

RANGELAND PRODUCTIVITY
Reno County, Kansas

Use and Explanation of Rangeland, Grazed Forest Land, Native Pastureland Interpretations

Information in this subsection can be used to plan the use and management of soils for rangeland, grazed forest land, and native pasture. Different kinds of soils vary in their capacity to produce native grasses and other plants suitable for grazing. Information in this subsection provides groupings of similar soils and estimates of potential forage production, which can be used to determine livestock stocking rates.

Rangeland. Range is land on which the native vegetation (climax or natural potential plant community) is predominantly grasses, grasslike plants, forbs, and shrubs suitable for grazing and browsing. Range includes natural grasslands, savannas, many wetlands, some deserts, tundra, and certain shrub and forb communities. Rangeland receives no regular or frequent cultural treatment. The composition and production of the plant community are determined by soil, climate, topography, overstory canopy, and grazing management.

Grazed Forest Land. Includes land on which the understory includes, as an integral part of the forest plant community, plants that can be grazed without significantly impairing other forest values.

Native Pasture. Includes land on which the native vegetation (climax or natural potential plant community) is forest but which is used and managed primarily for production of native plants for forage. Native pasture includes cut-over forest land and forest land cleared and now managed for native or naturalized forage plants.

Rangeland

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management based on the relationship between the soils and vegetation and water.

The Rangeland, Grazed Forest land, Native Pastureland Interpretations shows, for each soil that supports rangeland vegetation, the ecological site and the potential annual production of vegetation in favorable, normal, unfavorable years. An explanation of the column headings in this table follows.

An ecological site is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of a site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Total dry-weight production is the amount of vegetation that can be expected to grow annually on well managed rangeland that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, average, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in chapter 4 of the National Range and Pasture Handbook, which is available in local offices of the Natural Resources Conservation Service. The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

RANGELAND PRODUCTIVITY--Continued
Reno County, Kansas

(Only the soils that support rangeland vegetation suitable for grazing are rated.) Refer to range site description to determine the percentage allowable of grasses, forbs, and shrubs for the range ecological site.

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
990: Abbyville-----	Saline Subirrigated (pe21-28)	7,000	6,000	5,000
991: Abbyville, rarely flooded-----	Saline Subirrigated (pe21-28)	7,000	6,000	5,000
Kisiwa, occasionally flooded-----	Saline Subirrigated (pe21-28)	7,000	6,000	5,000
1004: Albion-----	Sandy (pe21-28)	4,000	3,000	2,000
1011: Albion-----	Sandy (pe21-28)	4,000	3,000	2,000
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
1057: Aguents-----	Subirrigated (pe21-28)	9,000	8,000	7,000
1061: Arents, Earthen Dam-----	---	---	---	---
1062: Arents, Landfill-----	---	---	---	---
1070: Avans-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
1071: Avans-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
1072: Avans-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
1191: Blazefork-----	Clay Lowland (pe25-34)	6,500	5,000	4,000
1192: Blazefork-----	Clay Lowland (pe25-34)	6,500	5,000	4,000
Kaskan-----	Loamy Lowland (pe21-28)	7,000	5,500	4,500
1200: Buhler-----	Saline Subirrigated (pe21-28)	3,500	2,500	1,800
Blazefork-----	Clay Lowland (pe25-34)	6,500	5,000	4,000
1324: Carway-----	Subirrigated (pe21-28)	9,500	8,500	7,500
Carbika-----	Subirrigated (pe21-28)	9,500	8,500	7,500
1357: Carway-----	Subirrigated (pe21-28)	9,500	8,500	7,500
Dillhut-----	Sands (pe21-28)	4,500	3,500	2,500
Solvay-----	Subirrigated (pe21-28)	9,500	8,500	7,500
1359: Clark-----	Limy Upland (pe21-28)	4,500	3,500	3,000
Ost-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
1428: Crete-----	Clay Upland (pe25-34)	5,000	3,500	2,500
1429: Crete-----	Clay Upland (pe25-34)	5,000	3,500	2,500
1553: Darlow-----	Clay Pan (pe21-28)	3,500	2,500	1,800
Elmer-----	Loamy Terrace (pe21-28)	5,500	5,000	3,400
1554: Dillhut-----	Sands (pe21-28)	4,500	3,500	2,500
1555: Dillhut-----	Sands (pe21-28)	4,500	3,500	2,500
Plev-----	Subirrigated (pe21-28)	9,500	8,500	7,500
1556: Dillhut-----	Sands (pe21-28)	4,500	3,500	2,500
Solvay-----	Subirrigated (pe21-28)	9,500	8,500	7,500
1725: Farnum-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
Funmar-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
1727: Funmar-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
Taver-----	Clay Upland (pe21-28)	5,000	3,500	2,500
1804: Geary-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
1807: Geary, Moderately Eroded-----	Loamy Upland (pe25-34)	5,500	4,000	2,500
1985: Hayes-----	Sandy (pe21-28)	4,000	3,000	2,000
1986: Hayes-----	Sandy (pe21-28)	4,000	3,000	2,000
Solvay-----	Subirrigated (pe21-28)	9,500	8,500	7,500
1987: Hayes-----	Sandy (pe21-28)	4,000	3,000	2,000
Turon-----	Sands (pe21-28)	4,500	3,500	2,500
2204: Jamash-----	Shallow Prairie (pe24-32)	3,200	2,400	1,700
Piedmont-----	Clay Upland (pe24-32)	5,000	3,500	2,500
2205: Jamash-----	Shallow Prairie (pe24-32)	3,200	2,400	1,700
Piedmont-----	Clay Upland (pe24-32)	5,000	3,500	2,500
2206: Jamash-----	Shallow Prairie (pe24-32)	3,200	2,400	1,700
Piedmont-----	Clay Upland (pe24-32)	5,000	3,500	2,500
2207: Jamash-----	Shallow Prairie (pe24-32)	3,200	2,400	1,700
2381:				

