Habitat Management for Wildlife Production

Bryan Kinkel

Wildlife Manager

Woods and Associates, Inc.

What is "Habitat Management?"

- Manipulating the natural environment and land-use patterns to promote wildlife

  - Altering plant communities to produce:
    - Food
    - Security cover

Why should I manage the habitat?

- Landowner/Resource Steward
  - Attract, hold and grow wildlife for viewing and/or harvest (hunting)
  - Insure renewable wildlife resources
- Hunter
  - Increase wildlife populations and harvest opportunities
  - Increase the health/size/quality of wildlife
  - Increase the quality of the hunting experience

Habitat Management Goals

- Produce food
  - Natural forage
  - Plantings
- Create/maintain cover
  - Escape predators
  - Hide young
  - "Loafing" time
  - Protection from the weather
- **Maximize habitat diversity**

Food Production

- Increase wildlife "carrying capacity"
  - Increase the amount, variety, seasonal availability and nutritional content of food sources
  - Increase Optimum Sustained Yield (OSY) point

Food Production

- Natural forage for deer
  - Early-stage successional regrowth
  - Overgrown openings and fields

    - Annual forbs (broadleaf weeds)
    - Native legumes
    - Vines
    - Young hardwood saplings and shrubs

Producing Natural Forage

- In forested areas: *Get sunlight onto the ground!*
- Open the forest canopy

Producing Natural Forage

- Hardwoods
  - Selective removal ("release" thinning)
  - Clear-cutting

Producing Natural Forage

- Pines
  - Market thinnings
  - Chemical application and/or fire

Producing Natural Forage

- Overgrown fields
  - Forb (weed) production
  - Can be enhanced through fire, seasonal mowing and chemical application (grass-specific herbicides)

Food Production

- Natural Forage for turkey and quail
  - Openings, fields and pasture
  - Bare/tilled ground
    - Forbs and legumes
    - Insects
    - Seeds

Food Production

- Turkey are primarily insect-eaters
  - They need open areas to "bug" and strut

Food Production

- Plantings
  - Agricultural crops
  - Wildlife "food plots"
  - Reintroduce plants that have been lost through competition

Plantings—Agriculture

Plantings—Food Plots

Food Plots

- Pro
  - Can provide more varieties of food sources with higher nutrient content, digestibility and palatability
  - Can provide important seasonal nutrition when natural food sources are not available
  - Can provide more tonnage production than natural forage
- Con
  - Can be very expensive to create and maintain
  - Subject to failure

Cover Production

- **Cover is critical to small-property (<1,000 acres) wildlife management, especially for holding deer**
- Deer will travel at night to feed, but will spend their daylight hours in cover
  - Observe/Hunt wildlife during daylight hours

Producing Cover

- Primarily, the same as creating natural forage
  - 2nd stage of successional regrowth
  - Heavily overgrown fields
  - Plantings
    - Native Warm-Season Grasses (NWSG)
    - Shrubby plants

Producing Cover

- Successional Regrowth

Producing Cover

- Heavily overgrown fields

Producing Cover

- Plantings—Native Warm-Season Grasses

The Art and Science of Habitat Management

- ● Science
- ● Percent of a property in each habitat type
  - ● Early regrowth (food)
  - ● 2nd-stage regrowth (cover)
  - ● Openings (food and cover)
  - ● Forest
- ● *Maximizing habitat diversity*

- ● Art
- ● How the habitat is arranged
  - ● Holding and protecting wildlife
  - ● Custom travel patterns
  - ● "Huntability"

The Science of Habitat Management

- Percent of Property in each habitat type
  - At least 20% of a property in permanent openings
    - Overgrown fields
    - Food plantings
    - Native Warm-Season Grasses
  - At least 20% in cover
  - Approximately 50% forested

The Science of Habitat Management

- Food plots
  - 1% of a property's acreage in food plots can produce measurable improvements in animal health and productivity—but more is better!
  - Recommend 5-10% in food plots
  - 50/50 "Feeder" plots versus "attractant" plots
  - 50/50 mix of perennial and annual plantings

Food Plots

- Annuals
  - Warm season
    - Beans, peas, clover
  - Cool season
    - Cereal grains, clovers, brassicas
  - Mixture
    - Climbing beans mixed with tall-growing grains
    - Add cereal grains in fall

