Wildlife Habitat, the New England Cottontail and the Coverts Project

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NRCS

Where did we come from?

The Soil Conservation Service (SCS) was created in 1935 to reverse the devastation caused as a result of the Dust Bowl

Today SCS is known as the USDA Natural Resources Conservation Service (NRCS)

WHIP – Wildlife Habitat Incentives Program

NRCS provides technical and financial assistance through a voluntary program for people who want to develop and improve wildlife habitat on private land.

NRCS Natural Resources Conservation Service

RI Coverts Project

An educational program for forest owners and environmentally concerned citizens

Originally developed by Cooperative Extension Systems in CT and VT and the Ruffed Grouse Society in1983.

RI Coverts Project

A program designed to work with individual woodland owners and demonstrate how sound management practices can make wildlife healthier, more diverse and abundant.

Partners:

USDA-NRCS
RI Resource Conservation & Development Council (RIRC&D)
RIDEM
Div. of Fish & Wildlife
Div. of Forest Environment
URI-Dept. of Natural Resources Science
The Ruffed Grouse Society – RI Chapter
Rhode Island Forest Conservators (RIFCO)

Goals

To educate forest landowners and the general public about the importance of disturbance in the forest for maintaining keystone species, ecological diversity, and the health and productivity of southern New England forests and its associated wildlife.

Goals

To assist in reaching state and federal agency habitat goals.

To provide potential sites for ongoing research of wildlife that require early successional forest

Goals

To increase the amount of Rhode Island's public and private forest land with current management plans.

To establish an effective monitoring program to assess how forest management benefits wildlife.

NRCS Conservation Practices

Control of Invasive Plants

Openings in Forest Canopy to create Scrub-Shrub Habitat

Nesting structures for birds and bats

“Scrub-Shrub” habitats for neotropical migratory songbirds and New England cottontail

A Neotropical migratory bird is a bird that breeds in Canada and the United States during our summer and spends our winter in Mexico, Central America, South America or the Caribbean islands.

200 species of Neotropical migratory birds. Most are songbirds (such as warblers, thrushes, tanagers, and vireos), but there are also many shorebirds (such as sandpipers, plovers, and terns), some raptors (such as hawks, kites and vultures), and a few types of waterfowl (such as teal).

Scrub/shrub is a transitional habitat - a blurring from field to forest - that occurs when grasslands begin to revert to forest.

This process takes about 10 years if allowed to progress naturally. Seeds are brought in by wind, water, and animals. Species composition is dependent upon local flora.

http://www.state.nj.us/dep/fgw/

- Scrub-shrub areas and young forest habitats often contain a greater diversity of wildlife species than older forests.

- In the Northeast, these are important habitat types for a large number of birds and other wildlife, but particularly for New England cottontail, woodcock, and ruffed grouse.

- Many shrub land birds such as chestnut-sided warbler, prairie warbler, and field sparrow have declining populations.

CT NRCS WHIP fact sheet

Chestnut-sided warbler

Prairie warbler

Yellow-breasted chat

- Scrub/shrub habitats are ephemeral and require active management to maintain them in this interim stage. If not maintained, they will become forests.

- Planting shrubs instead of letting the area revert through natural processes will hasten succession and encourage colonization by plants that require less frequent maintenance - ones that are prone to shrub-like growth habits.

- Viburnum is an excellent choice since it provides high-quality fruit for migrating songbirds in the fall.
- ~ McWilliams, URI.

- There are many scrub–shrub species that do not nest in mixed deciduous or pitch pine forest but depend on shrubland or savannah habitats that cover only about 3% of the region.
- Thinning of canopy trees provides habitat for high-priority scrub–shrub bird species at the cost of modest reductions in numbers of forest birds whose regional aggregate population is large.

