



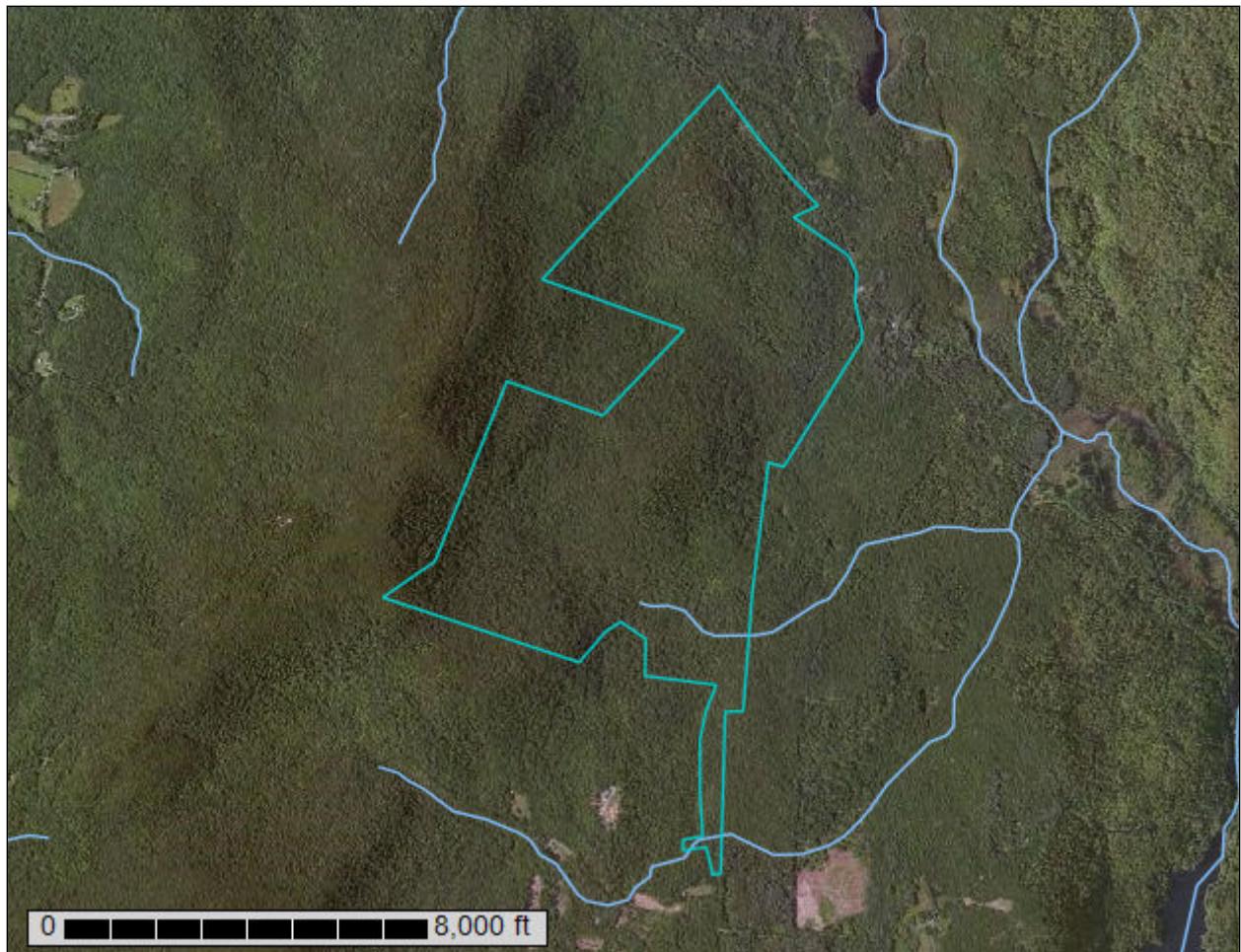
United States  
Department of  
Agriculture



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  
Grafton County,  
New Hampshire  
Goodwin Town Forest**



# Preface

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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 (<https://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](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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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units).

Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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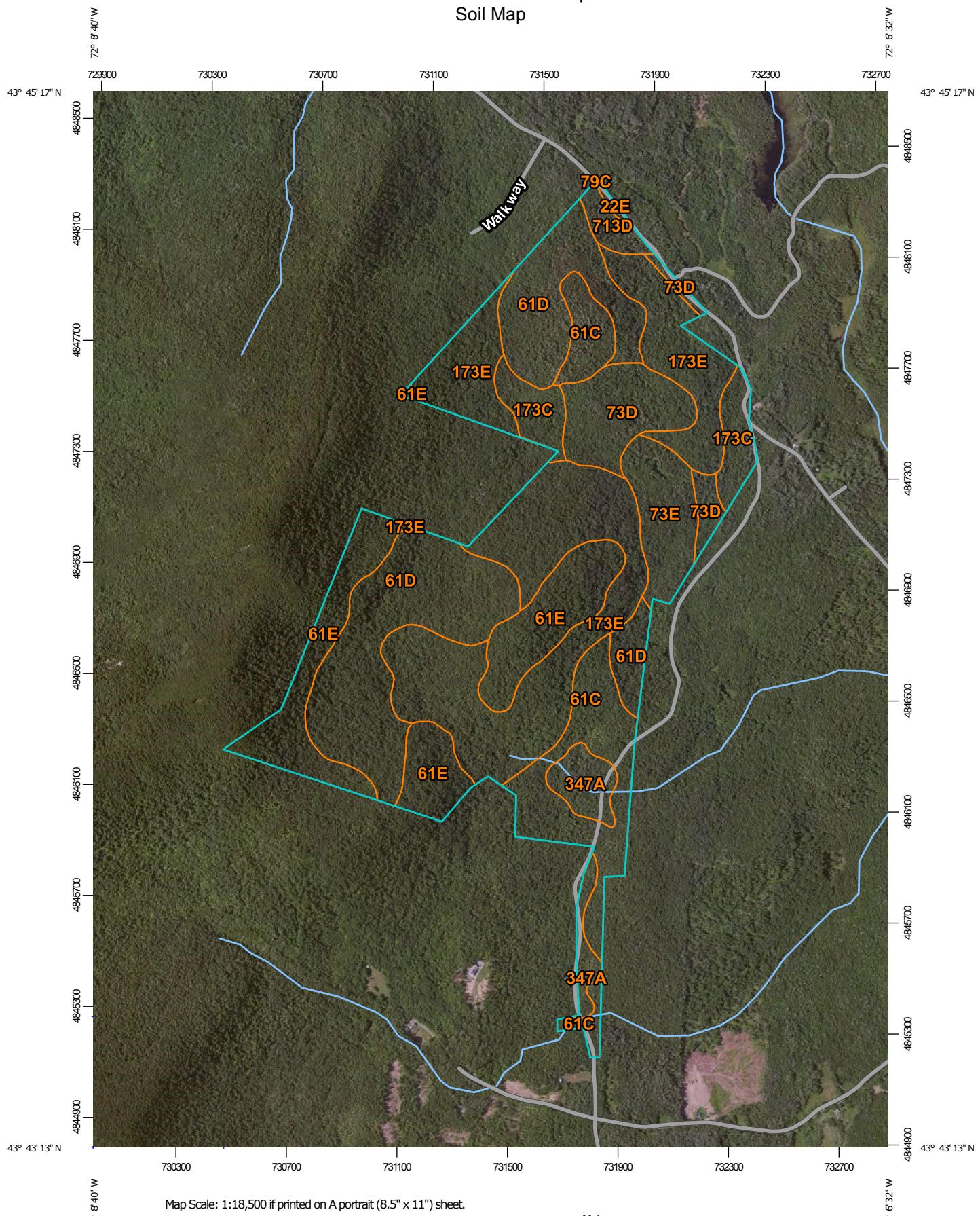
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# **Soil Map**

