

Wildlife Habitats: A history of change for Connecticut's wildlife

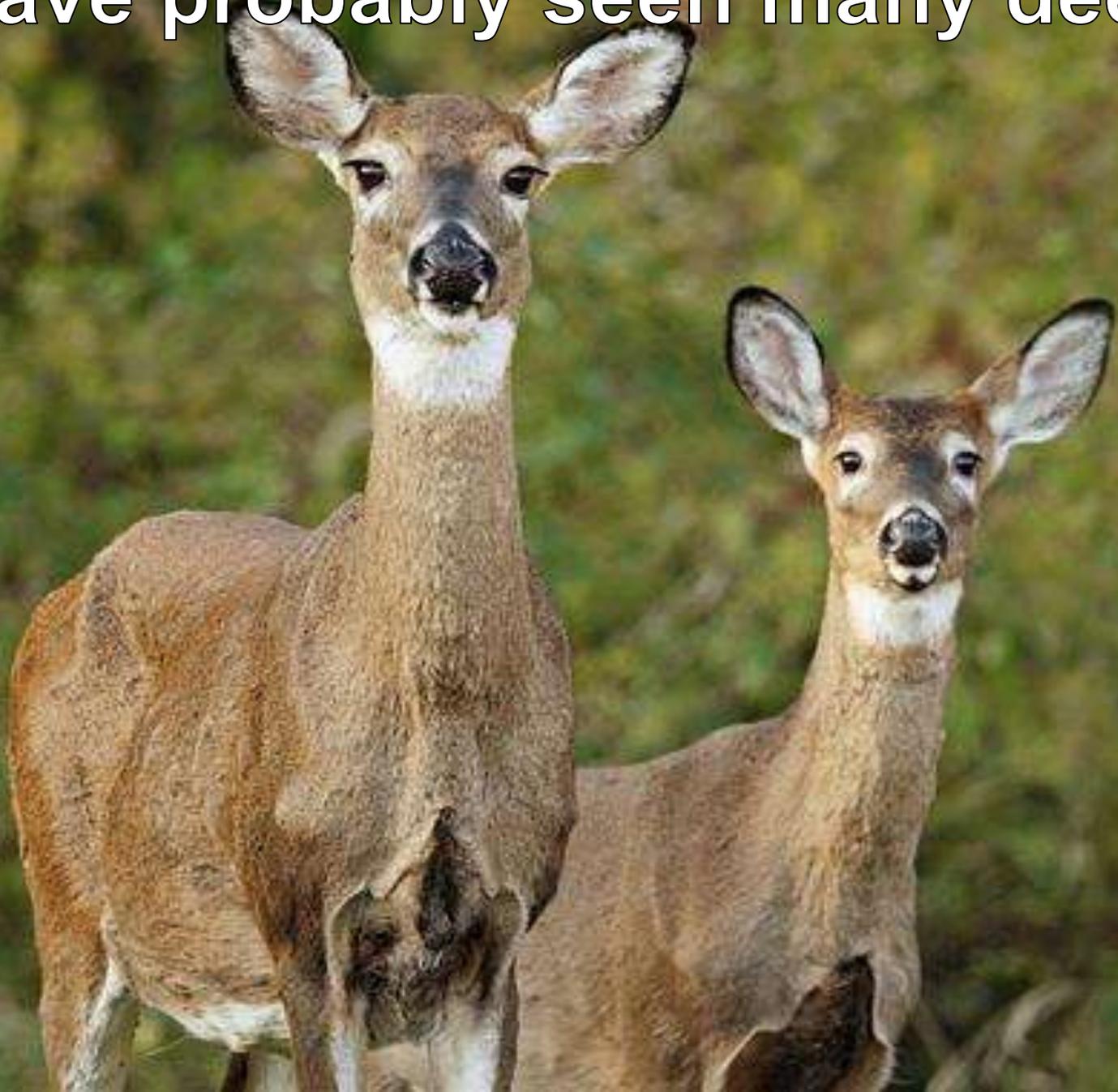


Belding



Wildlife Management Area

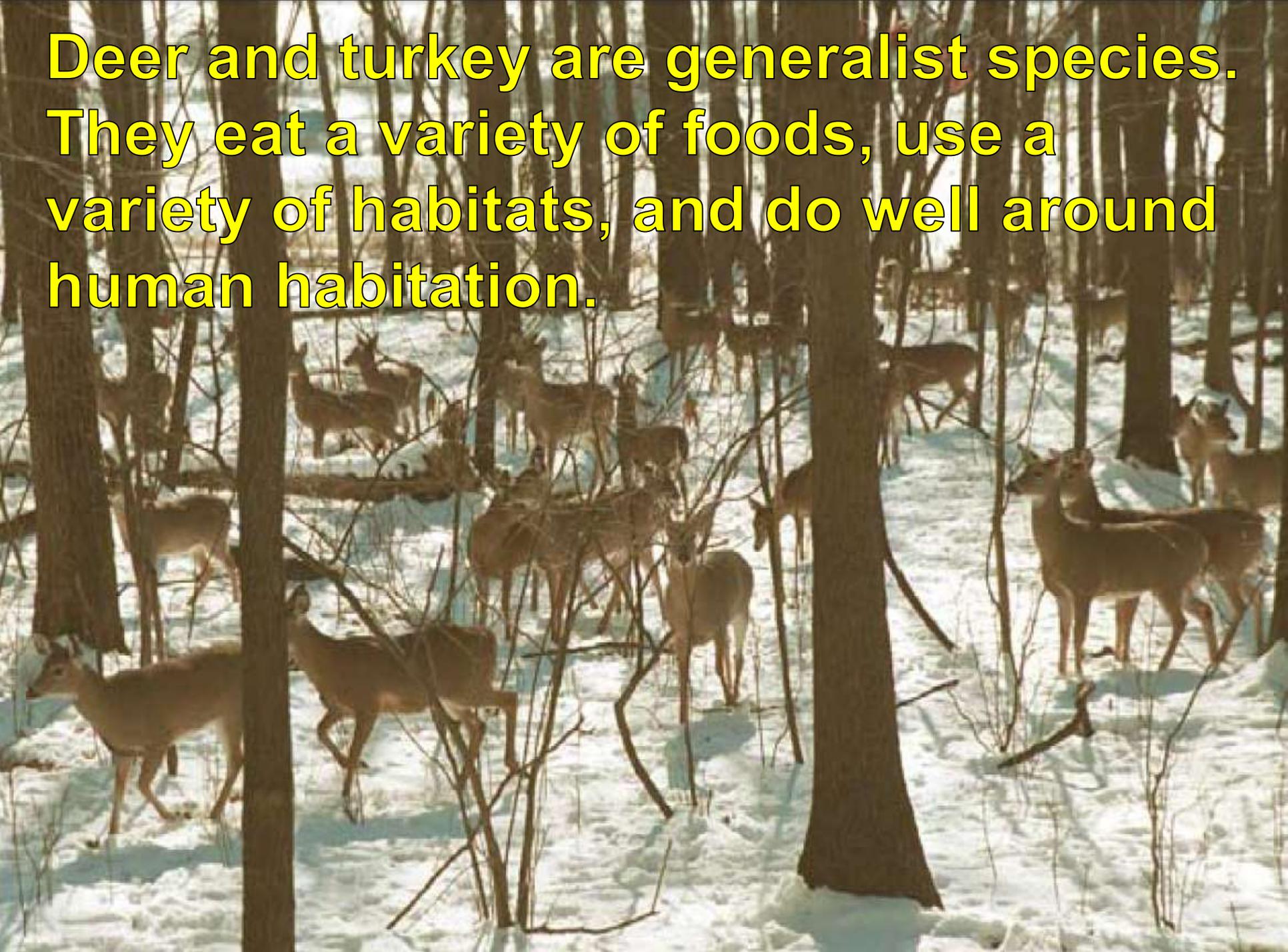
You have probably seen many deer...



... and turkey in Connecticut.



Deer and turkey are generalist species. They eat a variety of foods, use a variety of habitats, and do well around human habitation.



