

Major Land Resource Area 108X

Illinois and Iowa Deep Loess and Drift

Accessed: 05/11/2025

Ecological site keys

MLRA 108A Key to Ecological Sites

I. Uplands

A. Histosols ... R108XA001IL – Organic Sedge Meadow

B. Mineral Soils

1 Bedrock <1.5m (60")

i. Bedrock is limestone ... R108XA002IL – Limestone Prairie

ii. Bedrock is shale ... F108XA003IL – Shale Woodland

iii. Bedrock is sandstone

a. Dark surface (mollic epipedon) >25cm (10") ... R108XA004IL – Sandstone Prairie

b. Light surface (ochric epipedon) or dark surface <25cm (10") ... F108XA005IL – Sandstone Woodland

2 Bedrock >1.5m (60")

i. Loess (including loess over glacial till)

a. Dark surface (mollic epipedon) >25cm (10")

1) Water table >30cm (12") ... R108XA006IL – Loess Upland Prairie

2) Water table <30cm (12"), not ponded ... R108XA007IL – Wet Loess Upland Prairie

3) Water table <30cm (12"), ponded

a) Recharge wetland, non-calcareous surface ... R108XA008IL – Ponded Loess Sedge Meadow

b) Discharge wetland, calcareous surface ... R108XA009IL – Ponded Calcareous Loess Sedge Meadow

b. Dark surface (mollic intergrade) 15-25cm (6-10") ... R108XA010IL – Loess Upland Savanna

c. Light surface (ochric epipedon) or dark surface <15cm (6") ... F108XA011IL – Loess Upland Forest

ii. Outwash (including loess-capped outwash)

a. Dark surface (mollic epipedon) >25cm (10")

1) Water table >30cm (12") ... R108XA012IL – Outwash Prairie

2) Water table <30cm (12") ... R108XA013IL – Wet Outwash Prairie

b. Dark surface (mollic intergrade) 15-25cm (6-10") --not described ... R108XA014IL – Outwash Savanna

c. Light surface (ochric epipedon) or dark surface <15cm (6") ... F108XA015IL – Outwash Forest

iii. Eolian sands ... R108XA016IL – Sand Prairie

II. River Valleys

A. Low stream terrace subject to rare flooding ... F108XA017IL – Terrace Woodland

B. Floodplain

1 Flooded and ponded ... R108XA018IL – Ponded Floodplain Marsh

2 Flooded only

- i. Fine-silty alluvium ... F108XA019IL – Silty Floodplain Forest
- ii. Fine-loamy to coarse-loamy alluvium ... F108XA020IL – Loamy Floodplain Forest

MLRA 108B Key to Ecological Sites

I. Uplands (bluffs, ground moraines, hills)

A. Bedrock <1.5m (60")

1 Bedrock is limestone ... R108XB001IL – Limestone Prairie

2 Bedrock is shale

i. Dark surface (mollic epipedon) >25cm (10") ... R108XB002IL – Shale Prairie

ii. Light surface (ochric epipedon) or dark surface <25cm (10") ... F108XB003IL – Shale Woodland

3 Bedrock is sandstone ... F108XB004IL – Sandstone Woodland

B. Bedrock >1.5m (60")

1 Parent material is loess (>100cm thick)

i. Linear to convex summits, shoulders, backslopes, and broad interfluvial summits

a. Dark surface (mollic epipedon) >25cm (10") ... R108XB005IL – Loess Upland Prairie

b. Dark surface (mollic intergrade) 15-25cm (6-10") ... R108XB006IL – Loess Upland Savanna

c. Light surface (ochric epipedon) or dark surface <15cm (6") ... F108XB007IL – Loess Upland Forest

ii. Linear to concave footslopes, toeslopes, flats, and heads of drainageways ... R108XB008IL – Wet Loess Upland Prairie

iii. Concave, closed depressions ... R108XB009IL – Pondered Loess Sedge Meadow

2 Parent material is till/paleosol/pediment (<100cm of loess)

i. Dark surface (mollic epipedon) >25cm (10") ... R108XB010IL – Till Upland Prairie

ii. Dark surface (mollic intergrade) 15-25cm (6-10") ... R108XB011IL – Till Upland Savanna

iii. Light surface (ochric epipedon) or dark surface <15cm (6") ... F108XB012IL – Till Upland Forest