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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: 1:18,500 if printed on A portrait (8.5" x 11") sheet.

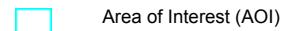
0 250 500 1000 1500 Meters

0 500 1000 2000 3000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N 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 1:24,000.

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

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: Grafton County, New Hampshire

Survey Area Data: Version 19, Sep 15, 2016

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

Date(s) aerial images were photographed: Jul 10, 2011—Oct 8, 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

Grafton County, New Hampshire (NH009)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
22E	Colton loamy sand, 15 to 60 percent slopes	1.0	0.2%
61C	Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes	63.2	11.1%
61D	Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes	133.6	23.5%
61E	Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes	85.1	14.9%
73D	Berkshire fine sandy loam, 15 to 25 percent slopes, very stony	38.8	6.8%
73E	Berkshire fine sandy loam, 25 to 50 percent slopes, very stony	27.5	4.8%
79C	Peru fine sandy loam, 8 to 15 percent slopes, very stony	0.0	0.0%
173C	Berkshire fine sandy loam, 3 to 15 percent slopes, extremely stony	24.0	4.2%
173E	Berkshire fine sandy loam, 15 to 35 percent slopes, extremely stony	169.8	29.8%
347A	Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony	19.0	3.3%
713D	Hermon-Waumbek association, hilly, very stony	7.3	1.3%
<b>Totals for Area of Interest</b>		<b>569.3</b>	<b>100.0%</b>

## 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

## Custom Soil Resource Report

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.

## Grafton County, New Hampshire

### 22E—Colton loamy sand, 15 to 60 percent slopes

#### Map Unit Setting

*National map unit symbol:* 9fgh  
*Elevation:* 10 to 2,100 feet  
*Mean annual precipitation:* 30 to 50 inches  
*Mean annual air temperature:* 37 to 46 degrees F  
*Frost-free period:* 80 to 160 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Colton and similar soils:* 75 percent  
*Minor components:* 25 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Colton

##### Setting

*Parent material:* Stratified sandy and gravelly outwash derived from granite and gneiss

##### Typical profile

*H1 - 0 to 11 inches:* loamy sand  
*H2 - 11 to 22 inches:* gravelly loamy sand  
*H3 - 22 to 65 inches:* very gravelly loamy sand

##### Properties and qualities

*Slope:* 15 to 60 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Excessively drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (6.00 to 20.00 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 3.1 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

#### Minor Components

##### Croghan

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

##### Not named

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Lyme**

*Percent of map unit:* 3 percent  
*Landform:* Ravines  
*Hydric soil rating:* Yes

**Kinsman**

*Percent of map unit:* 3 percent  
*Landform:* Ravines  
*Hydric soil rating:* Yes

**Rock outcrop**

*Percent of map unit:* 2 percent  
*Hydric soil rating:* No

**Pillsbury**

*Percent of map unit:* 2 percent  
*Landform:* Recessional moraines  
*Hydric soil rating:* Yes

## **61C—Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 2trpj  
*Elevation:* 160 to 3,480 feet  
*Mean annual precipitation:* 31 to 95 inches  
*Mean annual air temperature:* 27 to 52 degrees F  
*Frost-free period:* 60 to 160 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Tunbridge, very stony, and similar soils:* 39 percent  
*Lyman, very stony, and similar soils:* 30 percent  
*Rock outcrop:* 19 percent  
*Minor components:* 12 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Tunbridge, Very Stony**

**Setting**

*Landform:* Hills, mountains  
*Landform position (two-dimensional):* Shoulder, summit, backslope  
*Landform position (three-dimensional):* Mountaintop, mountainflank, mountainbase, side slope, crest  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

**Typical profile**

*Oe - 0 to 3 inches:* moderately decomposed plant material

*Oa - 3 to 5 inches:* highly decomposed plant material  
*E - 5 to 8 inches:* fine sandy loam  
*Bhs - 8 to 11 inches:* fine sandy loam  
*Bs - 11 to 26 inches:* fine sandy loam  
*BC - 26 to 28 inches:* fine sandy loam  
*R - 28 to 38 inches:* bedrock