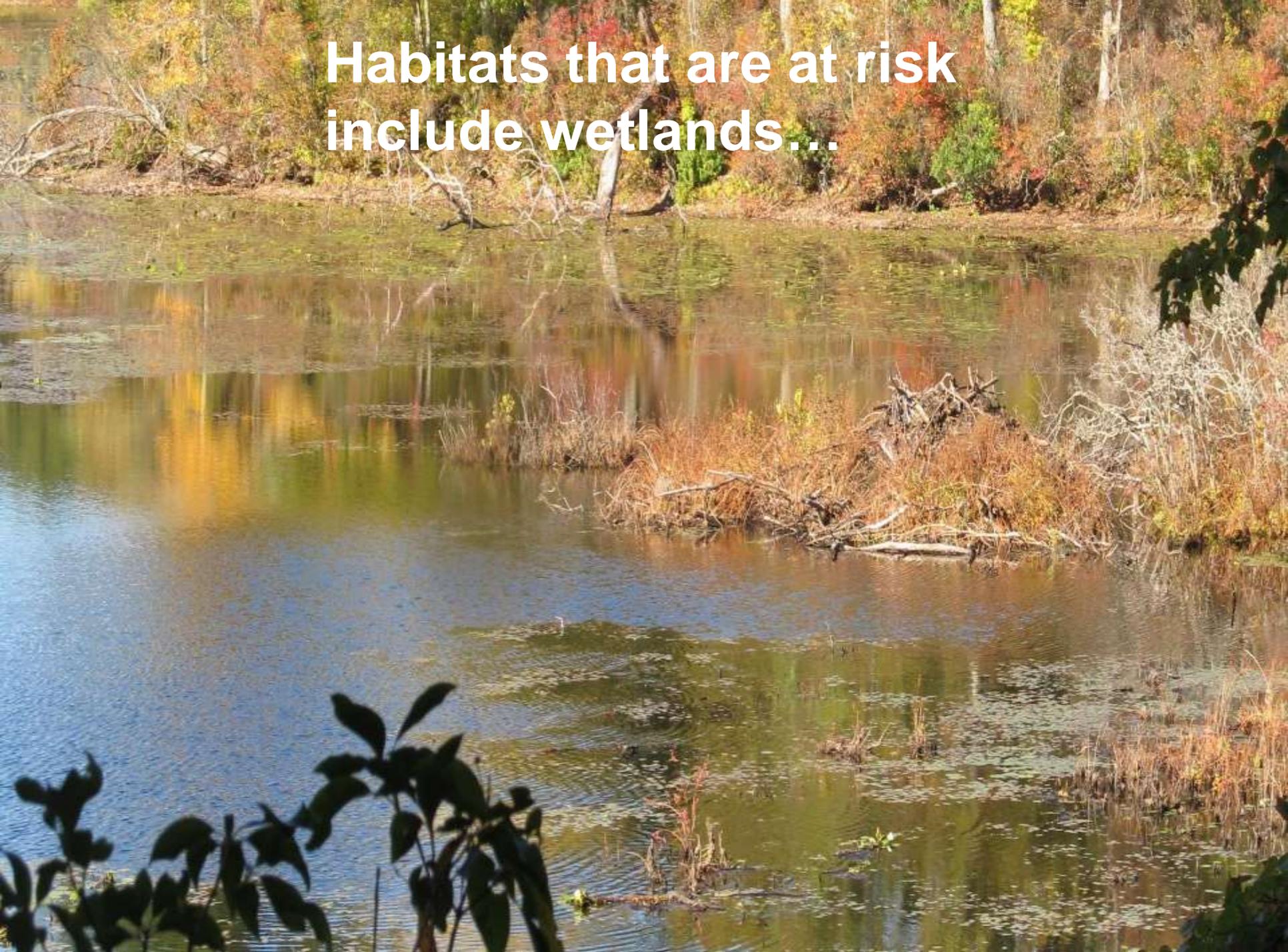
**However, many species in Connecticut
are becoming rare.**





Animals that are at the greatest risk are those that depend on habitats that are at risk.

**Habitats that are at risk
include wetlands...**



and early successional habitats such as:

grasslands



shrublands



and young forest



What do we mean by early successional habitat?



Succession is the natural process where one group of plants is replaced by another group of plants over time.



Succession



1. Bare ground is colonized by

2. grasses and wildflowers.

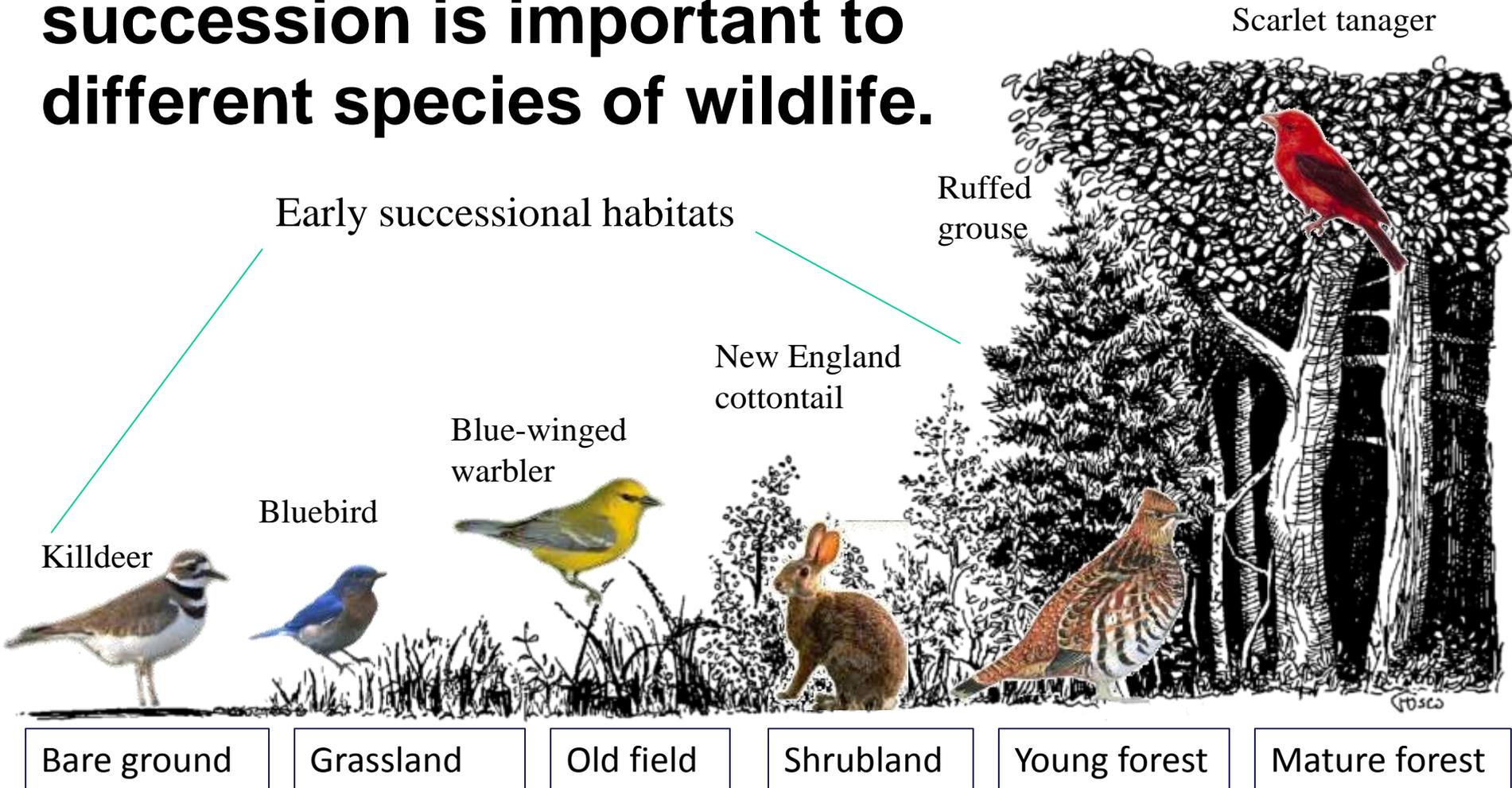
3. Scattered shrubs and trees sprout and grow into

4. a dense shrubland, which will continue to grow into

5. a young forest and ultimately into a

6. mature forest

Each stage in the process of succession is important to different species of wildlife.



Some animals use multiple stages of succession.



The American woodcock requires deciduous forest with adjacent grassland habitat.





Even forest interior birds depend on forest openings where they do much of their feeding.

What do you see in this grassland?







What happens to these species when grasslands disappear?

Much of the habitat that had been used by wildlife in Connecticut has been lost to development.





But some habitats are lost because
the forest has grown back

Succession!

A photograph of a mature forest. The trees are tall and thin, with some showing signs of autumn color change. The ground is covered in fallen leaves and green plants. The text is overlaid in yellow at the bottom of the image.

Most of our undeveloped land is mature forest, which is great for animals that depend on mature forest

But many of Connecticut's species depend on early stages of forest succession.



An eastern towhee is perched on a thin, light-colored branch with several small, yellowish-brown buds. The bird has a black head and back, a white breast, and a prominent orange-red patch on its side. Its beak is slightly open, and it is looking upwards and to the right. The background is a soft, out-of-focus greenish-brown.

**The eastern
towhee
requires
young forest**

The eastern towhee population has declined 90% since the 1960's.

The New England cottontail requires shrubland



The New England cottontail has lost more the 80% of its habitat since 1960. For more information on the New England cottontail, visit [New England Cottontail.org](http://NewEnglandCottontail.org) (link at end of slideshow)

But why should we care? Wasn't Connecticut all mature forest before the settlers arrived?



The forests that the settlers encountered were cleared to make way for agriculture. While this was bad news for forest species, it was a benefit for our grassland species. Farming back then moved more slowly, allowing grassland birds to raise their young in pastures and hayfields.



When agriculture was abandoned, the land went through the stages of forest succession, each stage providing habitat for different groups of species.



