Connecticut NEC Tree/Shrub Establishment- 612

Conservation Practice Job Sheet *Lifespan- 15 years*

Purpose

The primary objective of this practice is to establish shrubs and other woody vegetation for the creation and development of early successional habitat to help conserve the New England cottontail (NEC) and other thicket dependent species such as Eastern towhee, blue-winged warbler, American woodcock, and golden-winged warbler.
Secondary objectives are to control invasive species, stabilize soils and improve soil and water quality.

NEC photo credit - Photo Anne Schnell

Where Used

NEC shrub establishment can be applied on any appropriately prepared site where woody plants would naturally exist and can be effectively established; this includes clear-cuts, old fields, and otherwise open areas.
The loss of thicket and shrub habitat, especially dense deciduous thickets less than 25 years of age, of sufficient size and arrangement in a landscape scale context is thought to be the main reasons for the precipitous decline of NEC and many other shrub-obligate and early successional forest species known to be in decline including, but not limited to, the: blue-winged warbler, American woodcock, Eastern towhee, and golden- winged warbler.
Planned activities will promote more rapid development of shrubby old-field habitat conditions than would otherwise occur naturally. If strategically placed on the landscape such habitat may provide refuge, food, and aid in dispersal and help connect populations of NEC and other species in decline.
Note: Reference Standard Practice 490- Tree and Shrub Sit e Preparation for proper site preparation.

Operation and Maintenance

Access by vehicles or equipment during or after tree/shrub establishment shall be controlled to protect new plants and minimize erosion, compaction and other site impacts. The trees and shrubs will be inspected periodically and protected from adverse impacts including insects, diseases or competing vegetation, fire and damage from livestock or wildlife. Noxious weeds and any competing vegetation will be controlled until the woody plants are established (i.e. herbicide, mulch mats, chips, fabric cloth, etc). For trees/shrubs that cannot be planted immediately, see page 5 for temporary storage considerations. Replanting will be required when survival is inadequate; mortality should not reach a rate higher than 10%. Supplemental water as well as periodic applications of nutrients may be needed to maintain plant health and vigor. Trees and/or shrubs can eventually become crowded slowing their growth and the growth, survival and composition of understory species. As the plants mature, periodic harvesting of some of the overstory trees and shrubs becomes an important activity for maintaining plant health and productivity.

Considerations

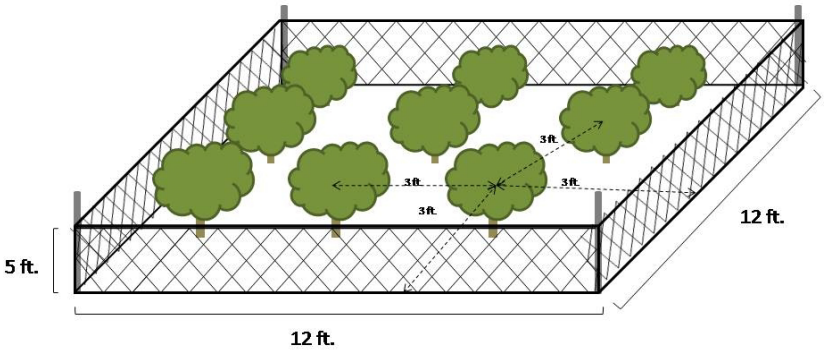
Use locally adapted seed, seedlings or cuttings. Priority will be given to plant materials that have been selected and tested in tree/shrub improvement programs. All plant materials should comply with the minimum standards, established by the American Nursery and Landscape Association, 1250 I Street Northwest, Suite 500, Washington, DC.
Where multiple species are available to accomplish the planned objective, consideration should be given to selecting species which best meet wildlife needs (see table, page 3). Tree/shrub arrangement and spacing should allow for and anticipate the need for future access lanes for purposes of stand management.
Residual chemical carryover from previous land use should be evaluated prior to planting. Species considered locally invasive or noxious should not be used. Species used to treat waste should have fast growth characteristics, extensive root systems, capable of high nutrient uptake, and may produce wood/fiber products in short rotations.

For optimal carbon storage, select plant species that are adapted to the site to assure strong health and vigor and plant the full stocking rate for the site.