- Perennials
  - Mix of cool and warm season clovers plus chicory

Food Plots

- Location—be creative!
  - Field edges
  - 5th-Row thinnings
  - Log-loading decks
  - "Daylighted" road borders
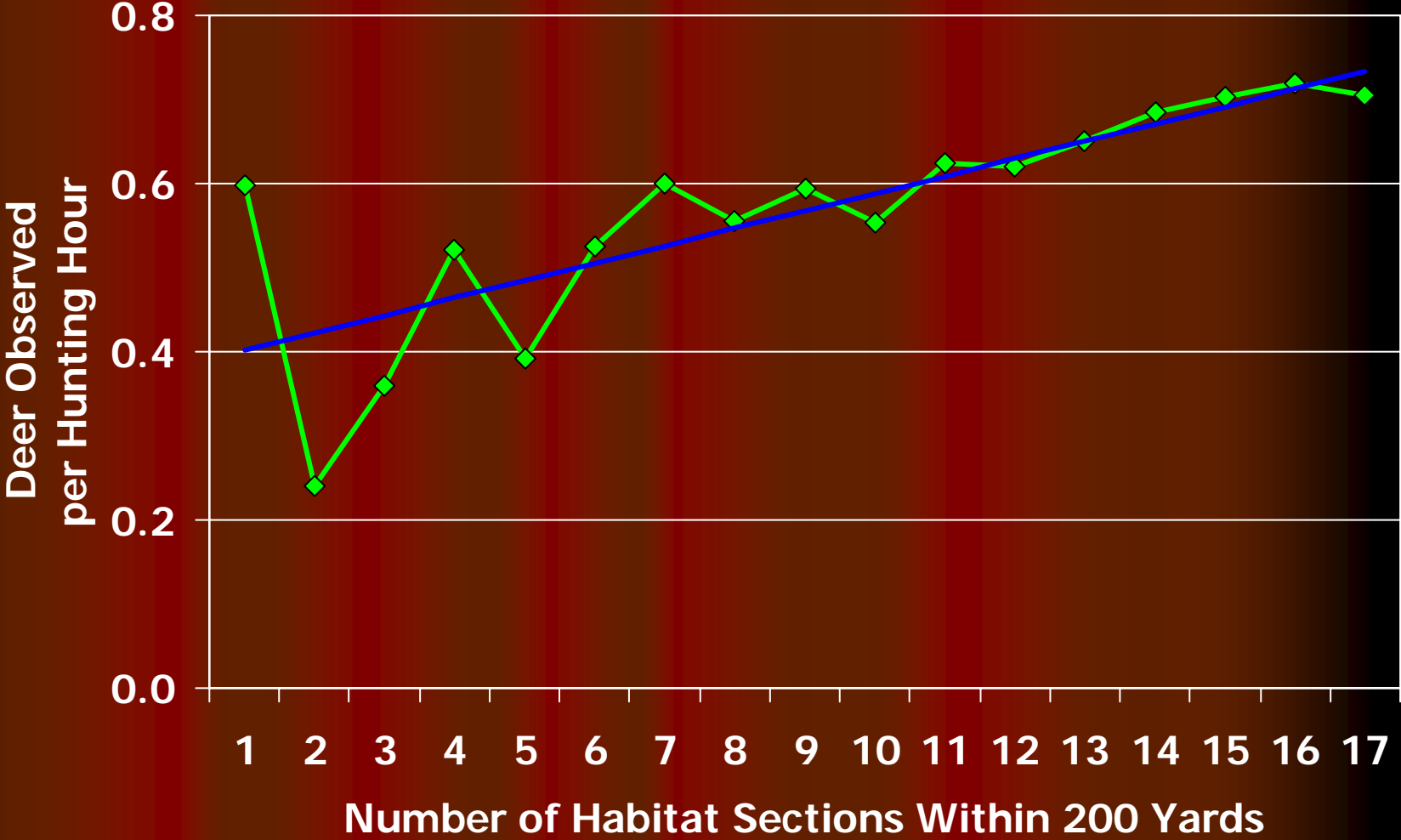 - Power and gas-line right-of-ways