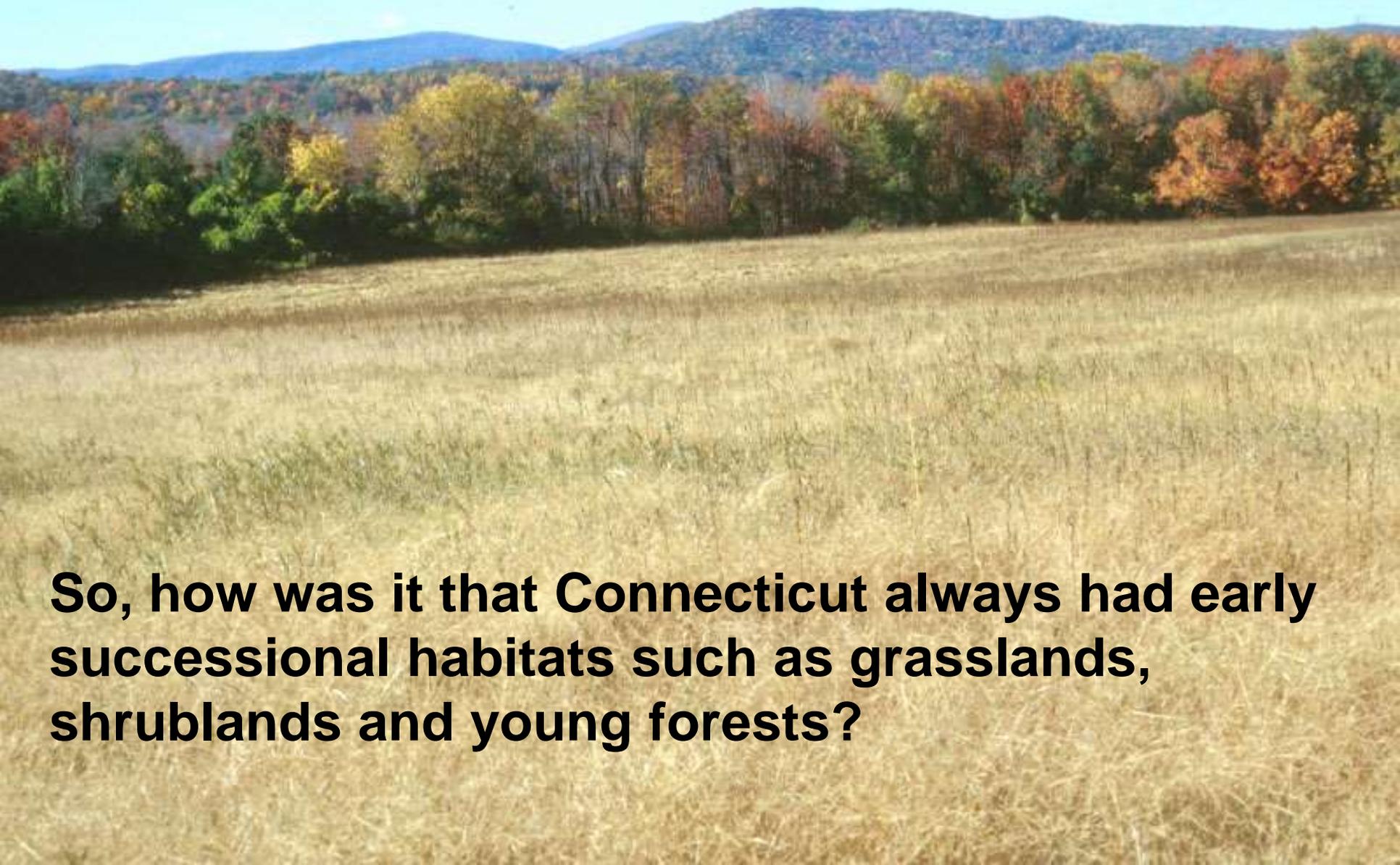
Eventually, the forests grew back.



So, why worry about species that are dependent on early successional habitats? Connecticut is just growing back into the forest that it always was, right?



Wrong! It is estimated that we now have less grassland habitat than when the settlers arrived.



So, how was it that Connecticut always had early successional habitats such as grasslands, shrublands and young forests?

Fire!





Fire was a frequent occurrence across the Connecticut landscape, creating or maintaining early stage habitats.

But what happens now when a wildfire breaks out?

A firefighter in a yellow jacket and red helmet is shown from the side, spraying water from a hose onto a wildfire. The firefighter is wearing a large black backpack and is positioned in a wooded area with many thin, bare tree branches. In the background, a large fire is burning, with bright orange flames and thick white smoke rising into the air. The scene is set in a natural, outdoor environment.

We put it out!

In such a highly developed state such as Connecticut, it's not long before a wildfire is knocking at someone's front door.



Fire suppression is one reason for the decline in early successional habitats, fire-dependent species, and other disturbance-dependent species.

But, it wasn't just fire that created or maintained early successional, or "disturbance-dependent", habitats.

What else played an important role in shaping Connecticut's landscape?



Beavers!



Because what do beavers do?

A photograph of a forest with many cut tree stumps and logs on the ground, indicating logging activity. The trees are mostly bare, suggesting a late autumn or winter setting. The ground is covered with fallen leaves and some green grass. The text "They cut down trees!" is overlaid in large white letters with a black outline.

They cut down trees!

**Which they use to build
dams and create ponds,**

2015/09/18



A photograph of a flooded forest. In the foreground, several tall, thin, dead trees with bare branches stand in shallow water. The water is covered with green lily pads and some reeds. In the background, a dense forest of green trees is visible under a blue sky with some clouds.

**which flood and kill
more trees.**

Given the right location, beavers are capable of flooding vast areas. Today, although beavers are once again abundant, much of their flooding is curtailed when their ponds expand into yards and roads that have been built near streams and wetlands.





After they eat themselves out of house and home, the beavers move on. The pond that they have left behind has filled in with sediment. The sediment becomes exposed as the dam deteriorates and the stream finds its course. Grasses and wildflowers grow on the exposed sediment and a beaver meadow is born.

After several years, shrubs and tree seedlings begin to grow in the beaver meadow.



The tree seedlings grow into young trees.



The trees grow into a young forest and ultimately into a mature forest.



Succession!

Eventually, when the forest grows back, the beavers can move in and begin the whole process all over again.



For more information, view or download the booklet *Beavers in Connecticut: Their management and natural history*. Link is available at end of slideshow.





Minnesota Department of Natural Resources, Minnesota
Department of Natural Resources Bugwood.org

UGA4214011



Robert L. Anderson, USDA Forest Service,
Bugwood.org

UGA3036081

Other natural disturbances that influence succession include ice storms, hurricanes, tornadoes, blowdowns and seasonal flooding.



Robert L. Anderson, USDA Forest Service,
Bugwood.org

UGA0364098





Recent burn

Seasonal
flooding

Beaver
meadow

Beaver pond

Forest
regeneration
after fire

So at any point in time, there would be patches of habitat at different stages of succession across the landscape.

How much habitat does a species need?



**Some species can use
small patches of habitat.**



Eastern bluebirds can survive in relatively small patches of open habitat with abundant insects.



Other species require larger patches of habitat.



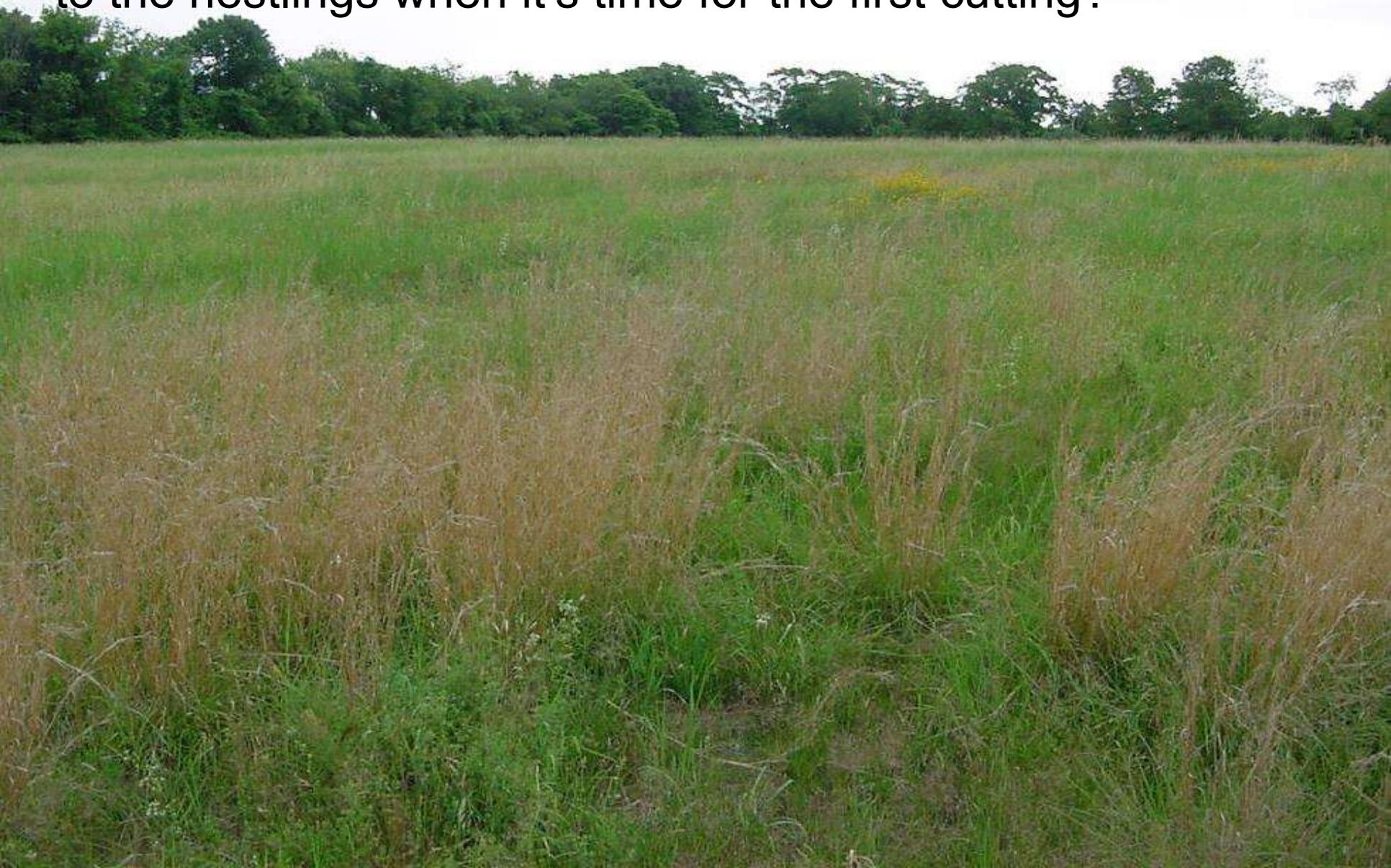
The bobolink requires at least 10 acres of grassland habitat.



