

Ecological site R108XD860IA **Loess Upland Prairie**

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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.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

MLRA notes

Major Land Resource Area (MLRA): 108X—Illinois and Iowa Deep Loess and Drift

The full document of this Provisional Ecological Site Description can be found on the Iowa and Missouri Natural Resources Conservation Service electronic Field Office Technical Guide in Section 2.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

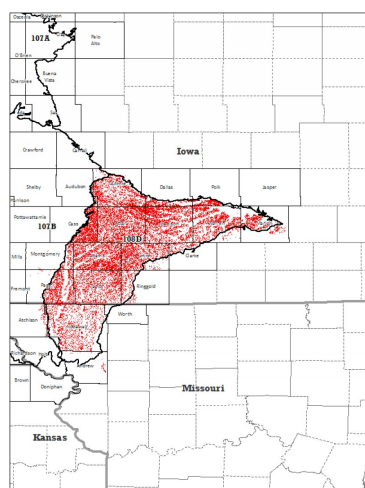


Figure 2. Distribution of Loess Upland Prairie within MLRA 1

Climatic features

Table 2. Representative climatic features

Frost-free period (average)	152 days
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Freeze-free period (average)	178 days
Precipitation total (average)	940 mm

Climate stations used

- (1) CORNING [USC00131833], Corning, IA
- (2) CRESTON 2 SW [USC00131962], Creston, IA
- (3) DES MOINES INTL AP [USW00014933], Des Moines, IA
- (4) INDIANOLA 2W [USC00134063], Indianola, IA
- (5) WINTERSET 1N [USC00139132], Winterset, IA
- (6) CLARINDA [USC00131533], Clarinda, IA
- (7) GREENFIELD [USC00133438], Greenfield, IA
- (8) KNOXVILLE [USC00134502], Knoxville, IA
- (9) BEDFORD [USC00130576], Bedford, IA
- (10) GUTHRIE CTR [USC00133509], Guthrie Center, IA
- (11) MARYVILLE 2E [USC00235340], Maryville, MO

Influencing water features

Soil features

Ecological dynamics

State and transition model

R108DY860IA Loess Upland Prairie

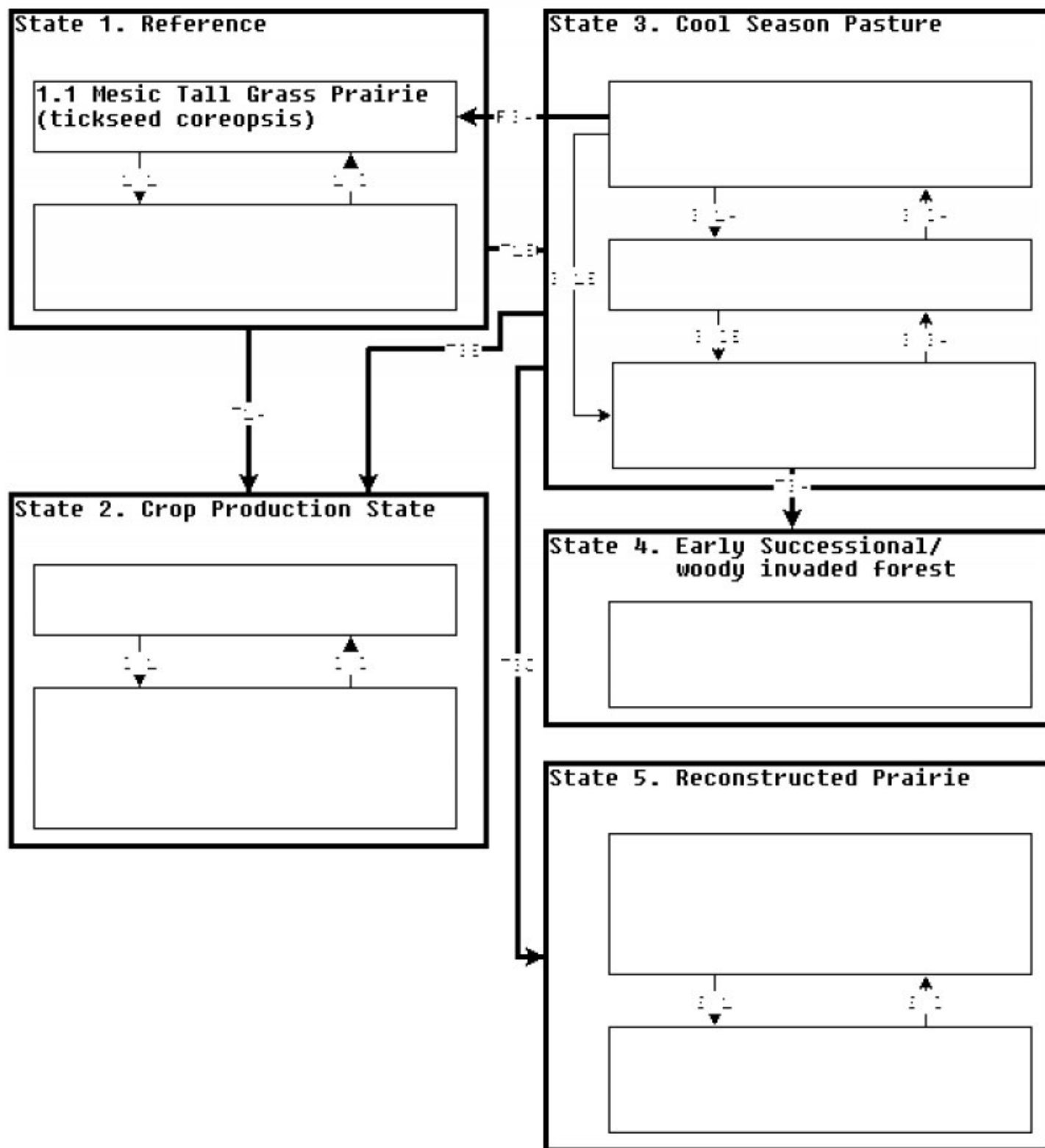


Figure 7. State-and-transition diagram for Loess Upland Prai

Code	Process
1.1A	Lack of surface fire (8+ yrs), no grazing.
1.1B	Frequent surface fire (<5yrs) followed by periods of no fire.
1.2A	Grazing/browsing, frequent or higher intensity fires (<3yrs).
T1A	Tillage/seeding/herbicide.
2.1	Less Tillage; residue management; crop rotation.
2.2	Intensive Tillage; less residue; monoculture cropping.
3.1A	Herbicide, inter-seeding.
3.2A	Overgrazing, lack of seeding/herbicide.
3.1B, 3.2B	Abandonment.
3.3A	Brush management/herbicide/seeding.
T3A	Abandonment (20+yrs).
T3B	Sodbuster, tillage, seeding.
R3A	Prescribed fire (spring/early summer)/grazing, reduce cool season grasses, selective grass herbicides.
T3C	Site preparation, herbicide, brush management, seeding, tillage.
T1B	Plowing, seeding; overgrazing.
5.1	Natural forb reseeding or by mechanical planting/seeding.
5.2	Forb failure due to drought and/or poor seeding methods.

Figure 8. State-and-transition Legend for Loess Upland Prairie

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):**

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

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

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:**

17. **Perennial plant reproductive capability:**
