



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 **Grafton County, New Hampshire**

Goodwin Town Forest



June 2, 2017

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 (<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).

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Grafton County, New Hampshire.....	14
22E—Colton loamy sand, 15 to 60 percent slopes.....	14
61C—Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes....	15
61D—Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes..	18
61E—Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes..	21
73D—Berkshire fine sandy loam, 15 to 25 percent slopes, very stony.....	24
73E—Berkshire fine sandy loam, 25 to 50 percent slopes, very stony.....	26
79C—Peru fine sandy loam, 8 to 15 percent slopes, very stony.....	28
173C—Berkshire fine sandy loam, 3 to 15 percent slopes, extremely stony.....	30
173E—Berkshire fine sandy loam, 15 to 35 percent slopes, extremely stony.....	32
347A—Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony.....	34
713D—Hermon-Waumbek association, hilly, very stony.....	35
Soil Information for All Uses	38
Suitabilities and Limitations for Use.....	38
Land Classifications.....	38
NH Forest Soil Group.....	38
Soil Properties and Qualities.....	43
Soil Qualities and Features.....	43
Drainage Class.....	43
References	47

How Soil Surveys Are Made

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

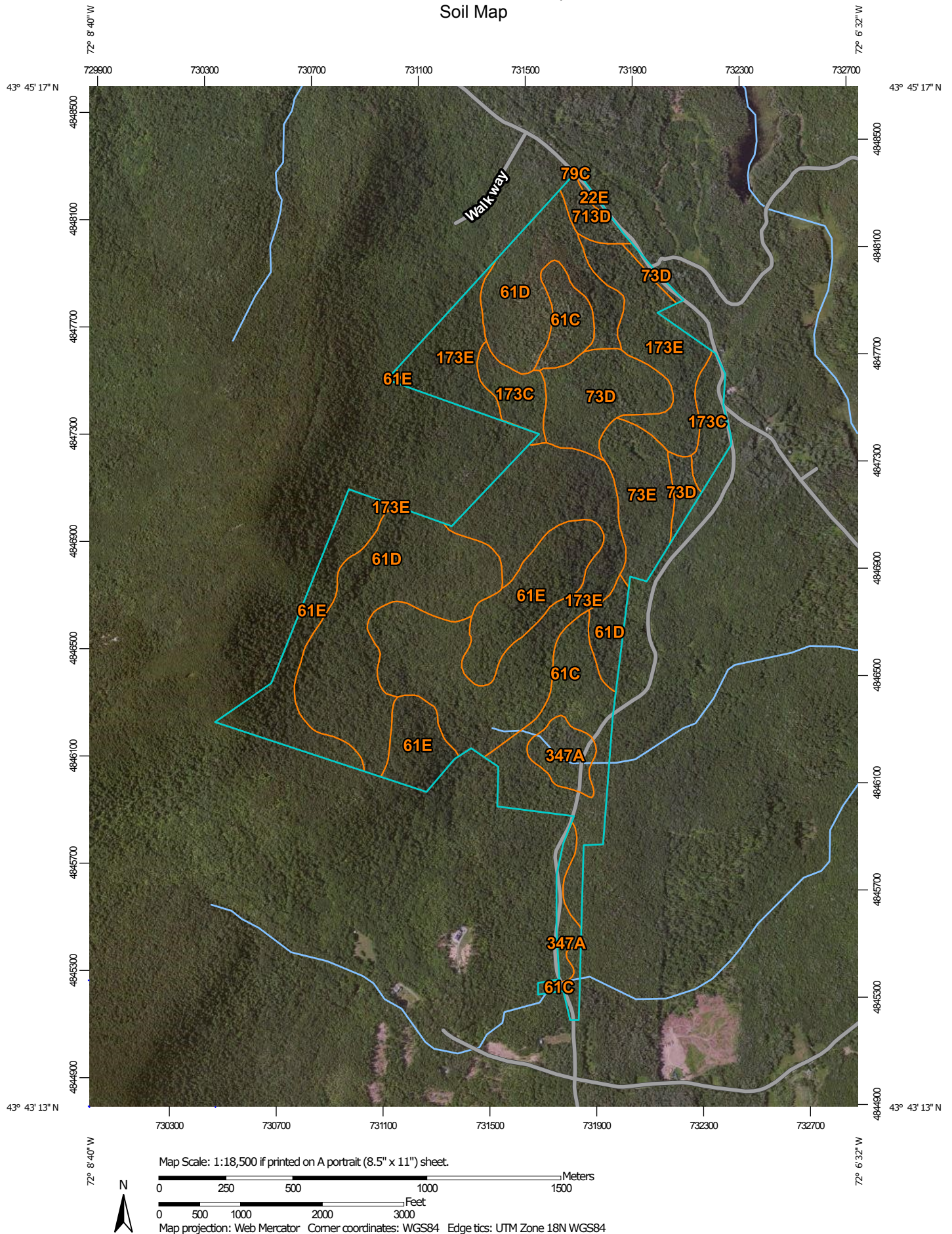
Custom Soil Resource Report

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

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



Custom Soil Resource Report

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%
Totals for Area of Interest		569.3	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

