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Woodland Owner Lunch and Learn

Managing Forest to Conserve Wildlife

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NO single forest stand can provide quality habitat for all wildlife species!!

For every management activity, there are winners and losers.

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Food Plot Management Does Not Equal Wildlife Management!!

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"Wildlife" is Meaningless

- What are your target species?
- Understand natural history
- Craft management appropriately

Do you want bobwhite?

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"Wildlife" is Meaningless

- What are your target species?
- Understand natural history
- Craft management appropriately

OR

Do you want ovenbirds?

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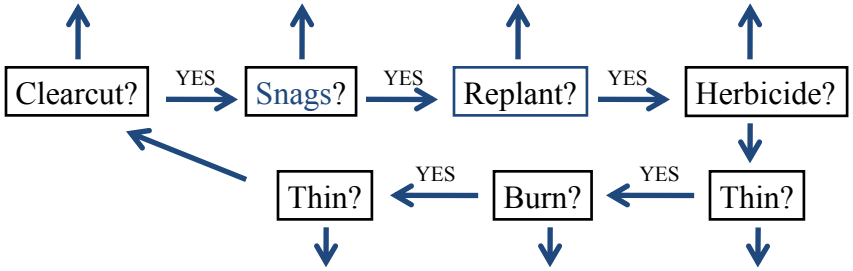
Management Choices Matter

- What you do and don't do
- Particular size, severity, frequency, pattern



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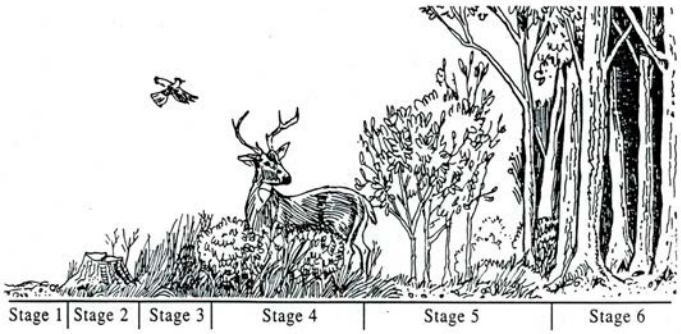
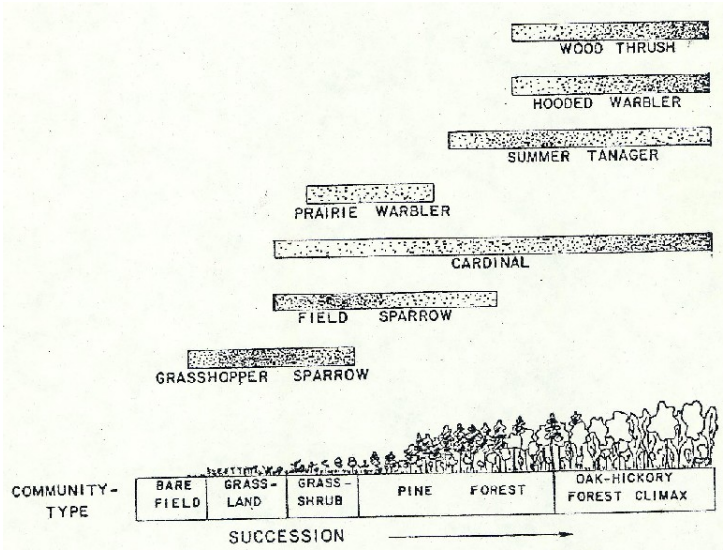
Plant Succession and Wildlife