II. Outwash/lacustrine plains and terraces (includes dune topography)

A. Outwash (including outwash with a loess cap 50-100cm)

1 Linear to convex summits and backslopes

i. Dark surface (mollic epipedon) >25cm (10") ... R108XB013IL – Loamy Outwash Prairie

ii. Light surface (ochric epipedon) or dark surface <25cm (10") ... F108XB014IL – Loamy Outwash Forest

2 Linear to concave footslopes, toeslopes, and heads of drainageways ... R108XB015IL – Wet Loamy Outwash Prairie

B. Sandy eolian deposits

1 Dark surface (mollic epipedon) >25cm (10") ... R108XB016IL – Sand Prairie

2 Light surface (ochric epipedon) ... F108XB017IL – Sand Woodland

C. Linear to concave lacustrine deposits, fine textured ... R108XB018IL – Wet Lacustrine Prairie

D. Concave to linear organic deposits ... R108XB019IL – Mucky Sedge Meadow

III. Floodplains and low terraces subject to flooding

A. Water table is deeper than 30cm (12") ... F108XB020IL – Loamy Floodplain Forest

B. Water table is within 30cm (12") ... F108XB021IL – Wet Loamy Floodplain Forest

MLRA 108C Key to Ecological Sites

I. Uplands and High Stream Terraces

A. Summits, Shoulders, and Backslopes

- 1 Shallow (<100cm) silty or loamy sediments over bedrock
 - i. <50cm to limestone bedrock ... F108XC501IA – Shallow Limestone Backslope Glade
 - ii. >50cm to sandstone bedrock ... F108XC502IA – Shallow Sandstone Backslope Glade
- 2 Loess
 - i. Mollisol (or Inceptisol with mollic epipedon) ... R108XC503IA – Loess Upland Prairie
 - ii. Mollic subgroup of an Alfisol ... R108XC504IA – Loess Upland Savanna
 - iii. Alfisol (or Inceptisol or Entisol) ... F108XC505IA – Loess Upland Woodland
- 3 Eolian sands (including <150cm loess over eolian sands)
 - i. Mollisol ... R108XC506IA – Sandy Upland Prairie
 - ii. Mollic subgroup of an Alfisol ... R108XC507IA – Sandy Upland Savanna
 - iii. Alfisol (or Entisol with lamellic horizon) ... F108XC508IA – Sandy Upland Woodland
- 4 Glacial till/paleosols/valley-fill sediments (including <50cm loess over glacial till)
 - i. Mollisol
 - a. Deep to water table (>30cm) ... R108XC509IA – Till Backslope Prairie
 - b. Shallow to water table (<30 cm) ... R108XC510IA – Till Backslope Seepage Meadow
 - ii. Mollic subgroup of an Alfisol (or contains mollic surface horizon 15-25cm thick)
 - a. Deep to water table (>30cm) ... R108XC511IA – Till Backslope Savanna
 - b. Shallow to water table (<30cm) ... R108XC512IA – Till Backslope Seep Savanna
 - iii. Alfisol
 - a. Deep to water table (>30cm) ... F108XC513IA – Till Backslope Forest
 - b. Shallow to water table (<30cm) ... F108XC514IA – Till Backslope Seep Forest

B. Broad Upland Flats and Depressions

- 1 Depressions, ponded ... R108XC515IA – Ponded Upland Depression Sedge Meadow
- 2 Upland flat, not ponded, loess parent material, shallow to water table (≤30cm), Somewhat Poorly to Very Poorly drained
 - i. Mollisol ... R108XC516IA – Wet Loess Upland Flat Prairie
 - ii. Mollic subgroup of an Alfisol (or contains mollic surface horizon 15-25cm thick) ... R108XC517IA – Wet Loess Upland Flat Savanna
 - iii. Alfisol ... F108XC518IA – Wet Loess Upland Flatwood

C. Drainageways

- 1 Located downslope from an Upland Prairie or Upland Savanna ecological site ... R108XC519IA – Wet Upland Drainageway Prairie
- 2 Located downslope from an Upland Woodland or Upland Forest ecological site ... F108XC520IA – Upland Drainageway Woodland

II. River Valleys

A. Valley Footslope, colluvial parent materials ... F108XC521IA – Colluvial Woodland

B. Low Stream Terraces

- 1 Deep to water table (>30cm), Moderately Well to Somewhat Excessively drained ... R108XC522IA – Terrace Savanna
- 2 Shallow to water table (<30cm), Somewhat Poorly to Poorly drained ... R108XC523IA – Wet Terrace Sedge Meadow