The eastern meadowlark requires at least 20.



Although you can still find some 10- or 20-acre grasslands in Connecticut, many of them are hayfields. What happens to the nestlings when it's time for the first cutting?



Populations of many grassland species are plummeting. The bobolink and meadowlark are now listed as species of special concern in Connecticut.





The upland sandpiper (left) and the grasshopper sparrow (right) require 100 acres or more of contiguous grassland habitat. Both of these species are endangered in Connecticut.

A photograph of a large, green lawn in the foreground, with a white house and a road visible in the background. The lawn is the central focus, and the house is a two-story structure with a grey roof and several windows. The road is paved and curves to the left. The overall scene is a typical suburban or rural setting.

Is a lawn a grassland?

A photograph of a white, two-story house with a grey roof and several windows, situated on a grassy hillside. A paved road curves to the left of the house. The foreground is a large, green lawn. A large, thick red 'X' is drawn across the entire image. The word 'No!' is written in large, white, bold, sans-serif font in the center of the image.

No!

**A lawn does not provide for an
animals basic requirements.**

All animals have four basic requirements (their biological needs).

WATER

FOOD

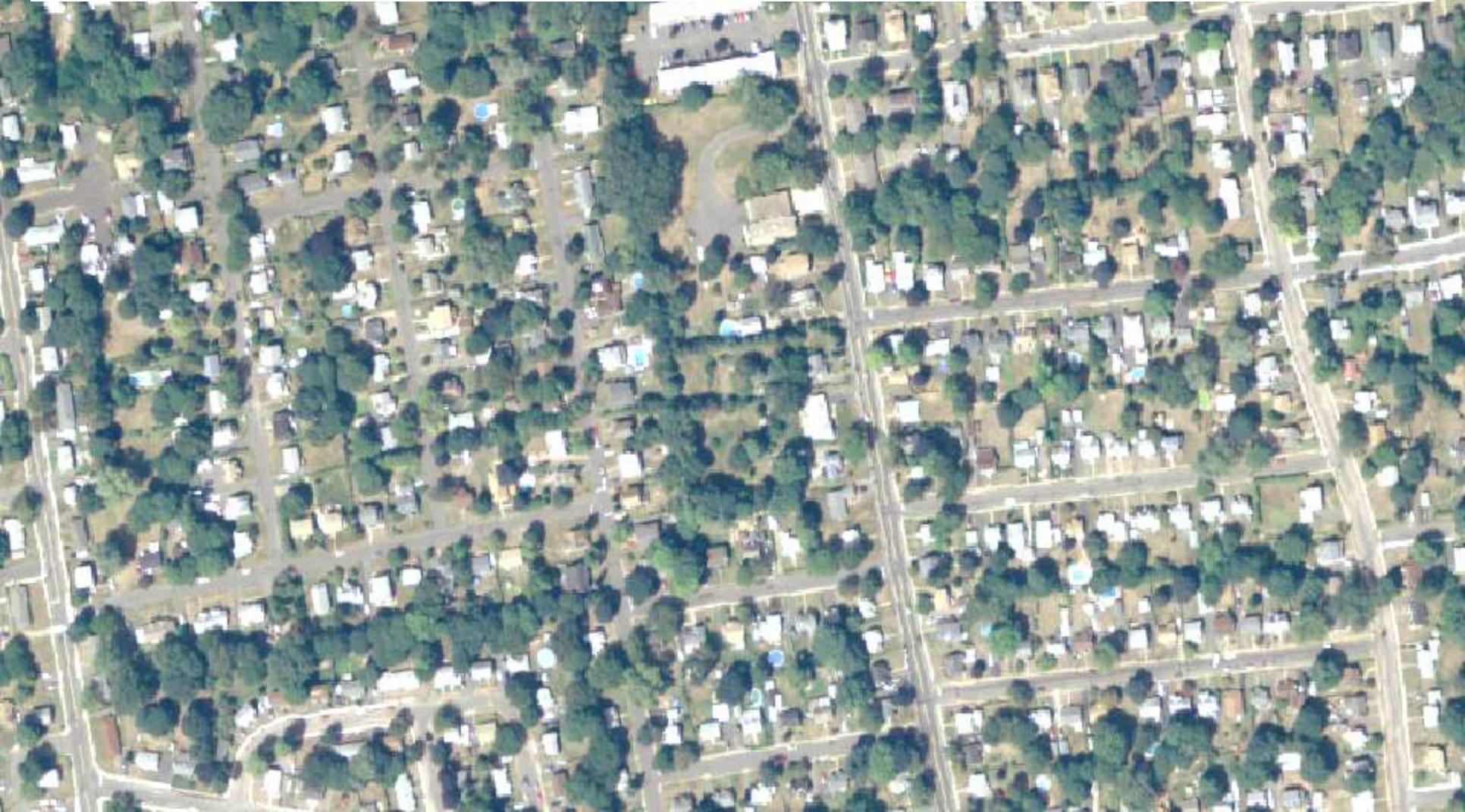
SHELTER

SPACE



All animals need enough **SPACE** in order to find all of the **FOOD**, **WATER** and **SHELTER** that they need to survive AND to reproduce.

As we convert land to buildings, roads and lawns, we take away the food, water, shelter and space that animals need to survive.



The #1 threat to wildlife . . .



... is loss of habitat.



To help protect wildlife, Connecticut's DEEP Wildlife Division protects and manages wildlife habitat



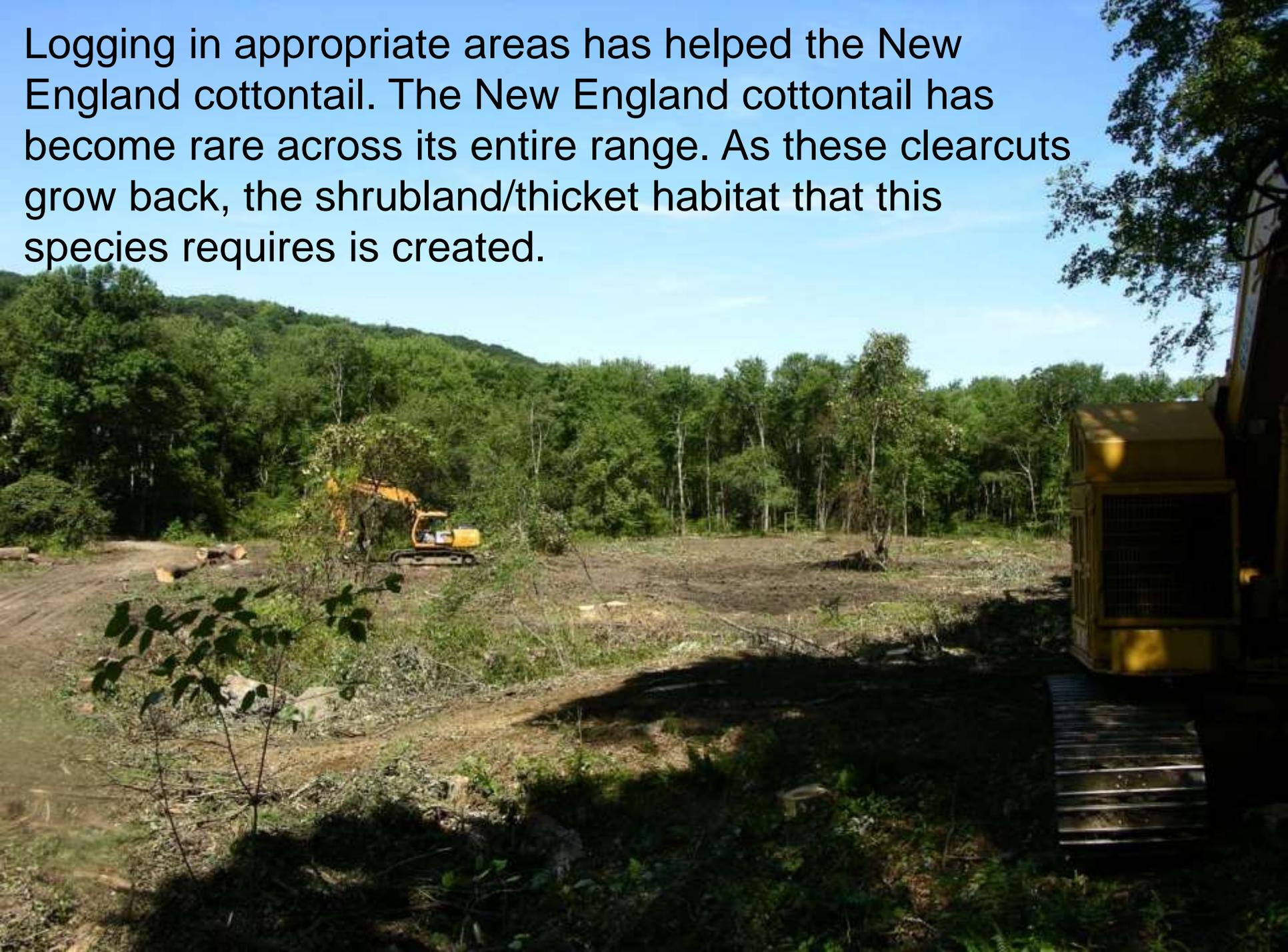
**So, how is
Connecticut's DEEP
Wildlife Division
creating early
successional habitats –
grasslands, shrublands
and young forest?**



By simulating natural disturbances.



