United States Department of Agriculture

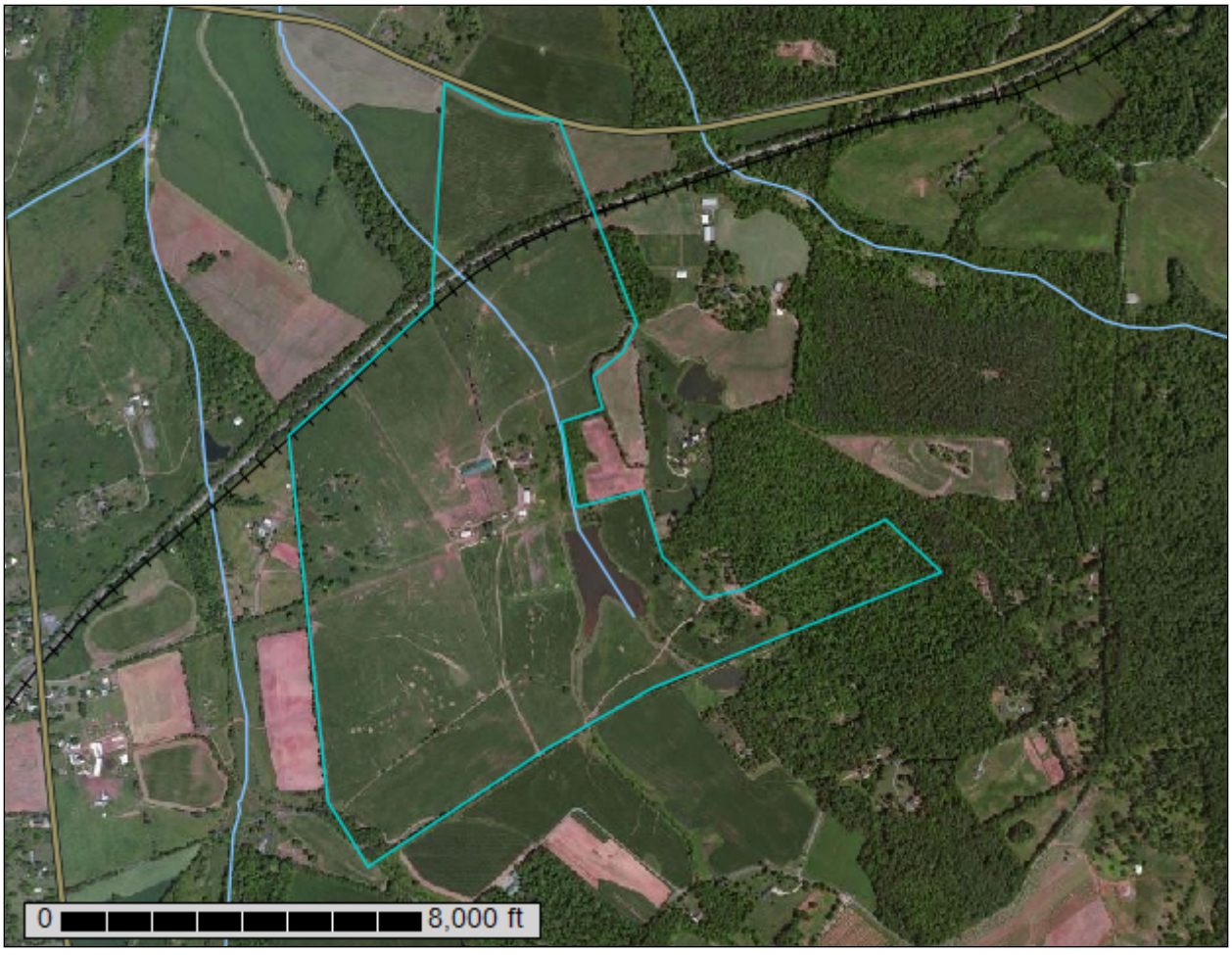
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Orange County, Virginia

