Ecological site F144AY025MA
Semi-Rich Moist Outwash

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General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

MLRA notes

Major Land Resource Area (MLRA): 144A–New England and Eastern New York Upland, Southern Part

MLRA 144A: New England and Eastern New York Upland, Southern Part
The eastern half of the eastern part of this MLRA is in the Seaboard Lowland Section of the New England Province of the Appalachian Highlands. The western half of the eastern part and the southeastern half of the western part are in the New England Upland Section of the same province and division. The northwestern half of the western part is in the Hudson Valley Section of the Valley and Ridge Province of the Appalachian Highlands. This MLRA is a very scenic area of rolling to hilly uplands that are broken by many gently sloping to level valleys that terminate in coastal lowlands. Elevation ranges from sea level to 1,000 feet (0 to 305 meters) in much of the area, but it is 2,000 feet (610 meters) on some hills. Relief is mostly about 6 to 65 feet (2 to 20 meters) in the valleys and about 80 to 330 feet (25 to 100 meters) in the uplands.
This area has been glaciated and consists almost entirely of till plains and drumlins dissected by narrow valleys with a thin mantle of till. The southernmost boundary of the area marks the farthest southward extent of glaciation on the eastern seaboard. The river valleys and coastal plains are filled with glacial lake sediments, marine sediments, and glacial outwash. The bedrock in the eastern half of the area consists primarily of igneous and metamorphic rocks of early Paleozoic age. Granite is the most common igneous rock, and gneiss, schist, and slate are the most common metamorphic rocks. In the parts of the MLRA in northeastern Pennsylvania and in eastern and southeastern New York, Devonian- to Pennsylvanian-age sandstone, shale, and limestone bedrock is dominant. Carbonate rocks, primarily dolomite and limestone, are the dominant kinds of bedrock in the part of this MLRA in northwestern Connecticut.

Ecological site concept

This site consists of very deep, moderately well drained soils formed in loamy over sandy and gravelly glacial outwash. They are nearly level and gently sloping soils on glaciofluvial landforms, and are typically in slight depressions and broad drainageways. Semi-rich refers to the higher to circumneutral pH values. Representative soils are Hero.

The representative plant communities include “sugar maple –white ash / New York fern” (Metzler and Barrett 2006) and “red oak – sugar maple transition forest” (Swain and Kearsley 2001)

Table 1. Dominant plant species

Tree	(1) *Acer saccharum* (2) *Fraxinus americana*
Shrub	(1) *Lindera benzoin*
Herbaceous	(1) *Parathelypteris noveboracensis*

Physiographic features

The site occurs on nearly level and gently sloping soils on glaciofluvial landforms, and are typically in slight depressions and broad drainageways. Slope ranges from 0 to 8 percent.

Table 2. Representative physiographic features

Landforms	(1) Outwash plain (2) Outwash terrace (3) Drainageway
Slope	0–8%

Climatic features

Mean annual precipitation is 49 inches and is usually uniformly distributed throughout the year. Frost free and freeze free days average 126 and 150, respectively.

Table 3. Representative climatic features

Frost-free period (average)	126 days
Freeze-free period (average)	150 days
Precipitation total (average)	49 in