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

Custom Soil Resource Report

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

Custom Soil Resource Report

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

Custom Soil Resource Report

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

Custom Soil Resource Report

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

Custom Soil Resource Report

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

Custom Soil Resource Report

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

Custom Soil Resource Report

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

Custom Soil Resource Report

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

Custom Soil Resource Report

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, interfluvium, 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

O_i - 0 to 2 inches: slightly decomposed plant material

A - 2 to 4 inches: fine sandy loam

E - 4 to 5 inches: fine sandy loam

B_{s1} - 5 to 7 inches: fine sandy loam

B_{s2} - 7 to 13 inches: fine sandy loam

B_{s3} - 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 (K_{sat}): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Custom Soil Resource Report

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, interflue, 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, interflue, 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, interflue, 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, interflue, 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

Custom Soil Resource Report

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

Custom Soil Resource Report

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

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.

Custom Soil Resource Report

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 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

Soil Rating Lines


 Group IA
 Group IB
 Group IC
 Group IIA
 Group IIB
 NC
 Not rated or not available

Soil Rating Points






 Group IA
 Group IB
 Group IC
 Group IIA
 Group IIB
 NC

 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%
Totals for Area of Interest			569.3	100.0%

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.

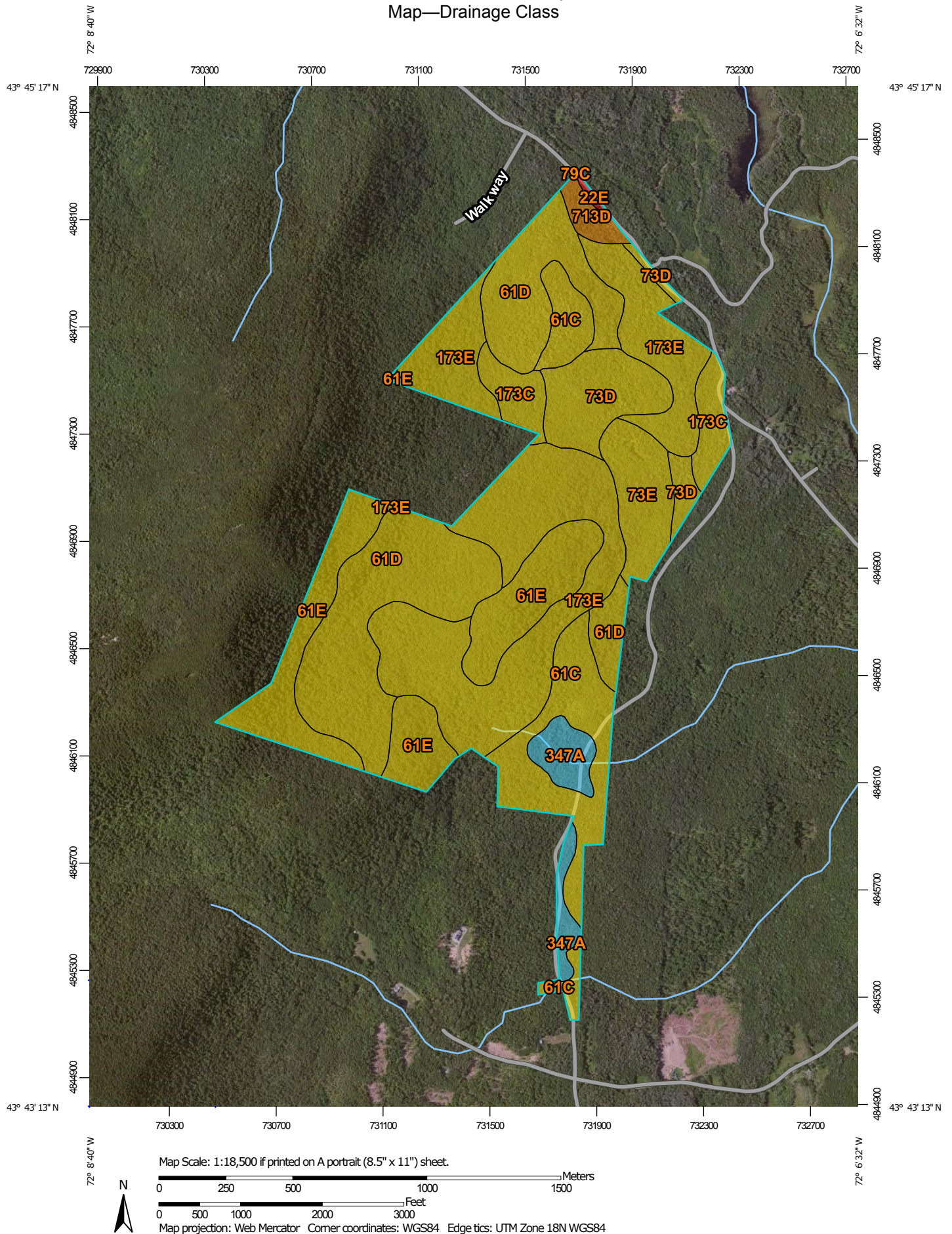
Soil Qualities and Features

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 LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons


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


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%
Totals for Area of Interest			569.3	100.0%

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

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf