



# Conservation Action Plan CAP 106 Forest Management Plan

*Developed for:*

**CLARENCE SCHOCK MEMORIAL PARK  
AT GOVERNOR DICK**

*Mailing Address:*

P.O. Box 161  
Mt. Gretna, PA 17064

*Property Location:*

3283 Pinch Road  
Lebanon, PA 17042

*Developed by:*

**Barry S. Rose, Certified Forester #579, TSP 11-7334**  
Forest Regeneration Services, Inc.  
P.O. Box 1260  
Gouldsboro, PA 18424  
Office Phone: (570) 842-2252  
Mobile Phone: (717) 228-4854  
eMail: frs.barry@gmail.com



*Managed Acreage:*

1,105 acres

*Preparation Date:*

January 2017



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**SIGNATURES AND APPROVALS**

This Forest Management Plan (FMP) is provided as a guide to help landowners accomplish the objectives that they have for their forest. This FMP will act as a guide for landowners in achieving the sustainable benefits of managing their forest resources for the next 10 years. With this FMP, the landowner automatically complies with the standards and benefits of the US Forest Service’s Forest Stewardship Program; the American Forest Foundation’s American Tree Farm System and is eligible for NRCS Cost Share programs. This plan will need to be reviewed and approved by the local NRCS District Conservationist, DCNR Service Forester, Technical Service Provider, and Landowner.

The Forest Stewardship Program and American Tree Farm Program are designed to promote wise use and sustained benefits of forest resources. While participation in these programs can provide benefits of forest management information networks, national recognition, financial tax savings, and increased forest product income generation through select markets, by NRCS policy, the landowner is not required to participate in these programs. If the landowner wishes to participate in either of these programs, please check the appropriate boxes and proceed to the Landowners Pledge.

**Forest Stewardship Program  
Participation**

**Tree Farm Program Participation**

Yes:  No:

Yes:  No:

**LANDOWNER’S PLEDGE FOR FOREST STEWARDSHIP/TREE FARM PROGRAM STATUS**

Since timber harvesting has a significant impact on our forest resources, we agree to complete commercial timber harvests recommended in the plan with the assistance of a professional forester. We understand that the forester is to designate trees to be cut based on a written prescription derived through a careful stand analysis of the stands involved.

We understand that a DCNR Service Forester or forest consultant will periodically review the implementation of our FMP to assist us in properly following the plan for my objectives. To enable him/her to carry out this responsibility we will make available copies of plan amendments and/or timber harvesting prescriptions before carrying out a major activity. We understand that we are not obligated to obtain approval from the service forester but that he/she may advise me if prescriptions do not appear to serve the goals of my FMP or meet Forest Stewardship/Tree Farm standards.

If we choose to deviate from the guidelines in the FMP, we agree to return the applicable signs designating my property as a “Stewardship Forest” or “American Tree Farm” to the DCNR Service Forester.

\_\_\_\_\_  
Landowner Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Landowner Signature

\_\_\_\_\_  
Date





## FOREST STEWARDSHIP/AMERICAN TREE FARM/EQIP PROGRAM CERTIFICATIONS

We are satisfied with the content and recommendations contained in this FMP, and will make an honest effort to follow them for the ten-year period covered by the plan. We understand that the information within this plan may be used by NRCS and DCNR for conservation planning, and is not protected by legal privacy acts for either agency.

\_\_\_\_\_  
Landowner Signature

\_\_\_\_\_  
Date

We certify that this FMP meets the requirements of the federal Forest Stewardship Program, American Tree Farm Program, and the USDA Environmental Quality Incentives (EQIP) Program and/or the Quality Criteria for Forest Management Plans in Section III of the USDA NRCS Field Office Technical Guide.

\_\_\_\_\_  
Technical Service Provider

\_\_\_\_\_  
Date

\_\_\_\_\_  
DCNR Service Forester

\_\_\_\_\_  
ATFS Inspector #

\_\_\_\_\_  
Date

\_\_\_\_\_  
PA Unique ID Number

\_\_\_\_\_  
Certified Tree Farm #

\_\_\_\_\_  
NRCS District Conservationist

\_\_\_\_\_  
Date



## **PROPERTY OWNERSHIP**

**Lebanon County Commissioners  
(Trustees)**

Room 207, Municipal Building  
400 South 8<sup>th</sup> Street  
Lebanon, PA 17042

**Park Representatives:**

Mr. Charles B. (Chuck) Allwein, Board Member  
Telephone: (717) 926-5143  
eMail: callwein7@comcast.net

Mrs. Audrey Wells, Naturalist  
Telephone: (717) 964-3808  
eMail: governordick@hotmail.com

## **GOVERNMENT OVERSIGHT**

**Lebanon County Service Forester**

**Mr. Gary L. Gilmore, CF**  
Woodland Stewardship Coordinator  
PA DCNR Bureau of Forestry  
Rural & Community Forestry Section  
400 Market Street  
Harrisburg, PA 17105  
Telephone: (717) 418-5203  
eMail: ggilmore@pa.gov

**NRCS District Conservationist**

**Mr. Michael Snyder**  
USDA Lebanon Service Center  
2120 Cornwall Road, Suite 6  
Lebanon, PA 17042  
Telephone: (717) 272-3908  
eMail: michael.snyder@pa.usda.gov

**Please note:** *Informal updates to the plan can be made with handwritten notes. Be sure to include a date and initial these notes throughout the management plan.*



## **PREFACE**

The forest trees are aging at Gov. Dick to the point where most stands are now mature. This stage of growth is good, wonderful, and favored by many. The benefits to wildlife are high, the natural resources are protected and conserved, and recreational opportunities abound. However, relatively few forest tree species are present and most of those species produce seedlings that need large quantities of sunlight to survive. This growth trait in and of itself prevents the seedlings from becoming established and thriving under the canopy of their parent tree. In recent times, environmental imbalances have occurred with certain flora (e.g. invasive plants) and fauna (e.g. deer) which most certainly have stressed the environment beyond a point which can be overcome by the forest itself. We, as managers of all the forest resources at Governor Dick, must do our best to correct the imbalances which have occurred and introduce new tree species that can better compete under the shade of our majestic overstory trees.

A simplistic path to that end is to: keep what is healthy...healthy; try to correct that which is within our means; and limit the breadth and extent of that which we cannot correct (within our means) from further degrading that which we can.

Follow the guidelines for CDL (the acronym of Competing vegetation, Deer, and Light) as described starting on page 40. This methodology will guide us to successfully establishing a new generation of seedlings on the forest floor which will one day shade the activities you so love to enjoy at Gov. Dick. The park has so much to offer, let's keep it that way... Sustainably!

### **NOTES:**

"SILVAH", a US Forest Service computer program, is referred to in this plan numerous times and forms the scientific basis for the prescriptions recommended herein. Refer to Appendix B for further information on SILVAH.

