

Managing Oak Forests For Deer and Turkeys



Why? Primarily Food.

- **Acorns**

- 142 calories/ounce.
- 9 grams of fat.
- 15 grams carbohydrate
- 2 grams protein



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Wildlife SuperFood

- Acorns can compose more than 75 percent of a white-tailed deer's diet in late fall and early winter.
- Deer and other animals, including black bears, alter their distribution patterns in response to acorn production.
- Upwards of 100 species of birds and animals include acorns in their diets. For many nuts are *the* main food source, a critical element of day-to-day survival and a lifeline to spring and beyond.



Wildlife SuperFood

- **Good Crop Year**

- Deer may produce more twin fawns, thanks to improved nutrition.
- Turkeys come through winter in better condition = Better nest success and more re-nests.

- **Bad Crop Year**

- Deer kidney fat indices in winter were significantly lower
- Reproductive rates of yearling does were significantly lower
- Conception dates were significantly later



Acorn Facts

- Most trees don't produce for 30 years
- Acorn production is very unpredictable from year to year.
- Most species produce a good crop of acorns only one year out of three or four.





Red Vs. White Oak



- **Red Oak**

- Higher in fat, protein, calories and fiber
- Mature in 15 months, (two growing seasons)
- Bitter because they are high in tannic acid
- Store better, more reliable, more available

- **White Oak**

- More palatable
- Mature in three months (one growing season)
- Germinate shortly after hitting the earth, so unavailable.





Red Vs. White Oak



Each fall, red oaks will have a combination of small, immature acorns on the current year's growth and mature acorns on the previous year's growth. Thus, red oaks can provide an acorn crop in years when a late spring freeze destroyed the white oak acorn crop.





Red Vs. White Oak



- Therefore animals vacuum up white oak acorns with more gusto than they do the reds because they taste better.
- But they will turn to red oak acorns from winter to spring, when the white varieties are gone.



Other Values



The trees also offer shade and shelter, leaves and twigs for building nests and even for eating, and participate in the globe's exchange of oxygen and carbon dioxide as well as in how water moves through an ecosystem.



Oak Management For Acorns

Acorn production in a northern red oak generally peaks when the tree diameter at breast height (dbh) (4.5 feet above the ground) reaches 20 inches and then gradually declines as the tree grows larger.

In contrast, acorn production in white oaks peaks at about 26 inches dbh and then gradually declines.