High Point Farm



July 13, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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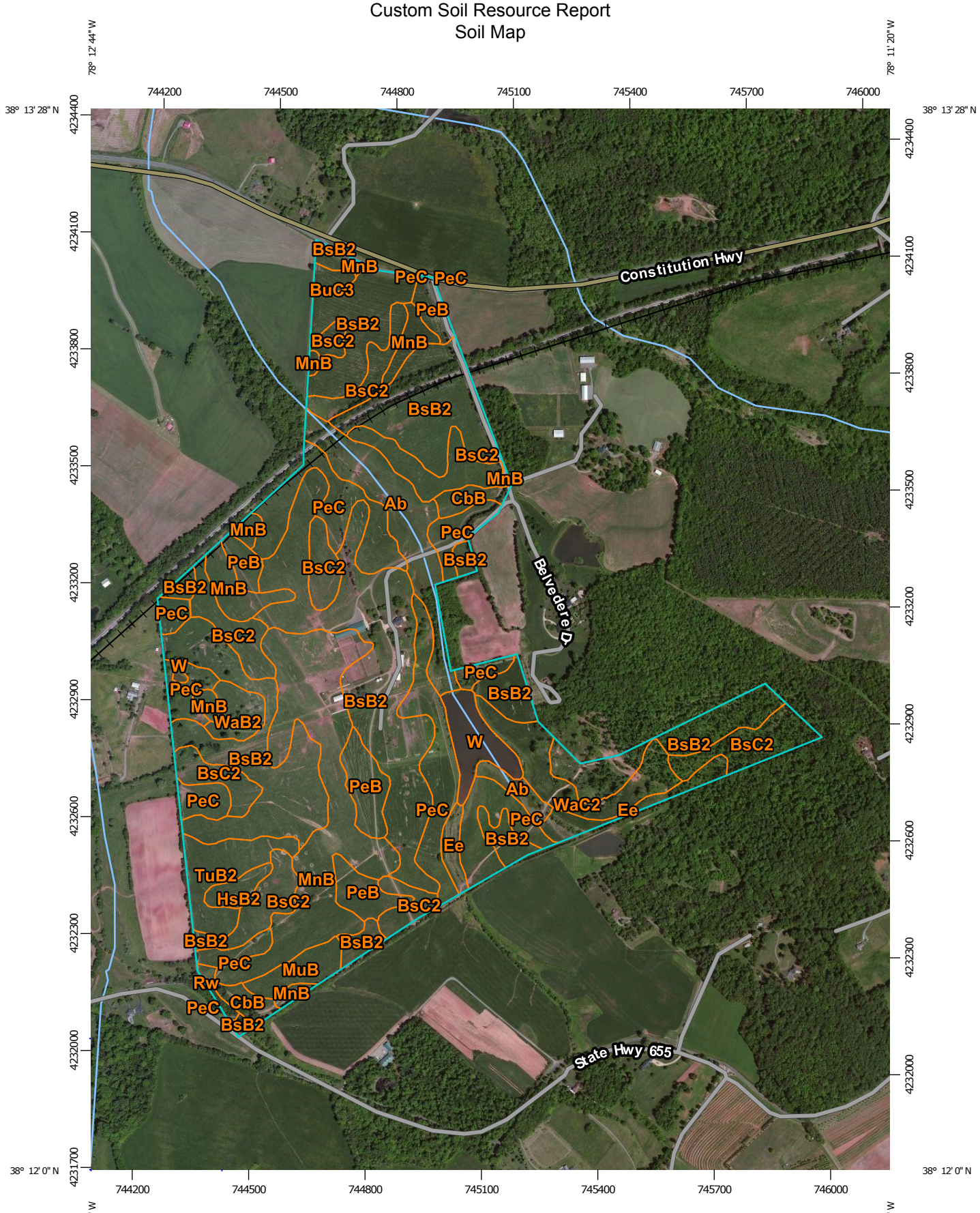
Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:13,300 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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 1:15,800.

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: Orange County, Virginia
Survey Area Data: Version 10, Sep 23, 2014

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

Date(s) aerial images were photographed: May 9, 2011—Jun 4, 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.

