

Massachusetts DFW Post-Harvest Flora  
**Moose Hill WMA, Paxton, Massachusetts**  
Date of survey: 9/24/2009  
Surveyed by DFW staff  
Location of lot(s): West of Winter Street

### **General Description and Setting**

This survey covers three harvested stands: a 17.4-acre stand previously dominated by old field white pine growing on abandoned pastureland (ST-1); a 1-acre early successional patch on abandoned farmland, and 1-acre hedgerow that surrounds active agricultural fields currently used for row crops (corn) (ST-2 and ST-3). This harvest was primarily a seed tree regeneration cut conducted in March 2007 (see Forest Cutting Plan Summary at:

[http://www.mass.gov/dfwele/dfw/habitat/management/bdi/forest\\_mgt/forest\\_cutting\\_plans.htm](http://www.mass.gov/dfwele/dfw/habitat/management/bdi/forest_mgt/forest_cutting_plans.htm))

The seed tree regeneration harvest in old-field white pine in ST-1 resulted in variable overstory retention; the overstory is relatively sparse in places where advance regeneration was already developed at the time of the cut, but also includes some clusters of retained trees in areas where advance regeneration was not as developed and/or where wildlife resources such as cavity trees or mast trees occurred. The variable overstory is now dominated by retained white pine and northern red oak trees, along with some pitch pine, black cherry, grey birch, red maple, and sugar maple.

The most abundant understory trees in ST-1 were red maple, pin cherry, and black cherry, with scattered white pine, red oak, black oak, white oak, aspen, pitch pine, eastern hemlock, and American beech. The most abundant understory shrubs include Allegheny blackberry, bristly dewberry, highbush blueberry, and mapleleaf viburnum, with scattered occurrences of white meadowsweet, steeplebush, raspberry, staghorn sumac, common mountain-holly, mountain laurel, common winterberry, alternate-leaf dogwood, chokeberry, and Asiatic bittersweet (an invasive plant that will be controlled). The most common groundcover plant (including grasses, sedges, broad-leaved forbs, and prostrate woody plants) was bristly dewberry, along with tree seedlings of eastern white pine, northern red oak, red maple, sugar maple, black birch, and pitch pine, and shrubs including Allegheny blackberry, lowbush blueberry, highbush blueberry, mapleleaf viburnum, southern arrowwood, withe-rod, sweet fern, common juniper, sheep laurel, and mountain laurel, and ground cover such as dwarf cinquefoil, partridgeberry, Canada mayflower, bracken fern, common woodsorrel, interrupted fern, common dandelion, poison ivy, Indian pipe, Pennsylvania clubmoss, and wintergreen.

Stands 2 and 3 have a sparse overstory of retained white pine, red oak, black cherry, and white oak, along with an understory dominated by Canada goldenrod and aspen, along with various grasses and sedges, white pine, red oak, dewberry, blackberry, and Asiatic bittersweet (an invasive plant that will be controlled).

### **Significant Flora and Habitats**

The flora is generally comprised of regionally common species. No significant habitats were encountered within the three stands.

## Invasive, Exotic Species

*Celastris orbiculata* (oriental bittersweet) was found infrequently in small amounts in ST-1. However, invasive species are more prominent in the field edges and hedgerows throughout ST-2&3 and include *Berberis thunbergii* (Japanese barberry), *Celastris orbiculata*, *Rosa multiflora* (multiflora rose), and *Ligustrum vulgare* (privet). Oriental bittersweet is the most abundant of the group, and achieves impressive densities, particularly in edge habitat. The other species are widespread, but usually at low-to-moderate densities or in smaller, discreet dominance patches, similar to pre-harvest conditions. A combination of manual and chemical control of invasive plants should be completed during 2010.