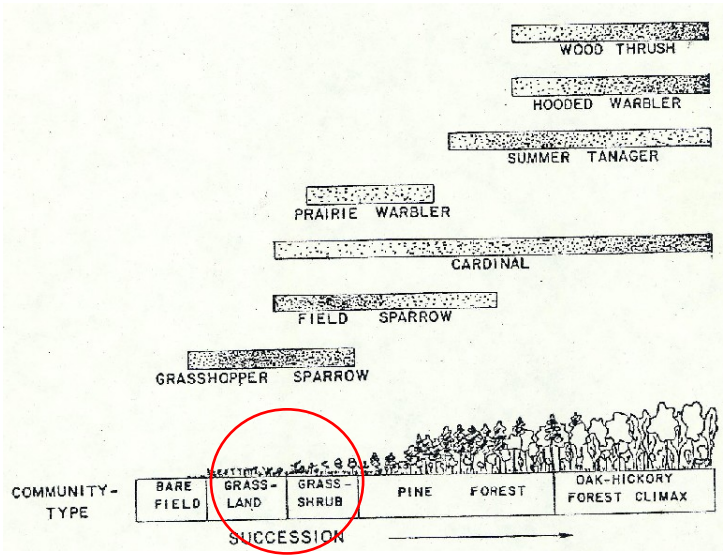
- Seral Stages - temporary stages of succession
- Different seral stages = different wildlife



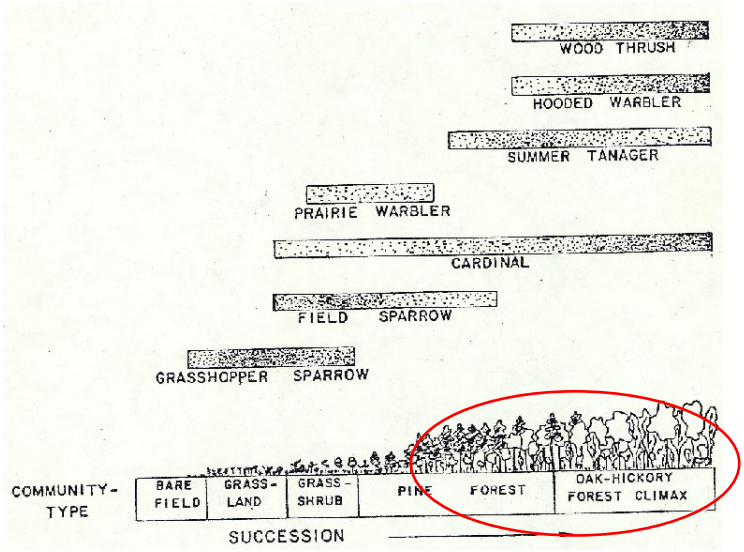
Seral Stage and Birds



What About Rabbits?



What About Gray Squirrels?



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Early-succession and Wildlife

- **High forage production (>2000 lbs/ac)**
- **Grass-forb as nest and brood cover**
- **Abundant seed & fruit**
- **Dense cover**

Northern bobwhite use shrubland

An Old Field

Tree Planting Speeds Succession

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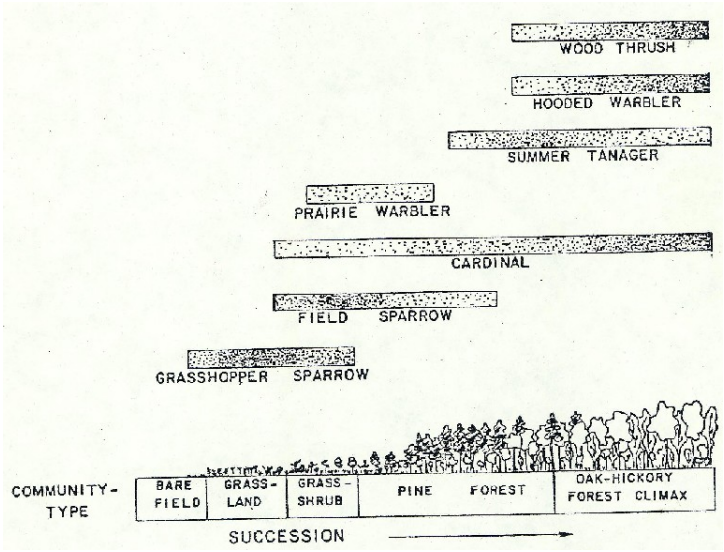
Old Field Succession