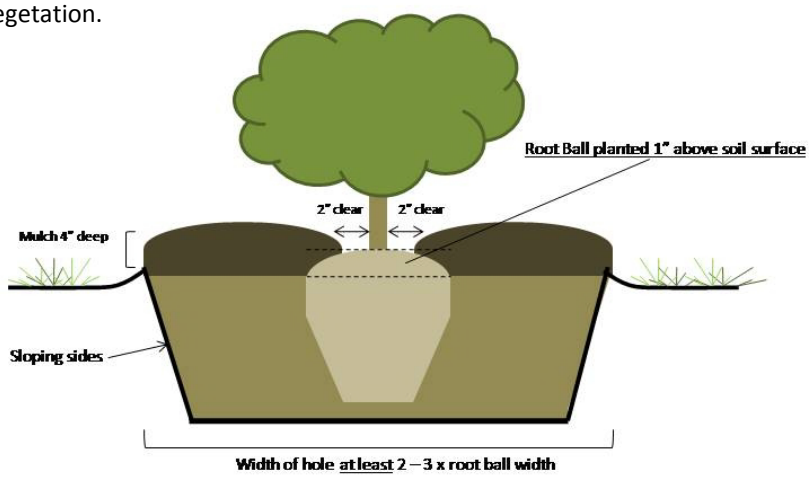
Specifications

Typically shrubs to be established may come from containerized, bare root, rooted cutting, seedling, or direct seeding plant stock.

The preferred method of planting utilizes containerized materials. Plantings should be arranged in groupings of nine trees and/or shrubs within a 6' by 6' area. Each group will be surrounded by a 12' by 12' by 5' wire protective enclosure to minimize browse for a minimum of 3 years or until the plants are of sufficient size and vigor to be able to tolerate browse. Plantings may also be arranged and fenced individually; these must have an enclosure with a minimum diameter of 3'. If creating rows, arrange trees and/or shrubs in the rows so that they are staggered with relation to the plants in adjacent rows.



In addition to the previous methods, live stakes, whips or wattles may be used to establish an area. Live stakes are dormant, live woody cuttings of a species with the branches trimmed off. Stakes 2' in length must be planted by driving a pilot hole in firm soil, planting at a right angle (buds oriented up) with at least two-thirds of the length underground. These should be spaced about 1-2 feet apart on center. Whips are slender, live woody shrub material that is well suited for very moist areas. Whips should be pushed in to the ground as far as they will go without breaking; at least two-thirds should be covered with soil. Whips can be installed either by laying them at an angle or erect in the soil. Wattles, also known as fascines, are living branches bound together in long, tubular bundles. To plant, the material is placed in 6" wide trenches and is covered with soil. Wedge-like dead stakes are used to secure them in place at 2'-3' intervals. Live stakes can also be used in conjunction with wood material to secure the bound vegetation.



Things to remember when planting trees and shrubs:

1) Dig hole 2-3 times as wide as the container or root ball.

2) Dig hole no deeper than the height of the root ball. The top of root ball should be level or 1 inch above the surface of the soil.

3) When applying mulch to the disturbed area, be sure to leave 2" around the stem clear to minimize insect and moisture damage.

Recommended shrubs include, but are not limited to, the following:

Common Name ***Latin Name***	**Mature Size**	**Exposure/Habitat**	**Comments**
Bayberry *Myrica pensylvanica*	8’	Sun; dry to wet	Beautiful waxy foliage and blue fruits for the birds; need male and female for fruiting
Blackberry *Rubus allegheniensis*	3-9’	Sun to partial sun; dry to moist	White flowers in May followed by black berries; thorns
Chokeberry *Aronia floribunda, A. melanocarpa*	2-10’	Partial sun; dry to moist	White flowers in late May, red or black fruits in fall; great fall color; good colonizer
Common (field) juniper *Juniperus communis*	3-5’	Sun to partial sun; dry to moist	Berry-like cones that are red at first and ripen to a glaucous bluish-black
Dewberry *Rubus spp.*	2-3’	Sun; moist	White flowers in May; black fruit last summer; great fall color
Elderberry *Sambucus canandensis*	10-12’	Sun to partial sun; average to moist	White flowers in late June followed by ornamental blue berries; adaptable
Gray dogwood *Cornus racemosa*	6-10’	Sun to partial sun; dry to moist	White flowers in June followed by white berries on red stalks; spreads vigorously
Highbush bluberry *Vaccinium corymbosum*	6-10’	Sun to partial sun; average to moist	Highly ornamental in habit and fall color; blue fruits; likes well drained and acidic soils
Lowbush blueberry *Vaccinium angustifolium*	1’	Sun to shade; dry to moist	Nice woody groundcover for acidic soils; wildlife value; good fall color
Maleberry *Lyonia ligustrina*	6-12’	Partial sun to shade; moist	White flowers in May; brown berry-like capsules follow and persist through winter
Native viburnum spp. *Viburnum dentatum, V. lentago, V. nudum var. cassinoides*	Size varies with species; 6-15’	Exposure varies from sun to shade; Habitat varies from dry to wet	Requirements may change from species to species; all flower and produce fruit; most are adaptable
Red twig/Red osier dogwood *Cornus sericea*	6-10’	Sun; wet	White blooms in April to dull white berries; good fall color; adaptable
Shrub Willows *Salix bebbiana, S. eriocephala, S. lucida, S. serecea*	Size varies with species; 10-20’	Exposure varies from sun to shade; Habitat varies from dry to wet	Requirements may change from species to species; most are fast growing and adaptable; most provide a wildlife food source
Silky dogwood *Cornus amomum*	8-10’	Partial sun to shade; average to wet	White flowers in June followed by blue berries; open spreading habit
Spiraea *Spiraea tomentosa, S. alba*	3-6’	Sun; moist-wet	Both bloom early to mid-summer followed by a brown to reddish-brown fruit
Swamp rose *Rosa palustris*	8’	Sun to shade; moist-wet	Pink flowers throughout summer; red berry; tolerates flooding to 3”
Winterberry *Ilex verticillata*	10’	Sun to shade; dry to wet	Bright red berries; need both sexes for fruiting; adaptable; spreads