#### **Properties and qualities**

*Slope:* 8 to 15 percent  
*Percent of area covered with surface fragments:* 1.5 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Natural drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to high (0.00 to 14.03 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 6.1 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6s  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### **Description of Lyman, Very Stony**

#### **Setting**

*Landform:* Hills, mountains  
*Landform position (two-dimensional):* Backslope, summit, shoulder  
*Landform position (three-dimensional):* Mountaintop, mountainflank, mountainbase, crest, side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

#### **Typical profile**

*Oe - 0 to 1 inches:* moderately decomposed plant material  
*A - 1 to 3 inches:* loam  
*E - 3 to 5 inches:* fine sandy loam  
*Bhs - 5 to 7 inches:* loam  
*Bs1 - 7 to 11 inches:* loam  
*Bs2 - 11 to 18 inches:* channery loam  
*R - 18 to 28 inches:* bedrock

#### **Properties and qualities**

*Slope:* 8 to 15 percent  
*Percent of area covered with surface fragments:* 1.5 percent  
*Depth to restrictive feature:* 11 to 24 inches to lithic bedrock  
*Natural drainage class:* Somewhat excessively drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to high (0.00 to 14.03 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 3.4 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

**Description of Rock Outcrop**

**Setting**

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, shoulder, summit

*Landform position (three-dimensional):* Mountaintop, mountainflank, mountainbase, crest, side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Igneous and metamorphic rock

**Typical profile**

*R - 0 to 10 inches:* bedrock

**Properties and qualities**

*Slope:* 8 to 15 percent

*Depth to restrictive feature:* 0 inches to lithic bedrock

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to very high (0.00 to 14.17 in/hr)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8s

*Hydric soil rating:* Unranked

**Minor Components**

**Peru, very stony**

*Percent of map unit:* 5 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Mountaintop, mountainflank, mountainbase, side slope, crest

*Microfeatures of landform position:* Closed depressions, closed depressions, open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

**Moosilauke, very stony**

*Percent of map unit:* 4 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Footslope, toeslope

*Landform position (three-dimensional):* Mountaintop, mountainflank, mountainbase, side slope, crest

*Microfeatures of landform position:* Closed depressions, closed depressions, open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

**Monadnock, very stony**

*Percent of map unit:* 3 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Shoulder, summit, backslope

*Landform position (three-dimensional):* Mountaintop, mountainflank, mountainbase, side slope, crest

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

**61D—Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 2trpk

*Elevation:* 520 to 1,970 feet

*Mean annual precipitation:* 31 to 95 inches

*Mean annual air temperature:* 27 to 52 degrees F

*Frost-free period:* 60 to 160 days

*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Tunbridge, very stony, and similar soils:* 40 percent

*Lyman, very stony, and similar soils:* 29 percent

*Rock outcrop:* 18 percent

*Minor components:* 13 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Tunbridge, Very Stony**

**Setting**

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Shoulder, summit, backslope

*Landform position (three-dimensional):* Mountaintop, mountainflank, side slope, crest

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

**Typical profile**

*Oe - 0 to 3 inches:* moderately decomposed plant material

*Oa - 3 to 5 inches:* highly decomposed plant material

*E - 5 to 8 inches:* fine sandy loam

*Bhs - 8 to 11 inches:* fine sandy loam

*Bs - 11 to 26 inches:* fine sandy loam

*BC - 26 to 28 inches:* fine sandy loam

*R - 28 to 38 inches:* bedrock

**Properties and qualities**

*Slope:* 15 to 25 percent

*Percent of area covered with surface fragments:* 1.5 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Natural drainage class:* Well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to high (0.00 to 14.03 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 6.1 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* C

*Hydric soil rating:* No

**Description of Lyman, Very Stony**

**Setting**

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, summit, shoulder

*Landform position (three-dimensional):* Mountaintop, mountainflank, crest, side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

**Typical profile**

*Oe - 0 to 1 inches:* moderately decomposed plant material

*A - 1 to 3 inches:* loam

*E - 3 to 5 inches:* fine sandy loam

*Bhs - 5 to 7 inches:* loam

*Bs1 - 7 to 11 inches:* loam

*Bs2 - 11 to 18 inches:* channery loam

*R - 18 to 28 inches:* bedrock

**Properties and qualities**

*Slope:* 15 to 25 percent

*Percent of area covered with surface fragments:* 1.5 percent

*Depth to restrictive feature:* 11 to 24 inches to lithic bedrock

*Natural drainage class:* Somewhat excessively drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to high (0.00 to 14.03 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 3.4 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### Description of Rock Outcrop

#### Setting

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, shoulder, summit

*Landform position (three-dimensional):* Mountaintop, mountainflank, crest, side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Igneous and metamorphic rock

#### Typical profile

*R - 0 to 10 inches:* bedrock

#### Properties and qualities

*Slope:* 15 to 25 percent

*Depth to restrictive feature:* 0 inches to lithic bedrock

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to very high (0.00 to 14.17 in/hr)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8s

*Hydric soil rating:* Unranked

### Minor Components

#### Peru, very stony

*Percent of map unit:* 6 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Mountainflank, mountaintop, side slope, crest

*Microfeatures of landform position:* Open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

#### Moosilauke, very stony

*Percent of map unit:* 4 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Footslope, toeslope

*Landform position (three-dimensional):* Mountaintop, mountainflank, side slope, crest

*Microfeatures of landform position:* Open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

#### Monadnock, very stony

*Percent of map unit:* 3 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Shoulder, summit, backslope

*Landform position (three-dimensional):* Mountaintop, mountainflank, side slope, crest

*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

## 61E—Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes

### Map Unit Setting

*National map unit symbol:* 2trph  
*Elevation:* 430 to 2,490 feet  
*Mean annual precipitation:* 31 to 95 inches  
*Mean annual air temperature:* 27 to 52 degrees F  
*Frost-free period:* 60 to 160 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Tunbridge, very stony, and similar soils:* 42 percent  
*Lyman, very stony, and similar soils:* 31 percent  
*Rock outcrop:* 17 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Tunbridge, Very Stony