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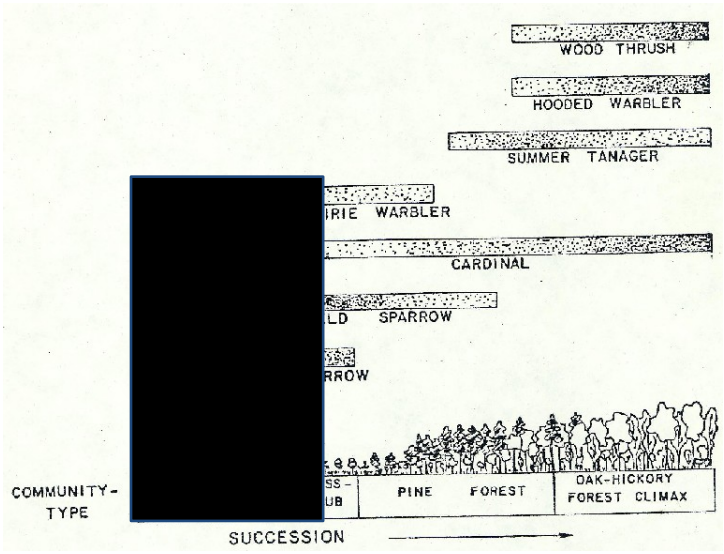
Old Field with Pine Planting



Sprouts Speed Succession

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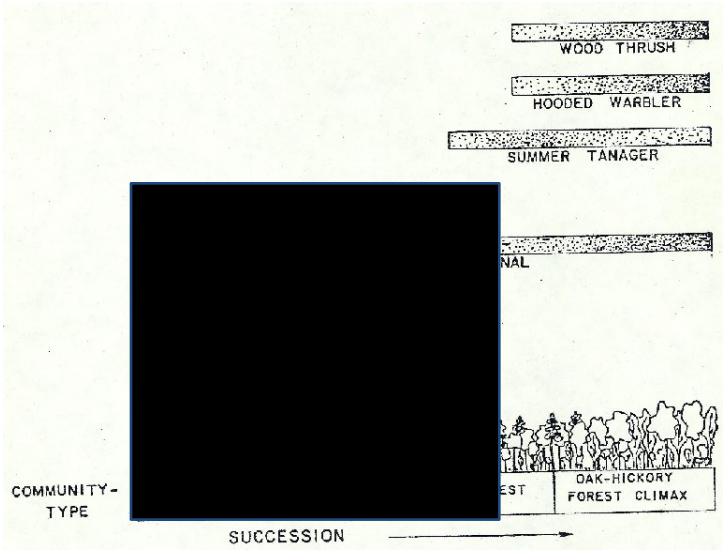
Sprouts Speed Succession

Hardwood Sprouts Present



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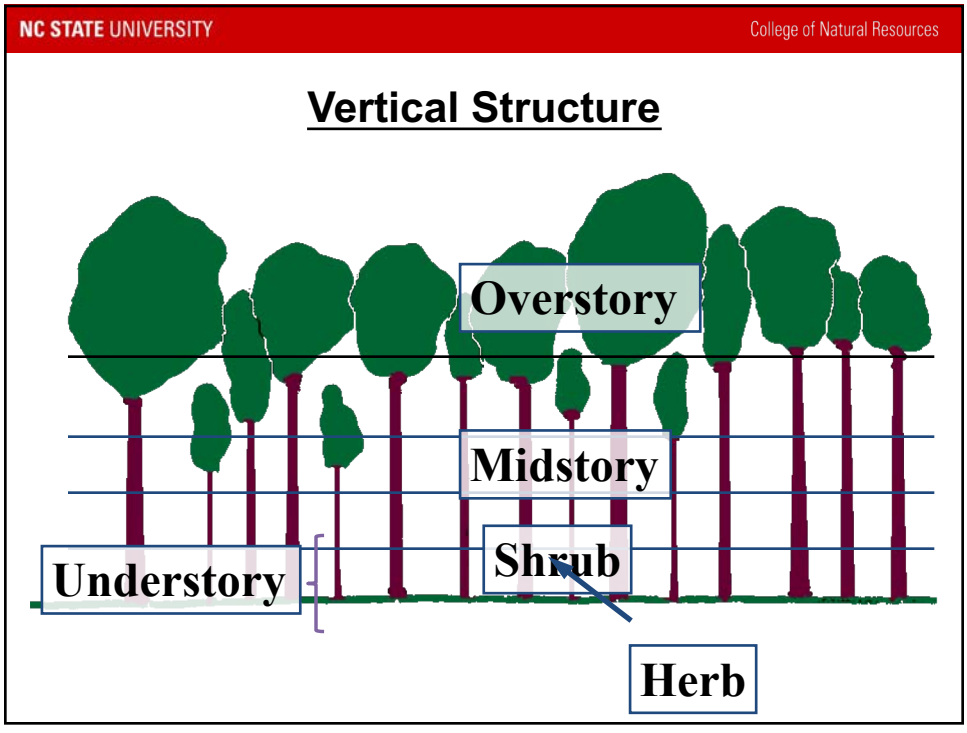
Wildlife Respond to Veg. Structure

