USDA icon **Natural Resources Conservation Service**

Major Land Resource Area 108X
Illinois and Iowa Deep Loess and Drift

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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 integrade) 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 interfluve summits**

a. **Dark surface (mollic epiepdon) >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 – Ponded Loess Sedge Meadow

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

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

ii. **Dark surface (mollic intergrade) 15-25cm (6-10")**

iii. **Light surface (ochric epiepdon) 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 depostis ...** 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 Alifisol ...** 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 ?20cm)** ... 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 (>30cm)** ... R108XC526IA – Floodplain Prairie

b. **Shallow to water table (<30cm)** ... R108XC527IA – Wet Floodplain Sedge Meadow

ii. **Directly adjacent to stream chanel**

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 Integrade ... 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. Footslope

1 Mollisol or Mollic intergrade ... R108XD841IA – Loamy Footslope 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