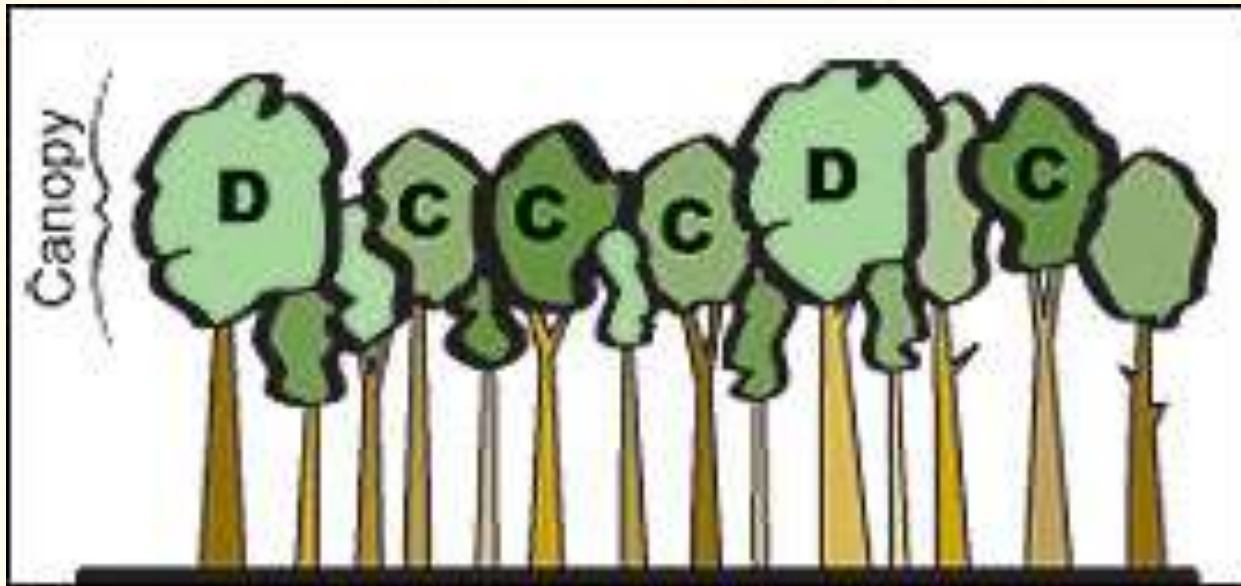
Oak Management For Acorns

Before conducting a timber stand improvement (TSI) practice or a first thinning, identify and retain the best acorn-producers within the stand.

- Observe the trees and keep records of their acorn production for five years or more.
- You can get a rough estimate of the acorn-production by observing the trees during a good acorn crop year.



Oak Management For Acorns



Dominant or co-dominant trees are often the best acorn producers.



Oak Management For Acorns

- Conduct thinning operations around the trees that have been identified as the best acorn-producers so as to expose their crowns to full sunlight on all sides.
- Retain a mixture of both red and white oak species to minimize the impacts of the large year-to-year fluctuations in acorn production.
- The goal should be to keep about 50 to 60 percent of the trees in oaks, evenly divided between red and white oak groups



Oak Management For Acorns



Sunlight exposure will facilitate the expansion and density of branches within the crown. Increasing the density of branches within the crown also increases the potential production of acorns per unit area of the crown.



Oak Management For Acorns

Sometimes old open-grown oaks are found among a younger forest. Release them to create savanna or prep for regeneration.