#### Setting

*Landform:* Hills, mountains  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Mountainflank, side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

#### Typical profile

*Oe - 0 to 3 inches:* moderately decomposed plant material  
*Oa - 3 to 5 inches:* highly decomposed plant material  
*E - 5 to 8 inches:* fine sandy loam  
*Bhs - 8 to 11 inches:* fine sandy loam  
*Bs - 11 to 26 inches:* fine sandy loam  
*BC - 26 to 28 inches:* fine sandy loam  
*R - 28 to 38 inches:* bedrock

#### Properties and qualities

*Slope:* 25 to 60 percent  
*Percent of area covered with surface fragments:* 1.5 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Natural drainage class:* Well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to high (0.00 to 14.03 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 6.1 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* C

*Hydric soil rating:* No

#### **Description of Lyman, Very Stony**

##### **Setting**

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank, side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

##### **Typical profile**

*Oe - 0 to 1 inches:* moderately decomposed plant material

*A - 1 to 3 inches:* loam

*E - 3 to 5 inches:* fine sandy loam

*Bhs - 5 to 7 inches:* loam

*Bs1 - 7 to 11 inches:* loam

*Bs2 - 11 to 18 inches:* channery loam

*R - 18 to 28 inches:* bedrock

##### **Properties and qualities**

*Slope:* 25 to 60 percent

*Percent of area covered with surface fragments:* 1.5 percent

*Depth to restrictive feature:* 11 to 24 inches to lithic bedrock

*Natural drainage class:* Somewhat excessively drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to high (0.00 to 14.03 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 3.4 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

#### **Description of Rock Outcrop**

##### **Setting**

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank, free face, free face, side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Igneous and metamorphic rock

**Typical profile**

*R - 0 to 10 inches:* bedrock

**Properties and qualities**

*Slope:* 25 to 60 percent

*Depth to restrictive feature:* 0 inches to lithic bedrock

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to very high (0.00 to 14.17 in/hr)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8s

*Hydric soil rating:* Unranked

**Minor Components**

**Peru, very stony**

*Percent of map unit:* 6 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Mountainflank, side slope

*Microfeatures of landform position:* Open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

**Moosilauke, very stony**

*Percent of map unit:* 3 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Footslope, toeslope

*Landform position (three-dimensional):* Mountainflank, side slope

*Microfeatures of landform position:* Open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

**Monadnock, very stony**

*Percent of map unit:* 1 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank, side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

## 73D—Berkshire fine sandy loam, 15 to 25 percent slopes, very stony

### Map Unit Setting

*National map unit symbol:* 2wllx

*Elevation:* 460 to 1,840 feet

*Mean annual precipitation:* 31 to 95 inches

*Mean annual air temperature:* 27 to 55 degrees F

*Frost-free period:* 90 to 160 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Berkshire, very stony, and similar soils:* 88 percent

*Minor components:* 12 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Berkshire, Very Stony

#### Setting

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, summit, shoulder

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Loamy supraglacial meltout till derived from phyllite and/or loamy supraglacial meltout till derived from granite and gneiss and/or loamy supraglacial meltout till derived from mica schist

#### Typical profile

*Oi - 0 to 2 inches:* slightly decomposed plant material

*A - 2 to 4 inches:* fine sandy loam

*E - 4 to 5 inches:* fine sandy loam

*Bs1 - 5 to 7 inches:* fine sandy loam

*Bs2 - 7 to 13 inches:* fine sandy loam

*Bs3 - 13 to 21 inches:* fine sandy loam

*BC1 - 21 to 28 inches:* fine sandy loam

*BC2 - 28 to 33 inches:* fine sandy loam

*C - 33 to 65 inches:* fine sandy loam

#### Properties and qualities

*Slope:* 15 to 25 percent

*Percent of area covered with surface fragments:* 1.1 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high (0.14 to 14.17 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* High (about 10.0 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* B

*Hydric soil rating:* No

#### **Minor Components**

##### **Peru, very stony**

*Percent of map unit:* 5 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Microfeatures of landform position:* Open depressions, open depressions

*Down-slope shape:* Convex, concave

*Across-slope shape:* Convex, concave

*Hydric soil rating:* No

##### **Lyman, very stony**

*Percent of map unit:* 4 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Shoulder, summit, backslope

*Landform position (three-dimensional):* Mountainflank, nose slope, side slope

*Microfeatures of landform position:* Rises, rises

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

##### **Lyme, very stony**

*Percent of map unit:* 2 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Footslope, toeslope

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Microfeatures of landform position:* Closed depressions, closed depressions, open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

##### **Marlow, very stony**

*Percent of map unit:* 1 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Summit, shoulder, backslope

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

## 73E—Berkshire fine sandy loam, 25 to 50 percent slopes, very stony

### Map Unit Setting

*National map unit symbol:* 2wly  
*Elevation:* 660 to 2,490 feet  
*Mean annual precipitation:* 31 to 95 inches  
*Mean annual air temperature:* 27 to 52 degrees F  
*Frost-free period:* 90 to 160 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Berkshire, very stony, and similar soils:* 88 percent  
*Minor components:* 12 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Berkshire, Very Stony

#### Setting

*Landform:* Hills, mountains  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Mountainflank, side slope, nose slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Loamy supraglacial meltout till derived from phyllite and/or loamy supraglacial meltout till derived from granite and gneiss and/or loamy supraglacial meltout till derived from mica schist

#### Typical profile

*Oi - 0 to 2 inches:* slightly decomposed plant material  
*A - 2 to 4 inches:* fine sandy loam  
*E - 4 to 5 inches:* fine sandy loam  
*Bs1 - 5 to 7 inches:* fine sandy loam  
*Bs2 - 7 to 13 inches:* fine sandy loam  
*Bs3 - 13 to 21 inches:* fine sandy loam  
*BC1 - 21 to 28 inches:* fine sandy loam  
*BC2 - 28 to 33 inches:* fine sandy loam  
*C - 33 to 65 inches:* fine sandy loam