Logging in appropriate areas has helped the New England cottontail. The New England cottontail has become rare across its entire range. As these clearcuts grow back, the shrubland/thicket habitat that this species requires is created.



Where do you put this clearcut?



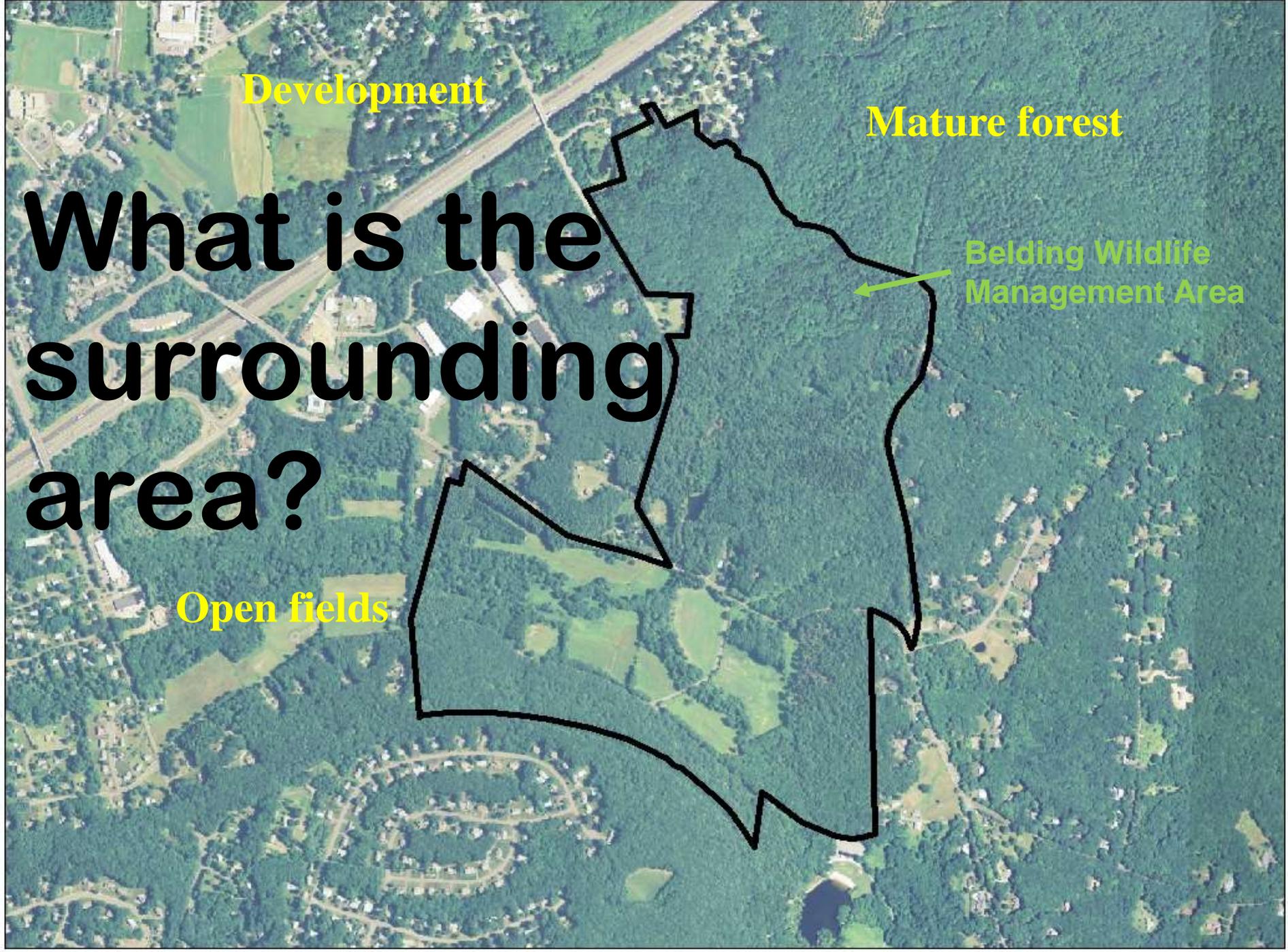
Development

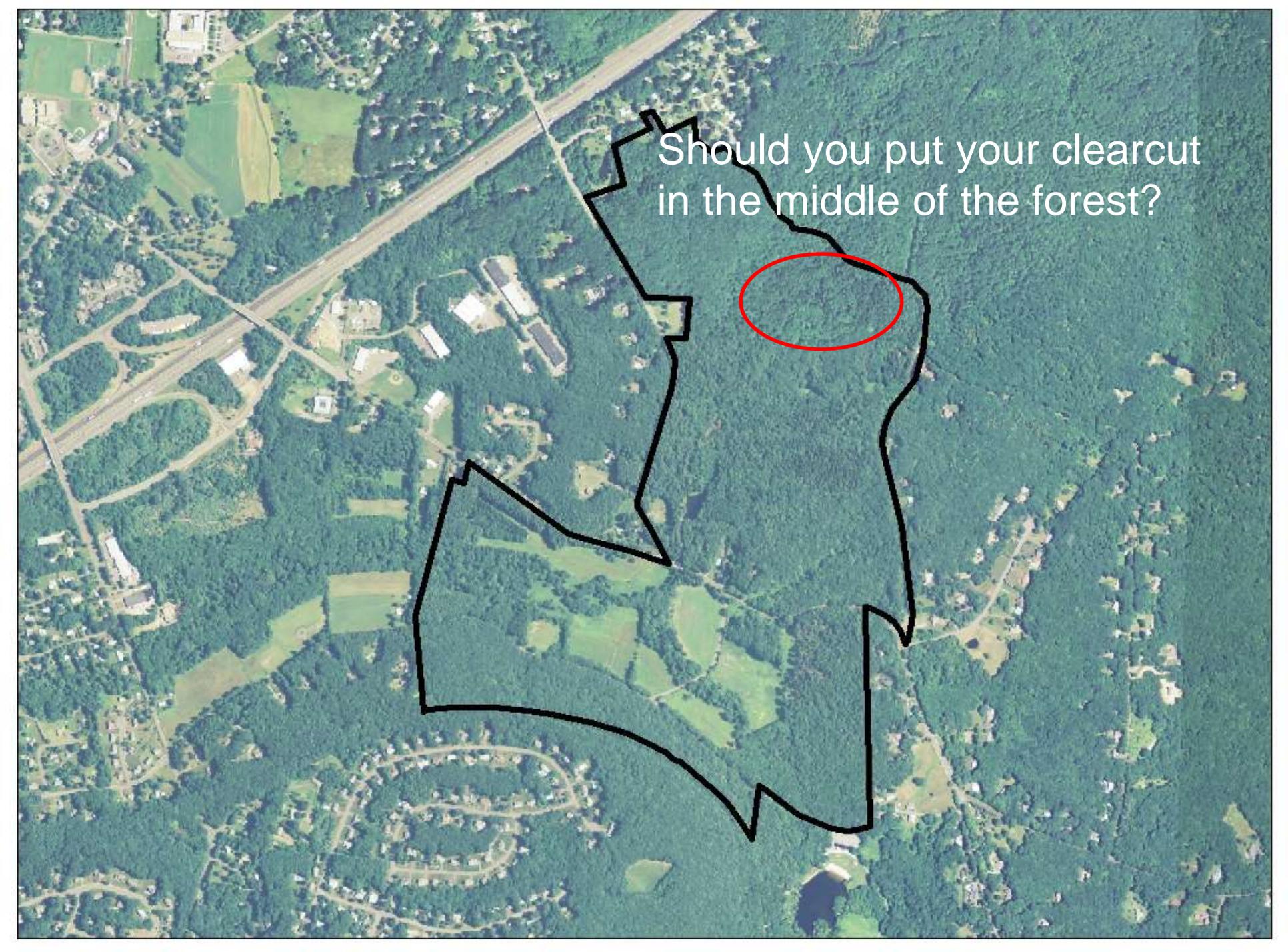
Mature forest

**Belding Wildlife
Management Area**

Open fields

**What is the
surrounding
area?**



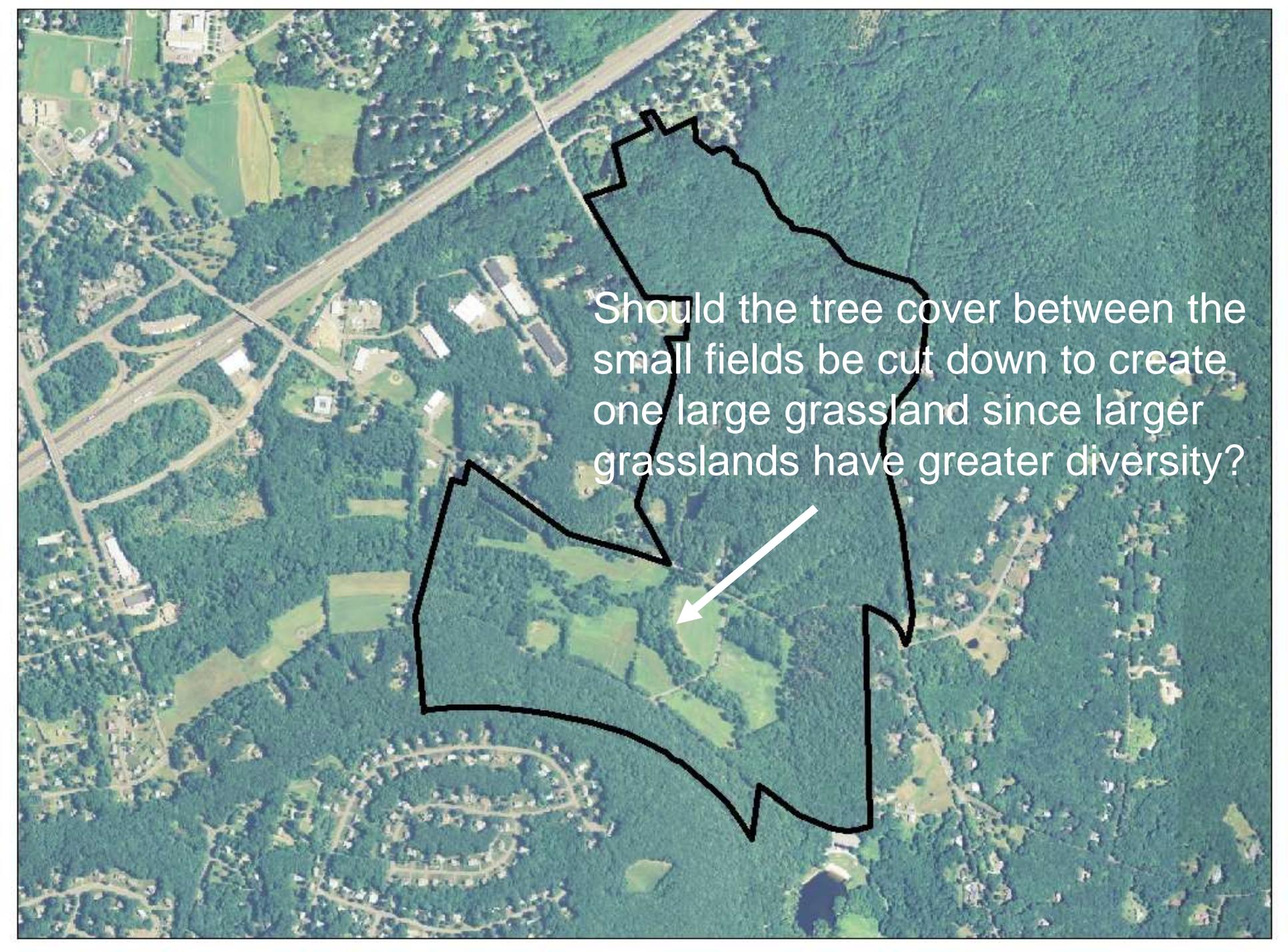
An aerial photograph showing a large area of dense green forest. A thick black outline traces a complex, irregular shape across the forest, suggesting a boundary or a specific area of interest. Within this outlined area, a red circle highlights a specific section