

## Early Successional Habitat Development/Management - 647

### Massachusetts Shrubland / Young Forest Job Sheet

<b>Client:</b>	<b>Farm #:</b>	<b>Tract #:</b>
<b>Planned By:</b>	<b>Date:</b>	
<b>Acres to be Managed (Patch Size):</b>	<b>Target Species:</b> Shrub / young forest species	

#### DEFINITION

Manage plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.

#### BACKGROUND/PURPOSE

Early successional habitats are typically transitional and require different levels of disturbance to be maintained. If these habitats are not disturbed in some fashion (e.g., cutting, mowing, burning, etc.), they will eventually grow into mature forest through the process referred to as succession. Early successional habitats are of concern because many of the species that depend on this habitat type are declining in the Northeast due to loss of habitat. Shrubland and young forest habitats are important for a diverse group of wildlife including neo-tropical migrant birds, ruffed grouse, white-tailed deer, rabbits and many others.



#### SHRUBLAND AND YOUNG FOREST

Shrublands are dominated by sparse-to-dense shrubs intermixed with young trees, vines, and herbaceous vegetation. Young forest typically has a dense understory where tree seedlings and saplings, woody vines, shrubs, and herbaceous vegetation grow together. Some sites such as wetlands, sandy sites and ledge areas can support relatively stable shrub communities, but in general, these habitats will succeed to mature forest unless some disturbance occurs. Existing shrublands can be managed to prevent succession, while young forest can be created by mechanically clearing a forest (or through the use of prescribed fire and/or herbicides) which will result in a flush of growth of shade intolerant tree species follows the clearing activity.



## **SITE SELECTION**

Locations to target for development/management include:

- Sites located adjacent to, or in close proximity to other early successional habitats such as fields, power lines, shrub dominated wetlands, etc.
- Patch should be at least 5 acres in size and of a shape that minimizes edge. Patches that are at least 10 acres in size are preferred.
- Sites dominated by pioneer tree species such as aspen, birch and pin cherry or sites that have been “high graded” (i.e., all the best trees have been removed) and thus have little to no timber value.
- Sites with low fertility or gravely soils as these sites will generally succeed to mature forest at a slower rate.

## **MANAGEMENT SPECIFICATIONS**

***When NRCS is providing cost share assistance, this practice should be kept as separate as possible from commercial harvests. In larger diameter stands (>6" DBH), confirm with the landowner and or consulting forester that the proposed activity will not constitute a marketable volume of timber.***

***If the site is currently forested and the long term goal is mid to late successional forest, a current forest management plan that identifies the need and specifications for this practice is a requirement. The forestry prescription must result in the creation of a dense stand of young forest (typically achieved using a clearcut or seed tree cut method of regeneration). If the proposed regeneration method will not result in a dense stand of young forest, plan the activity using Practice Standard – Forest Stand Improvement (666).***

If the site is currently a mix of tall growing tree species and shrubs, shrub habitat can sometimes be maintained by selectively removing all tall growing tree species, while leaving behind desirable shrub species that can act as seed sources for regeneration. This method preserves the habitat as opposed to cutting all the woody vegetation at one time. Undesirable vegetation can be killed by mechanical felling (shears or harvesters), chainsaw felling, girdling, or by application of forestry labeled herbicides. Herbicides can be applied by different application methods such as foliar spray, basal application, injection, or cut stump treatment.

If aspen regeneration is the goal, clearcut at least 1/2 acre around each individual tree and at least one acre around groups. Be sure to include the aspen trees in the cut. Aspen regenerates both by seed and by root suckers. With adequate sunlight, root suckers will emerge up to 1/2 acre from the cut root system on one tree. Cutting should be done in the late fall or winter after the tree has stored most of its energy in its root system.

On forested sites, to ensure that shading doesn't hinder regeneration of a dense stand of young forest, 75 to 90% of the overstory, mid-story and understory canopy must be removed during the clearing operation.

The woody material from the cut should be treated in a manner to ensure that it will not hinder regeneration. General recommendations for treatment include: chipped and spread no deeper than 3 inches across the site; removed from site; windrowed; or stacked in piles and burned. If desired, some of the woody material may be used to create brush piles for additional habitat. If aspen regeneration is the goal, consider removing all slash.

If the longterm goal is mid to late successional forest, woody material from the cut should be used to create coarse woody. Five (5) stems to the acre will be left on the forest floor and these will be from the large diameter poles culled on site. In addition, if the stand has pole diameters of 6 inches or greater, 5 snags/acre will be created through girdling.

Slash must be treated in compliance with the Massachusetts slash disposal law, M.G.L. c. 48, §§16-20.

If non-native invasive plant species are present in an area planned for a young forest cut, they should be controlled because the increased sunlight could dramatically increase their growth/abundance. If the site is easily traversed, it's better to treat the site prior to cutting. If the vegetation is too dense to walk through, it's better to do the cut first and treat the invasive species re-sprouts at a later time.

Retain 6 wildlife reserve trees per acre when they will not hinder regeneration due to shading. The wildlife reserve trees can be left scattered throughout the site or left in clumps or islands centered around wetland inclusions or other sensitive sites. Choose larger, wind-firm specimens and mark trees for retention prior to early successional cut.