Map Unit Legend

Orange County, Virginia (VA137)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Ab	Albano silt loam	18.0	5.4%
BsB2	Bucks silt loam, 2 to 7 percent slopes, eroded	119.2	35.6%
BsC2	Bucks silt loam, 7 to 15 percent slopes, eroded	41.8	12.5%
BuC3	Bucks silty clay loam, 7 to 15 percent slopes, severely eroded	1.5	0.4%
CbB	Calverton-Creedmoor complex, 2 to 7 percent slopes	4.5	1.4%
Ee	Elbert silt loam, overwash	6.4	1.9%
HsB2	Hiwassee loam, 2 to 7 percent slopes, eroded	2.4	0.7%
MnB	Manassas silt loam, 2 to 7 percent slopes	45.2	13.5%
MuB	Mayodan fine sandy loam, 2 to 7 percent slopes	4.4	1.3%
PeB	Penn silt loam, 2 to 7 percent slopes	13.9	4.2%
PeC	Penn silt loam, 7 to 15 percent slopes	45.8	13.7%
Rw	Rowland silt loam	0.4	0.1%
TuB2	Turbeville loam, 2 to 7 percent slopes, eroded	8.7	2.6%
W	Water	6.8	2.0%
WaB2	Wadesboro fine sandy loam, 2 to 7 percent slopes, eroded	3.9	1.2%
WaC2	Wadesboro fine sandy loam, 7 to 15 percent slopes, eroded	11.4	3.4%
Totals for Area of Interest		**334.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability

of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and

relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Orange County, Virginia

Ab—Albano silt loam

Map Unit Setting

National map unit symbol: 40mv
Elevation: 400 to 800 feet
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Albano and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Albano

Setting

Landform: Depressions
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Alluvium

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 40 inches: silty clay
H3 - 40 to 46 inches: extremely channery silt loam
H4 - 46 to 56 inches: bedrock

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D

BsB2—Bucks silt loam, 2 to 7 percent slopes, eroded

Map Unit Setting

National map unit symbol: 40n8
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bucks and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bucks

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 36 inches: silty clay loam
H3 - 36 to 67 inches: channery silt loam

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 36 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

BsC2—Bucks silt loam, 7 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: 40n9
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Bucks and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bucks

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 36 inches: silty clay loam
H3 - 36 to 67 inches: channery silt loam

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: 36 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C

BuC3—Bucks silty clay loam, 7 to 15 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 40nd
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Bucks and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bucks

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 36 inches: silty clay loam
H3 - 36 to 67 inches: channery silt loam

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: 36 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C

CbB—Calverton-Creedmoor complex, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: 40nh
Elevation: 300 to 800 feet
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Calverton and similar soils: 60 percent
Creedmoor and similar soils: 30 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Calverton

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 7 inches: loam
H2 - 7 to 23 inches: silty clay loam
H3 - 23 to 31 inches: channery sandy clay loam
H4 - 31 to 47 inches: very channery silty clay loam
H5 - 47 to 63 inches: weathered bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 10 to 30 inches to fragipan; 40 to 60 inches to paralithic bedrock
Natural drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D

Description of Creedmoor

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 11 inches: silt loam
H2 - 11 to 28 inches: silty clay loam
H3 - 28 to 45 inches: clay
H4 - 45 to 51 inches: clay loam
H5 - 51 to 59 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 51 to 60 inches to paralithic bedrock
Natural drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D

Minor Components

Albano

Percent of map unit: 3 percent
Landform: Depressions
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave

Ee—Elbert silt loam, overwash

Map Unit Setting

National map unit symbol: 40pb
Elevation: 400 to 800 feet
Mean annual precipitation: 31 to 51 inches

Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition
Elbert and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elbert

Setting
Landform: Depressions
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium over residuum

Typical profile
H1 - 0 to 6 inches: silt loam
H2 - 6 to 11 inches: silty clay loam
H3 - 11 to 37 inches: clay
H4 - 37 to 48 inches: clay
H5 - 48 to 52 inches: bedrock

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Natural drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D

HsB2—Hiwassee loam, 2 to 7 percent slopes, eroded

Map Unit Setting
National map unit symbol: 40q3
Elevation: 400 to 1,200 feet
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hiwassee and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hiwassee

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 60 inches: clay
H3 - 60 to 64 inches: very gravelly sandy clay loam

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

MnB—Manassas silt loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: 2r7f9
Elevation: 120 to 330 feet
Mean annual precipitation: 19 to 51 inches
Mean annual air temperature: 43 to 70 degrees F
Frost-free period: 168 to 212 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Manassas and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manassas

Setting

Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from shale and siltstone

Typical profile

Ap - 0 to 10 inches: silt loam
Bt - 10 to 30 inches: silt loam
BC - 30 to 40 inches: channery silt loam
C - 40 to 60 inches: very channery silt loam

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 24 to 40 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

MuB—Mayodan fine sandy loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: 40r0
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Mayodan and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mayodan