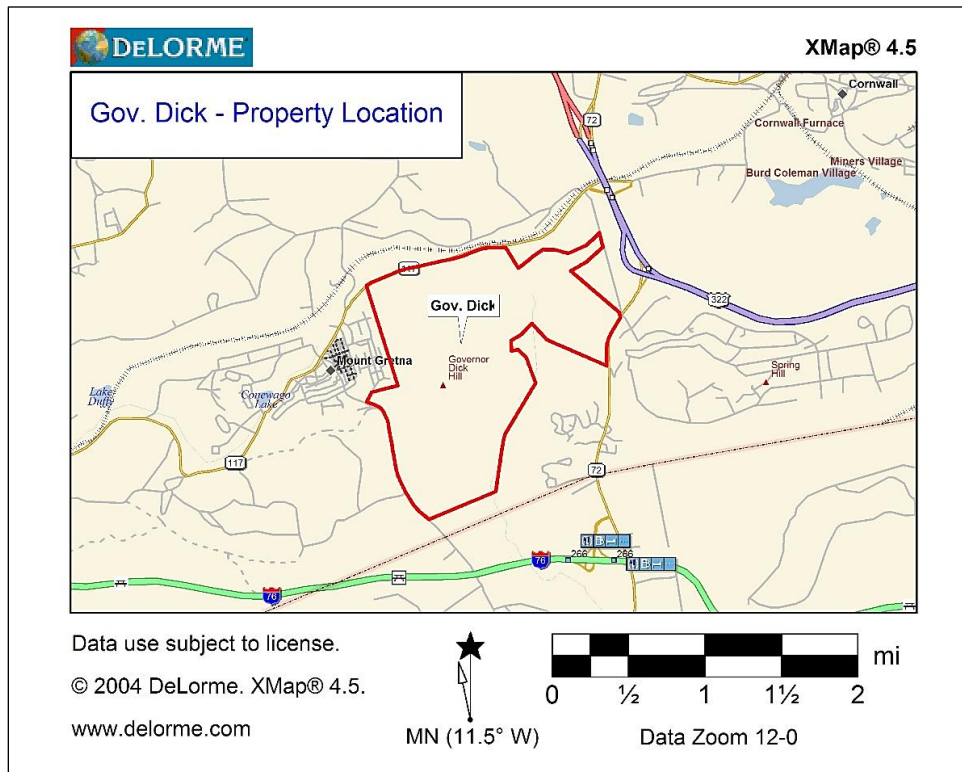
Forestry-specific terms used in this plan are defined in Appendix C.



## PROPERTY DESCRIPTION

### **DIRECTIONS**

The property is located east of and adjacent to Mt. Gretna, Lebanon County, Pennsylvania. Road frontage is found along Route 117, Pinch Road, and Route 72. The main entrance and Environmental Center is located south of Mt. Gretna at 3283 Pinch Road. See map below:



GPS Coordinates:            N 40° 14' 13.22"  
                                      W 76° 27' 38.17"

From the Turnpike: Take the Lancaster-Lebanon exit. Turn right onto Route 72 South. Travel about one mile and turn right onto Cider Press Road. At stop sign, turn right onto Pinch Road. The Environmental Center is at the top of the hill on the right.

From Ephrata: Travel west on Route 322 towards Hershey. Take Mt Gretna exit on right. At bottom of ramp, turn left onto Route 117 North. In the town of Mt Gretna turn left onto Pinch Road. The Environmental Center is one mile on the left.

From Lancaster: Travel north on Route 72 through Manheim. Turn left onto Pinch Road. Travel about 1½ miles. The Environmental Center is at the top of the hill on the right.

From Harrisburg: Travel east on Route 322 past Hershey. Turn right onto 117 South. Remain on 117 South through Colebrook. In the town of Mt Gretna, turn right onto Pinch Road. The Environmental Center is one mile on the left.

**TOTAL OWNERSHIP ACREAGE:** ..... 1,105 acres

**TOTAL FORESTED ACREAGE:** ..... 1,093 acres

**LANDOWNER RESIDES ON PROPERTY:** ..... No

**BASIC TOPOGRAPHY (ESTIMATE PERCENT OF TOTAL ACREAGE THAT IS):**

Complex topography (many steep ravines and aspects).....

Simple topography (few ravines and changes of aspect) .....

The surrounding topography is typically hilly to mountain-like. Elevations on the property range from +/- 600 feet (above sea level) along Chiques (aka Chickies) Creek in the southern section of the property to around 1,148 feet at the summit of Gov. Dick Hill located near the Observation Tower. Approximately 4,000 feet (horizontal distance) separates the two elevation extremes on this property.

**WATERSHED TRACT:**

Chesapeake Bay .....

Delaware River Basin .....

Ohio River Basin .....

**NUMBER OF MANAGEMENT UNITS:**..... 9

**FOREST ACCESS BY VEHICLES:**

Excellent (80% accessible).....

Good (at least 50%).....

Fair (at least 25%).....

Poor (less than 10%) .....

Approximately 50% of the property boundary is adjacent to three different state roads. There are four parking areas along these roads at trail heads. There is a 1.9-mile gated vehicle access road through the middle of the property, and 13.3 miles of trails.