#### Properties and qualities

*Slope:* 25 to 50 percent  
*Percent of area covered with surface fragments:* 1.1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high (0.14 to 14.17 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* High (about 10.0 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* B

*Hydric soil rating:* No

**Minor Components**

**Lyman, very stony**

*Percent of map unit:* 6 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Microfeatures of landform position:* Rises, rises

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

**Peru, very stony**

*Percent of map unit:* 4 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Microfeatures of landform position:* Open depressions, open depressions

*Down-slope shape:* Convex, concave

*Across-slope shape:* Convex, concave

*Hydric soil rating:* No

**Marlow, very stony**

*Percent of map unit:* 1 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

**Lyme, very stony**

*Percent of map unit:* 1 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Footslope, toeslope

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Microfeatures of landform position:* Closed depressions, closed depressions, open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

## 79C—Peru fine sandy loam, 8 to 15 percent slopes, very stony

### Map Unit Setting

*National map unit symbol:* 2ty65  
*Elevation:* 360 to 2,160 feet  
*Mean annual precipitation:* 31 to 95 inches  
*Mean annual air temperature:* 27 to 52 degrees F  
*Frost-free period:* 90 to 160 days  
*Farmland classification:* Farmland of local importance

### Map Unit Composition

*Peru, very stony, and similar soils:* 84 percent  
*Minor components:* 16 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Peru, Very Stony

#### Setting

*Landform:* Hills, mountains  
*Landform position (two-dimensional):* Backslope, footslope  
*Landform position (three-dimensional):* Mountainbase, mountainflank, interfluve, side slope, nose slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Loamy lodgment till derived from granite and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from phyllite

#### Typical profile

*Oe - 0 to 1 inches:* moderately decomposed plant material  
*A - 1 to 5 inches:* fine sandy loam  
*E - 5 to 6 inches:* fine sandy loam  
*Bs1 - 6 to 7 inches:* fine sandy loam  
*Bs2 - 7 to 13 inches:* fine sandy loam  
*Bs3 - 13 to 18 inches:* fine sandy loam  
*BC - 18 to 21 inches:* fine sandy loam  
*Cd1 - 21 to 37 inches:* fine sandy loam  
*Cd2 - 37 to 65 inches:* fine sandy loam

#### Properties and qualities

*Slope:* 8 to 15 percent  
*Percent of area covered with surface fragments:* 1.1 percent  
*Depth to restrictive feature:* 21 to 43 inches to densic material  
*Natural drainage class:* Moderately well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.01 to 1.42 in/hr)  
*Depth to water table:* About 17 to 34 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* Low (about 3.6 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* C/D

*Hydric soil rating:* No

#### **Minor Components**

##### **Marlow, very stony**

*Percent of map unit:* 6 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Summit, shoulder, backslope

*Landform position (three-dimensional):* Mountainbase, mountainflank, interfluve, side slope, nose slope

*Microfeatures of landform position:* Rises, rises

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

##### **Cabot, very stony**

*Percent of map unit:* 4 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Toeslope, footslope

*Landform position (three-dimensional):* Mountainbase, mountainflank, interfluve, side slope, nose slope

*Microfeatures of landform position:* Closed depressions, closed depressions, open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

##### **Lyman, very stony**

*Percent of map unit:* 3 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Shoulder, summit, backslope

*Landform position (three-dimensional):* Mountainflank, mountainbase, interfluve, side slope, nose slope

*Microfeatures of landform position:* Rises, rises

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

##### **Colonel, very stony**

*Percent of map unit:* 3 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Mountainbase, mountainflank, interfluve, side slope, nose slope

*Microfeatures of landform position:* Closed depressions, closed depressions, open depressions, open depressions

*Down-slope shape:* Linear, concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

## 173C—Berkshire fine sandy loam, 3 to 15 percent slopes, extremely stony

### Map Unit Setting

*National map unit symbol:* 2wlm1  
*Elevation:* 720 to 1,610 feet  
*Mean annual precipitation:* 31 to 95 inches  
*Mean annual air temperature:* 27 to 52 degrees F  
*Frost-free period:* 90 to 160 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Berkshire, extremely stony, and similar soils:* 87 percent  
*Minor components:* 13 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Berkshire, Extremely Stony

#### Setting

*Landform:* Hills, mountains  
*Landform position (two-dimensional):* Backslope, summit, shoulder  
*Landform position (three-dimensional):* Mountainflank, mountainbase, side slope, nose slope, interfluve, base slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Loamy supraglacial meltout till derived from phyllite and/or loamy supraglacial meltout till derived from granite and gneiss and/or loamy supraglacial meltout till derived from mica schist

#### Typical profile

*Oi - 0 to 2 inches:* slightly decomposed plant material  
*A - 2 to 4 inches:* fine sandy loam  
*E - 4 to 5 inches:* fine sandy loam  
*Bs1 - 5 to 7 inches:* fine sandy loam  
*Bs2 - 7 to 13 inches:* fine sandy loam  
*Bs3 - 13 to 21 inches:* fine sandy loam  
*BC1 - 21 to 28 inches:* fine sandy loam  
*BC2 - 28 to 33 inches:* fine sandy loam  
*C - 33 to 65 inches:* fine sandy loam

#### Properties and qualities

*Slope:* 3 to 15 percent  
*Percent of area covered with surface fragments:* 6.0 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high (0.14 to 14.17 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None

*Frequency of ponding:* None

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* High (about 10.0 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* B

*Hydric soil rating:* No

#### **Minor Components**

##### **Peru, extremely stony**

*Percent of map unit:* 5 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Mountainbase, mountainflank, interfluve, side slope, nose slope, base slope

*Microfeatures of landform position:* Closed depressions, closed depressions, open depressions, open depressions