Site Name: **Moose Hill WMA**

Data collected by DFW staff

Timber Sale Contract #: **CE-MH-TS1 - ST 1**

Date:

9/15/2009

**Cover Classes:** + (<1%); 1 (1-5%); 2 (6-25%); 3 (26-50%); 4 (51-75%); 5 (>75%)

**Distribution Classes:** 1 - growing singly, solitary individuals tend to be scattered through portions or all of the site; 2 - growing in patches or groups in some portion(s) of the site; 3 - growing in patches or groups throughout the site

Scientific Name	Common Name	Herb		Shrub		Overstory	
		Cover	Distribution	Cover	Distribution	Cover	Distribution
<i>Acer rubrum</i>	red maple	1	2	2	2	+	1
<i>Acer saccharum</i>	sugar maple	+	1			+	1
<i>Aronia sp.</i>	unknown chokeberry	+	1	+	1		
<i>Betula lenta</i>	sweet birch	+	1	+	1		
<i>Betula populifolia</i>	grey birch					+	1
<i>Celastrus orbiculata</i>	Asian bittersweet			+	1		
<i>Comptonia peregrina</i>	sweet fern	+	1				
<i>Cornus alternifolia</i>	alternatetealeaf dogwood			+	1		
<i>Crataegus sp.</i>	unknown hawthorn			+	1		
<i>Dennstaedtia punctilobula</i>	hay-scented fern			3	3		
<i>Dryopteris intermedia</i>	intermediate woodfern	+	1				
<i>Fagus grandifolia</i>	American beech			+	1		
<i>Gaultheria procumbens</i>	wintergreen	1	1				
GRAMINOIDS	unknown grass	1	1				
<i>Ilex verticillata</i>	common winterberry			+	1		
<i>Juniperus communis</i>	common juniper	+	1				
<i>Kalmia angustifolia</i>	sheep laurel	+	1				
<i>Kalmia latifolia</i>	mountain laurel	+	1	+	1		
<i>Lycopodium hickeyi</i>	Pennsylvania clubmoss	+	1				
<i>Lycopodium obscurum</i>	tree clubmoss	1	1				
<i>Maianthemum canadense</i>	Canada mayflower	1	1				
<i>Mitchella repens</i>	partridgeberry	1	1				
<i>Monotropa uniflora</i>	Indian pipe	+	1				
<i>Nemopanthus mucronatus</i>	common mountain-holly			+	1		
<i>Osmunda claytoniana</i>	interrupted fern	+	1				
<i>Oxalis stricta</i>	common woodsorrel	+	1				
<i>Pinus rigida</i>	pitch pine	+	1	+	1	1	1
<i>Pinus strobus</i>	eastern white pine	2	2	1	2	2	3
<i>Populus grandidentata</i>	bigtooth aspen	1	1	1	1		

<i>Populus tremuloides</i>	quaking aspen	1	1	1	1		
<i>Potentilla canadensis</i>	dwarf cinquefoil	1	1				
<i>Prunus pennsylvanica</i>	pin cherry				2	2	
<i>Prunus serotina</i>	black cherry	1	2	2	2	1	1
<i>Pteridium aquilinum var. latiusculum</i>	bracken fern	1	1				
<i>Quercus alba</i>	white oak	1	1	1	1	+	1
<i>Quercus coccinea</i>	scarlet oak					+	1
<i>Quercus rubra</i>	northern red oak	2	2	1	2	2	1
<i>Quercus velutina</i>	black oak	1	1	1	1		
<i>Rhus hirta</i>	staghorn sumac	+	1	+	1		
<i>Rubus allegheniensis</i>	Allegheny blackberry	2	2	2	2		
<i>Rubus hispidus</i>	bristly dewberry	4	3	1	1		
<i>Rubus sp.</i>	unknown raspberry	1	1	+	1		
<i>Spiraea alba var. latifolia</i>	white meadowsweet			+	1		
<i>Spiraea tomentosa</i>	steeplebush			+	1		
<i>Taraxacum officinale</i>	common dandelion	+	1				
<i>Toxicodendron radicans</i>	poison ivy	+	1				
<i>Tsuga canadensis</i>	eastern hemlock	+	1	+	1	+	1
<i>Vaccinium angustifolium</i>	lowbush blueberry	1	2				
<i>Vaccinium corymbosum</i>	highbush blueberry	1	2	1	1		
<i>Viburnum acerifolium</i>	mapleleaf viburnum	1	1	1	1		
<i>Viburnum dentatum var. lucidum</i>	southern arrowwood	+	1				
<i>Viburnum nudum var. cassinoides</i>	withe-rod	+	1				