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve

Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 39 inches: clay loam
H3 - 39 to 60 inches: loam

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D

PeB—Penn silt loam, 2 to 7 percent slopes

Map Unit Setting

National map unit symbol: 40rr
Elevation: 250 to 950 feet
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Penn and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Penn

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 11 inches: silt loam
H2 - 11 to 24 inches: channery silt loam

H3 - 24 to 28 inches: very channery silt loam
H4 - 28 to 32 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

PeC—Penn silt loam, 7 to 15 percent slopes

Map Unit Setting

National map unit symbol: 40rs
Elevation: 250 to 950 feet
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Penn and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Penn

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 11 inches: silt loam
H2 - 11 to 24 inches: channery silt loam
H3 - 24 to 28 inches: very channery silt loam
H4 - 28 to 32 inches: bedrock

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

Rw—Rowland silt loam

Map Unit Setting

National map unit symbol: 40s9
Elevation: 200 to 900 feet
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Rowland and similar soils: 85 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rowland

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 11 inches: silt loam
H2 - 11 to 30 inches: clay loam
H3 - 30 to 38 inches: gravelly sandy clay loam
H4 - 38 to 61 inches: gravelly sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 12 to 36 inches

Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C

Minor Components

Bowmansville

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear

TuB2—Turbeville loam, 2 to 7 percent slopes, eroded

Map Unit Setting

National map unit symbol: 40sq
Elevation: 200 to 900 feet
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Turbeville and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Turbeville

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 49 inches: clay
H3 - 49 to 64 inches: gravelly clay loam

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained

Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

W—Water

Map Unit Setting
National map unit symbol: 40sv
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition
Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

WaB2—Wadesboro fine sandy loam, 2 to 7 percent slopes, eroded

Map Unit Setting
National map unit symbol: 40sw
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Wadesboro and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wadesboro

Setting
Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 24 inches: silty clay loam
H3 - 24 to 48 inches: clay
H4 - 48 to 62 inches: bedrock

Properties and qualities

Slope: 2 to 7 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

WaC2—Wadesboro fine sandy loam, 7 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: 40sx
Mean annual precipitation: 31 to 51 inches
Mean annual air temperature: 46 to 70 degrees F
Frost-free period: 181 to 211 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Wadesboro and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wadesboro

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Triassic residuum

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 24 inches: silty clay loam
H3 - 24 to 48 inches: clay
H4 - 48 to 62 inches: bedrock