*Down-slope shape:* Convex, concave

*Across-slope shape:* Linear, concave

*Hydric soil rating:* No

##### **Marlow, extremely stony**

*Percent of map unit:* 3 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Summit, shoulder, backslope

*Landform position (three-dimensional):* Mountainbase, mountainflank, interfluve, side slope, nose slope, base slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

##### **Tunbridge, extremely stony**

*Percent of map unit:* 3 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, summit, shoulder

*Landform position (three-dimensional):* Mountainbase, mountainflank, nose slope, interfluve, side slope, base slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

##### **Lyme, extremely stony**

*Percent of map unit:* 2 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Footslope, toeslope

*Landform position (three-dimensional):* Mountainbase, mountainflank, interfluve, base slope, nose slope, side slope

*Microfeatures of landform position:* Closed depressions, closed depressions, open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

## 173E—Berkshire fine sandy loam, 15 to 35 percent slopes, extremely stony

### Map Unit Setting

*National map unit symbol:* 2wlm2  
*Elevation:* 620 to 2,760 feet  
*Mean annual precipitation:* 31 to 95 inches  
*Mean annual air temperature:* 27 to 52 degrees F  
*Frost-free period:* 90 to 160 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Berkshire, extremely stony, and similar soils:* 88 percent  
*Minor components:* 12 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Berkshire, Extremely Stony

#### Setting

*Landform:* Hills, mountains  
*Landform position (two-dimensional):* Backslope, summit, shoulder  
*Landform position (three-dimensional):* Mountainflank, side slope, nose slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Loamy supraglacial meltout till derived from phyllite and/or loamy supraglacial meltout till derived from granite and gneiss and/or loamy supraglacial meltout till derived from mica schist

#### Typical profile

*Oi - 0 to 2 inches:* slightly decomposed plant material  
*A - 2 to 4 inches:* fine sandy loam  
*E - 4 to 5 inches:* fine sandy loam  
*Bs1 - 5 to 7 inches:* fine sandy loam  
*Bs2 - 7 to 13 inches:* fine sandy loam  
*Bs3 - 13 to 21 inches:* fine sandy loam  
*BC1 - 21 to 28 inches:* fine sandy loam  
*BC2 - 28 to 33 inches:* fine sandy loam  
*C - 33 to 65 inches:* fine sandy loam

#### Properties and qualities

*Slope:* 15 to 35 percent  
*Percent of area covered with surface fragments:* 6.0 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high (0.14 to 14.17 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water storage in profile:* High (about 10.0 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* B

*Hydric soil rating:* No

#### **Minor Components**

##### **Peru, extremely stony**

*Percent of map unit:* 5 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Mountainflank, nose slope, side slope

*Microfeatures of landform position:* Open depressions, open depressions

*Down-slope shape:* Convex, concave

*Across-slope shape:* Convex, concave

*Hydric soil rating:* No

##### **Lyman, extremely stony**

*Percent of map unit:* 4 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Shoulder, summit, backslope

*Landform position (three-dimensional):* Mountainflank, nose slope, side slope

*Microfeatures of landform position:* Rises, rises

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

##### **Lyme, extremely stony**

*Percent of map unit:* 2 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Footslope, toeslope

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Microfeatures of landform position:* Closed depressions, closed depressions, open depressions, open depressions

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* Yes

##### **Marlow, extremely stony**

*Percent of map unit:* 1 percent

*Landform:* Hills, mountains

*Landform position (two-dimensional):* Summit, shoulder, backslope

*Landform position (three-dimensional):* Mountainflank, side slope, nose slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Hydric soil rating:* No

## 347A—Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony

### Map Unit Composition

*Lyme and similar soils:* 55 percent

*Moosilauke and similar soils:* 30 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Lyme

#### Setting

*Landform:* Ground moraines

*Parent material:* Till

#### Typical profile

*O - 0 to 6 inches:* mucky peat

*H1 - 6 to 11 inches:* cobbly fine sandy loam

*H2 - 11 to 22 inches:* cobbly fine sandy loam

*H3 - 22 to 65 inches:* gravelly fine sandy loam

#### Properties and qualities

*Slope:* 0 to 3 percent

*Percent of area covered with surface fragments:* 1.6 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Poorly drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.20 to 6.00 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 7.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* A/D

*Hydric soil rating:* Yes

### Description of Moosilauke

#### Setting

*Landform:* Ground moraines

*Parent material:* Glacial drift

#### Typical profile

*H1 - 0 to 5 inches:* fine sandy loam

*H2 - 5 to 22 inches:* fine sandy loam

*H3 - 22 to 65 inches:* sand

**Properties and qualities**

*Slope:* 0 to 3 percent

*Percent of area covered with surface fragments:* 1.6 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Poorly drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)

*Depth to water table:* About 0 to 18 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):* 7s

*Hydrologic Soil Group:* A/D

*Hydric soil rating:* Yes

**Minor Components**

**Not named**

*Percent of map unit:* 8 percent

*Hydric soil rating:* No

**Not named wet**

*Percent of map unit:* 7 percent

*Landform:* Depressions

*Hydric soil rating:* Yes

## **713D—Hermon-Waumbek association, hilly, very stony**

**Map Unit Setting**

*National map unit symbol:* 9fl4

*Elevation:* 10 to 2,800 feet

*Mean annual precipitation:* 30 to 50 inches

*Mean annual air temperature:* 37 to 46 degrees F

*Frost-free period:* 70 to 160 days

*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Hermon and similar soils:* 45 percent

*Waumbek and similar soils:* 35 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Hermon**

**Setting**

*Parent material:* Till

**Typical profile**

*H1 - 0 to 5 inches:* fine sandy loam  
*H2 - 5 to 7 inches:* fine sandy loam  
*H3 - 7 to 22 inches:* gravelly fine sandy loam  
*H4 - 22 to 65 inches:* very gravelly loamy sand

**Properties and qualities**

*Slope:* 15 to 35 percent  
*Percent of area covered with surface fragments:* 1.6 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Somewhat excessively drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (2.00 to 20.00 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 3.5 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6s  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