- **Disturbance history affects structure**
- **Seral stage affects structure**
- **Plant composition affects structure**

- **All related to management**


Light
No Light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Vertical Structure
Overstory
Midstory
Shrub
Understory
Herb

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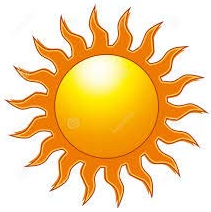
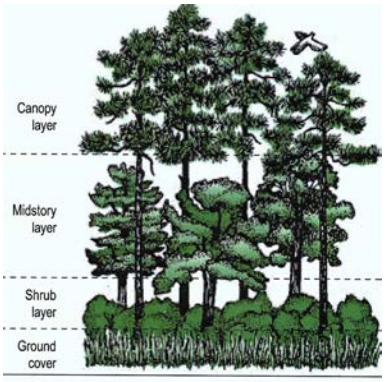
Vertical Structure



- **How many forest layers?**
- **Birds segregate vertically**
- **Understory important**
  - deer, quail, rabbits



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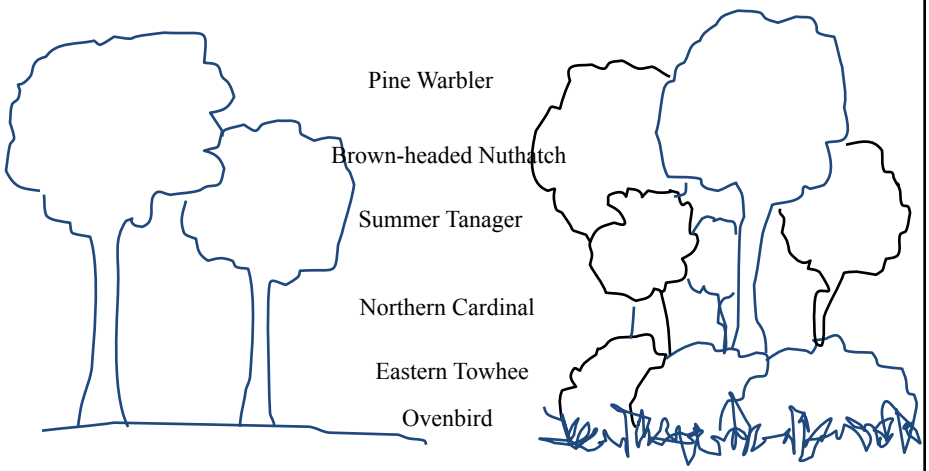
Vertical Structure and Birds



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Poor Vertical Structure

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Retention Harvests Retain Structure

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Retention Harvests Retain Structure

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Pre-commercial Thin to Retain Structure

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Commercial Thin to Increase Structure

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Commercial Thin to Increase Structure

Commercial Thinning Targets

- Depends on focal species!
- Generally, <70% canopy cover
- <70-80 ft^2/ac basal area (BA) for pines
  - < 50 ft^2/ac BA for northern bobwhite
  - Greater BA where *site index* is higher