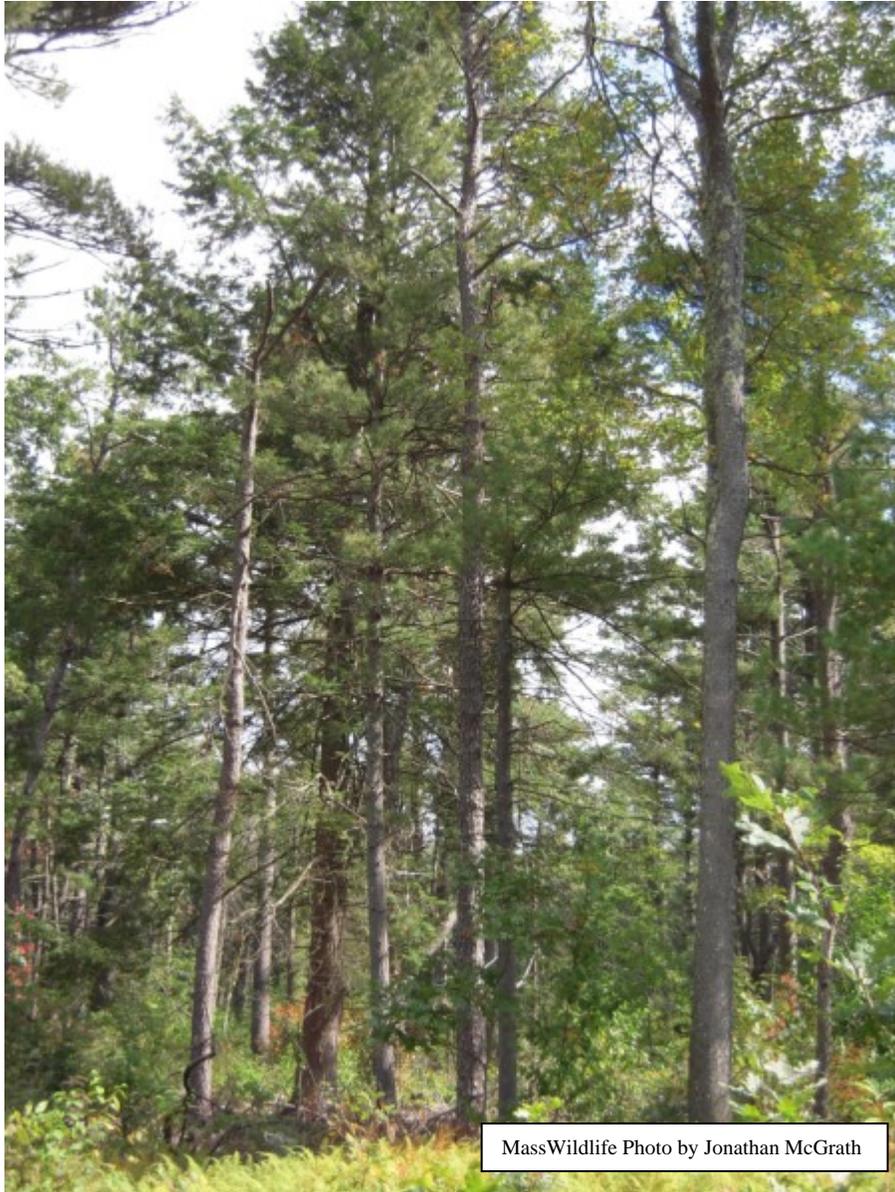
MassWildlife Photo by Jonathan McGrath

Figure 1: Pitch pine seedlings scattered throughout the herb and shrub layers beneath a retained pitch pine (not seen in picture).



MassWildlife Photo by Jonathan McGrath

Figure 2: Skid trail naturally seeded in with grasses, sedges, and forbs (center) with tree regeneration on either side, below retained white pine.