**Description of Waumbek**

**Typical profile**

*O - 0 to 4 inches:* slightly decomposed plant material  
*H1 - 4 to 9 inches:* loamy sand  
*H2 - 9 to 25 inches:* very cobbly loamy sand  
*H3 - 25 to 65 inches:* very cobbly loamy sand

**Properties and qualities**

*Slope:* 15 to 35 percent  
*Percent of area covered with surface fragments:* 1.6 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 6.00 in/hr)  
*Depth to water table:* About 18 to 30 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 4.0 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6s  
*Hydrologic Soil Group:* B  
*Hydric soil rating:* No

**Minor Components**

**Not named**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Lyme**

*Percent of map unit:* 5 percent  
*Landform:* Ground moraines  
*Hydric soil rating:* Yes

**Becket**

*Percent of map unit:* 3 percent  
*Hydric soil rating:* No

**Pillsbury**

*Percent of map unit:* 3 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

**Skerry**

*Percent of map unit:* 2 percent  
*Hydric soil rating:* No

**Peacham**

*Percent of map unit:* 2 percent  
*Landform:* Swamps  
*Hydric soil rating:* Yes

# **Soil Information for All Uses**

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## **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.

## **NH Forest Soil Group**

NH Forest Soil Groups (NHFSGs) consist of map units that are similar in their potential for commercial forest products, their suitability for native tree growth, and their use and management. Considered in grouping the map units are depth to bedrock, texture, saturated hydraulic conductivity, available water capacity, drainage class, and slope. The grouping applies only to soils in the State of New Hampshire.

The NHFSGs have been developed to help land users and managers in New Hampshire evaluate the relative productivity of soils and to better understand patterns of plant succession and how soil and site interactions influence management decisions. The soils are assigned to one of five groups (IA, IB, IC, IIA, and IIB). Several map units in New Hampshire either vary so greatly or have such a limited potential for commercial forest products that they have not been assigned to an NHFSG (NC). Examples of NC map units are very poorly drained soils and soils at high elevations. The kinds of tree species generally growing in climax stands in each of the five NHFSGs vary from county to county. This information is available through local NRCS field offices.

IA—This group consists of very deep, loamy, moderately well drained or well drained soils. Generally, these soils are more fertile than other soils and have the most favorable soil moisture relationships.

IB—The soils in this group are generally sandy or loamy over sandy material and are slightly less fertile than group IA soils. Group IB soils are moderately well drained or well drained. Their soil moisture is adequate for good tree growth, but it may not be quite as abundant as that in group IA soils.

IC—The soils in this group are in areas of outwash sand and gravel. They are moderately well to excessively drained. Their soil moisture is adequate for good softwood growth but is limited for hardwoods.

IIA—This diverse group includes many of the same soils as those in groups IA and IB. The soils are separated into a unique group, however, because they have physical limitations that make forest management more difficult and costly, i.e., steep slopes, bedrock outcrops, erosive textures, surface boulders, and extreme rockiness.

IIB—The soils in this group are poorly drained. The seasonal high water table is generally within 12 inches of the surface. Productivity is generally less than that of soils in the other groups.

NC—The map units in this category either vary so greatly or have such a limited potential for commercial forest products that they have not been assigned to an NHFSG. Commonly, onsite visit would be required to evaluate the situation.

## Custom Soil Resource Report Map—NH Forest Soil Group

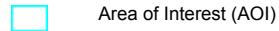


Map Scale: 1:18,500 if printed on A portrait (8.5" x 11") sheet.

A horizontal scale bar labeled "Meters" at the right end. The bar is marked with numerical values: 0, 250, 500, 1000, and 1500, spaced evenly along its length.

0 250 500 1000 1500 Feet

edge ticks

**MAP LEGEND****Area of Interest (AOI)**

Area of Interest (AOI)

**Soils****Soil Rating Polygons**

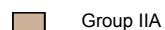
Group IA



Group IB



Group IC



Group IIA



Group IIB



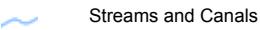
NC



Not rated or not available



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 1:24,000.

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

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 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: Grafton County, New Hampshire  
 Survey Area Data: Version 19, Sep 15, 2016

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

Date(s) aerial images were photographed: Jul 10, 2011—Oct 8, 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—NH Forest Soil Group**

NH Forest Soil Group— Summary by Map Unit — Grafton County, New Hampshire (NH009)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
22E	Colton loamy sand, 15 to 60 percent slopes	Group IIA	1.0	0.2%
61C	Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes	Group IIA	63.2	11.1%
61D	Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes	Group IIA	133.6	23.5%
61E	Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes	Group IIA	85.1	14.9%
73D	Berkshire fine sandy loam, 15 to 25 percent slopes, very stony	Group IA	38.8	6.8%
73E	Berkshire fine sandy loam, 25 to 50 percent slopes, very stony	Group IA	27.5	4.8%
79C	Peru fine sandy loam, 8 to 15 percent slopes, very stony	Group IA	0.0	0.0%
173C	Berkshire fine sandy loam, 3 to 15 percent slopes, extremely stony	Group IA	24.0	4.2%
173E	Berkshire fine sandy loam, 15 to 35 percent slopes, extremely stony	Group IA	169.8	29.8%
347A	Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony	Group IIB	19.0	3.3%
713D	Hermon-Waumbek association, hilly, very stony	Group IB	7.3	1.3%
<b>Totals for Area of Interest</b>			<b>569.3</b>	<b>100.0%</b>

**Rating Options—NH Forest Soil Group***Aggregation Method:* No Aggregation Necessary*Tie-break Rule:* Lower

## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities 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 property or quality.