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

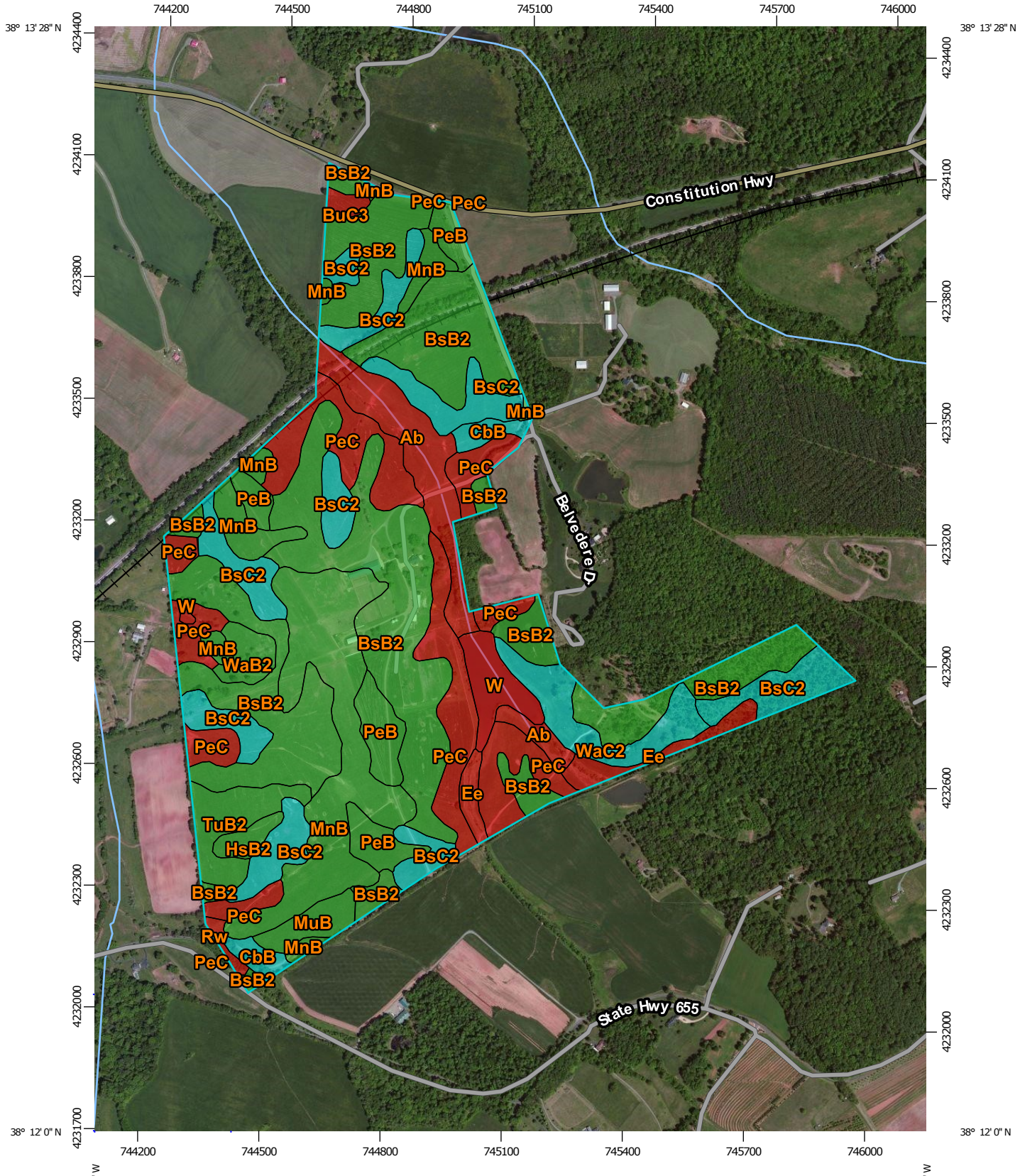
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification (High Point Farm (Boundary lines are approximate))

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Map—Farmland Classification (High Point Farm (Boundary lines are approximate))



Map Scale: 1:13,300 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation


Rails


Interstate Highways


US Routes

Major Roads

Local Roads

Background


Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Orange County, Virginia
Survey Area Data: Version 10, Sep 23, 2014

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

Date(s) aerial images were photographed: May 9, 2011—Jun 4, 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.

Table—Farmland Classification (High Point Farm (Boundary lines are approximate))

Farmland Classification— Summary by Map Unit — Orange County, Virginia (VA137)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Ab	Albano silt loam	Not prime farmland	18.0	5.4%
BsB2	Bucks silt loam, 2 to 7 percent slopes, eroded	All areas are prime farmland	119.2	35.6%
BsC2	Bucks silt loam, 7 to 15 percent slopes, eroded	Farmland of statewide importance	41.8	12.5%
BuC3	Bucks silty clay loam, 7 to 15 percent slopes, severely eroded	Not prime farmland	1.5	0.4%
CbB	Calverton-Creedmoor complex, 2 to 7 percent slopes	Farmland of statewide importance	4.5	1.4%
Ee	Elbert silt loam, overwash	Not prime farmland	6.4	1.9%
HsB2	Hiwassee loam, 2 to 7 percent slopes, eroded	All areas are prime farmland	2.4	0.7%
MnB	Manassas silt loam, 2 to 7 percent slopes	All areas are prime farmland	45.2	13.5%
MuB	Mayodan fine sandy loam, 2 to 7 percent slopes	All areas are prime farmland	4.4	1.3%
PeB	Penn silt loam, 2 to 7 percent slopes	All areas are prime farmland	13.9	4.2%
PeC	Penn silt loam, 7 to 15 percent slopes	Not prime farmland	45.8	13.7%
Rw	Rowland silt loam	Not prime farmland	0.4	0.1%
TuB2	Turbeville loam, 2 to 7 percent slopes, eroded	All areas are prime farmland	8.7	2.6%
W	Water	Not prime farmland	6.8	2.0%
WaB2	Wadesboro fine sandy loam, 2 to 7 percent slopes, eroded	All areas are prime farmland	3.9	1.2%
WaC2	Wadesboro fine sandy loam, 7 to 15 percent slopes, eroded	Farmland of statewide importance	11.4	3.4%
Totals for Area of Interest			**334.4**	**100.0%**

Rating Options—Farmland Classification (High Point Farm (Boundary lines are approximate))

Aggregation Method: No Aggregation Necessary

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The majority of soil attributes are associated with a component of a map unit, and such an attribute has to be aggregated to the map unit level before a thematic map can be rendered. Map units, however, also have their own attributes. An attribute of a map unit does not have to be aggregated in order to render a corresponding thematic map. Therefore, the "aggregation method" for any attribute of a map unit is referred to as "No Aggregation Necessary".