MassWildlife Photo by Jonathan McGrath

Figure 3: Long-term retention group centered around pitch pine, hemlock and black cherry trees.



MassWildlife Photo by Jonathan McGrath

Figure 4: Dense tree and shrub regeneration below a sparse overstory of retained red oak, black cherry, and white pine trees.

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<i>Acer rubrum</i>	red maple	+	1			+	1
<i>Acer saccharum</i>	sugar maple	+	1				
<i>Amelanchier sp.</i>	unknown amelanchier	+	1				
<i>Aralia nudicaulis</i>	wild sarsaparilla	+	1				
<i>Asclepias syriaca</i>	common milkweed	+	1				
<i>Aster divaricatus</i>	white wood aster	+	1				
<i>Berberis thunbergii</i>	Japanese barberry	+	1				
<i>Betula lenta</i>	sweet birch	+	1	+	1		
<i>Betula populifolia</i>	gray birch			1	1		
<i>Carex debilis var. rudgei</i>	white edge sedge	2	2				
<i>Celastrus orbiculata</i>	Asian bittersweet	2	2	2	2		
<i>Chelidonium majus</i>	Celandine	+	1				
<i>Corylus americana</i>	American hazlenut			1	1		
<i>Crataegus sp.</i>	unknown hawthorn			+	1		
<i>Dennstaedtia punctilobula</i>	hay-scented fern	+	1				
<i>Fraxinus americana</i>	white ash	+	1				
GRAMINOIDS	unknown grass	2	2				
<i>Ilex verticillata</i>	common winterberry			+	1		
<i>Ligustrum vulgare</i>	privet			+	1		
<i>Maianthemum canadense</i>	Canada mayflower	1	1				
<i>Malus pumila</i>	paradise apple			+	1		
<i>Oxalis stricta</i>	common woodsorrel	+	1				
<i>Parthenocissus quinquefolia</i>	Virginia creeper	+	1				
<i>Phytolacca americana</i>	poke	1	1	1	1		
<i>Pinus strobus</i>	eastern white pine	2	2	2	2	1	1
<i>Populus grandidentata</i>	bigtooth aspen	3	2	3	2		
<i>Populus tremuloides</i>	quaking aspen	3	2	3	2		
<i>Prunus pennsylvanica</i>	pin cherry	1	2	1	2		
<i>Prunus serotina</i>	black cherry	+	1	1	1	1	1
<i>Quercus alba</i>	white oak					+	1
<i>Quercus rubra</i>	northern red oak	2	2	2	2	1	2
<i>Rhus hirta</i>	staghorn sumac	2	2	3	3		
<i>Rosa multiflora</i>	multiflora rose	1	1	1	1		
<i>Rubus allegheniensis</i>	Allegheny blackberry	2	2	2	2		
<i>Rubus flagellaris</i>	northern dewberry	2	2				
<i>Rubus sp.</i>	unknown raspberry	1	2	1	2		
<i>Solidago canadensis var. scabra</i>	Canada goldenrod	3	2				
<i>Spiraea alba var. latifolia</i>	white meadowsweet	1	1				
<i>Taraxacum officinale</i>	common dandelion	+	1				
<i>Tsuga canadensis</i>	eastern hemlock	+	1				
<i>Vaccinium pallidum</i>	early sweet, lowbush blueberry	+	1				
<i>Viburnum acerifolium</i>	mapleleaf viburnum			+	1		

<i>Viburnum dentatum var. lucidum</i>	southern arrowwood	1	1		
<i>Vitis labrusca</i>	fox grape			1	1



Figure 5: Landing and primary skid trail now utilized as a parking area.



MassWildlife Photo by Jonathan McGrath

Figure 6: Dense aspen regeneration intermixed with grasses and other herbaceous woody vegetation (foreground); trees leaning from December 2008 ice storm (background).



Figure 7: Red oak stump sprout amongst other seedlings and herbaceous and woody vegetation (foreground); retained black cherry and oak trees within ST-1 (background).