RANGELAND PRODUCTIVITY--Continued
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(Only the soils that support rangeland vegetation suitable for grazing are rated.) Refer to range site description to determine the percentage allowable of grasses, forbs, and shrubs for the range ecological site.

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
Kanza-----	Subirrigated (pe21-28)	9,500	8,500	7,500
Ninnescah-----	Subirrigated (pe21-28)	9,500	8,500	7,500
2390:				
Kaskan-----	Loamy Lowland (pe21-28)	7,000	5,500	4,500
2391:				
Kaskan-----	Loamy Lowland (pe21-28)	7,000	5,500	4,500
2395:				
Kisiwa-----	Saline Subirrigated (pe21-28)	7,000	6,000	5,000
2509:				
Ladysmith-----	Clay Upland (pe25-34)	5,000	3,500	2,500
2556:				
Langdon-----	Choppy Sands (pe21-28)	3,000	2,150	1,550
2587:				
Imano-----	Subirrigated (pe21-28)	9,500	8,500	7,500
2588:				
Longford, Moderately Eroded-----	Loamy Upland (pe25-34)	5,000	3,500	2,500
2812:				
Mahone-----	Loamy Lowland (pe21-28)	7,000	5,500	4,500
2948:				
Nalim-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
2949:				
Naron, Moderately Eroded-----	Sandy (pe21-28)	4,500	3,000	2,000
2950:				
Naron, Moderately Eroded-----	Sandy (pe21-28)	4,000	3,000	2,000
2951:				
Nash-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
2952:				
Nash-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Lucien-----	Shallow Prairie (pe24-32)	3,200	2,400	1,700
2953:				
Nash, Moderately Eroded-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Lucien-----	Shallow Prairie (pe24-32)	3,200	2,400	1,700
2955:				
Nickerson-----	Sandy (pe21-28)	4,000	3,000	2,000
2956:				
Nickerson-----	Sandy (pe21-28)	4,000	3,000	2,000
2957:				
Nickerson-----	Sandy (pe21-28)	4,000	3,000	2,000
Punkin-----	Saline Subirrigated (pe21-28)	3,500	2,500	1,800
2958:				
Ninnescah-----	Subirrigated (pe21-28)	9,500	8,500	7,500
2959:				
Ninnescah, saline-----	Saline Subirrigated (pe21-28)	7,000	6,000	5,000
3051:				
Ost-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
3052:				
Ost-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Clark-----	Limy Upland (pe21-28)	4,500	3,500	3,000
3170:				
Penalosa-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
3171:				
Penalosa-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
3180:				
Pratt-----	Sands (pe21-28)	4,500	3,500	2,500
3181:				
Pratt-----	Sands (pe21-28)	4,500	3,500	2,500
Turon-----	Sands (pe21-28)	4,500	3,500	2,500
3190:				
Punkin-----	Clay Pan (pe21-28)	3,500	2,500	1,800
3191:				
Punkin-----	Clay Pan (pe21-28)	3,500	2,500	1,800
Taver-----	Clay Upland (pe21-28)	5,000	3,500	2,500
3403:				
Sand Pit-----	---	---	---	---
3469:				
Smolan-----	Loamy Upland (pe25-34)	5,500	4,000	2,500
3510:				
Saltcreek-----	Sandy (pe21-28)	4,000	3,000	2,000
Funmar-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
Farnum-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
3511:				
Saltcreek-----	Sandy (pe21-28)	4,000	3,000	2,000
Naron, sandy substratum-----	Sandy (pe21-28)	4,000	3,000	2,000
3512:				
Saltcreek-----	Sandy (pe21-28)	4,000	3,000	2,000
Naron-----	Sandy (pe21-28)	4,000	3,000	2,000
3520:				
Saxman-----	Sandy Lowland (pe21-28)	6,000	4,750	3,500
3530:				
Shellabarger, Eroded-----	Sandy (pe21-28)	4,000	3,000	2,000
Albion-----	Sandy (pe21-28)	4,000	3,000	2,000
3531:				
Shellabarger, Moderately Eroded---	Sandy (pe21-28)	4,000	3,000	2,000
Nalim-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
3532:				