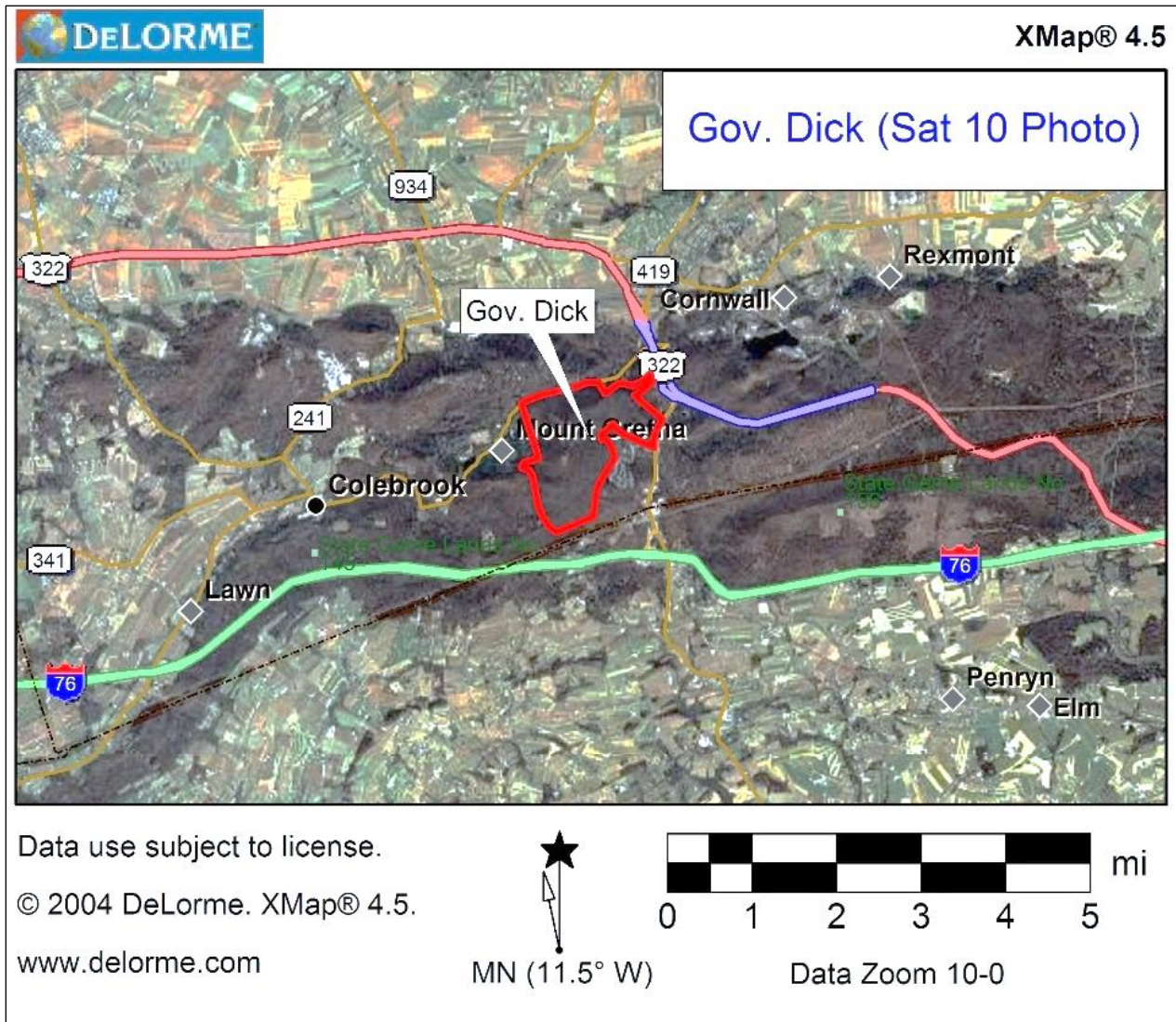
Access is afforded to the public via approximately 14 points of entry. Most of these accesses are primitive and consist of foot/bike/horse trails. Parking facilities are generally *inadequate* relative to the volume of users in all areas except the recently established *Environmental Center* located on Pinch Road. The north, east and west slopes of the property can be accessed via improved road segments, dirt roads, and an extensive foot/bike/horse trail system. The south slope is generally accessible via foot and/or mountain bike only.

**THE PROPERTY WITHIN THE LANDSCAPE**

This property lies within a woodland corridor locally known as Furnace Hills that stretches more or less east-west along the Lebanon County / Lancaster County lines. The north-south width of the Furnace Hills corridor, which includes the Clarence Schock Memorial Park at Governor Dick (hereinafter called Gov. Dick), is approximately 2.8 miles. Gov. Dick's centralized location and size (more than 60% or 1.7 miles of the corridors width) make it an essential link for migrating woodland wildlife within the region. Large expanses of farmland, rural communities, and small cities dominate the landscape north and south of this corridor. State Game Lands #145 is situated west of Pinch Road and shares a common boundary with Gov. Dick. See map below.



Interstate 76 runs in an east-west direction across the state forming a migration barrier to most ground dwelling animals. This interstate highway is located less than 2,500 feet from the southernmost boundary of Gov. Dick. The Middle Creek Wildlife Management Area, the largest migratory waterfowl management area in this region of Pennsylvania is located just 12 air miles east-northeast of Gov. Dick.



## **OWNERS' FOREST MANAGEMENT GOALS**

The Board Members of Gov. Dick have drafted a Strategic Plan that embodies the overall mission and goals of the Park (refer to Appendix A.) The following guidelines below were established primarily for the CAP 106 plan:

- a. Keep the forest healthy with minimum changes.
- b. Address the abundance of mature trees and the lack of regeneration of new growth.
- c. Address the lack of evergreens throughout.
- d. Keep a percentage of old growth, especially along Pinch Road and high-use/visibility areas.
- e. Improve road/trail access.
- f. Reduce fire risk.
- g. Improve roadside parking.
- h. Reduce invasive species.
- i. Develop a charcoal history display site.
- j. Address options for controlling tick and mosquito populations.
- k. Encourage bird walks, native plant workshops, and educational programs.
- l. Encourage the Audubon Society's involvement in bird counts and utilize their expertise.
- m. Create interpretive trail(s). Trail signs and brochure(s) identifying trees, plants and flowers of the area, and other special interest areas and history.
- n. Control deer population.
- o. Manage forest for its health, not profit.
- p. Don't be afraid to cut trees to manage the tract and provide some income.
- q. Favor silvicultural practices that include group selection to encourage natural tree regeneration over clearcutting. It is understood that deer exclosure fences are likely needed to protect project areas where regeneration practices are planned. In many cases, fences should be established prior to harvesting (for several years) to encourage advanced regeneration to become established.
- r. Project areas should be used as an educational opportunity for the public. Signs should be displayed to explain the intent, process, reasoning for the practice in a natural unobtrusive way.
- s. Use all means necessary to assure the successful outcome of each practice.

## PROPERTY HISTORY

Gov. Dick is a 1,105-acre forested site set aside for public education, nature walks and other primitive (non-motorized) recreational activities in a woodland setting located near Mount Gretna, Pennsylvania. The trustees (the Lebanon County Commissioners) are charged with oversight of the land trust and bylaws compliance.

Mr. Clarence Schock granted these lands for public use so that people would have a forested place to enjoy themselves and thereby come to appreciate nature through participation, education and contemplation of its natural community. Excerpts from the original deed recorded on April 22, 1954 are as follows:

*“... TO HAVE AND TO HOLD the tract of land above described with the appurtenance IN TRUST forever as a playground and public park, upon the following terms and conditions: The portion thereof which is now forest or woodland shall be maintained as forest and woodland and where possible additional portions shall be planted as forest and woodland; Hunting and shooting and the smoking of cigars, cigarettes, pipes and tobacco shall be prohibited at all times upon the land hereby conveyed; the land shall be posted with notices at least once each year forbidding hunting and shooting, and appropriate notices shall be maintained forbidding the smoking of cigars, cigarettes, pipes and tobacco upon the land;*

*The trust shall be for the enjoyment of persons traveling on foot; and no automobile, vehicle or mobile machinery shall be allowed to move or travel upon roads on the land except upon the business of the trust or with the written permission of the trustee or upon such public roads as may hereafter be built by state municipal authority...”*

In 1941, Mr. Schock reorganized the SICO Company as a non-profit corporation with earnings to be utilized for the promotion of educational, literary and scientific purposes. In 1955, the SICO Company was renamed to the SICO Foundation, which was later renamed the Clarence Schock Memorial Foundation in 2003. The Clarence Schock Foundation was dedicated to promoting activities for public education, literary and scientific purposes. Recently, the Foundation withdrew from oversight of Gov. Dick. The Lebanon County Commissioners are now the sole trustees of the property.