Thoughtful Wildlife Management

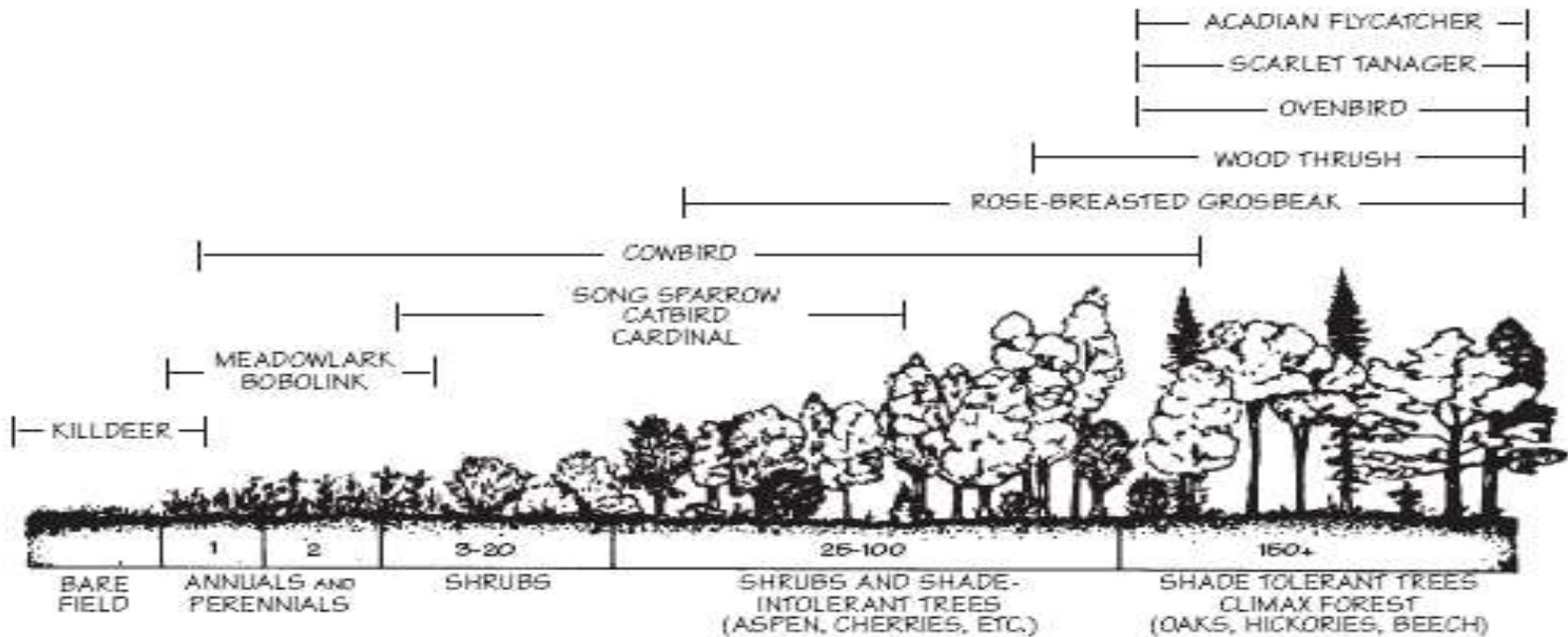


FIGURE 3. FOREST SUCCESSION AND ITS EFFECT ON SONGBIRDS

The Manipulation of Vegetation, Based on
Sound Ecological Principles



Thoughtful Wildlife Management

- Forest Management IS Wildlife Management
- Know the Your Wildlife Goals



Thoughtful Wildlife Management



No management IS making a management decision that may be contrary to good ecological thinking.



Management should emulate natural disturbance patterns and processes- wind, fire, drought, insect and disease.



Managing Your Land: Doing Nothing

Every Forestry Action Benefits Some Species, and Harms Others



Vs.

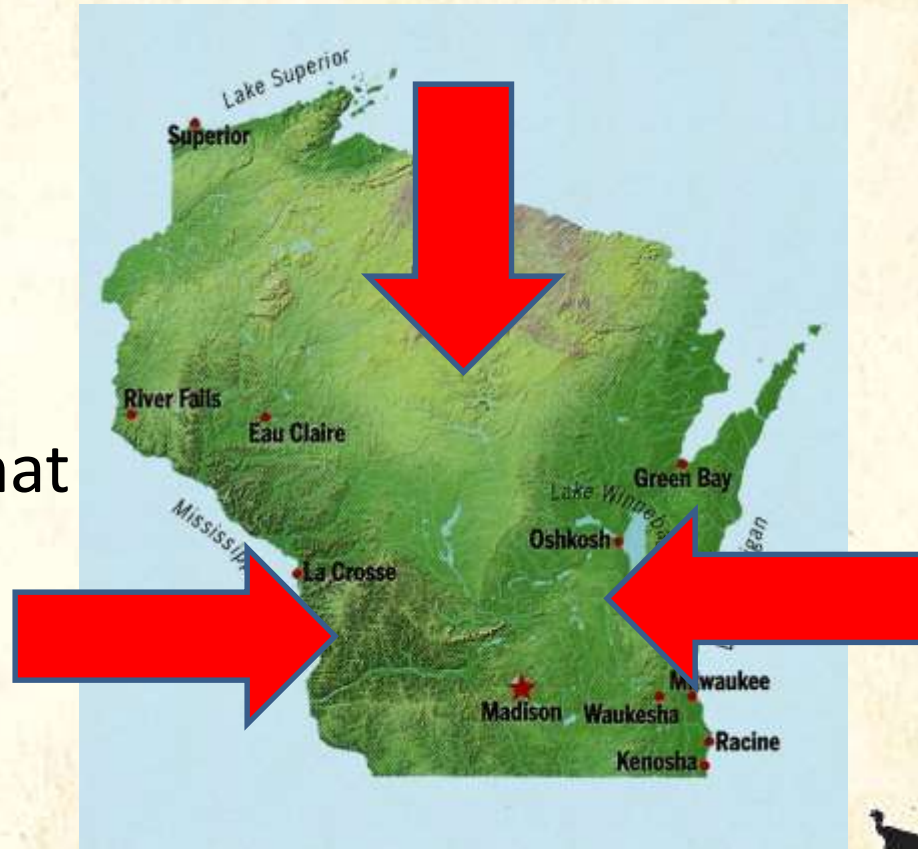


There's no right or
wrong answer.



Managing Your Land: Big Picture

- Where is your property?
- What are the benefits and limitations of that landscape?



Managing Your Land: Area Context

- Look at aerial photos
- Consider habitat requirements – What is lacking in the area?
- Think about movement distances and home range of species of interest
- What can you change?
- What should you keep?