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Vegetative Productivity

Vegetative productivity includes estimates of potential vegetative production for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture and rangeland. In the underlying database, some states maintain crop yield data by individual map unit component. Other states maintain the data at the map unit level. Attributes are included for both, although only one or the other is likely to contain data for any given geographic area. For other land uses, productivity data is shown only at the map unit component level. Examples include potential crop yields under irrigated and nonirrigated conditions, forest productivity, forest site index, and total rangeland production under of normal, favorable and unfavorable conditions.

Yields of Non-Irrigated Crops (Component): Pasture (AUM) (High Point Farm (Boundary lines are approximate))

These are the estimated average yields per acre that can be expected of selected nonirrigated crops under a high level of management. In any given year, yields may be higher or lower than those indicated because of variations in rainfall and other climatic factors.

In the database, some states maintain crop yield data by individual map unit component and others maintain the data at the map unit level. Attributes are included

in this application for both, although only one or the other is likely to contain data for any given geographic area. This attribute uses data maintained at the map unit component level.

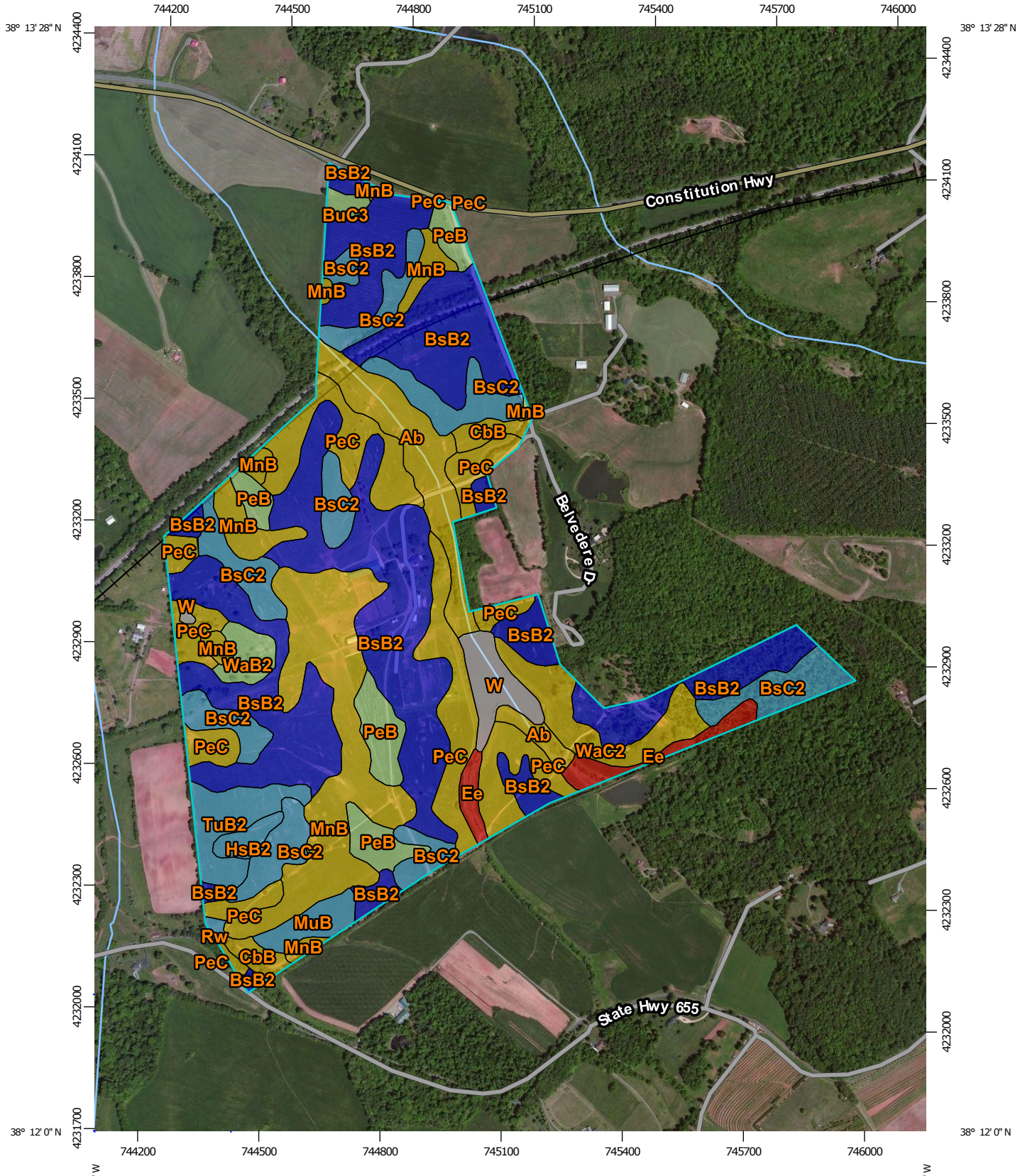
The yields are actually recorded as three separate values in the database. A low value and a high value indicate the range for the soil component. A "representative" value indicates the expected value for the component. For these yields, only the representative value is used.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby areas and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for the selected crop. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Map—Yields of Non-Irrigated Crops (Component): Pasture (AUM) (High Point Farm ...