(King, et al. 2010)

Photo credit: http://birdcapemay.org/young/uploaded_images/American-Kestrel-eating-cricket-735319.jpg

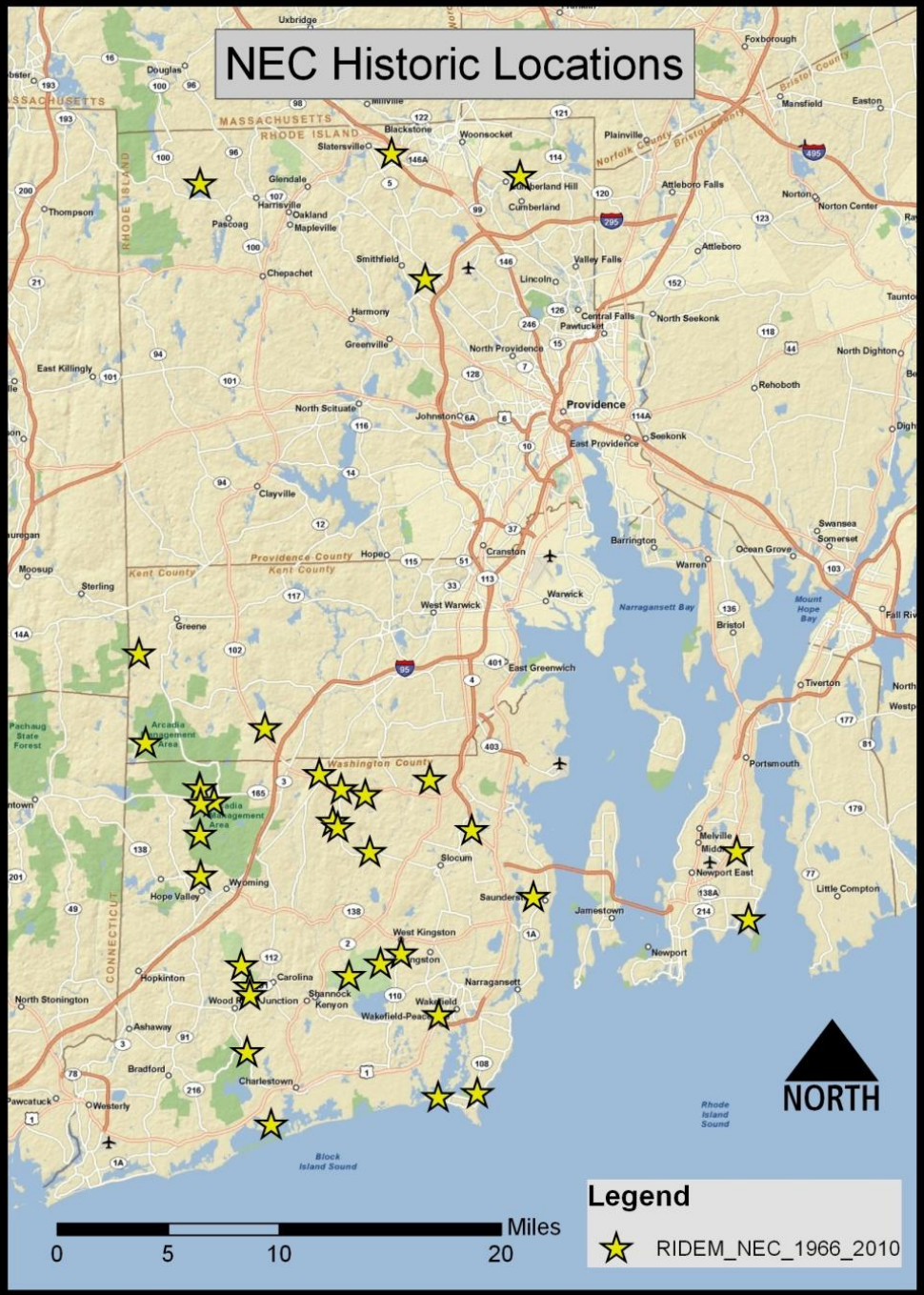
Eastern cottontail or New England cottontail ???

- New England cottontails range from 15 to 17 inches in length and 2.2 to 3.0 lbs in weight, while eastern cottontails are about 20 percent larger.

- These differences between species are often subtle and difficult to distinguish, even when handling the animals.