**Wildlife Reserve Trees**

**Snag** –standing dead or partially dead trees which are at least 6-inches dbh and 20 feet tall.

**Den Tree** – A live or dead tree of any diameter containing a natural cavity or exfoliating bark used by wildlife for nesting, roosting, shelter and escape.

**Mast Tree** – Species which provide nuts and/or fruit.

**Nest Tree** – Trees containing large nests (2-3'dia) built by crows and hawks that resemble a platform of sticks when viewed from the ground. These may be used by owls or re-used by hawks.

All restoration/management activities should be conducted outside of the primary reproductive season (April 15 to August 1) whenever possible. Young forest cuts should typically be done in the winter when the ground is frozen and plants are dormant. This will encourage vigorous sprouting of trees, provide an increased number of stems per acre as well as protect the soil and duff layer from disturbance. The duff layer, including the organic soil horizon and leaf litter, provides important habitat for salamanders and feeding areas for species such as towhees.

**MANAGEMENT CONSIDERATIONS**

Consider managing for shrublands with two distinct habitats—one containing taller vegetation (> 5 feet) with abundant shrub cover and another containing shorter vegetation (<5 feet) with abundant forb cover but fewer shrubs—in order to support the nesting habitat preferences of all species within the shrubland bird community.

Because shrubland birds generally disappear from clearcuts within 15 years of cutting, consider managing multiple patches on a rotation to ensure habitat is available.

**OPERATION AND MAINTENANCE**

Shrubland bird usage of dense young forest stands peaks at around 10 years post cutting; therefore allow early successional forest cuts to grow for 10 to 15 years prior to re-cutting.

As shrublands age, their habitat quality declines. Older shrubs get tall, scraggly and stem densities diminish. Mowing or cutting the shrubs will spur their root systems to send up thick new growth providing food and cover for wildlife. A good clue as to when a stand has gotten too old is whether the stems are growing vertically or horizontally. Stands exhibiting stems with an abundance of horizontal growth should be cut to encourage regeneration. Another indication that a shrubland has declined due to age is if the understory of the shrubland is being overtaken by grasses and forbs.

Monitor treated acres for invasive species and take appropriate action to control/suppress such species.

**Massachusetts Shrubland / Young Forest Job Sheet**

**MANAGEMENT DESCRIPTIONS**

*(NOTE: concurrence required from DCR Service Forester if long term goal is mid to late successional forest)*

*Under site specifications describe how the practice will be completed (e.g., chainsaw, chemical, mechanical), how reserve trees will be marked, etc. If long term goal is mid to late successional forest, describe the regeneration method (e.g., clearcut, seed tree cut, etc).*

<b>Stand or Field Number:</b>	<b>Target Habitat</b> (check one)		<b>Mgmt Date:</b>
	<input type="checkbox"/> Shrubland	<input type="checkbox"/>	<b>Dense Young Forest</b>
	Is landowner's long term goal mid to late successional forest ____ Yes ____ No If yes, what tree species are targeted for regeneration?		
<b>Acres to Treat:</b>	<b>Site Specifications:</b>		
<b>Stand or Field Number:</b>	<b>Target Habitat</b> (check one)		<b>Mgmt Date:</b>
	<input type="checkbox"/> Shrubland	<input type="checkbox"/>	<b>Dense Young Forest</b>
	Is landowner's long term goal mid to late successional forest ____ Yes ____ No If yes, what tree species are targeted for regeneration?		
<b>Acres to Treat:</b>	<b>Site Specifications:</b>		
<b>Stand or Field Number:</b>	<b>Target Habitat</b> (check one)		<b>Mgmt Date:</b>
	<input type="checkbox"/> Shrubland	<input type="checkbox"/>	<b>Dense Young Forest</b>
	Is landowner's long term goal mid to late successional forest ____ Yes ____ No If yes, what tree species are targeted for regeneration?		
<b>Acres to Treat:</b>	<b>Site Specifications:</b>		

**ADDITIONAL SPECIFICATIONS**

**OPERATION AND MAINTENANCE**

Provide a map (may be attached) showing the location of the proposed practice and practice components.  
 Scale 1"= \_\_\_\_\_ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")


**RESOURCES FOR MORE INFORMATION**

Managing Grasslands, Shrublands and Young Forests for Wildlife – Northeast Upland Habitat Technical Committee, 2006: Chapter 4. Managing Shrublands and Old Fields and Chapter 5. Managing Young Forest. [A Guide to Managing Grasslands, Shrublands, and Young Forest Habitats for Wildlife: A Guide for the Northeast](#)

Under Cover – Wildlife of Shrublands and Young Forest, Wildlife Management Institute, 2012 [http://youngforest.org/sites/default/files/Under\\_Cover-010412\\_FINAL.pdf](http://youngforest.org/sites/default/files/Under_Cover-010412_FINAL.pdf)

Conservation Practices Benefit Shrubland Birds in New England, NRCS Conservation Effects Assessment Project, 2012 [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1046969.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046969.pdf)

**RECORD OF COMPLETION AND CHECK OUT CERTIFICATION:**

<i>Treated Acres:</i>	<i>Date Completed by Client:</i>	<i>Date Inspected:</i>	<i>Inspector:</i>
Notes:			

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication program information (Braille, large print, audiotape, etc.) should contact the USDA Office of Communications (202) 720-2791.

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.