Map Scale: 1:13,300 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- <= 3.50
- > 3.50 and <= 6.30
- > 6.30 and <= 7.20
- > 7.20 and <= 8.21
- > 8.21 and <= 9.00
- Not rated or not available

Soil Rating Lines
- <= 3.50
- > 3.50 and <= 6.30
- > 6.30 and <= 7.20
- > 7.20 and <= 8.21
- > 8.21 and <= 9.00
- Not rated or not available

Soil Rating Points
- <= 3.50
- > 3.50 and <= 6.30
- > 6.30 and <= 7.20
- > 7.20 and <= 8.21
- > 8.21 and <= 9.00
- 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 1:15,800.

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: Orange County, Virginia
Survey Area Data: Version 10, Sep 23, 2014

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

Date(s) aerial images were photographed: May 9, 2011—Jun 4, 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.

Table—Yields of Non-Irrigated Crops (Component): Pasture (AUM) (High Point Farm (Boundary lines are approximate))

Yields of Non-Irrigated Crops (Component): Pasture (AUM)— Summary by Map Unit — Orange County, Virginia (VA137)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Ab	Albano silt loam	5.80	18.0	5.4%
BsB2	Bucks silt loam, 2 to 7 percent slopes, eroded	9.00	119.2	35.6%
BsC2	Bucks silt loam, 7 to 15 percent slopes, eroded	8.00	41.8	12.5%
BuC3	Bucks silty clay loam, 7 to 15 percent slopes, severely eroded	7.20	1.5	0.4%
CbB	Calverton-Creedmoor complex, 2 to 7 percent slopes	5.74	4.5	1.4%
Ee	Elbert silt loam, overwash	3.50	6.4	1.9%
HsB2	Hiwassee loam, 2 to 7 percent slopes, eroded	8.10	2.4	0.7%
MnB	Manassas silt loam, 2 to 7 percent slopes	6.00	45.2	13.5%
MuB	Mayodan fine sandy loam, 2 to 7 percent slopes	8.00	4.4	1.3%
PeB	Penn silt loam, 2 to 7 percent slopes	6.50	13.9	4.2%
PeC	Penn silt loam, 7 to 15 percent slopes	5.50	45.8	13.7%
Rw	Rowland silt loam	8.21	0.4	0.1%
TuB2	Turbeville loam, 2 to 7 percent slopes, eroded	7.70	8.7	2.6%
W	Water		6.8	2.0%
WaB2	Wadesboro fine sandy loam, 2 to 7 percent slopes, eroded	7.20	3.9	1.2%
WaC2	Wadesboro fine sandy loam, 7 to 15 percent slopes, eroded	6.30	11.4	3.4%
Totals for Area of Interest			**334.4**	**100.0%**

Rating Options—Yields of Non-Irrigated Crops (Component): Pasture (AUM) (High Point Farm (Boundary lines are approximate))

Crop: Pasture

Yield Units: AUM

Aggregation Method: Weighted Average

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Interpret Nulls as Zero: Yes

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