Note: Once plants are well established, native vines growing up in to the shrubs are beneficial to the overall habitat quality. The *Connecticut Native Tree and Shrub Availability List* may provide additional reference material.

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Name:	*County:* *Town:*
Field(s):	*Farm #:* *Tract #:*
Designed By:	*Approved By:* *Signature:*
Date:	*Date:*

Type of Planting		
☐ Planting in Open Areas	☐ Interplanting	☐ Interseeding
☐ Clearcut Regeneration	☐ Underplanting	☐ Planting for Wildlife

Type of Stock		
☐ Containerized	☐ Bare-root	☐ Rooted Cuttings
☐ Live Stakes	☐ Seedlings	☐ Seeding
☐ Whips	☐ Wattles	

Woody Plant Materials Information -

Field	Ac	Species/cultivars:	Plants/acre:	Total No.	Kind of stock[1]:	Planting dates:	Avg. Spacing[2]:
							Ft X Ft
							Ft X Ft
							Ft X Ft
							Ft X Ft
							Ft X Ft
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[1]BAreroot, COntainer, CUtting; include size, caliper, height, and age as applicable. [2]Spacing between plants to achieve plants/acre.

Plants/acre = 43,560 (ft^2/ac) ÷ [Between-Row Spacing (ft) X In-Row Spacing (ft)}

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Temporary Storage Instructions

Planting stock that is dormant may be stored temporarily in a cooler or cool, moist, darkened area up to 3 days. For more than 3 days or for stock that is expected to begin growth before planting, dig a V-shaped trench (heeling-in-bed) sufficiently deep and bury seedlings so that all roots are covered by soil. Pack the soil firmly and water thoroughly. Additional requirements:

Site Preparation: **Complete CTJob Sheet 490 – Tree/Shrub Site Preparation**

Planting Method ☐ **Hand** ☐ **Machine (check box and indicate amount)**

For container and bareroot stock, plant stock to a depth even with the root collar in holes deep and wide enough to fully extend the roots. Pack the soil firmly around each plant. Cuttings are inserted in moist soil with at least 2 to 3 buds showing above ground. Plants should be established prior to ***May 30****. A secondary planting opportunity may be considered during September and October if planting prior to May 30 is not possible.*

Additional requirements or special planting instructions:

Cultural Practices

Pest Management is required. Weed control is necessary, either by mechanical cutting, herbiciding or mulching for at least 2 years after planting.

Vegetation Mat-Size_____#_____ Herbicide-Brand_____

Mulch- Coverage_____#_____ Other _____

Additional requirements:

Operation and Maintenance

The planted area must be inspected periodically and protected from damage so proper function is maintained. Replace dead or dying tree/shrub stock to provide adequate plant densities as described in the 612 standard and continue control of competing vegetation to allow proper establishment for at least 2 years. Mortality should not exceed more than 10%. Periodic trimming of overgrown trees and shrubs may be necessary to maintain the quality of the habitat. Additional requirements:

COMPLETION/CHECKOUT CERTIFICATION

I have job approval authority and certify this practice has been applied and meets design specifications:

NRCS Representative name and title (type or print):		
NRCS Representative Signature:		Date:
Landowner name (type or print):		
Landowner Signature:		Date:
As-Built Notes (include date completed by client, treated acres and describe any changes to original design):		

Questions regarding the planting or maintenance of the tree/shrub establishment should be directed to [technical specialist], at

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If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Scale 1"=_____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")

Additional Specifications and Notes: