

Ecological site F144AY029NY Semi-Rich Wet Outwash

Accessed: 05/09/2024

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, poorly drained soils formed in glaciofluvial materials on outwash terraces and outwash plains. Representative soils are Fredon. Circumneutral seepage swamps of the northeastern United States have moderate to closed canopies and a rich herb layer influenced by calcium-rich groundwater seepage. These can occur along streams or at headwaters in areas of calcareous bedrock. Soils are saturated, organic muck or peat that can be quite deep. The canopy is dominated by *Acer rubrum* and *Larix laricina*, with *Fraxinus nigra* sometimes prominent. Canopy associates include *Betula alleghaniensis*, *Tsuga canadensis*, *Pinus strobus*, *Carpinus caroliniana*, and *Picea rubens*, the latter especially in the north or at higher elevations. Shrub cover varies with canopy cover and can be quite dense; typical species include *Toxicodendron vernix*, *Rhamnus alnifolia*, *Cornus sericea*, *Salix candida*, *Ilex verticillata*, *Vaccinium corymbosum*, and occasionally *Dasiphora fruticosa* ssp. floribunda and *Betula pumila*. The diverse herb layer is characterized by *Saxifraga pensylvanica*, *Caltha palustris*, *Cardamine bulbosa*, *Geum rivale*, *Osmunda cinnamomea*, *Carex leptalea*, *Carex interior*, *Carex stricta*, *Carex lacustris*, *Carex flava*, *Solidago patula*, *Iris versicolor*, *Ranunculus hispidus* var. *caricetorum*, *Cardamine douglassii*, *Thelypteris palustris*, *Dryopteris cristata*, *Solidago patula*, *Packera aurea* (= *Senecio aureus*), and *Symplocarpus foetidus*; plus *Cypripedium reginae*, *Cypripedium parviflorum* (= *Cypripedium calceolus*), and *Platanthera dilatata*.

Table 1. Dominant plant species

Tree	(1) <i>Fraxinus nigra</i> (2) <i>Acer rubrum</i>
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Shrub	(1) <i>Rhamnus alnifolia</i>
Herbaceous	Not specified

Physiographic features

Climatic features

Influencing water features

Soil features

Ecological dynamics

The canopy is dominated by *Acer rubrum* and *Larix laricina*, with *Fraxinus nigra* sometimes prominent. Canopy associates include *Betula alleghaniensis*, *Tsuga canadensis*, *Pinus strobus*, *Carpinus caroliniana*, and *Picea rubens*, the latter especially in the north or at higher elevations. Shrub cover varies with canopy cover and can be quite dense; typical species include *Toxicodendron vernix*, *Rhamnus alnifolia*, *Cornus sericea*, *Salix candida*, *Ilex verticillata*, *Vaccinium corymbosum*, and occasionally *Dasiphora fruticosa* ssp. *floribunda* and *Betula pumila*. The diverse herb layer is characterized by *Saxifraga pensylvanica*, *Caltha palustris*, *Cardamine bulbosa*, *Geum rivale*, *Osmunda cinnamomea*, *Carex leptalea*, *Carex interior*, *Carex stricta*, *Carex lacustris*, *Carex flava*, *Solidago patula*, *Iris versicolor*, *Ranunculus hispidus* var. *caricetorum*, *Cardamine douglassii*, *Thelypteris palustris*, *Dryopteris cristata*, *Solidago patula*, *Packera aurea* (= *Senecio aureus*), and *Symplocarpus foetidus*; plus *Cypripedium reginae*, *Cypripedium parviflorum* (= *Cypripedium calceolus*), and *Platanthera dilatata*.

State and transition model

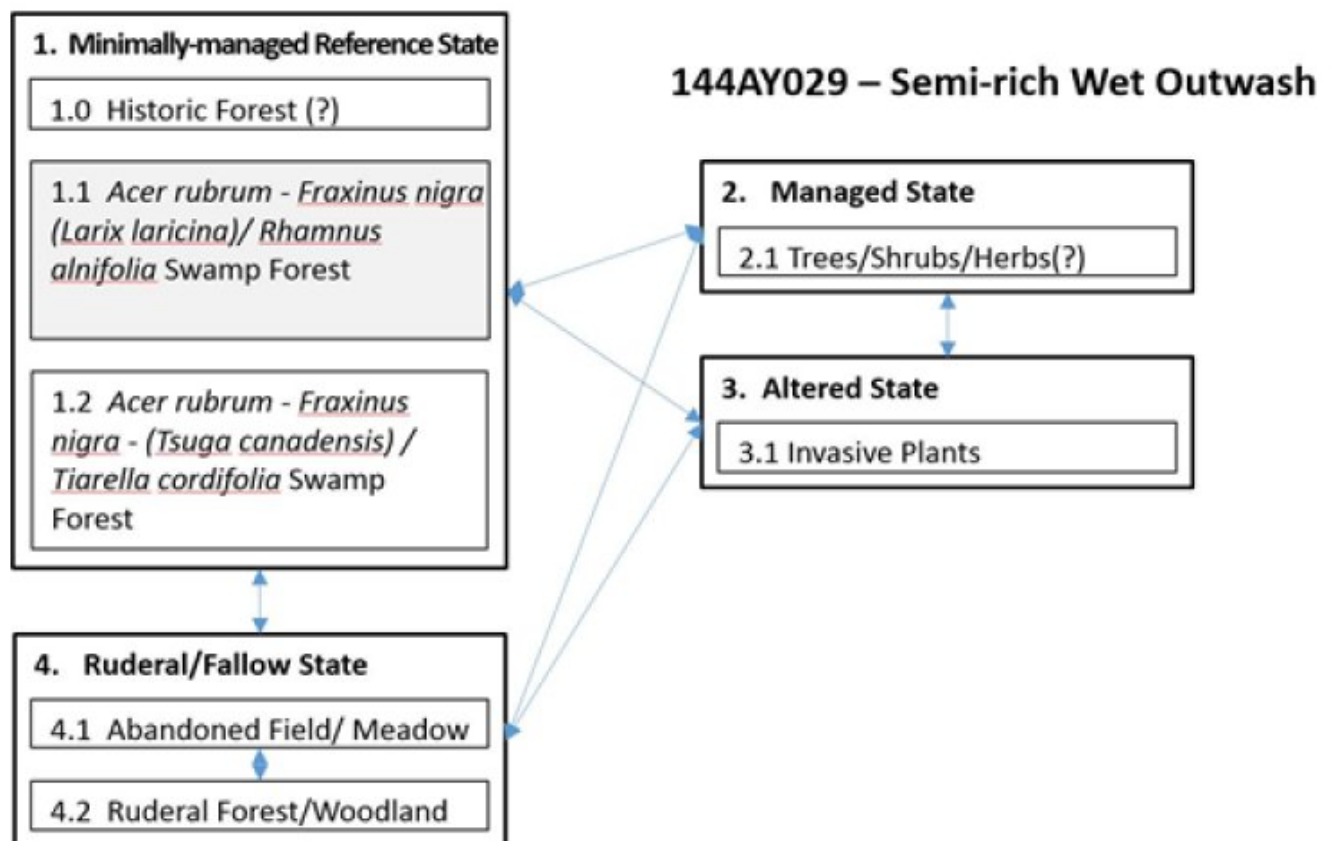


Figure 1. STM_144AY029_Semi-Rich_Wet_Outwash

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

Figure 2. STM_144AY029_Semi-Rich_Wet_Outwash

Other references

REFERENCES

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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:**

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

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

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

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

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

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:

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:**
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