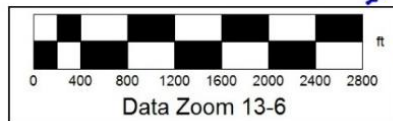
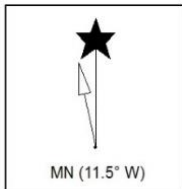
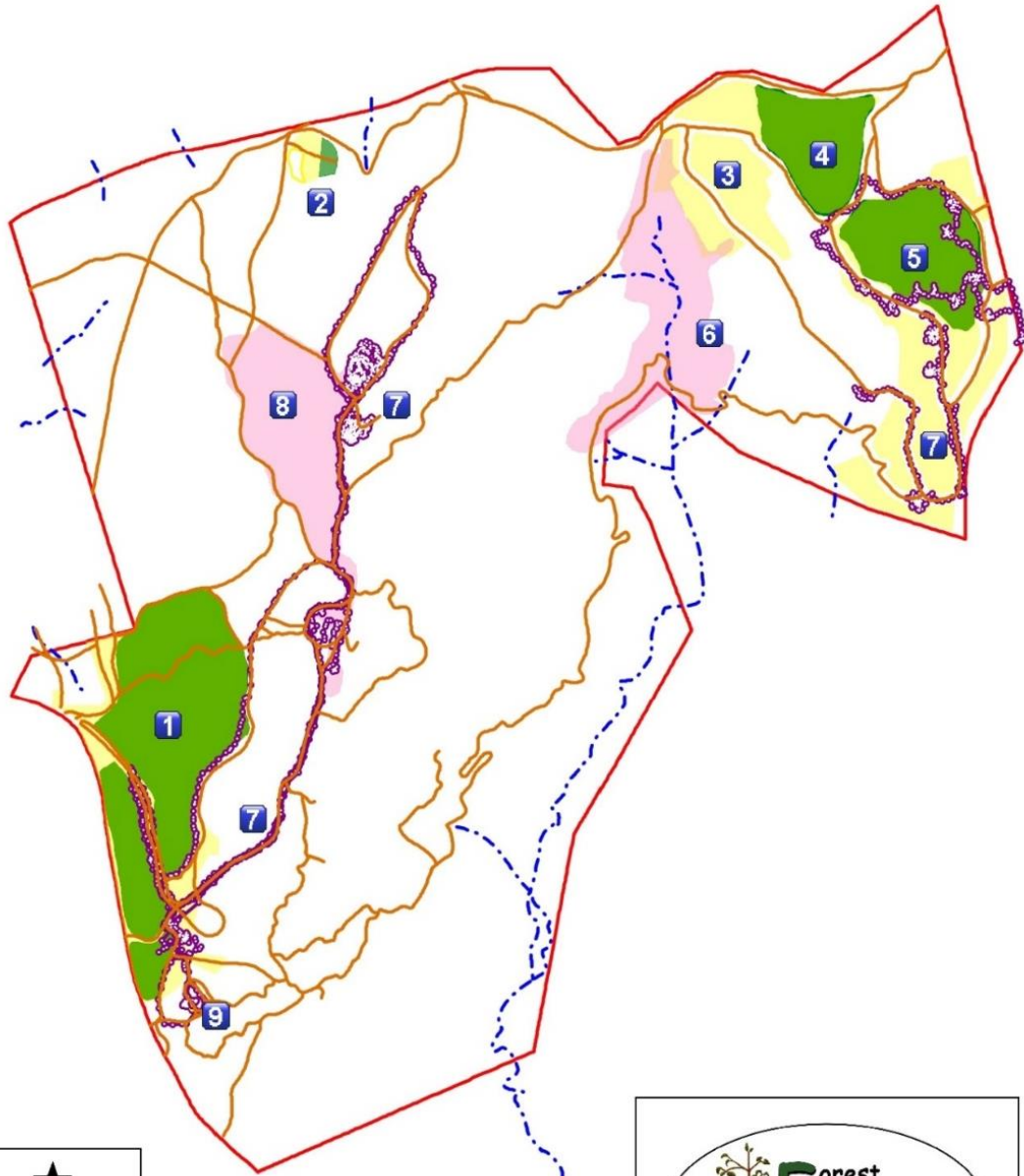
In 2005, the board of trustees authorized the writing of a Forest Stewardship Plan. Since then, many of the recommendations outlined in that plan were implemented. See chart below.

**ACTIVITIES COMPLETED:**

The following activities have been completed since 2009. Most activities were introduced in the previous Forest Stewardship Plan written and approved in 2005.

Activities Completed Between 2009 and 2016					
Map #	Date	Practice Code	Project Name/Activity/Practice	General Purpose and Location	Acres
	8/1/18	314	Brush Mgmt. - Trails	Chem, Individual Plant Treatment	32.4
	8/1/18	315	Weed Control - Trails	Chemical, Spot	32.4
	8/1/17	490	Invasive Plant Control - Trails	Chemical, Hand Application	64.8
	8/1/17	612	Plant Seedlings	8200 seedlings protected in fence	41.0
	8/1/17		2016 Marcellus Grant	ADA Handicap Boardwalk Project	
	7/1/16		NRCS - EQIP	Funding for activities	
	12/1/16	106	10 yr. rewrite of FSP		1,105.7
1	2/3/09		Timber Sale - Oak Salvage	Forest Management	67.0
9	7/10/09		Commonwealth of PA	Rain Garden	
	10/16/09		Growing Greener	Funding for Activities	
1	11/19/09		Herbicide - Oak Salvage Sale	48.25 hours + herbicides	
7/8	4/15/10	314	Ailanthus Control	Basal Bark / Hack & Squirt	38.4
1	4/15/10		FENCE - Oak Salvage Sale	Fence Construction by Reiley (53 acres @11,780 lin ft @ \$2.28/ft)	53.0
1	4/29/10	612	Tree Planting - Oak Salvage Sale	15000 seedlings	67.0
7	10/7/10		Weed Control - Trails	MAM - Herb application in June	
9	10/22/10		Rain Garden	Growing Greener	
	5/31/11		SILVAH Survey	5/2/11 and 5/26/11	
7	5/31/11		Herbicide - MAM	5 acres MAM 2.4 acres woody	7.4
7	7/8/11	315	MAM Weed Control	bouldering area near radar site	3.7
7	7/20/12	314	Brush Mgmt./ Chem. And Mech. Methods	6.3 ac ailanthus control + 2.4 ac radar site prep.	8.7
	12/19/12		NRCS - EQIP	Funding for Activities	
1	1/10/13	666	FSI/ Tree shears BB, BG	Black birch understory reduction	20.0
5	3/23/13		Timber Sale #1(Rte 72)	Forest Management	49.0
1	4/4/13	666	FSI/ Tree shears BB, BG	Black birch understory reduction	21.0
	5/9/13		NRCS - EQIP	Funding for Activities	
	6/19/13	327	NRCS - EQIP	Radar Site - Warm Season Grass	1.4
3/4	2/27/14		Timber Sale #2	Forest Management	37.0
7	6/4/14		Herbicide Application	Pre-emergent trail spraying	
5/4	6/4/14	382	Fence #1 and #2 Construction	1 = 3919ft. (23 acres), 2 = 3604 ft. (18 acres)	41.0
	7/14/14	666	TSI	Tree Thinning with Shears	18.0
	7/14/14	314	Herbicide - Chem. HEAVY Infest.	Spicebush in Rte. 72 Fence	23.0
6	7/14/14	314	Herbicide - Chem. MEDIUM Infest.	Herb. barberry/headwaters of Chickies Creek	30.0
	7/14/14	587	Structures for Water Control	39 waterbars installed	
	7/25/14		NRCS - EQIP	Apply to 4 payments of 7/14/14	
	8/27/14		2014 Marcellus Grant	Apply to 2 payments of 6/4/14	
	1/1/15		2015 Marcellus Grant	Applied to rewrite of 2016 FSP	
2/5	5/1/15		Timber Sale	Tree salvage and demo area	
	5/29/15		NRCS - EQIP	Funding for Activities	
2	7/1/15		Demo Area Establishment	Prep and Fence	
	8/21/15		2014 Marcellus Grant	Funding for activities	
5/4	7/25/16		Herbicide Application	Fence #1 and #2 Invasive Respray	