Thinning Effects on Vegetation

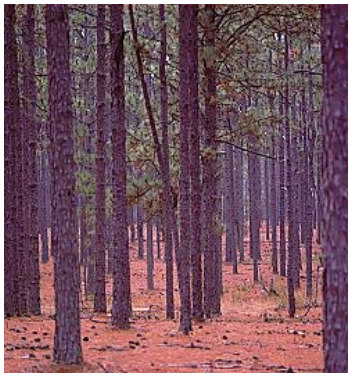
- Open, diverse structure
- Promotes understory development
- Benefits:
  - Increased forage for deer
  - More understory fruit
  - Turkey nesting and fawn hiding cover
  - Pine woodland birds

Midstory Encroachment is Rapid

Frequent Burn to Limit Midstory

Frequent Burn to Limit Midstory

Thin AND Burn



Too little light!

Too much litter!

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Fire and Wildlife

- Most animals adapted to frequent fire
- Fire critical to maintain wildlife diversity
- Declining SE wildlife are fire-assisted

Gopher Tortoise

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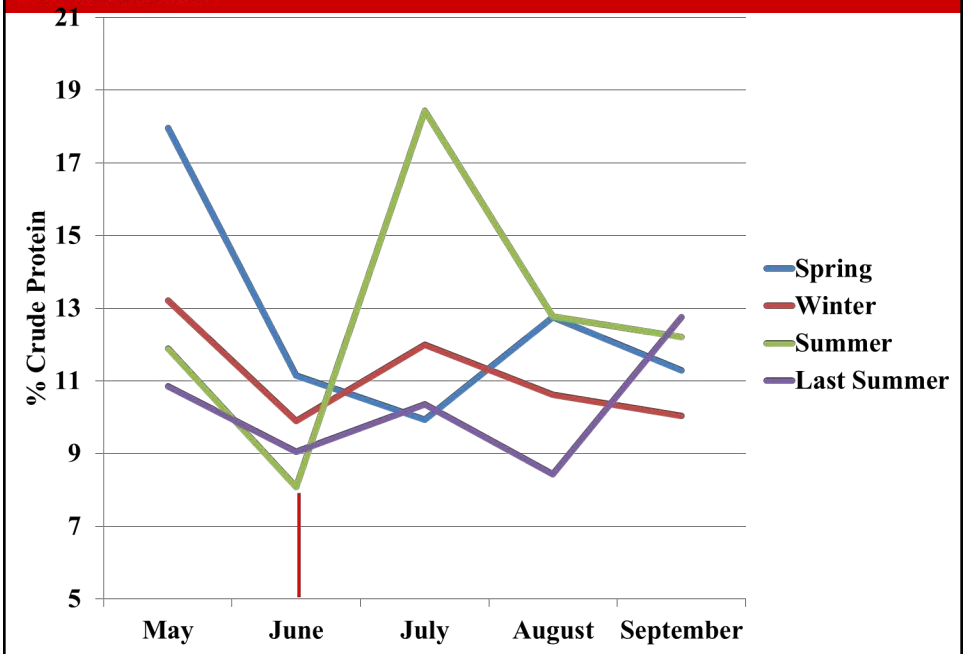
Wildlife Benefits from Fire

- Change structure
- Shift composition to more herbaceous
- More available browse nutrition
  - New growth more palatable
- Increased fruit
  - 2 to 5 years after fire

Desmodium sp.



fire or FIRE

- ONCE is not enough
- Repeated and frequent fires shift:
  - Vegetation structure
  - Vegetation composition
- Frequency and intensity matter

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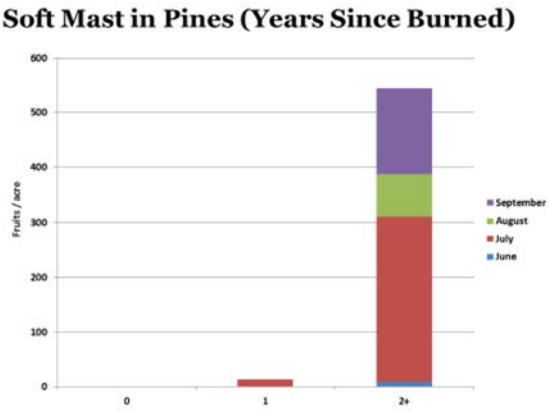
Frequent (1-2 Year) Burns

- More grasses and forbs
- But, eliminates most understory fruit

Upland pines contained little understory fruit the same year as fire and the year after fire



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Less frequent (3-6 Year) Burns

More woody understory and midstory

Herbicides Complement Fire?