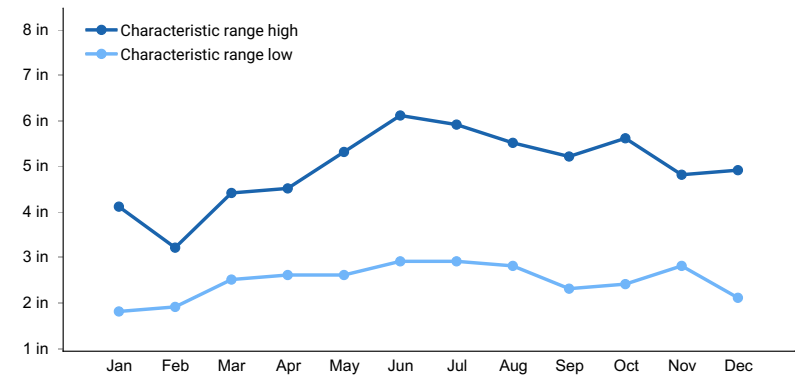

Figure 1. Monthly precipitation range

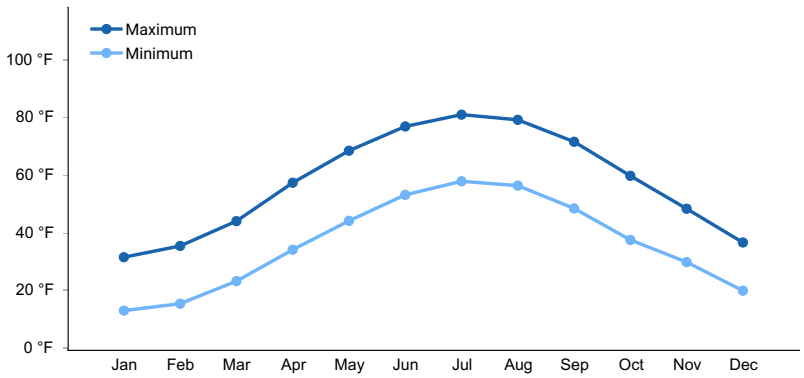

Figure 2. Monthly average minimum and maximum temperature

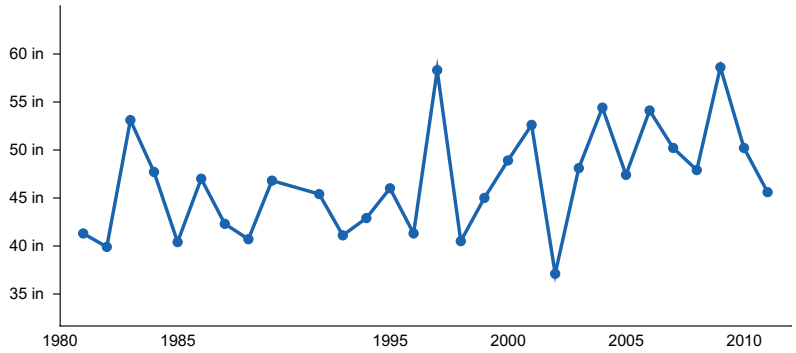

Figure 3. Annual precipitation pattern

Climate stations used

- (1) SUNDERLAND 2 [USC00438160], Arlington, VT
- (2) BULLS BRG DAM [USC00060961], Gaylordsville, CT
- (3) FALLS VILLAGE [USC00062658], Falls Village, CT
- (4) POWNAL 1 NE [USC00436500], Pownal, VT
- (5) GREAT BARRINGTON 2N [USC00193213], Great Barrington, MA

Influencing water features

Soil features

The Hero series consists of very deep, moderately well drained soils formed in loamy over sandy and gravelly glacial outwash. The soils formed in loamy over stratified sandy and gravelly glacial outwash derived mainly from limestone, shale, schist, sandstone and dolomite. Soils range from moderately acid to moderately alkaline.

Table 4. Representative soil features

Parent material	(1) Glaciofluvial deposits–limestone, sandstone, and shale
Surface texture	(1) Very gravelly loam (2) Very gravelly silt loam (3) Very gravelly fine sandy loam
Family particle size	(1) Sandy
Drainage class	Moderately well drained
Soil reaction (1:1 water) (0-40in)	5.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	10–20%
Subsurface fragment volume >3" (Depth not specified)	0–5%

Ecological dynamics

The representative plant communities include “sugar maple –white ash / New York fern” (Metzler and Barrett 2006) and “red oak – sugar maple transition forest” (Swain and Kearsley 2001)

Acer saccharum - (*Fraxinus americana*) / *Arisaema triphyllum* Forest
Translated Name: Sugar Maple - (White Ash) / Jack-in-the-Pulpit Forest
Common Name: Semi-rich Northern Hardwood Forest
Unique Identifier: CEGL006211