- To confirm identification of the New England cottontail, an expert can perform analysis on DNA extracted from fecal pellets, take detailed body measurements, or examine the rabbit's skull.

- The last confirmed RI NEC was in 2011, in South Kingstown near the Narrow River.


NEC Historic Locations
Legend
RIDEM_NEC_1966_2010
Miles
0
5
10
20
NORTH
MASSACHUSETTS
RHODE ISLAND
CONNECTICUT
Providence
Providence County
Kent County
Washington County
Narragansett Bay
Block Island Sound
Rhode Island Sound
Uxbridge
Douglas
Foxborough
Mansfield
Easton
Blackstone
Woonsocket
Plainville
Slatersville
Glendale
Harrisville
Oakland
Mapleville
Pascoag
Thompson
Cumberland Hill
Cumberland
Attleboro Falls
Norton
Norton Center
Attleboro
Smithfield
Valley Falls
Lincoln
Chepachet
Harmony
Greenville
Central Falls
North Seekonk
Pawtucket
North Providence
East Killingly
North Dighton
Rehoboth
North Scituate
Johnston
Seekonk
East Providence
Clayville
Hope
Cranston
Barrington
Warren
Ocean Grove
Swansea
Somerset
Moosup
Sterling
Greene
West Warwick
Warwick
Bristol
Mount Hope Bay
East Greenwich
Tiverton
Pachaug State Forest
Arcadia Management Area
Portsmouth
Slocum
Melville
Newport East
Little Compton
Wyoming
Hope Valley
Saunders
Jamestown
West Kingston
Newport
Hopkinton
Carolina
Narragansett
North Stonington
Shannock
Kenyon
Wakefield
Ashaway
Bradford
Charlestown
Pawcatuck
Westerly

New England cottontail (*Sylvilagus transitionalis*)

- A close relative to the Appalachian cottontail (*Sylvilagus obscurus*), *which is found west of the Hudson River and south of the New England cottontail's* range
- Eastern cottontail (*Sylvilagus floridanus*), *was* introduced to New England during the early 1900s and is the only other cottontail found east of the Hudson River.

New England Cottontail biology

- New England cottontails have relatively short lives which are mostly solitary, as their only associations with other individuals are related to reproduction.
- Breeding season lasts from March to September (with delayed onset in the northern cottontail populations), and each female can give birth several times during this period.
- 28 days between conception and birth. New England cottontails average 2 to 3 litters per season, with each litter containing 3 to 8 young (5 on average). Immediately after giving birth, females are ready to breed again.

Landowner's Guide to New England cottontail habitat management.

Mortality

- Predation is thought to be the major cause of death for this species.
- Common predators include coyotes, red foxes, bobcats, fishers, domestic cats, and owls.
- Mortality rates from vehicle strikes, hunting, and disease are unknown.

Landowner's Guide to New England cottontail habitat management.

Habitat Loss

- Development often results in the suppression of natural disturbances such as wildfires, beaver activity, and insect blight that historically created early-successional habitat.

Habitat Fragmentation

- Mortality rate is twice as high on patches smaller than 6 acres than it is on patches over 12 acres. On small patches, the habitat may provide insufficient food to support the cottontails throughout the winter.
- New England cottontails either starve or risk predation in search of food outside the safety of dense cover.
- 12 acres in size and close to additional patches of habitat are necessary for the species to survive.

Examples of Early Succesional Habitats for NEC

- idle agricultural lands reverting to “old field” habitats
- other areas that have been mechanically cleared and are growing back into dense woody cover, such as utility and railroad corridors
- young forests regenerating after natural or manmade disturbance

- shrub swamps and brushy areas near beaver flowages
- dense thickets of native shrubs, brambles, and greenbrier (*Smilax)*
- coastal shrublands where wind and salt spray inhibit the growth of forests