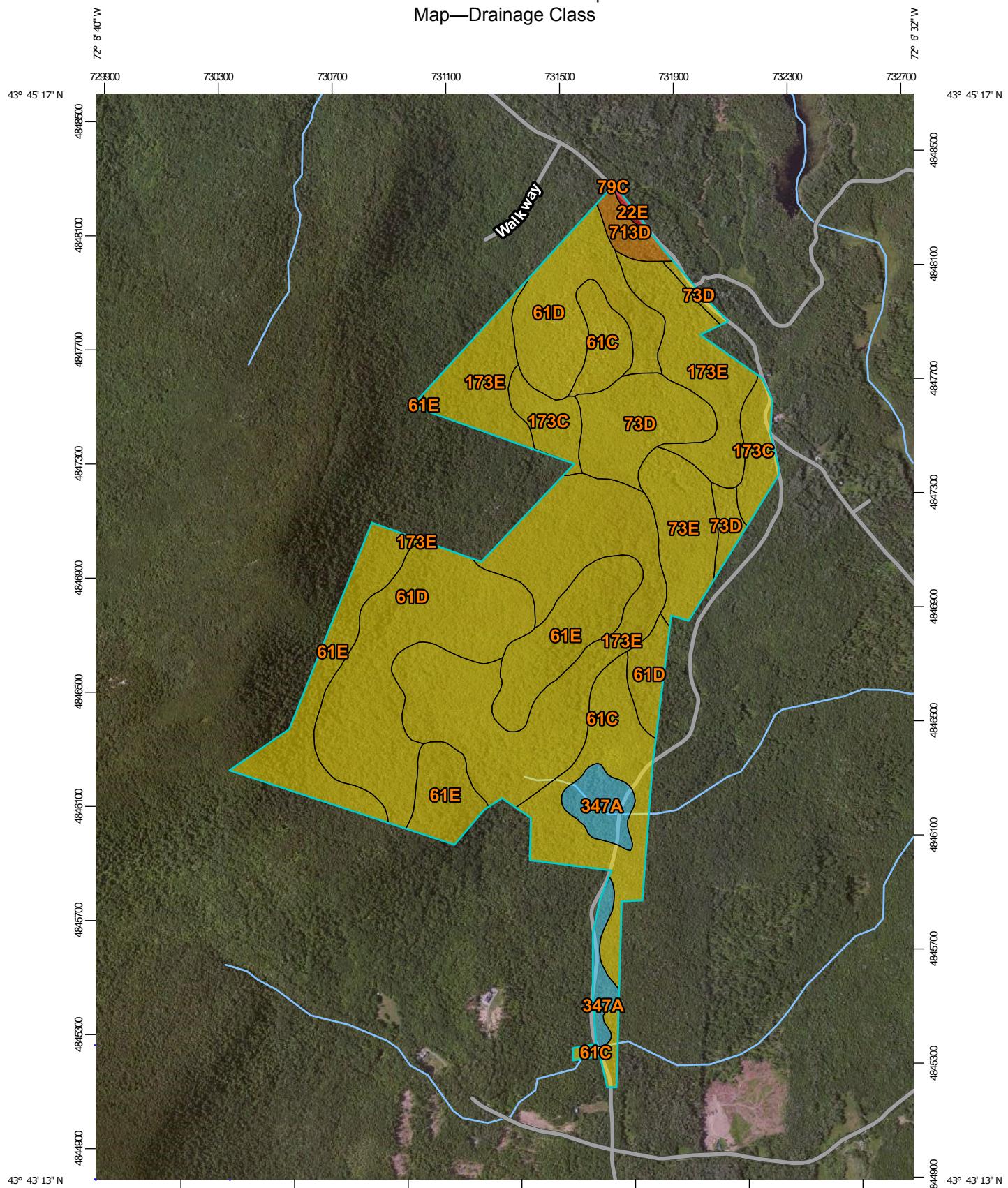
## **Soil Qualities and Features**

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## **Drainage Class**

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Custom Soil Resource Report  
Map—Drainage Class

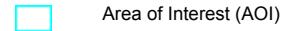


Map Scale: 1:18,500 if printed on A portrait (8.5" x 11") sheet.

0 250 500 1000 1500 Meters

0 500 1000 2000 3000 Feet

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

**MAP LEGEND****Area of Interest (AOI)****Soils****Soil Rating Polygons**

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

**Soil Rating Lines**

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

**Soil Rating Points**■ Excessively drained■ Somewhat excessively drained■ Well drained■ Moderately well drained■ Somewhat poorly drained■ Poorly drained■ Very poorly drained■ Subaqueous■ 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 1:24,000.

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

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 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: Grafton County, New Hampshire  
 Survey Area Data: Version 19, Sep 15, 2016

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

Date(s) aerial images were photographed: Jul 10, 2011—Oct 8, 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—Drainage Class**

Drainage Class— Summary by Map Unit — Grafton County, New Hampshire (NH009)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
22E	Colton loamy sand, 15 to 60 percent slopes	Excessively drained	1.0	0.2%
61C	Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes	Well drained	63.2	11.1%
61D	Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes	Well drained	133.6	23.5%
61E	Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes	Well drained	85.1	14.9%
73D	Berkshire fine sandy loam, 15 to 25 percent slopes, very stony	Well drained	38.8	6.8%
73E	Berkshire fine sandy loam, 25 to 50 percent slopes, very stony	Well drained	27.5	4.8%
79C	Peru fine sandy loam, 8 to 15 percent slopes, very stony	Moderately well drained	0.0	0.0%
173C	Berkshire fine sandy loam, 3 to 15 percent slopes, extremely stony	Well drained	24.0	4.2%
173E	Berkshire fine sandy loam, 15 to 35 percent slopes, extremely stony	Well drained	169.8	29.8%
347A	Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony	Poorly drained	19.0	3.3%
713D	Hermon-Waumbek association, hilly, very stony	Somewhat excessively drained	7.3	1.3%
<b>Totals for Area of Interest</b>			<b>569.3</b>	<b>100.0%</b>

**Rating Options—Drainage Class***Aggregation Method: Dominant Condition**Component Percent Cutoff: None Specified**Tie-break Rule: Higher*

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## Custom Soil Resource Report

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