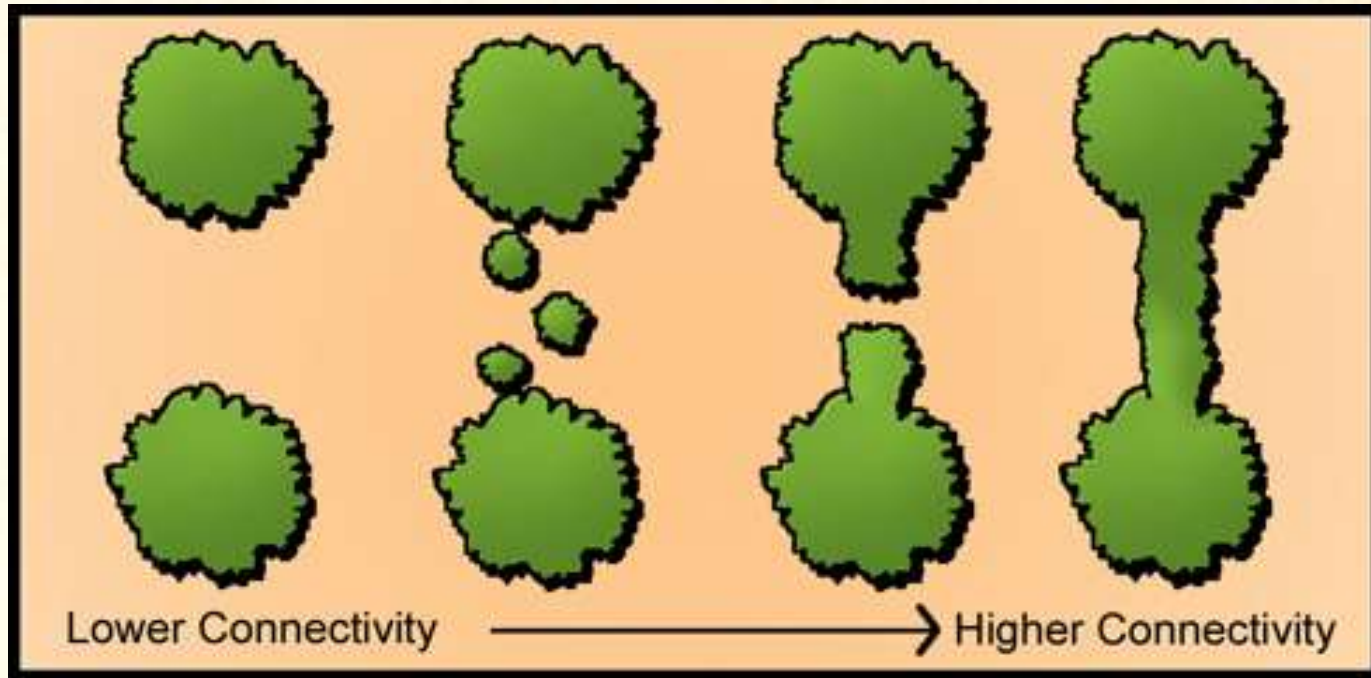


Managing Your Land: Limiting Factors

- What species do I want to manage for?
- Do they have all the cover types they need in all seasons within their home range?
- Is there food for all seasons?
- Is there compatible land use on adjacent properties?
- What will be the effect of that management on vegetation, and other species?