C. Floodplains

- 1 Flooded and ponded
 - i. Organic soils (histic epipedon $\geq 20\text{cm}$) ... R108XC524IA – Ponded Organic Floodplain Shrub Swamp
 - ii. Mineral soils ... R108XC525IA – Ponded Floodplain Marsh
- 2 Flooded only
 - i. Not directly adjacent to stream channel
 - a. Deep to water table ($>30\text{cm}$) ... R108XC526IA – Floodplain Prairie
 - b. Shallow to water table ($<30\text{cm}$) ... R108XC527IA – Wet Floodplain Sedge Meadow
 - ii. Directly adjacent to stream channel
 - a. Fine, fine-silty alluvium, Poorly to Very Poorly drained ... F108XC528IA – Floodplain Swamp Forest
 - b. Fine-loamy, fine-silty alluvium, Somewhat Poorly to Moderately Well drained ... F108XC529IA – Loamy Floodplain Forest
 - c. Coarse-loamy alluvium, Well to Excessively drained ... F108XC530IA – Sandy Floodplain Forest

MLRA 108D Key to Ecological Sites

- I. Upland (summit, shoulder, backslope)
 - A. Root Restriction $<20''$
 - 1 Limestone residuum ... R108XD798IA – Shallow Limestone Backslope Glade
 - B. Root Restriction 20-40"
 - 1 $<14\%$ slope
 - i. Limestone residuum ... R108XD797IA – Limestone Backslope Glade
 - ii. Shale residuum ... R108XD845IA – Shale Upland Savanna
 - iii. Sandstone residuum ... F108XD757IA – Sandstone Upland Woodland
 - 2 $>14\%$ slope
 - i. Shale residuum ... R108XD835IA – Shale Backslope Savanna
 - ii. Sandstone residuum ... R108XD767IA – Sandstone Backslope Prairie
 - C. Root Restriction $>40''$
 - 1 Loess $>12''$
 - i. $<14\%$ slope and Mollisol or Mollic intergrade ... R108XD860IA – Loess Upland Prairie
 - 2 Little or no Loess
 - i. $<14\%$ slope
 - a. Till/Paleosol and Mollisol ... R108XD863IA – Till Upland Prairie
 - b. Eolian Sands and Mollisol or Mollic intergrade ... R108XD862IA – Sandy Upland Prairie
 - ii. $>14\%$ slope
 - a. Till/Paleosol, $>10''$ to carbonates and Mollisol or Mollic Integrate ... R108XD833IA – Till Backslope Savanna
- II. Upland (depressions, drainageways, footslopes) Loess sites
 - A. Depression ... R108XD864IA – Wet Upland Prairie
 - B. Drainageway
 - 1 Well, Moderately Well drained
 - i. Mollisol or Mollic intergrade ... R108XD821IA – Loamy Upland Drainageway Prairie
 - ii. Alfic ... F108XD851IA – Loamy Upland Drainageway Woodland
 - 2 Somewhat Poorly, Poorly Drained ... R108XD824IA – Wet Upland Drainageway Prairie

C. Foothlope

1 Mollisol or Mollic intergrade ... R108XD841IA – Loamy Foothlope Savanna

III. Lowland (stream terrace, floodplain)

A. High Terrace

1 Loess

i. Well, Moderately Well, Somewhat Poorly drained, Mollisol or Mollic intergrade ... R108XD940IA – Loess High Terrace Savanna

ii. Poorly drained ... R108XD944IA – Wet Loess High Terrace Savanna

2 Sand ... R108XD942IA – Sandy High Terrace Savanna

B. Low Terrace

1 Moderately Well, Well drained ... R108XD941IA – Loamy Terrace Savanna

2 Somewhat Poorly, Poorly drained, Mollisol or Mollic intergrade ... R108XD914MO – Wet Terrace Prairie

C. Floodplain

1 Not adjacent to current/former channel

i. Far from channel ... R108XD904IA – Wet Floodplain Prairie

2 Adjacent to current/former channel

i. Flaggy Substratum ... F108XD907IA – Flaggy Floodplain Forest

ii. Sandy, coarse-loamy ... F108XD902IA – Sandy/Loamy Floodplain Forest

iii. Loamy, fine-loamy, fine-silty ... F108XD901IA – Loamy Floodplain Forest