Shrubs & Vines

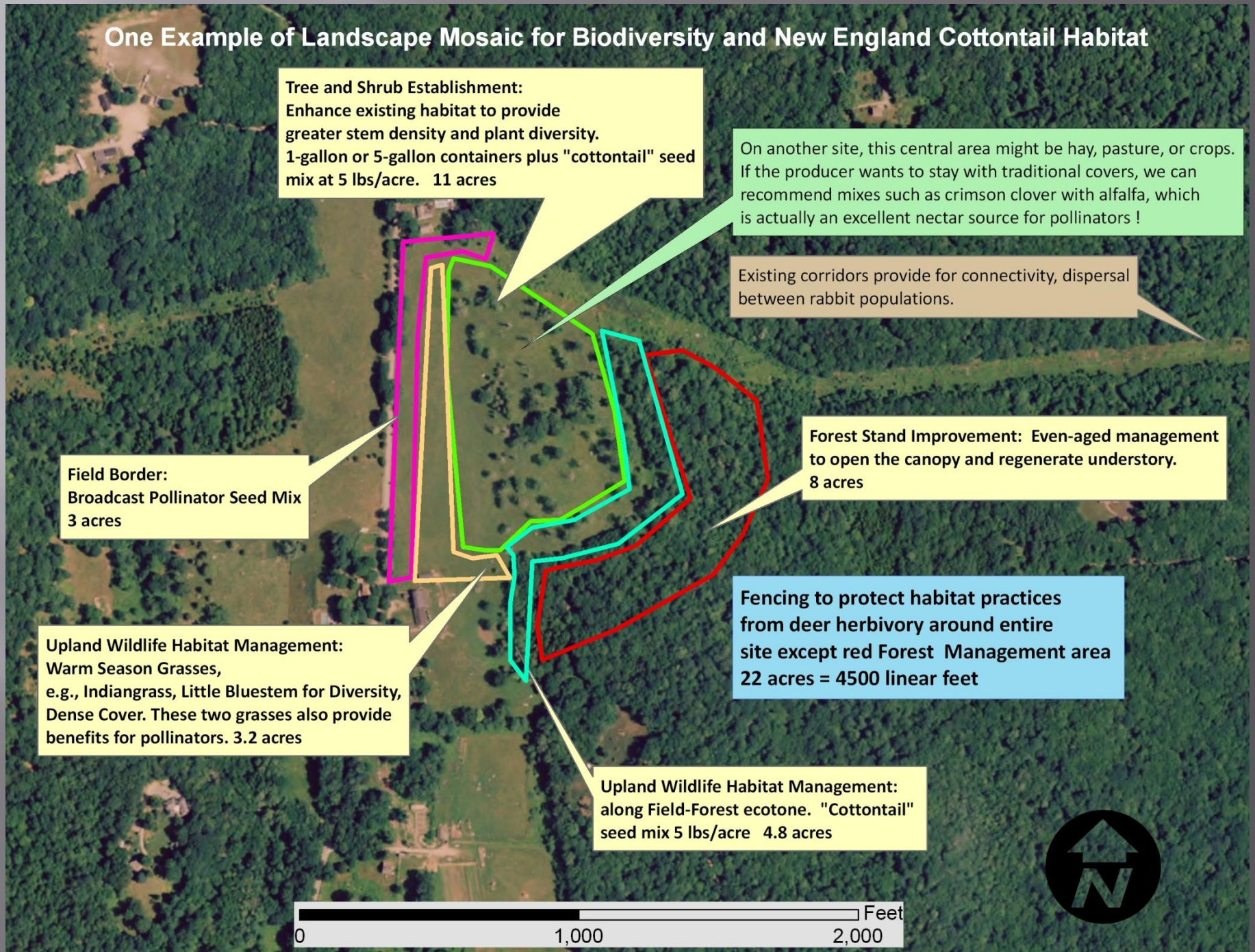
- Raspberry Blackberry Dewberry
- Winterberry holly Willow Maleberry
- Highbush blueberry Lowbush blueberry
- Silky dogwood Native rose species
- Chokeberry Sumac Greenbrier

Herbs & Grasses

- Goldenrod Rushes Clovers
- Lance leaf plantain Chickweed
- Sheep sorrel Wintergreen
- Buttercup Wild strawberry Violet

