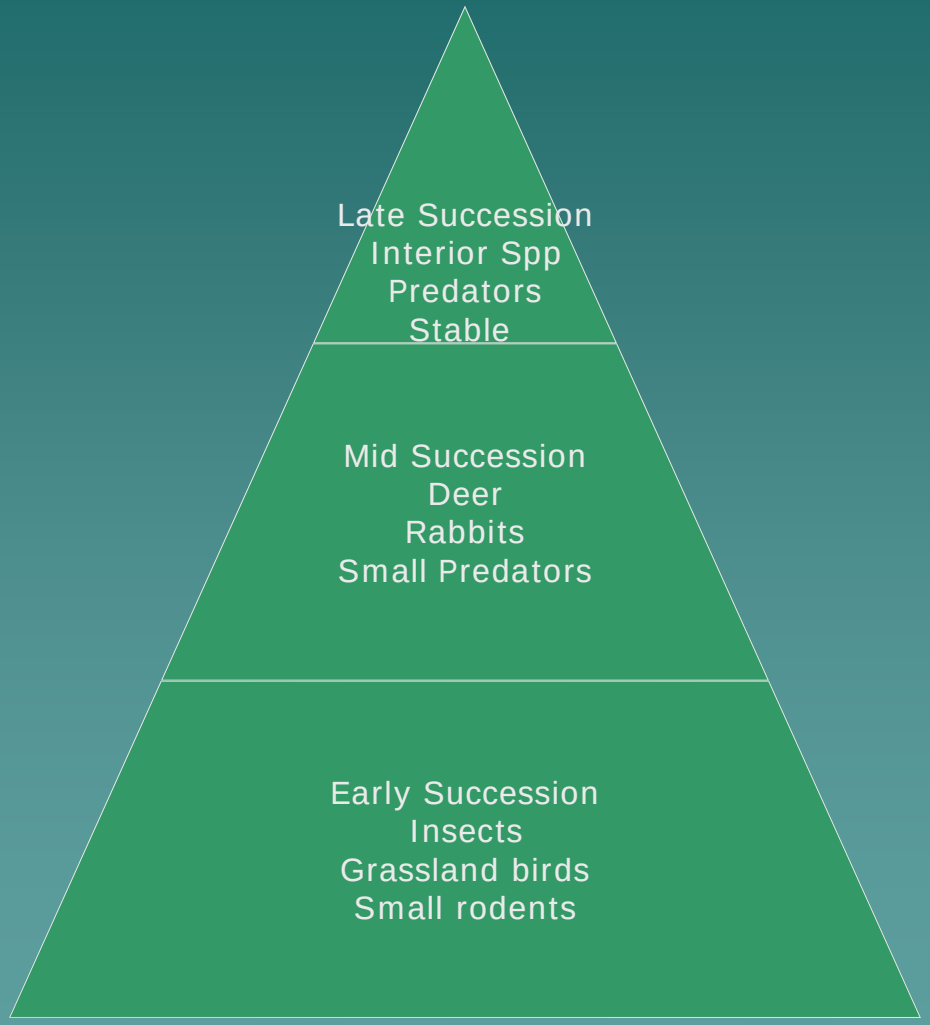
Why Not Stop at Mid Succession?

- Many game species do well in mid-succession communities
- Faster maturation of plants
- Species have more tolerance for human activity

Mid Succession Does Not Work

- System is not in equilibrium – arrested succession
- Community is not diverse and is susceptible to disturbance
- Not replacing the habitat that was lost
- Does not provide habitat for species with low populations

Laying the Foundation for Succession



Wildlife Benefits

- FRA promotes reclamation that mimics natural succession
- Succession must have each component in place before reaching the next level, otherwise the system is not sustainable
- It is crucial to replicate the lost system – without it, we lose the Appalachian forest community