

Ecological site F142XA001NY

Low Floodplain Frigid

Accessed: 09/27/2024

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): 142X–St. Lawrence-Champlain Plain

This MLRA is a glaciated area of low relief dominated by broad expanses of nearly level, sandy deltas and shallow lacustrine basins or plains punctuated by low hills of glacial till. Rivers and streams have cut relatively deep but narrow valleys across the plain. Elevation ranges from 80 to 1,000 feet, increasing gradually from the St. Lawrence River southward and from Lake Champlain to the east and west. Local relief generally is less than 30 feet, but glacial till ridges, till plains, and some outwash terraces rise 15 to 80 feet above the adjacent plains.

This area has been glaciated, and a thin mantle of till covers most of the bedrock. Extensive areas of sandy glacial outwash and eolian deposits also occur. Some glacial lake sediments have been deposited above glacial moraines. These deposits are thickest in the valleys and thinnest on the ridges and highlands. During the later stages of the Wisconsin glacial period, seawater entered the Champlain Valley and deposited marine sediments that were later covered by freshwater sediments. The marine deposits are unique to the area.

This area supports hardwoods. The beech-birch-sugar maple forest type is the dominant climax forest type on uplands. Associated with this type are basswood, American elm, maple species, white ash, black cherry, and white pine. The aspen-birch type, earlier in succession, is economically important. Such species as eastern hemlock, red maple, American elm, and spruce are on wet soils.

Some of the major wildlife species in this area are white-tailed deer, red fox, raccoon, beaver, woodchuck, muskrat, cottontail, ruffed grouse, and woodcock.

LRU notes

Land Resource Unit (LRU): Frigid Soil Temperature Regime

The upper St. Lawrence and Champlain Valleys are characterized with soils in the frigid soil temperature regime (mean annual soil temperature greater than 32°F but less than 46°F and with a difference between mean summer and mean winter soil temperatures greater than 41°F at 20 inches below the surface or at a densic, lithic, or paralithic contact, whichever is shallower).

The Frigid Soil Temperature Regime (STR) will have shorter growing season than the lower St. Lawrence and Champlain Valleys which are characterized with soils in the mesic STR. Species more tolerant of colder year round temperatures would also be evident in the Frigid LRU.

Classification relationships

NRCS:

Land Resource Region: R - Northeastern Forage and Forest Region

MLRA: 142 - St. Lawrence-Champlain Plain

LRU: A/02 - Frigid Mean Annual Soil Temperature

USFS:

Domain: 200 - Humid Temperate

Division: 210 - Warm Continental

Province: 211 - Northeastern Mixed Forest

Section: 211E - St. Lawrence and Champlain Valley

Subsections: 211Ea - St. Lawrence Glacial Marine Plain

EPA:

Level I: 8 - Eastern Temperate Forests

Level II: 8.1 - Mixed Wood Plains

Level III: 83 - Eastern Great Lakes Lowlands

Level IV: 83d - St. Lawrence Lowlands

83e - Upper St. Lawrence Valley

Ecological site concept

Landform/Landscape Position:

The site occurs on floodplains adjacent to low gradient streams and rivers. Slopes range from 0 to 3 percent.

Soils:

The site consists of deep, coarse-loamy, and somewhat poorly drained soils that have formed in recent alluvium along streams where the stream gradient is controlled by bedrock. The soils formed in post-glacial alluvium derived predominantly from sandstone, dolomitic limestone, and less commonly gneiss and marble.

Vegetation Dynamics:

The reference community is a hardwood floodplain forest that is quite variable and very diverse depending on flood frequency and duration and depth to water table. Characteristic trees include silver maple, eastern cottonwood, ashes (green, white, black), red maple, box elder, sycamore, elms (American and slippery), hickories (shagbark, bitternut, shellbark), hackberry, sugar maple, tulip tree, and basswood. Characteristic shrubs include spicebush, winterberry, American hornbeam, bladdernut, speckled alder, shrubby dogwoods, viburnums, and sapling canopy trees. Characteristic vines include poison ivy, wild grapes, Virginia creeper, and virgin's bower. Characteristic herbs include sensitive fern, jewelweeds, white snakeroot, wood nettle, false nettle, goldenrods, skunk cabbage, bluejoint grass, cutgrasses, and sedges (lakeside, bladder sedge, tussock, hop sedge).

Introduced trees such as black locust and white willow have become established in floodplains. Invasive non-native herbs include garlic mustard, moneywort, dame's-rocket, European stinging nettle, and stiltgrass.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

Climatic features

Influencing water features

Soil features

Ecological dynamics

State and transition model

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	09/27/2024
Approved by	Nels Barrett
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):**
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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:

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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