Trees

- Red maple Aspen Gray birch
- Apple Choke cherry Wild black cherry
- Sugar maple Oaks
- White birch Yellow birch Black birch
- Beech
- Striped maple


One Example of Landscape Mosaic for Biodiversity and New England Cottontail Habitat
Tree and Shrub Establishment:
Enhance existing habitat to provide
greater stem density and plant diversity.
1-gallon or 5-gallon containers plus "cottontail" seed
mix at 5 lbs/acre. 11 acres
On another site, this central area might be hay, pasture, or crops.
If the producer wants to stay with traditional covers, we can
recommend mixes such as crimson clover with alfalfa, which
is actually an excellent nectar source for pollinators !
Existing corridors provide for connectivity, dispersal
between rabbit populations.
Forest Stand Improvement: Even-aged management
to open the canopy and regenerate understory.
8 acres
Field Border:
Broadcast Pollinator Seed Mix
3 acres
Fencing to protect habitat practices
from deer herbivory around entire
site except red Forest Management area
22 acres = 4500 linear feet
Upland Wildlife Habitat Management:
Warm Season Grasses,
e.g., Indiangrass, Little Bluestem for Diversity,
Dense Cover. These two grasses also provide
benefits for pollinators. 3.2 acres
Upland Wildlife Habitat Management:
along Field-Forest ecotone. "Cottontail"
seed mix 5 lbs/acre 4.8 acres
N
Feet
0
1,000
2,000

Other Species that Benefit from NEC Habitat Management

- American Redstart American Woodcock Black-billed Cuckoo
- Black Racer Blue-spotted Salamander Blue-winged Warbler
- Brown Thrasher Chestnut-sided Warbler
- Common Gray Fox Eastern Hognose Snake
- Eastern Towhee Field Sparrow Golden-winged Warbler (no current sighting in RI)
- Gray Catbird Indigo Bunting Northern Bobwhite
- Prairie Warbler Ruby-throated Hummingbird Ruffed Grouse
- Savannah Sparrow Spotted Turtle White-eyed Vireo
- White-throated Sparrow Wood Thrush Yellow-billed Cuckoo
- Yellow-breasted Chat

Adapted from: Northern Forest Woodcock Habitat Initiative: Other Species with Similar Habitat Requirements

European Honeybees on Sumac

Bumblebee on *Asclepias tuberosa* – Butterfly milkweed

- Insect pollination is critical for the production of many important crops in the United States including: alfalfa, almonds, apples, blackberries, blueberries, canola, cherries, cranberries, pears, plums, squash, sunflowers, tomatoes, and watermelons.

- Native pollinators, most importantly wild bees, provide free pollination services and enhance farm productivity and profitability through increased yields and improvements in crop quality.

Economic value of insect-pollinated crops in U.S. -- 20 billion dollars (2000)

Economic value of crops visited by native pollinators -- 3 billion dollars (2000)

One out of every 3 mouthfuls of food you eat was mediated by pollinators !

http://www.xerces.org/pollinator-conservation-publications/

NATIVE BEES

- Native bees don't build the wax or paper structures we associate with honey bees or wasps, but they do need places to nest, which vary depending on the species.

- Wood-nesting bees are solitary, often making individual nests in beetle tunnels in standing dead trees.

Monarda (a.k.a., Bergamot, Bee balm) with Goldenrod and Milkweed

NATIVE BEES

- KNOW YOUR HABITAT

- Native bees need both food and shelter-they eat only pollen and nectar and they nest in tunnels or in the ground. Elderberry provides nesting habitat for wood-nesting bees
- In the process of gathering pollen and nectar resources, bees move pollen from one flower to another, and thus pollinate your flowers or crops. Bees rely upon an abundance and variety of flowers, and need blooming plants throughout the growing season.

Bumblebee on Borage (*Borago officinalis)*

German borage recipe is the Green Sauce made in Frankfurt. In Italy, borage is sometimes used as filling of the traditional pasta ravioli and pansoti. It is used to flavor pickled gherkins in Poland.

Some pollinators are avian. This is ruby-throated hummingbird on honeysuckle.

Thank you for listening !

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