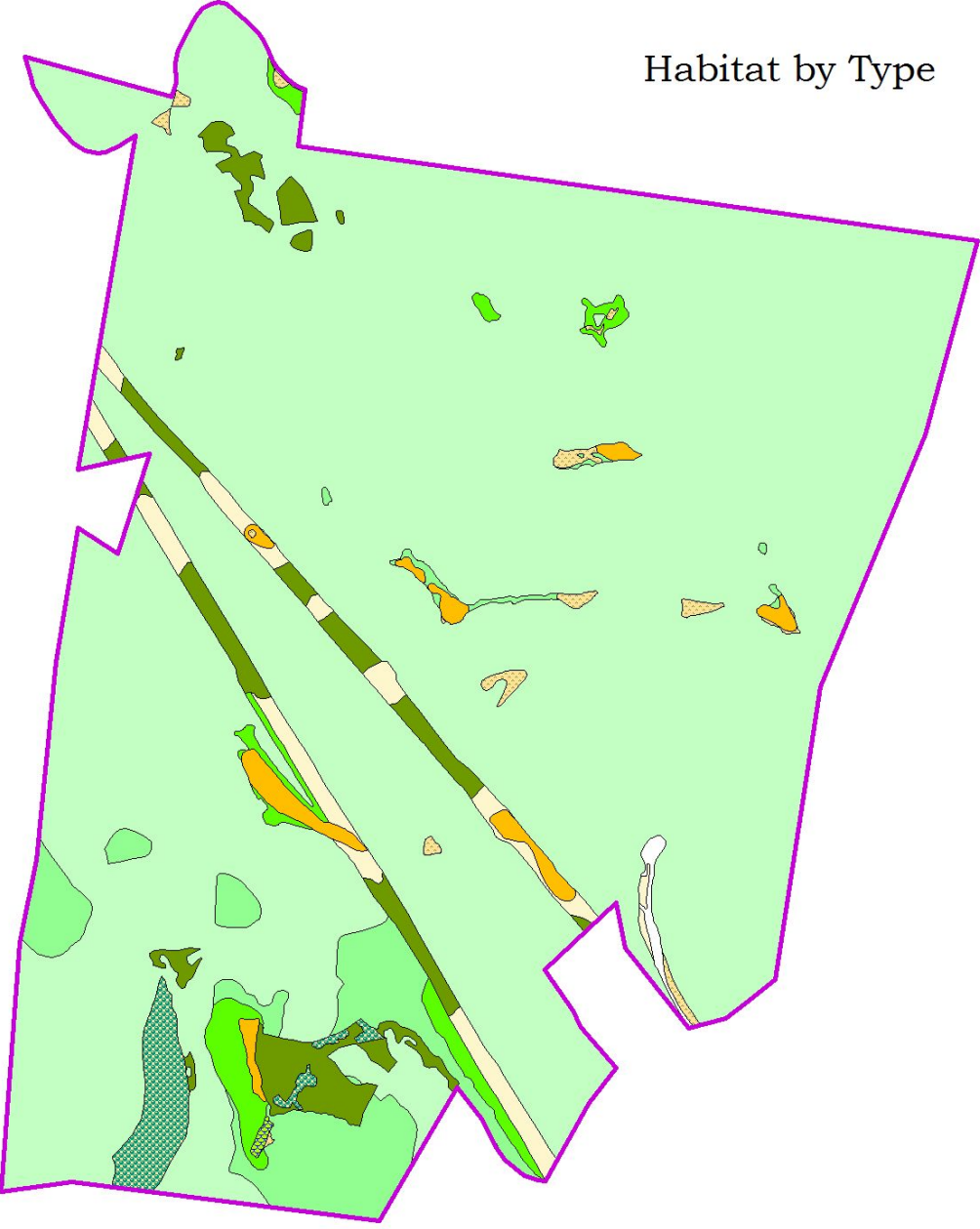# The Science of Habitat Management

- Habitat Diversity
- **CRITICAL** for maximizing wildlife production