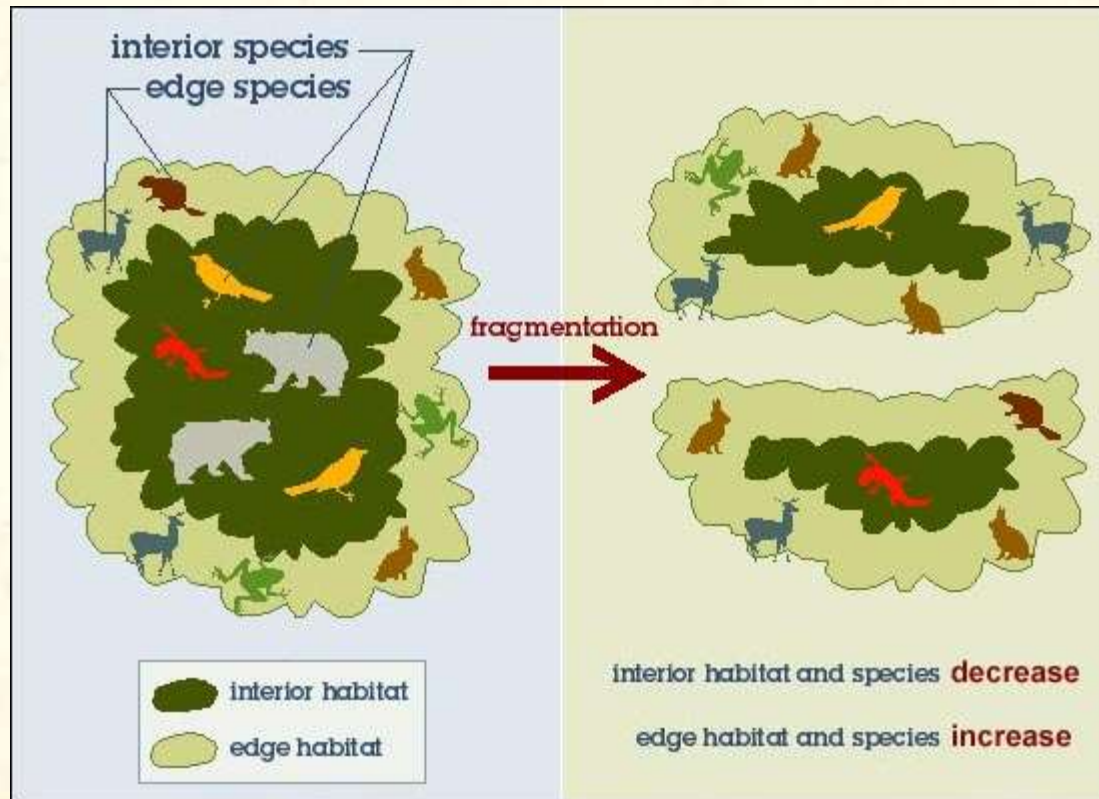
Managing Your Land: Connectivity



- Your species of interest must be able to travel to and from other suitable habitat