# 2009-2016 Completed Activities Map



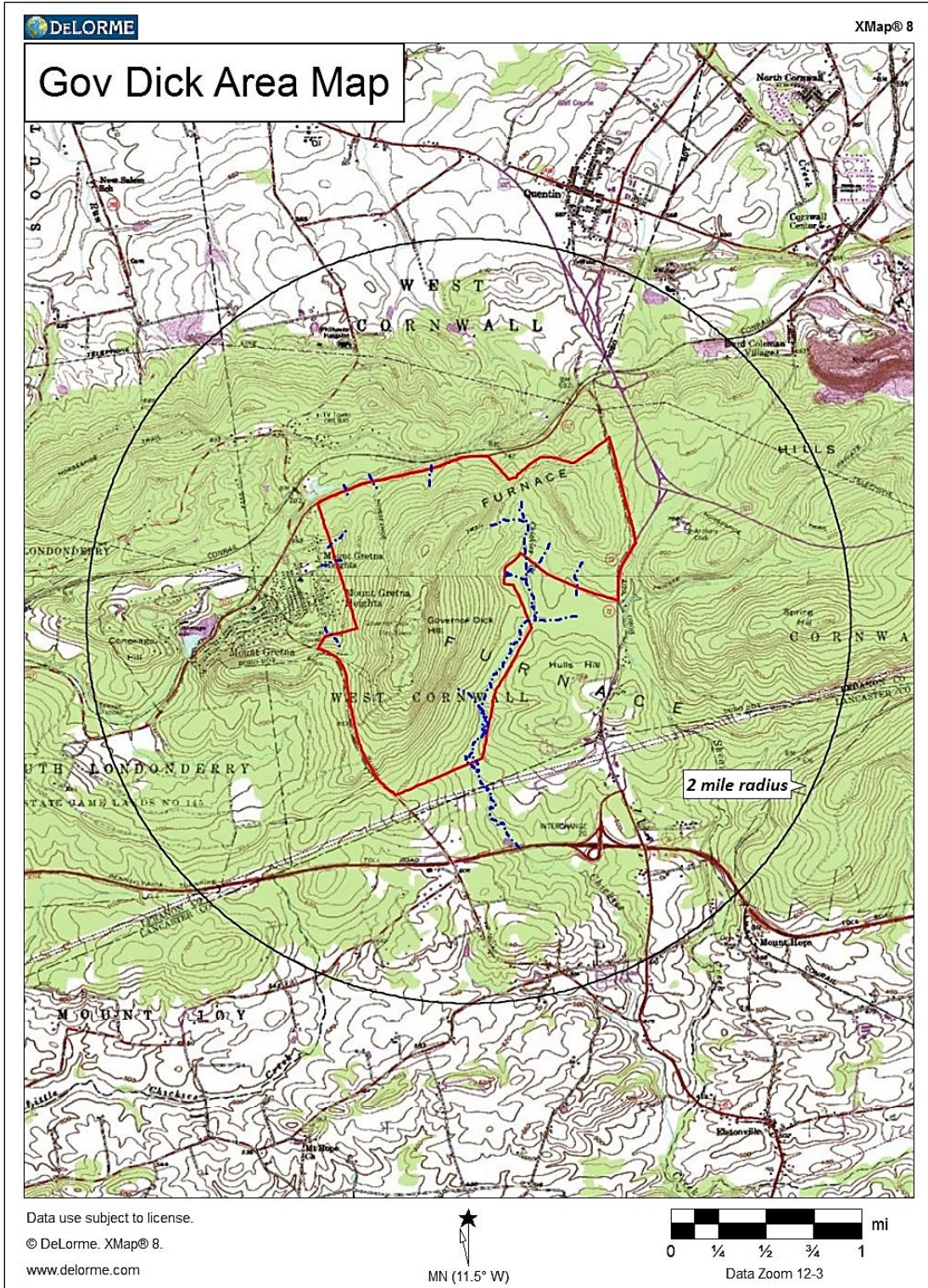
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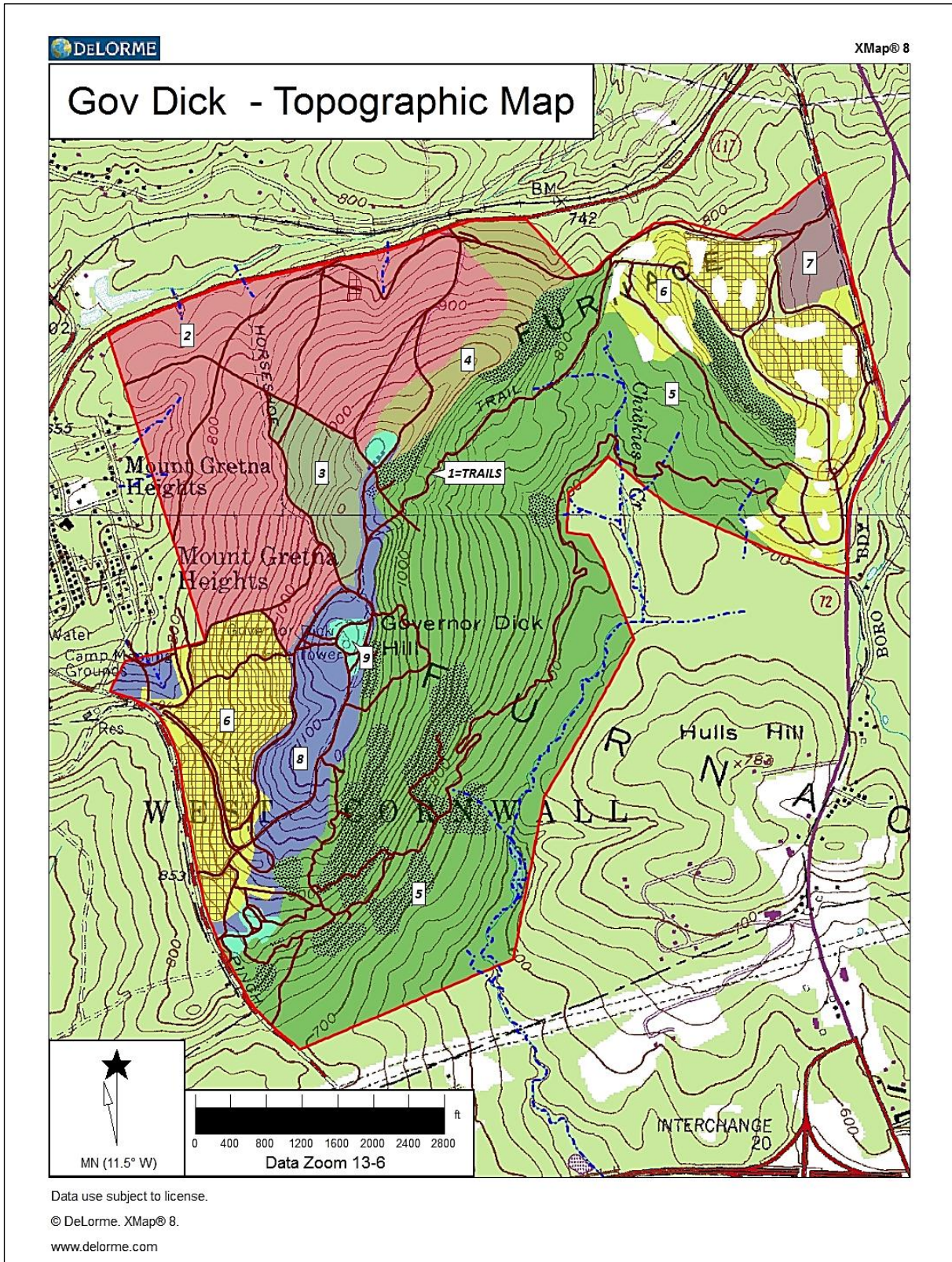
www.delorme.com