of the forest. The surrounding landscape includes a multi-lane highway on the left, various buildings and structures, and patches of cleared land or fields. The text 'Should you put your clearcut in the middle of the forest?' is overlaid in white in the upper right quadrant.

Should you put your clearcut
in the middle of the forest?

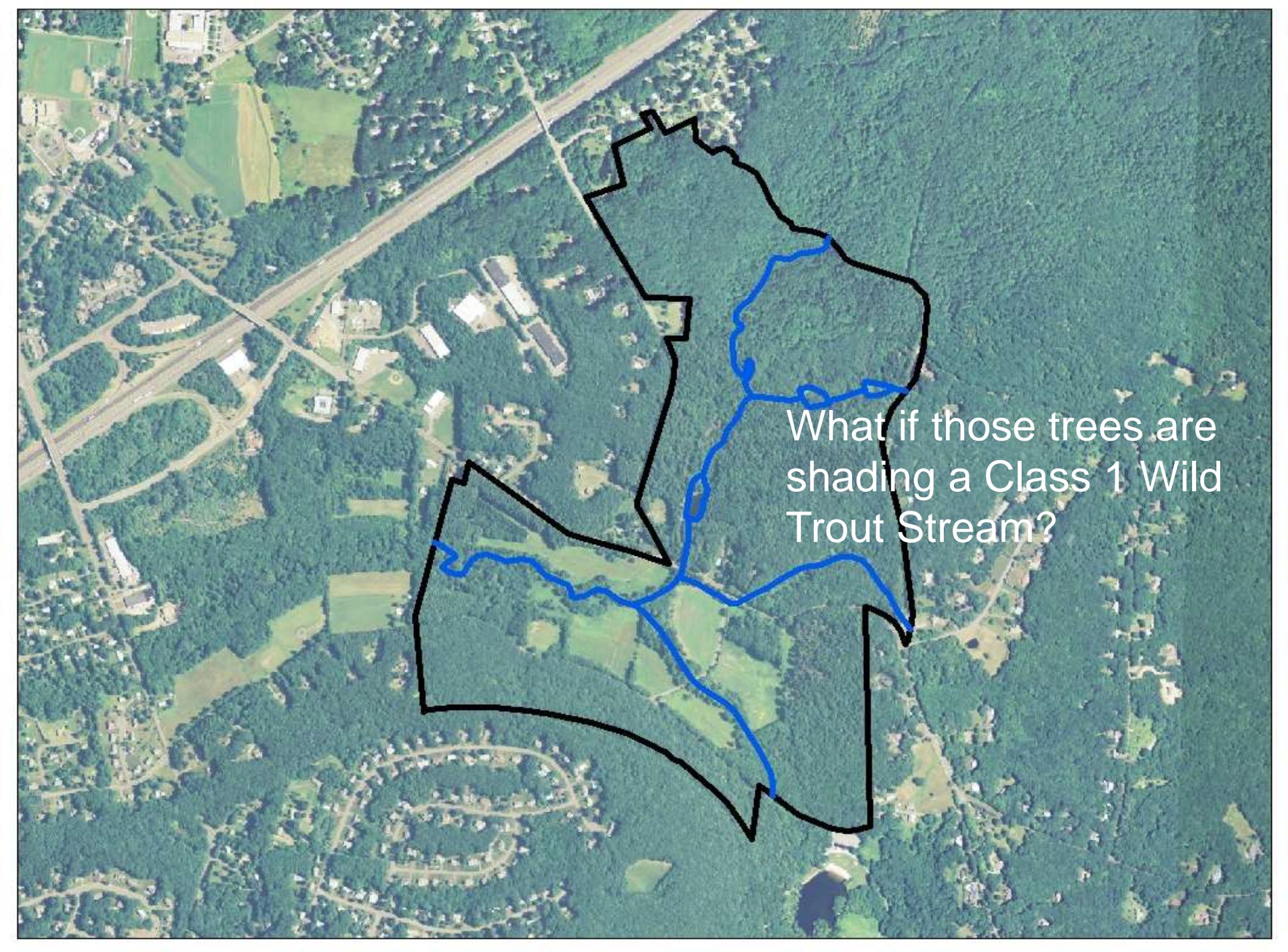
An aerial photograph of a landscape showing a mix of dense green forest, open fields, and residential or commercial buildings. A black outline highlights a specific area of fragmented forest. In the upper right, a cerulean warbler is perched on a thin branch, facing left. The bird has bright blue upperparts and white underparts with dark streaks.

What if cerulean warblers
are nesting there?