Managing Your Land: Forest Interior

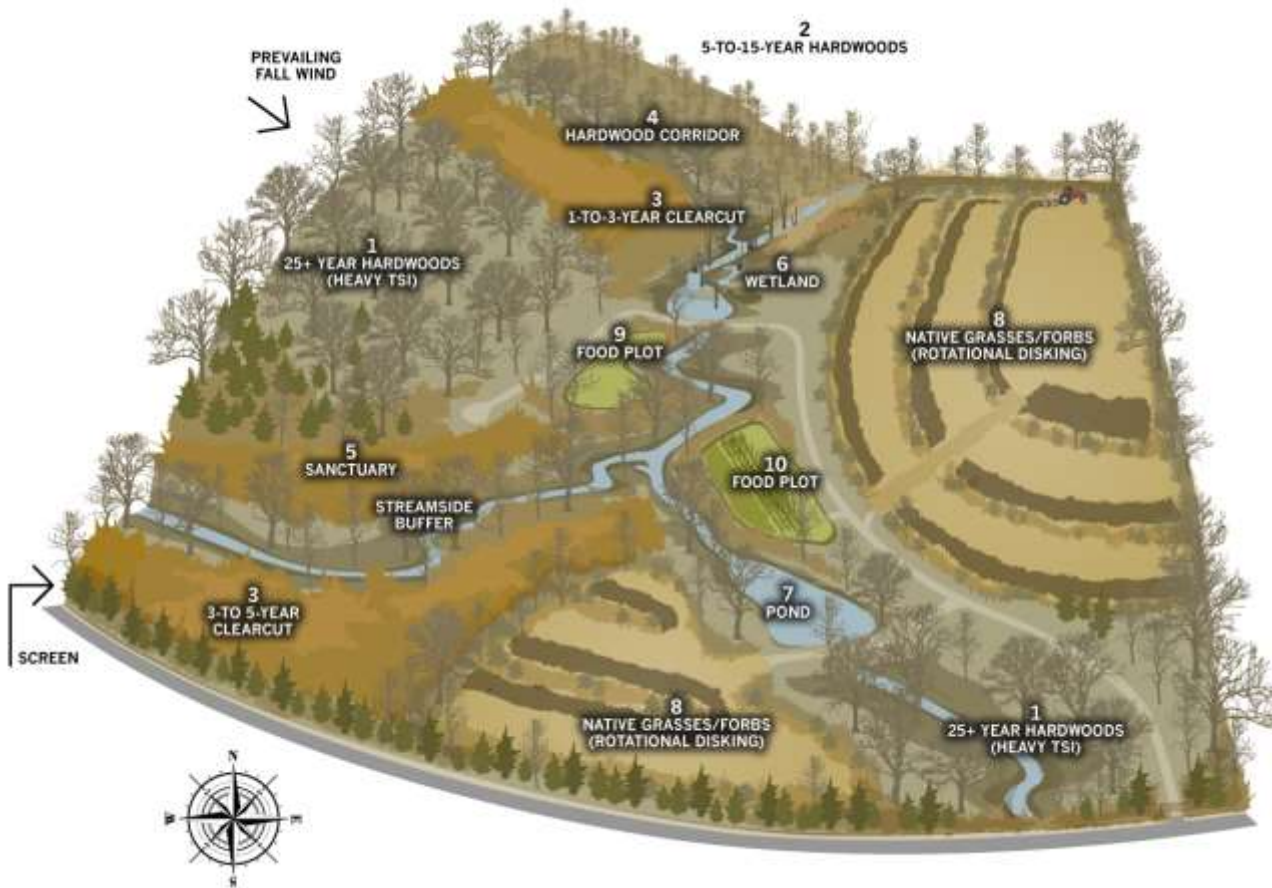


Managing Your Land: Planning for your property

- Forest plans are not always wildlife plans.
 - Leave dead trees and cavity trees
 - Diversify stands, don't simplify them!
 - Leave openings unplanted.
 - Allow it to be “messy” – that's habitat!
 - Don't maximize economics.