State and transition model

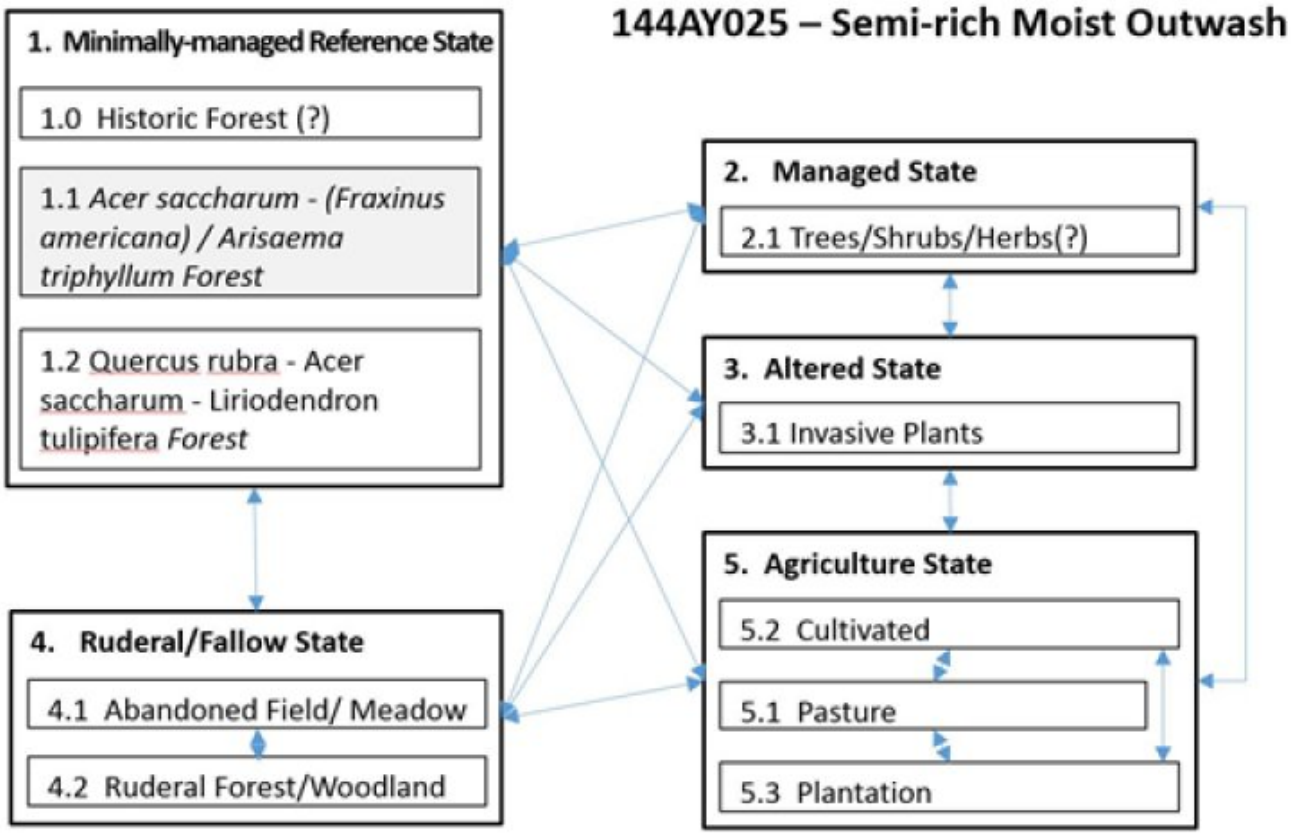

Figure 5. STM_144AY025_Semi-Rich_Moist_Outwash

Transition	Drivers/practices
T1-2	Forest mgmt
T1-3, T1-4, T1-5, T2-3, T2-5, T3-4, T4-5, T4-3	Disturbance/cutting/clearing, Brush removal
R2-1, R3-1, R4-1, R4-2, R5-1, R5-2	Restoration & Mgmt, Forest Stand Improvement, Upland Wildlife Mgmt
R3-1, R3-2	Brush removal, Herb weed control, Plant establishment
R4-1, T2-4, TS-4, CP4.1-4.2	Abandonment, succession
R5-2	Plant establishment, Forest mgmt., Early Successional Habitat Development
CP5.1-5.2-5.3	Changing Agricultural phases
CP4.2-4.1	Restoration & Mgmt., Early Successional Habitat Development

Figure 6. STM_144AY025_Semi-Rich_Moist_Outwash

Other references

REFERENCES

Edinger, G.J., Evans, D.J., Gebauer, S., Howard, T.G., Hunt, D.M., and A.M. Olivero, A.M. (eds.). 2014. Ecological Communities of New York State, Second Edition: A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Enser, R., Gregg, D., Sparks, C., August, P., Jordan, P., Coit, J., Raithel, C., Tefft, B., Payton, B., Brown, C. and LaBash, C., 2011. Rhode Island ecological communities classification. Rhode Island Natural History Survey, Kingston, RI.

Enser, R. and Lundgren, J.A., 2006. Natural communities of Rhode Island. Rhode Island Natural History Survey,

Kingston (RI).

Gawler, S.C. and Cutko, A., 2010. Natural landscapes of Maine: a guide to natural communities and ecosystems. Maine Natural Areas Program, Department of Conservation.

Metzler, K.J. and Barrett, J.P., 2006. The Vegetation of Connecticut, a Preliminary Classification. Department of Environmental Protection, State Geological and Natural History Survey of Connecticut.

Sperduto, D.D., & Nichols, W.F. 2011. Natural Communities of New Hampshire, Second Ed. NH Natural Heritage Bureau, Concord, NH. Publ. UNH Cooperative Extension.

Swain, P.C. and Kearsley, J.B., 2001. Classification of the natural communities of Massachusetts. Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries and Wildlife.

Thompson, E.H. and Sorenson, E.R., 2000. Wetland, woodland, wildland. Vermont Department of Fish and Wildlife and The Nature Conservancy. Publ. University Press of New England.

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

   _____

2. **Presence of water flow patterns:**

   _____

3. **Number and height of erosional pedestals or terracettes:**

   _____

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

   _____

5. **Number of gullies and erosion associated with gullies:**

   _____

6. **Extent of wind scoured, blowouts and/or depositional areas:**

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7. **Amount of litter movement (describe size and distance expected to travel):**

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8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

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9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

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14. **Average percent litter cover (%) and depth (in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state**

for the ecological site:

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17. **Perennial plant reproductive capability:**
