

DFW Post-Harvest Flora  
Stafford Hill WMA, Cheshire Massachusetts  
Stafford Hill Road Aspen regeneration  
Date of survey: 9/14/2009  
Surveyed by: Brian Hawthorne, Tony Gola  
Location of lot(s): West of Stafford Hill Road.

### General Description and Setting

This post-agricultural aspen stand surrounds a central wetland drained to the west by two intermittent streams. Prior to treatment, the stand was dominated by mature (40-50 year-old) trembling and big-tooth aspen, with scattered northern hardwood trees and one area of white pine, all large-pole sized. No harvesting was done in the wetland or in a 50' filter strip along the intermittent streams. In the remainder of the stand, all overstory aspen was removed, along with most other overstory trees. Some overstory cherry trees were retained, along with some understory apples and hawthorns, for soft mast (see Forest Cutting Plan summary at:

[http://www.mass.gov/dfwele/dfw/habitat/management/bdi/forest\\_mgt/pdf/stafford\\_hill\\_cutting\\_plan.pdf](http://www.mass.gov/dfwele/dfw/habitat/management/bdi/forest_mgt/pdf/stafford_hill_cutting_plan.pdf)).

Trees were cut with a tracked feller-buncher and removed with a grapple skidder during February 2009. Approximately one-third of the tops were returned to the stand for biomass retention. Aspen responded with vigorous resprouting (root suckering) in the areas where aspen had been present (50-75% of the total area). By the time of the vegetation survey in September 2009, old-field herbaceous species dominated the remainder of the area, and also occurred beneath the aspen regeneration.

### Significant Flora and Habitats

No state or federally-listed plant species occur at the site. Dense regenerating aspen forest is a highly productive but uncommon habitat type in Massachusetts.

### Invasive Species

Several individual stems of exotic honeysuckle (*Lonicera* sp.) were found, along with areas of dense cypress spurge (*Euphorbia cyparissias*), garlic mustard (*Alliaria petiolata*), and Canada thistle (*Cirsium arvense*). Smaller invasive plants are pulled, while larger invasive plants are treated with either a foliar or cut-stem application of herbicide to kill the root system.

### Harvest Goals

The original harvest goal of regenerating a vibrant, early-successional stand of aspen forest with inclusions of wild apple and retained fruit-producing northern hardwood trees has been achieved. Aspen stem density is >10,000 stems per acre in >50% of the treatment area.

<b>Stratum/life form</b>	<b>Height (ft)</b>	<b>Cover class</b>	<b>Cover Classes</b>	
T1 Emergent Tree			<b>+</b>	<1%
T2 Tree canopy	60	2	<b>1</b>	1-5%
T3 Tree sub-canopy			<b>2</b>	6-25%
S1 Tall shrub	20	1	<b>3</b>	26-50%
S2 Short shrub	6	5	<b>4</b>	51-75%
H Herbaceous	3	4	<b>5</b>	>75%
N Non-vascular				
V Vine/liana		+		

<b>Stratum</b>	<b>Species</b>	<b>Cover Class</b>
T2	Acer rubrum	1
T2	Betula papyrifera	1
T2	Malus	+
T2	Pinus strobus	+
T2	Prunus serotina	1
S2	Acer rubrum	1
S1	Crataegus sp	+
S1	Eleagnus angustifolia	+
S2	Betula populifolia	1
S2	Fraxinus americana	+
S2	Lonicera sp	+
S2	Populus grandifolia	1
S2	Populus tremuloides	4
S2	Prunus serotina	1
S2	Rhus typhina	1
S2	Rubus spp	1
S2	Spirea latifolia	1
N	Moss sp	+
H	Achillea millefolium	+
H	Agrostis sp	+
H	Alliaria petiolata	+
H	Archeum sp	+
H	Asclepius syriaca	+
H	Aster accuminatus	+
H	Aster lateriflorus	+
H	Bidens sp	+
H	Carex dudleyi	+
H	Carex gracilima	+
H	Carex laxiflora	+
H	Carex sp	+
H	Carex swanii	+
H	Chenopodium album	+
H	Cirsium arvense	+
H	Cirsium vulgare	+
H	Conyza canadensis	+
H	Daucus carota	+

H	Dicanthelium sp	+
H	Echinocystis lobata	+
H	Epilobium coloratum	+
H	Equisetum arvense	+
H	Erechtites hieracifolia	+
H	Eupatorium maculatum	+
H	Euphorbia cyparissias	1
H	Euthamia graminifolia	+
H	Festuca sp	+
H	Galaeopsis tetrahit	+
H	Galium mullugo	+
H	Geum sp	+
H	Grass sp	+
H	Grass sp	+
H	Hieratium sp	+
H	Hypericum sp	+
H	Juncus tenuis	+
H	Lactuca sp	+
H	Letetiana canadensis	+
H	Lobelia inflata	+
H	Medicago lupulina	+
H	Muhlenbergia sp	+
H	Onoclea sensibilis	+
H	Oxalis fontana	+
H	Panicum sp	+
H	Phleum pratense	+
H	Phytolaca americana	+
H	Polygonum pennsylvanicum	+
H	Polygonum persicaria	+
H	Potentilla norvegia	+
H	Potentilla simplex	+
H	Rumex acetosella	+
H	Sedge sp	+
H	Setaria sp	+
H	Solidago rugosa	1
H	Solidago sp	+
H	Taraxacum officinalis	+
H	Trifolium praetensae	+
H	Vaccinium angustifolium	+
H	Vaccinium pallidum	+
H	Verbascum thopsis	+
H	Verbena hastata	+
H	Veronica officinales	+
H	Veronica serpyllifolia	+
H	Zizzia aurea	+
H	Danthonia sp	+
V	Vitis sp	+



**Figure 1. Retained birch trees in background with aspen regeneration in foreground at Stafford Hill Road aspen regeneration site, 5 months after overstory removal. August 7, 2009 photo by MassWildlife Forester Brian Hawthorne.**



**Figure 2. Retained apple, cherry, and hawthorne trees at Stafford Hill Road aspen regeneration site, 5 months after overstory removal. Visible herbaceous cover is area that had no aspen in overstory. August 7, 2009 photo by MassWildlife Forester Brian Hawthorne.**



**Figure 3. Dense regeneration of native trees, shrubs, and herbs at Stafford Hill Road aspen regeneration site, 5 months after overstory removal. This area had little aspen overstory. August 7, 2009 photo by MassWildlife Forester Brian Hawthorne.**



**Figure 4. White ash stump has repeatedly resprouted and been browsed by deer at Stafford Hill Road aspen regeneration site, 6 months after overstory removal. This area had little aspen overstory, and shows a diverse assemblage of native herbs and shrubs. September 14, 2009 photo by MassWildlife Forester Brian Hawthorne.**



**Figure 5. Vigorous aspen sprouts at Stafford Hill Road aspen regeneration site, 6 months after overstory removal. Areas that previously had aspen overstories now show nearly 100% cover of aspen sprouts 6' to 8' tall. September 14, 2009 photo by MassWildlife Forester Brian Hawthorne.**