  - Shrinks home range size
    - Meets all life requirements in a smaller area
  - Maximizes Habitat "edges"
    - Most game species are "creatures of the edge"
  - Increases daylight activity
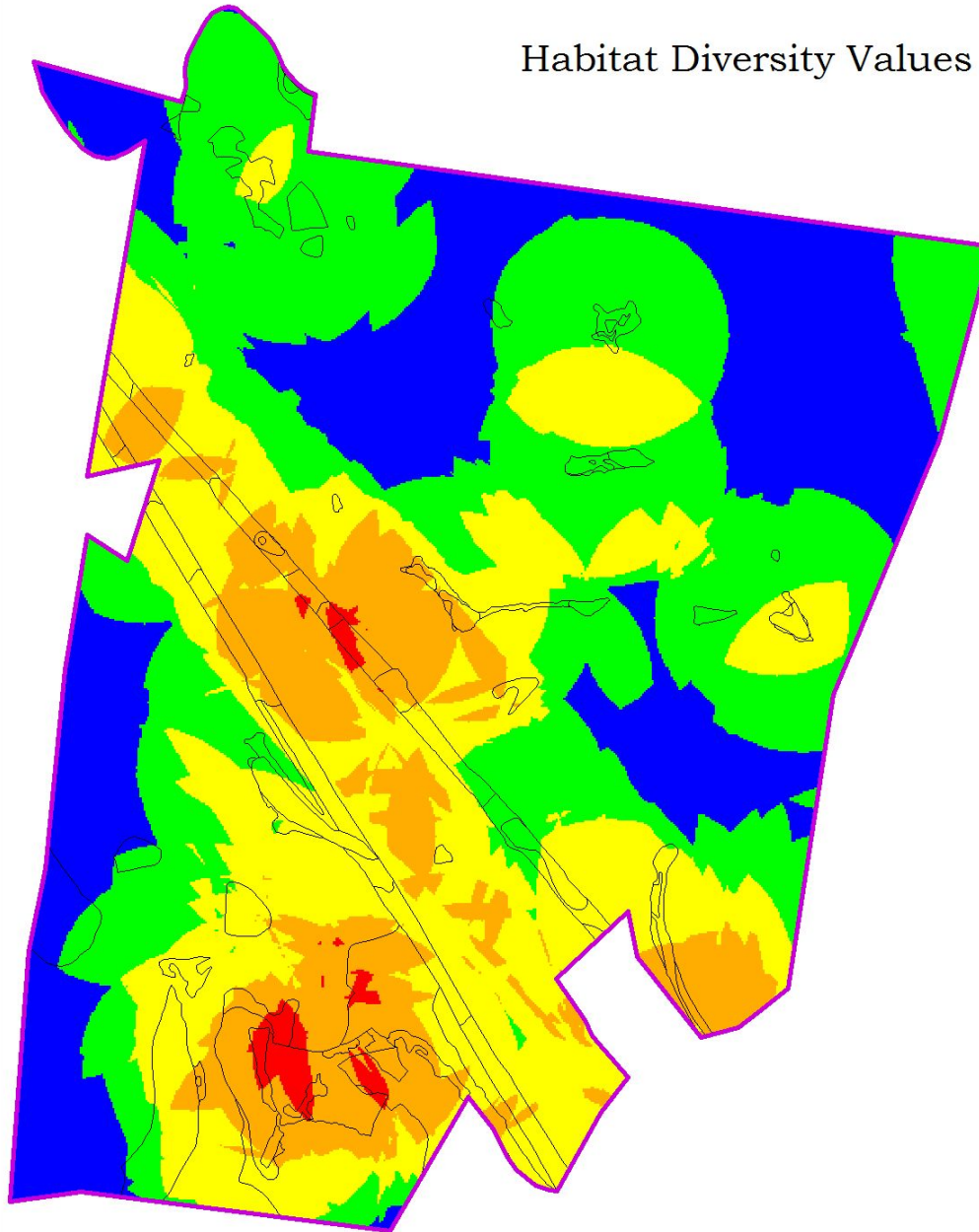
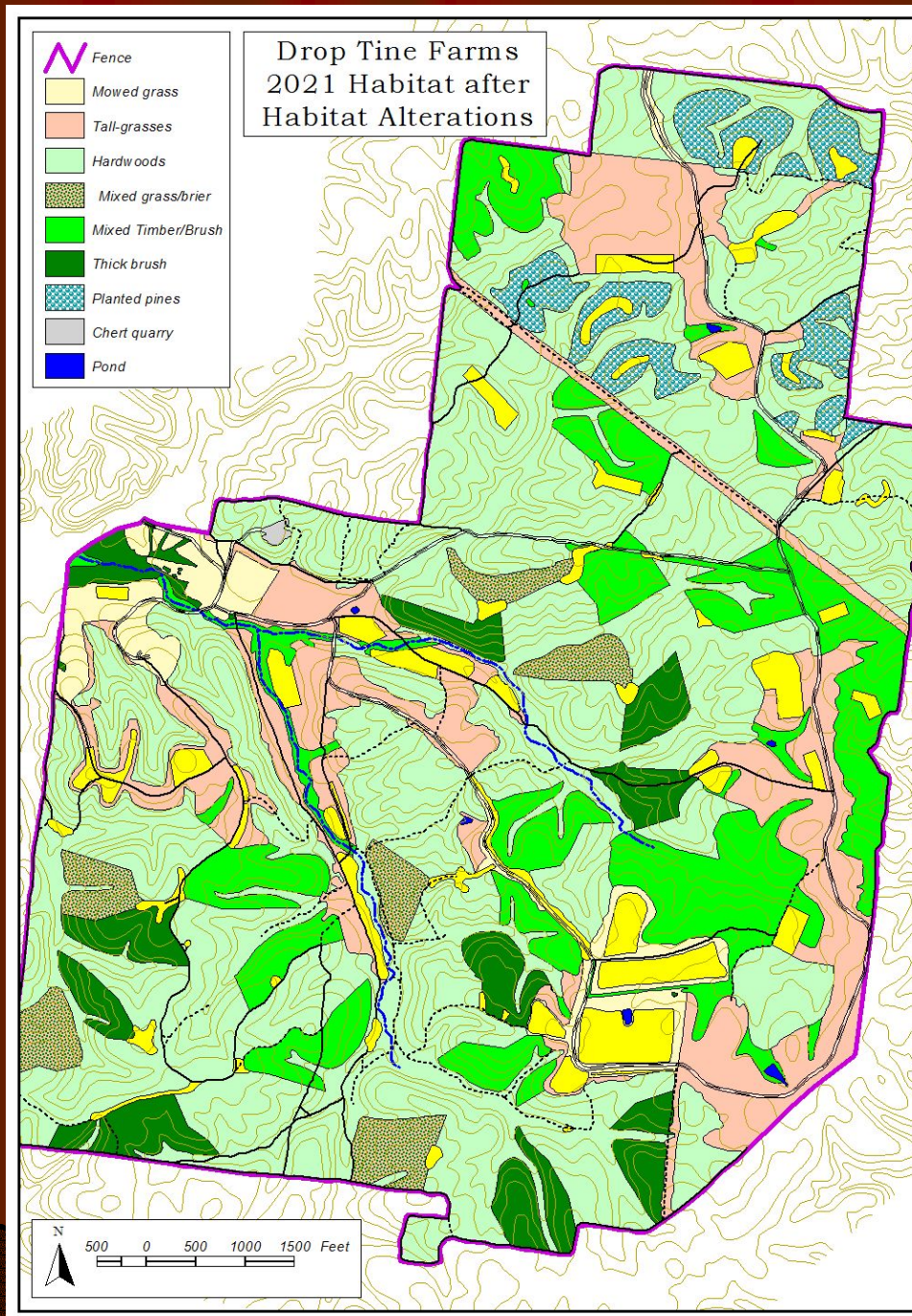Deer Observation Rates by Habitat Diversity