MAPS

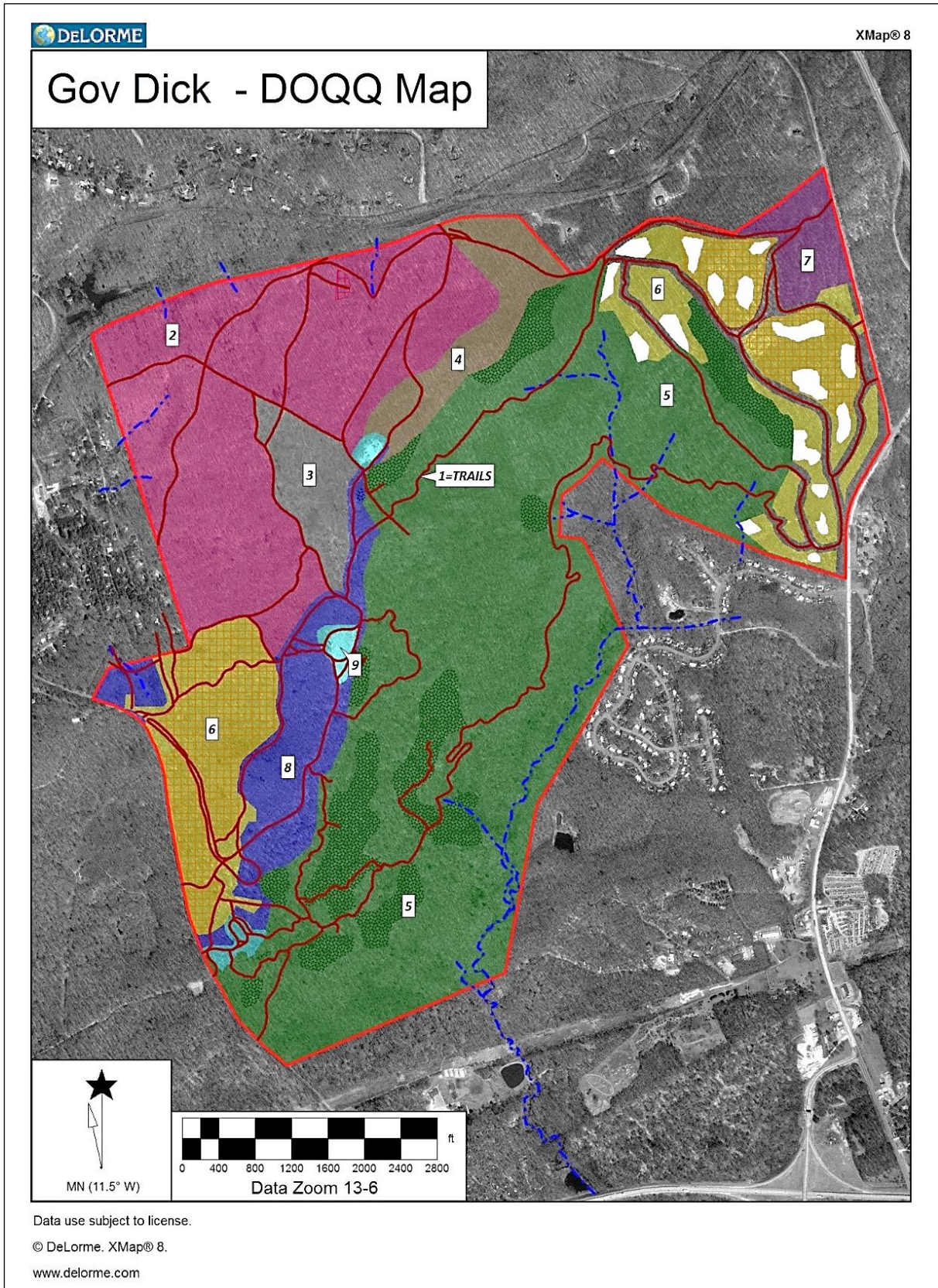
**LANDSCAPE MAP (2 MILE RADIUS)**



# MANAGEMENT UNIT - TOPO MAP



# MANAGEMENT UNIT - AERIAL PHOTOGRAPH (DOQQ)




























# SOILS MAP

Parent Material Name—Lebanon County, Pennsylvania  
(Gov Dick Parent Material Map)