Managing Your Land: Planning for your property

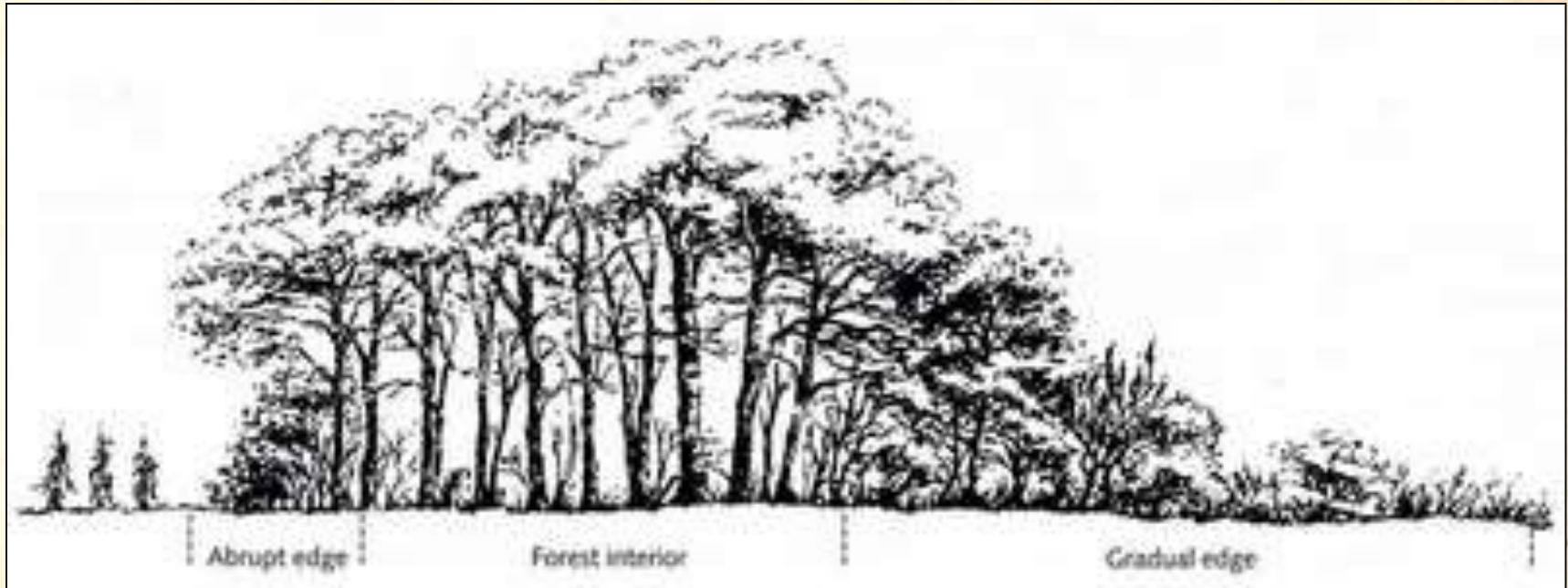


Good plans clearly communicate objectives.

They are a critical component to sound management.



Managing Your Land: Edge Effect



- Edges are important due to their diversity
- Soft edges are better than hard edges



Managing Your Land: Young Forest

- Habitat Value – Provides nesting and brood cover, as well as soft mast. Ensures future forest.
- Overlapping Benefits – Deer, ruffed grouse, turkeys, woodcock, songbirds
- Trade-offs – Loss of forest interior, old trees and vertical structure
- Mitigation – Leave snag trees, legacy patches



Managing Your Land: Selective Harvest

- Habitat Value – Provides feeding cover, as well as soft mast. Ensures future forest. Maintains hard mast and roosting sites.
- Overlapping Benefits – Deer, wild turkeys, squirrels, bear, songbirds
- Tradeoffs – Loss of woody species diversity, loss of vertical structure (short-term), no dense cover.
- Mitigation – Patch clearcuts, Legacy patches.



Managing Your Land: Maintaining Food Resources

- Soft mast like highbush cranberry, juneberry, plum, thornapple, raspberries, etc. are important for many species of animals.
- Maintain them during TSI operations.
- Limit use of herbicides during reforestation.



Managing Your Land: Maintaining Riparian Zones

- RMZs provide high diversity.
- Manage for big, old trees as well as young patches.
- Corridors can link old patches.
- Young aspen in riparian areas is important for woodcock, moose, songbirds
- Beavers can warm streams and block fish passage, but not on lakes and rivers. They are an important furbearer.



Managing Your Land: Maintaining Thermal Cover

- Dense conifers catch snow, making movement possible
- They also prevent radiant heat loss
- White cedar are edible for deer
- Maintain patches of mixed conifers and lowland areas
- Pine plantations are not a substitute.



Managing Your Land: Maintaining Open Cover

- 1-3 acre grassy areas for every 100 acres of forest
- Benefits – Early spring green cover, nesting cover, display areas
- How – Disk and seed grass/clover or warm season grass into old log landings, natural openings, or field edges.
- Tradeoffs – May impact interior forests.



Managing Your Land: Invasive Species

- Buckthorn, black locust, Siberian elm
 - Hand cut, treat stump with Garlon 4
 - Basal stem treatment
 - Spray seedlings with herbicide
- Honeysuckle, garlic mustard
 - Hand-pull

**Wanted dead, not alive
INVADING SPECIES**

Common Buckthorn, *Rhamnus cathartica*;
Glossy Buckthorn, *R. frangula*



Aliases: Unknown



Turkey-Specific Actions



- 50/50 Open: Forested Ratio
- Roost sites
- Nesting/brood sites
- Winter food near roosts
- Strut zones
- Travel corridors
- Oak management



Deer-Specific Actions



- Oak management
- Young forest for escape cover
- Treat invasives – food resources
- Winter food
- Travel corridors
- Winter cover



Attracting Deer – Food Plots

- **Location**

- ❖ Away from roads!!
- ❖ Not public land!
- ❖ Use old fields, logging landings, rights-of-way*, or unused trails
- ❖ Dry sites with N-S orientation



Attracting Deer – Food Plots

- **Management**

- ❖ 1-2 acres per 100
- ❖ Seeds from local feed store
- ❖ Soil test and correct pH and fertilizer
- ❖ Manage weeds.
- ❖ Consider planting fruiting shrubs on edges.



Summary

- Acorns are SuperFood!
- Forest management is wildlife management.
- Something can be done in every forest type to improve it for wildlife.
- Everything you do in a forest helps some animals and harms others.
- Look at the Big Picture



The End!