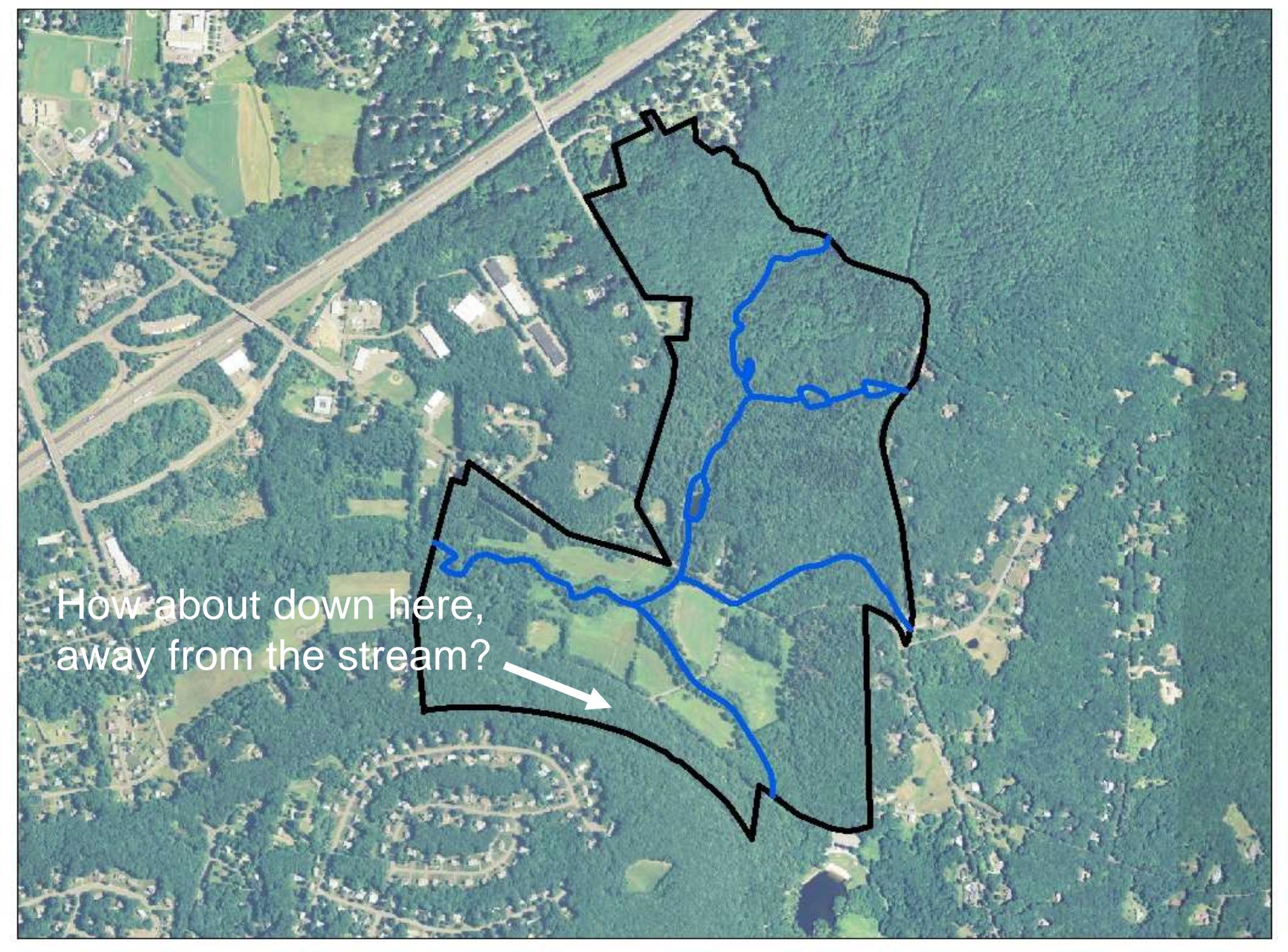
Cerulean warblers require
large tracts of unbroken
forest with small openings.

An aerial photograph showing a landscape with a mix of green fields, dense forest, and some buildings. A large, irregular black outline is drawn around a central portion of the image. Inside this outline, a white arrow points to a specific area of lighter green, which appears to be a patch of grassland or a field. The surrounding area is mostly dark green forest, with some scattered buildings and roads. The text is overlaid on the right side of the image, within the black outline.

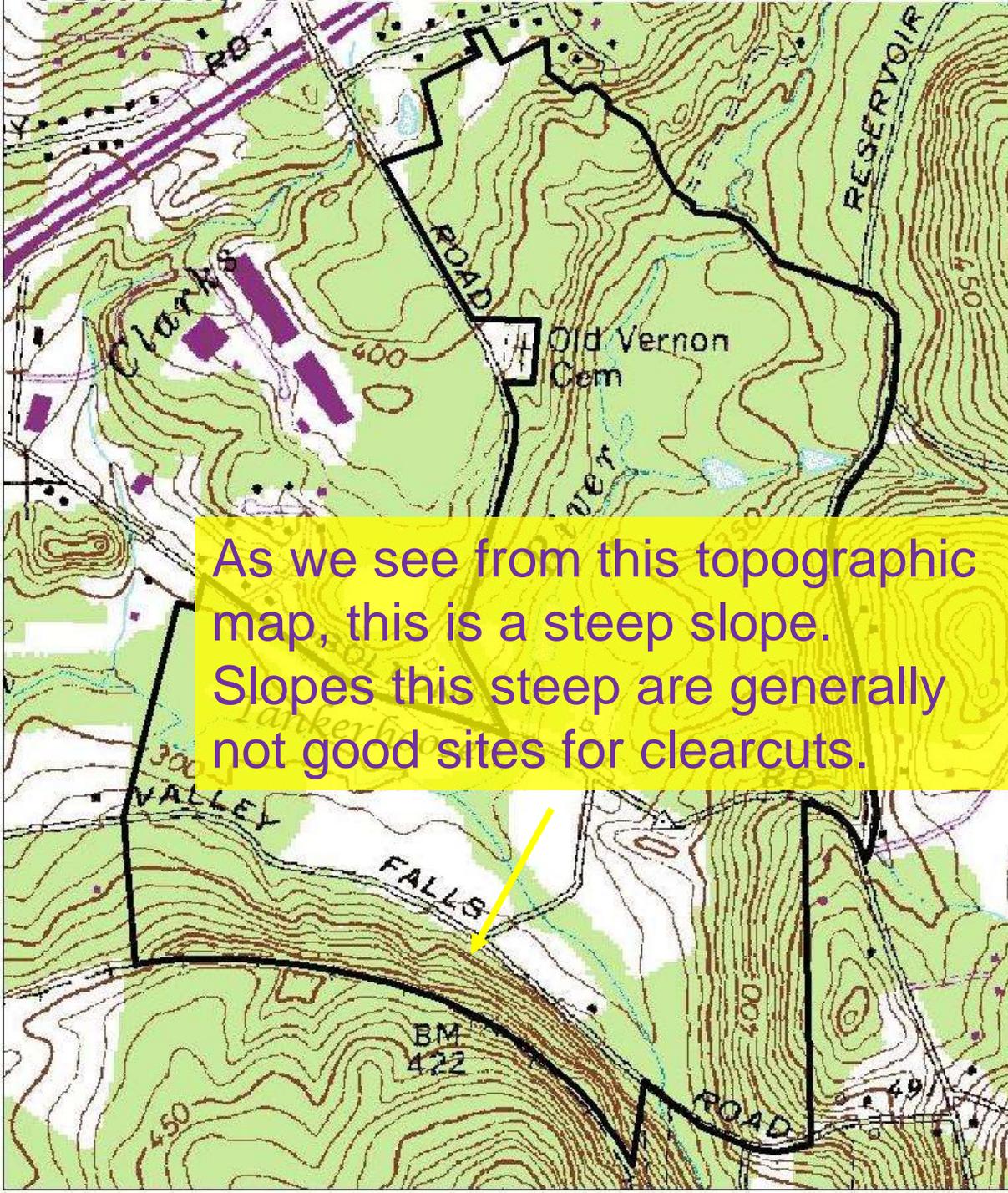
Should the tree cover between the small fields be cut down to create one large grassland since larger grasslands have greater diversity?

An aerial photograph showing a landscape with a mix of dense green forest, open green fields, and residential or commercial buildings. A prominent multi-lane road runs diagonally from the top left towards the center. A blue line traces a stream or river path through the forested areas. A thick black outline highlights a specific section of the forest. The text 'What if those trees are shading a Class 1 Wild Trout Stream?' is overlaid in white on the right side of the image.

What if those trees are shading a Class 1 Wild Trout Stream?

