

# Ecological site R065XY999NE Non-Site

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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): 065X–Nebraska Sand Hills

This PROVISIONAL ECOLOGICAL SITE has been developed to meet the standards established in the National Ecological Site Handbook. The information associated with this ecological site does not meet the Approved Ecological Site Description Standard, but it has been through a Quality Control and Quality Assurance processes to assure consistency and completeness. Further investigations, reviews and correlations are necessary before it becomes an Approved Ecological Site Description.

## Classification relationships

Major Land Resource Area (MLRA): Major Land Resource Area (MLRA) and Land Resource Unit (LRU) (USDA-Natural Resources Conservation Service, 2006)

A PROVISIONAL ECOLOGICAL SITE is a conceptual grouping of soil map unit components within a Major Land Resource Area (MLRA) based on the similarities in response to management. Although there may be wide variability in the productivity of the soils grouped into a Provisional Site, the soil vegetation interactions as expressed in the State and Transition Model are similar and the management actions required to achieve objectives, whether maintaining the existing ecological state or managing for an alternative state, are similar. Provisional Sites are likely to be refined into more precise group during the process of meeting the APPROVED ECOLOGICAL SITE DESCRIPTION criteria.

**Table 1. Dominant plant species**

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

## Physiographic features

This area consists of Quaternary sand dunes. The sands are derived from the underlying Tertiary Ogallala and Arikaree Groups. These units formed when rivers deposited sediments that originated as erosional detritus following the uplift of the Rocky Mountains to the west. The Ogallala aquifer underlies this area. It is the most extensive and heavily used aquifer on the high plains between the Rocky Mountains and the Mississippi River. The major recharge area for this aquifer is the Sand Hills.

**Table 2. Representative physiographic features**

Landforms	(1) Lake (2) Marsh
Aspect	Aspect is not a significant factor

## Climatic features

The mean average annual precipitation varies from 14 - 25 inches, but has varied from 12 to 29 inches in the driest to wettest seasons. Approximately 65 percent of the annual precipitation occurs during the growing season of mid-April to late September. The average annual snowfall varies from about 30 inches to about 55 inches. The wind velocity is high throughout the year, averaging 10 to 12 miles per hour. Maximum wind velocities generally occur in the spring.

The average length of the growing season is 138 days, but the growing season has varied from 114 to 168 days. The average date of first frost in the fall is September 25, and the last frost in the spring is about May 10. July is the hottest month and January is the coldest. It is not uncommon for the temperature to reach 100 °F during the summer. Summer humidity is low and evaporation is high. The winters are characterized with frequent northerly winds, producing severe cold with temperatures dropping to as low as -30 °F.

Growth of native cool season plants begins mid to late March and continues to late June. Native warm season plants begin growth in early May and continue to late August. Green up of cool season plants may occur in September and October when adequate soil moisture is present.

**Table 3. Representative climatic features**

Frost-free period (average)	129 days
Freeze-free period (average)	149 days
Precipitation total (average)	24 in

## Climate stations used

- (1) ANSELMO 2 SE [USC00250245], Anselmo, NE
- (2) BREWSTER [USC00251130], Brewster, NE
- (3) GORDON 6N [USC00253355], Gordon, NE
- (4) NEWPORT [USC00255925], Newport, NE
- (5) PURDUM [USC00256970], Purdum, NE
- (6) ARTHUR [USC00250365], Arthur, NE
- (7) KINGSLEY DAM [USC00254455], Keystone, NE
- (8) OSHKOSH [USC00256385], Oshkosh, NE

- (9) VALENTINE NWR [USC00258755], Valentine, NE
- (10) VALENTINE MILLER FLD [USW00024032], Valentine, NE
- (11) AINSWORTH [USC00250050], Ainsworth, NE
- (12) ATKINSON 3SW [USC00250420], Atkinson, NE
- (13) BURWELL [USC00251345], Burwell, NE
- (14) MULLEN 21 NW [USC00255702], Whitman, NE
- (15) STAPLETON 5W [USC00258133], Stapleton, NE
- (16) NORTH PLATTE RGNL AP [USW00024023], Maxwell, NE
- (17) BARTLETT 1S [USC00250525], Bartlett, NE
- (18) CHAMBERS [USC00251590], Chambers, NE
- (19) ELSMERE 9 ENE [USC00252680], Johnstown, NE
- (20) ERICSON 8 WNW [USC00252770], Burwell, NE
- (21) GREELEY [USC00253425], Greeley, NE
- (22) HAY SPRINGS 12 S [USC00253715], Hay Springs, NE
- (23) MULLEN [USC00255700], Mullen, NE
- (24) ROSE 10 WNW [USC00257318], Long Pine, NE
- (25) RUSHVILLE [USC00257415], Rushville, NE

## Influencing water features

## Soil features

## Ecological dynamics

## State and transition model

## Other information

Revision Notes: "This PROVISIONAL ecological site concept has been QC'd and QA'd to ensure that the site meets the NESH standards for a provisional ecological site that provides basic compiled information in one location. This site should not be considered an Approved ESD until further data entry and editing is completed.

## Contributors

SCB

## 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:

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2. **Presence of water flow patterns:**

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3. **Number and height of erosional pedestals or terracettes:**

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4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

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5. **Number of gullies and erosion associated with gullies:**

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6. **Extent of wind scoured, blowouts and/or depositional areas:**

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

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

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

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

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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:

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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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