## MAP LEGEND

- Area of Interest (AOI)**
-  Area of Interest (AOI)
- Soils**
- Soil Rating Polygons**
-  colluvium derived from diabase
  -  residuum weathered from diabase
  -  residuum weathered from sandstone and siltstone
  -  residuum weathered from sandstone and/or residuum weathered from conglomerate
  -  Not rated or not available
- Soil Rating Lines**
-  colluvium derived from diabase
  -  residuum weathered from diabase
  -  residuum weathered from sandstone and siltstone
  -  residuum weathered from sandstone and/or residuum weathered from conglomerate
  -  Not rated or not available
- Soil Rating Points**
-  colluvium derived from diabase
  -  residuum weathered from diabase
  -  residuum weathered from sandstone and siltstone
  -  residuum weathered from sandstone and/or residuum weathered from conglomerate
  -  Not rated or not available
- Water Features**
-  Streams and Canals
- Transportation**
-  Rails
  -  Interstate Highways
  -  US Routes
  -  Major Roads
  -  Local Roads
- Background**
-  Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

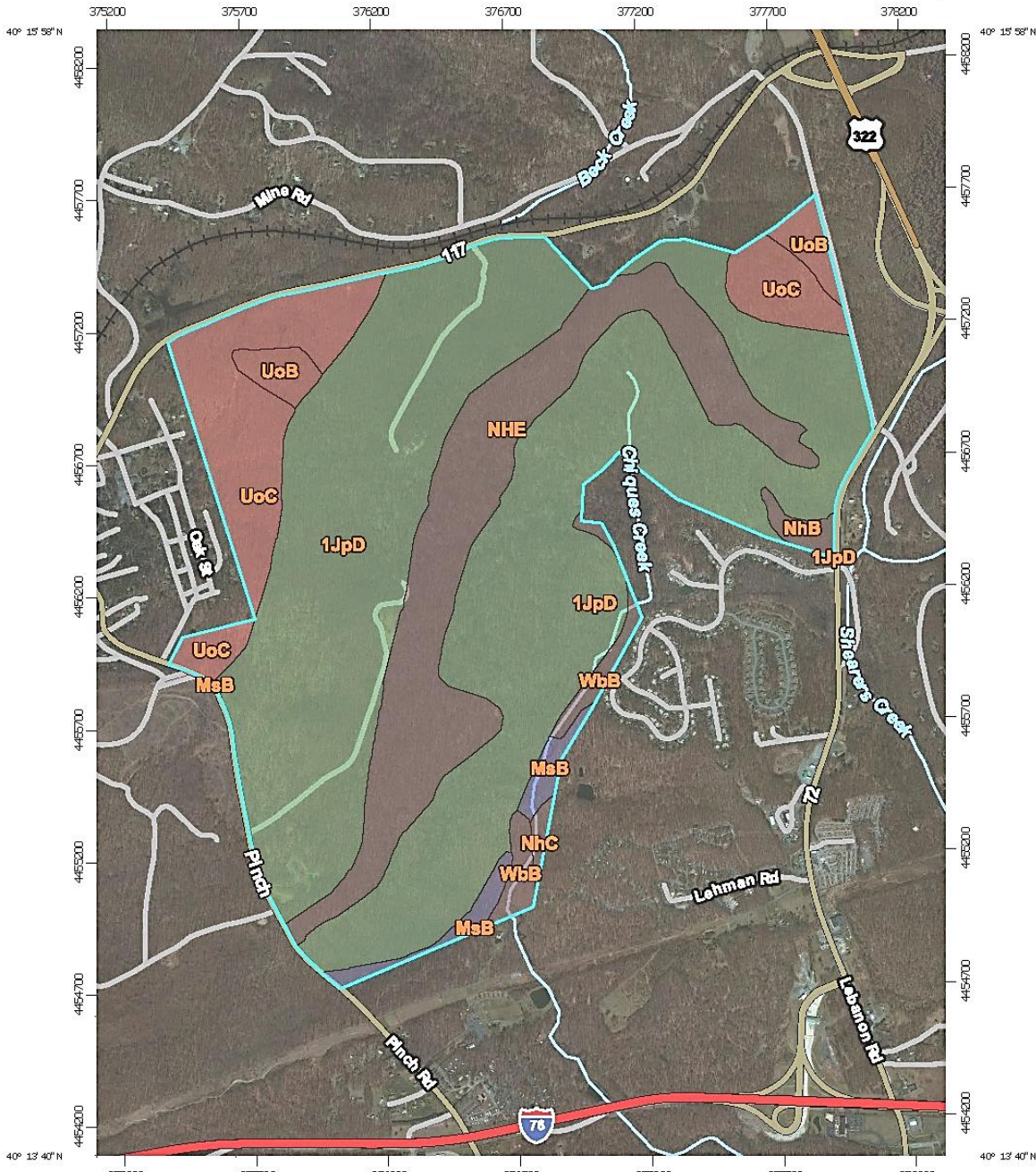
Soil Survey Area: Lebanon County, Pennsylvania  
Survey Area Data: Version 10, Nov 16, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 26, 2011—Jul 2, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Parent Material Name—Lebanon County, Pennsylvania  
(Gov Dick Parent Material Map)



Map Scale: 1:20,700 if printed on A portrait (8.5" x 11") sheet

0 300 600 1200 1800 Meters

0 1000 2000 4000 6000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84



Web Soil Survey  
National Cooperative Soil Survey

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## Soil Names / Descriptions

Parent Material Name—Lebanon County, Pennsylvania

Gov Dick Parent Material Map

### Parent Material Name

Parent Material Name— Summary by Map Unit — Lebanon County, Pennsylvania (PA075)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1JpD	Joanna loam, 8 to 25 percent slopes, extremely stony	residuum weathered from sandstone and/or residuum weathered from conglomerate	725.1	65.0%
MsB	Mount Lucas extremely stony silt loam, 3 to 8 percent slopes	colluvium derived from diabase	19.2	1.7%
NhB	Neshaminy extremely stony silt loam, 3 to 8 percent slopes	residuum weathered from diabase	7.8	0.7%
NhC	Neshaminy extremely stony silt loam, 8 to 25 percent slopes	residuum weathered from diabase	3.6	0.3%
NHE	Neshaminy extremely stony silt loam, steep	residuum weathered from diabase	189.1	17.0%
UoB	Ungers extremely stony loam, 3 to 8 percent slopes	residuum weathered from sandstone and siltstone	22.9	2.1%
UoC	Ungers extremely stony loam, 8 to 25 percent slopes	residuum weathered from sandstone and siltstone	127.6	11.4%
WbB	Watchung extremely stony silt loam, 0 to 8 percent slopes	residuum weathered from diabase	20.0	1.8%
<b>Totals for Area of Interest</b>			<b>1,115.3</b>	<b>100.0%</b>

### Description

Parent material name is a term for the general physical, chemical, and mineralogical composition of the unconsolidated material, mineral or organic, in which the soil forms. Mode of deposition and/or weathering may be implied by the name.