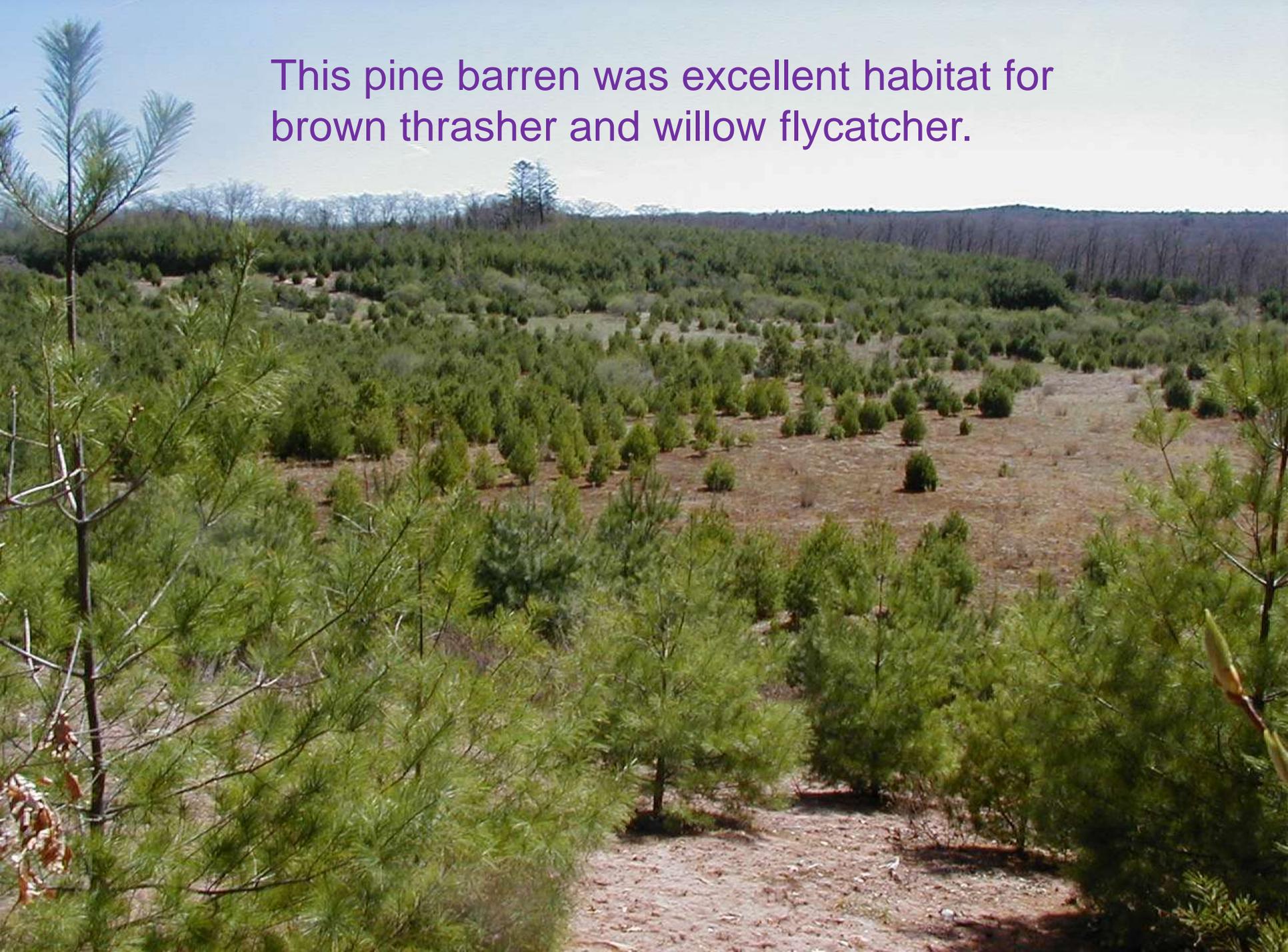


How about down here,
away from the stream?



As we see from this topographic map, this is a steep slope. Slopes this steep are generally not good sites for clearcuts.

This pine barren was excellent habitat for brown thrasher and willow flycatcher.



A photograph of a pine forest. In the foreground, a path of dry, yellowish-brown grass leads towards the center. The path is flanked by dense, green pine trees. On the left side, a tree is dead, with its branches bare and brown. The sky is a clear, bright blue. The overall scene suggests a natural, undisturbed forest environment.

Ten years later, the trees grew up and those species were gone.

The trees were removed.



A wide-angle photograph of a natural field. The foreground and middle ground are filled with a dense carpet of dry, tan-colored grasses and numerous small, white wildflowers. Several thin, vertical tree seedlings are scattered throughout the field. In the background, a thick line of mature green trees forms a forest edge under a cloudy, overcast sky.

Now, native grasses and wildflowers are growing back along with tree seedlings.



Smaller trees can be removed with heavy equipment such as the Brontosaurus.

Controlled burns are used to maintain grasslands.



Mowing after nesting season is also used to maintain grasslands.

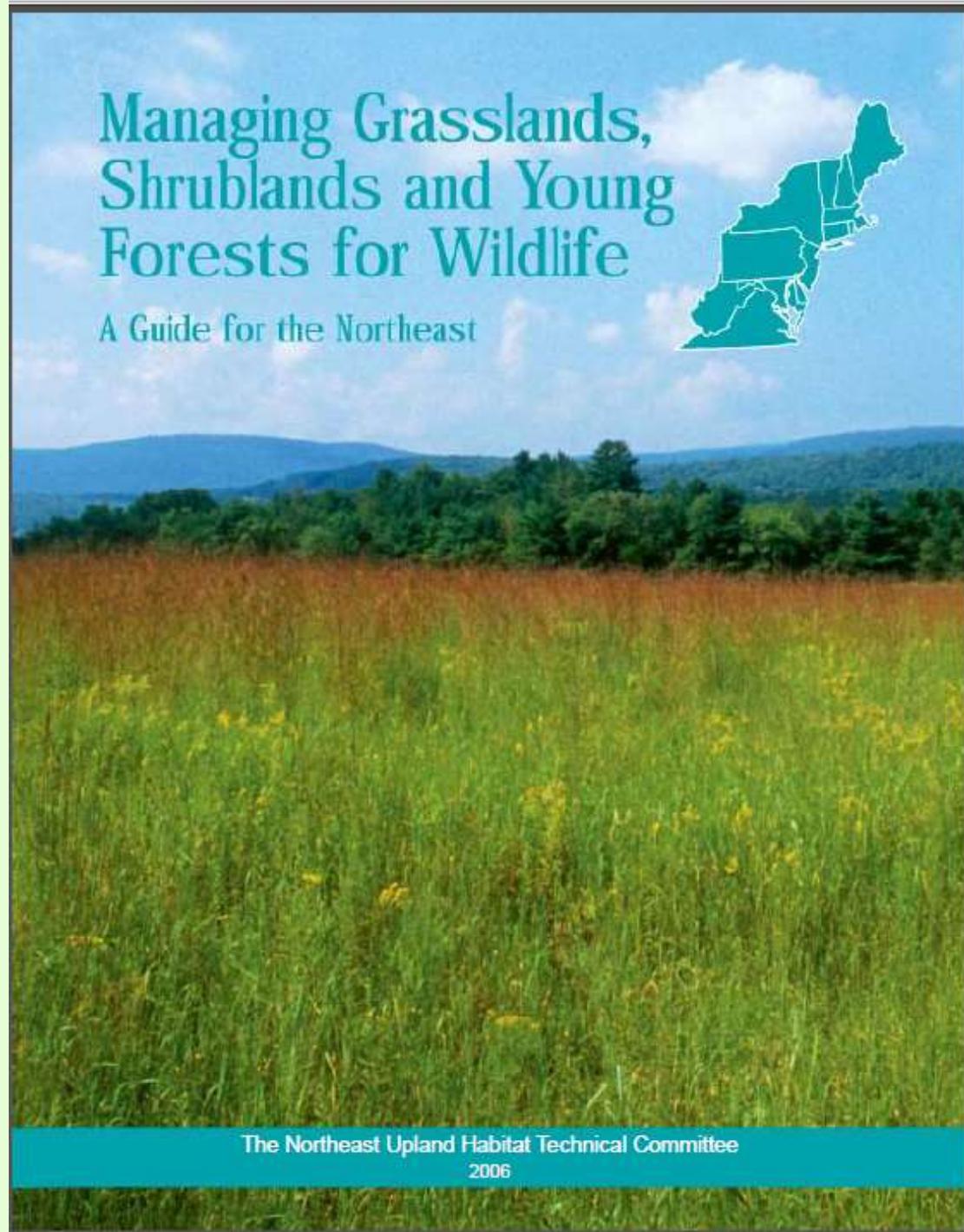


Agricultural agreements with local farmers also help to maintain grassland habitat.





For more information on managing early successional habitats, view or download the publication *Managing Grasslands, Shrublands and Young Forest Habitats for Wildlife: A guide for the Northeast*. Link is provided at end of slideshow.



Managing Grasslands, Shrublands and Young Forests for Wildlife

A Guide for the Northeast



The Northeast Upland Habitat Technical Committee
2006

A word on invasive plants. . .



Japanese barberry

Many habitats have been taken over by non-native **invasive** plants, such as **Asiatic bittersweet**, **Japanese barberry** and **multiflora rose**. Animals have a harder time surviving in habitats that have been degraded by invasive plants.



While this looks like great shrubland habitat with thick cover, these non-native plants outcompete our native plants, and do not provide food for insects, which are an important source of food for many animals



Replacing non-native invasive shrubs with native shrubs will help many wildlife species.



Planting native wildflowers in place of non-native plants will help butterflies and their caterpillars. For more information on how you can help wildlife in your own backyard, see the [Native Landscaping](#) slideshow

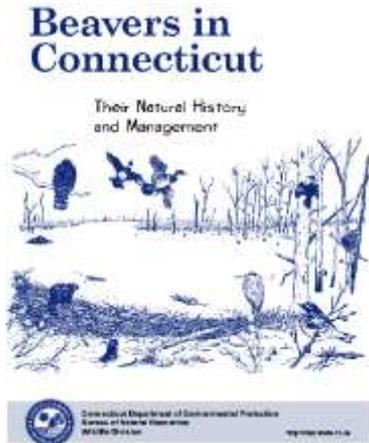


Belding

Wildlife Management Area
<http://www.ct.gov/deep/belding>



View more information on the [New England cottontail](#)



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