Habitat by Type

Habitat Diversity Values

Maximizing Habitat Diversity

- Create habitat types in small sections
  - Create a "patchwork quilt" of different habitat
- Manage timber in small sections
  - Rotational timing of timber management
  - This **WILL** require compromise between timber production and wildlife production
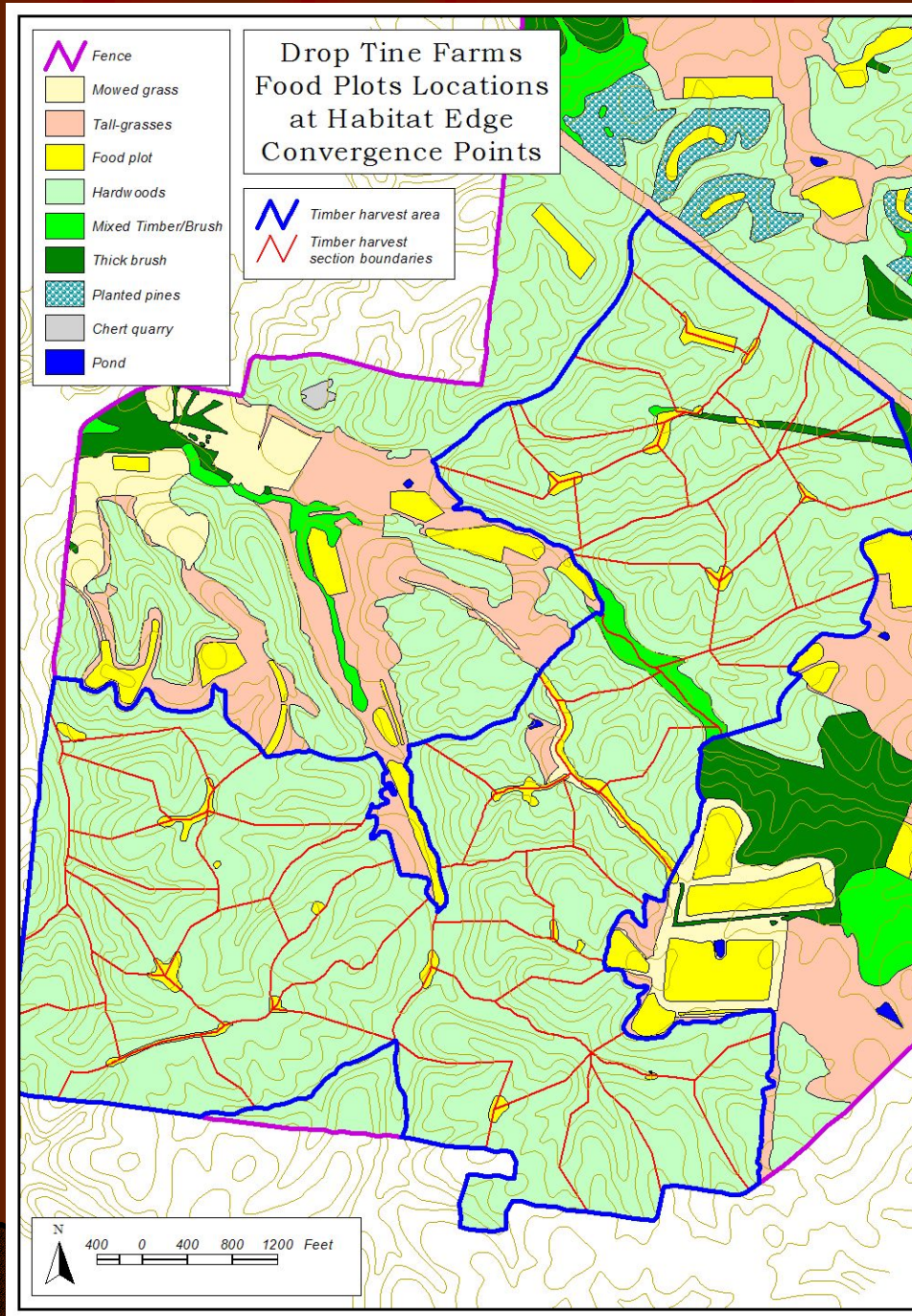- Mix small openings into larger timber sections

Drop Tine Farms
2021 Habitat after
Habitat Alterations

Fence
Mowed grass
Tall-grasses
Hardwoods
Mixed grass/brier
Mixed Timber/Brush
Thick brush
Planted pines
Chert quarry
Pond

N

500   0   500   1000   1500 Feet

The Art of Habitat Management

- Break up cover habitat into small sections
  - Less "conflict" between individuals of a species trying to use the same cover
  - Won't allow wildlife to "live" full-time in cover
  - Spreads critical resource across property
    - More even use/attractiveness of entire property

The Art of Wildlife Management

- Design habitat edges to run along favorable terrain
  - Ridge-lines, points and valleys
- Create convergent "edges"
  - Produce predictable viewing/hunting "hot-spots"
    - **Habitat edges that converge on a food source**

Drop Tine Farms
Food Plots Locations
at Habitat Edge
Convergence Points

Legend:
- Fence
- Mowed grass
- Tall-grasses
- Food plot
- Hardwoods
- Mixed Timber/Brush
- Thick brush
- Planted pines
- Chert quarry
- Pond
- Timber harvest area
- Timber harvest section boundaries

N
400 0 400 800 1200 Feet

Summary

- Get sunlight on the ground!
- Produce early and 2nd-stage regrowth
- Plant and/or maintain food and cover openings
- Maximize habitat diversity!
- Create a long-term plan to insure the right percentage of the property is in each critical habitat type into the future