The soil surveyor uses parent material to develop a model used for soil mapping. Soil scientists and specialists in other disciplines use parent material to help interpret soil boundaries and project performance of the material below the soil. Many soil properties relate to parent material. Among these properties are proportions of sand, silt, and clay; chemical content; bulk density; structure; and the kinds and amounts of rock fragments. These properties affect interpretations and may be criteria used to separate soil series. Soil properties and landscape information may imply the kind of parent material.

For each soil in the database, one or more parent materials may be identified. One is marked as the representative or most commonly occurring. The representative parent material name is presented here.

# Forest Productivity Chart

## Forestland Productivity

This table can help forestland owners or managers plan the use of soils for wood crops. It shows the potential productivity of the soils for wood crops.

*Potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forestland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

*Trees to manage* are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service, National Forestry Manual.

## Report—Forestland Productivity

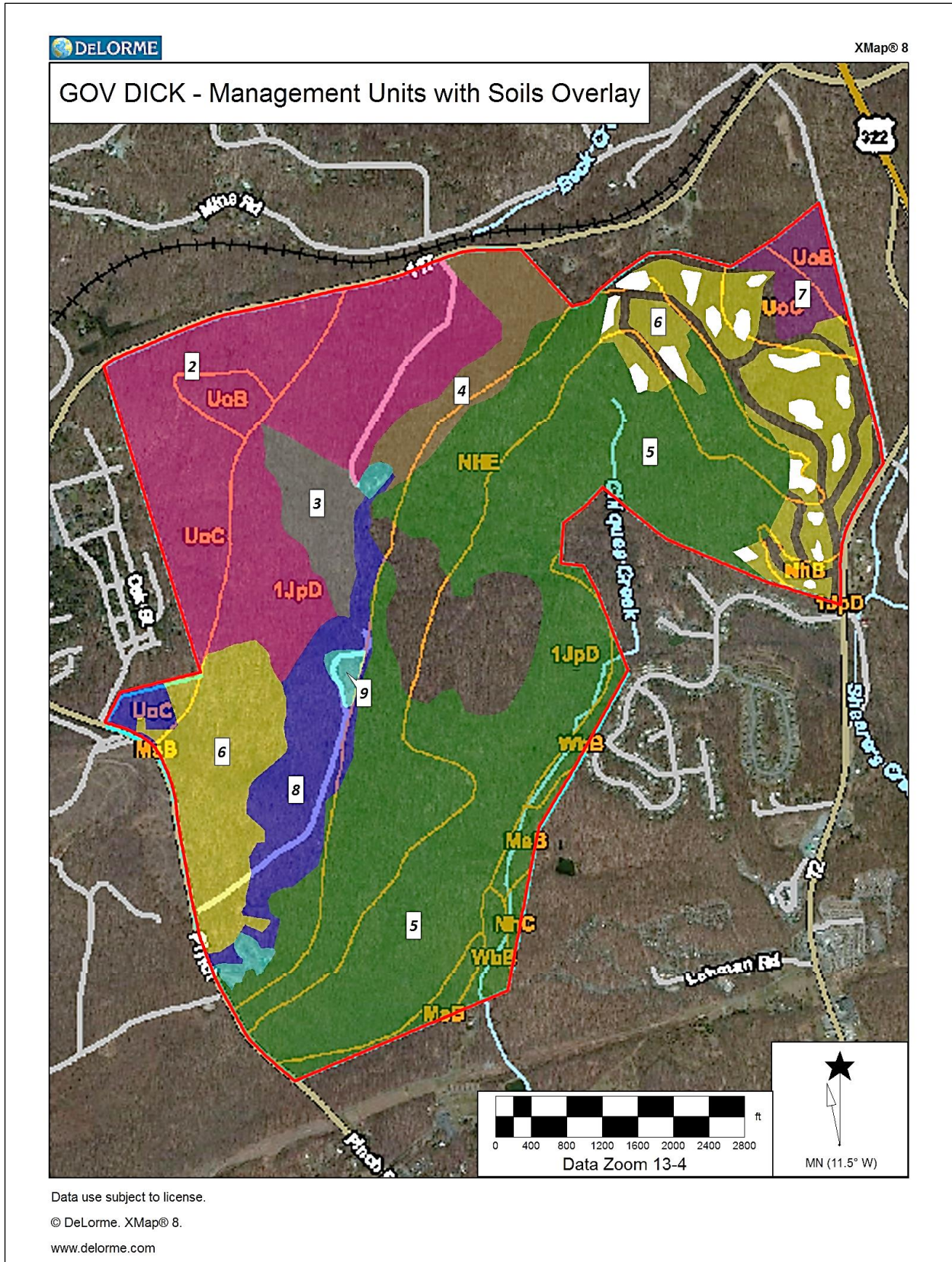
Forestland Productivity—Lebanon County, Pennsylvania				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			<i>Cu ft/ac</i>	
1JpD—Joanna loam, 8 to 25 percent slopes, extremely stony				
Joanna, extremely stony	Northern red oak	65	43.00	Eastern white pine, Virginia pine
	Virginia pine	60	86.00	
MsB—Mount Lucas extremely stony silt loam, 3 to 8 percent slopes				
Mount lucas, extremely stony	Northern red oak	80	57.00	Eastern white pine, Virginia pine, Yellow-poplar
	Virginia pine	75	114.00	
	Yellow-poplar	90	86.00	

Forestland Productivity--Lebanon County, Pennsylvania				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			<i>Cu ft/ac</i>	
NhB—Neshaminy extremely stony silt loam, 3 to 8 percent slopes				
Neshaminy	Northern red oak	80	57.00	Black walnut, Eastern white pine, Japanese larch, Norway spruce, Virginia pine, Yellow-poplar
	Yellow-poplar	90	86.00	
NhC—Neshaminy extremely stony silt loam, 8 to 25 percent slopes				
Neshaminy	Northern red oak	80	57.00	Black walnut, Eastern white pine, Japanese larch, Norway spruce, Virginia pine, Yellow-poplar
	Yellow-poplar	90	86.00	
NHE—Neshaminy extremely stony silt loam, steep				
Neshaminy	Northern red oak	80	57.00	Black walnut, Eastern white pine, Japanese larch, Norway spruce, Virginia pine, Yellow-poplar
	Yellow-poplar	90	86.00	
UoB—Ungers extremely stony loam, 3 to 8 percent slopes				
Ungers	Northern red oak	67	43.00	Eastern white pine, Virginia pine
	Virginia pine	65	100.00	
UoC—Ungers extremely stony loam, 8 to 25 percent slopes				
Ungers	Northern red oak	67	43.00	Eastern white pine, Virginia pine
	Virginia pine	65	100.00	
WbB—Watchung extremely stony silt loam, 0 to 8 percent slopes				
Watchung, extremely stony	Northern red oak	80	57.00	Eastern white pine, European larch, Norway spruce
	Pin oak	85	57.00	

### Data Source Information

Soil Survey Area: Lebanon County, Pennsylvania  
 Survey Area Data: Version 10, Nov 16, 2015

# MGMT. UNITS WITH SOILS OVERLAY



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