- Herbicides used to shift hardwood component towards ground
  - Valuable tool in restoring degraded stands
  - Limits need for intense fire
- Herbicides + fire have additive effects
  - Greater herbaceous plant diversity

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Is *Edge* important?

Only as an artifact of land use and the structure provided


Craig Harper


Craig Harper

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When edge management is necessary

Craig Harper

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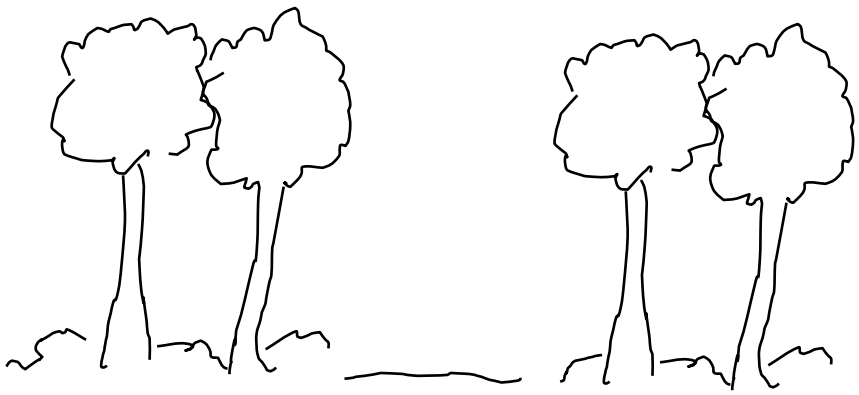
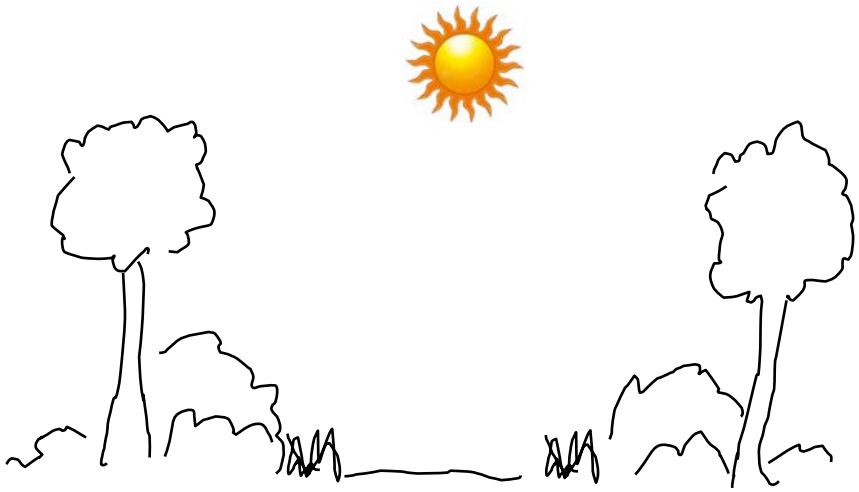
Shaded Road



Daylighted Road



Dead Wood

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Conserve Snags

- >10” diameter
- In retention areas
- Live trees to die
- Become down logs

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Retain Down Logs

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Retain Down Logs

Summary

- Define your focal species
- To increase overall wildlife diversity:
  - Increase seral stage diversity
  - Increase vertical structure
- Prescribed burn using appropriate regime
- Get light to the forest floor (*thin & burn*)
- Retain dead wood

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https://forestry.ces.ncsu.edu/forestry-wildlife/

Questions?