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		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
3533:				
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
3534:				
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
3535:				
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
Nalim-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
3540:				
Solvay-----	Subirrigated (pe21-28)	9,500	8,500	7,500
3550:				
Spelvin-----	Sandy (pe21-28)	4,000	3,000	2,000
3639:				
Taver-----	Clay Upland (pe21-28)	5,000	3,500	2,500
3640:				
Tivin-----	Choppy Sands (pe21-28)	3,000	2,150	1,550
3641:				
Tivin-----	Choppy Sands (pe21-28)	3,000	2,150	1,550
Dillhut-----	Sands (pe21-28)	4,500	3,500	2,500
3642:				
Tivin-----	Choppy Sands (pe21-28)	3,000	2,150	1,550
Willowbrook, occasionally flooded-	Subirrigated (pe21-28)	9,500	8,500	7,500
3643:				
Tobin-----	Loamy Lowland (pe25-34)	7,000	5,500	4,500
3644:				
Turon-----	Sands (pe21-28)	4,500	3,500	2,500
Carway-----	Subirrigated (pe21-28)	9,500	8,500	7,500
3760:				
Urban Land, Protected-----	---	---	---	---
Blazefork, Protected-----	Clay Lowland (pe25-34)	6,500	5,000	4,000
Kaskan, Protected-----	Loamy Lowland (pe21-28)	7,000	5,500	4,500
3762:				
Urban Land-----	---	---	---	---
Darlow-----	Clay Pan (pe21-28)	3,500	2,500	1,800
Elmer-----	Loamy Terrace (pe21-28)	5,500	5,000	3,400
3763:				
Urban Land, Protected-----	---	---	---	---
Imano, Protected-----	Subirrigated (pe21-28)	9,500	8,500	7,500
3764:				
Urban Land, Protected-----	---	---	---	---
Mahone, Protected-----	Loamy Lowland (pe21-28)	7,000	5,500	4,500
3765:				
Urban Land-----	---	---	---	---
Saltcreek-----	Sandy (pe21-28)	4,000	3,000	2,000
Naron-----	Sandy (pe21-28)	4,000	3,000	2,000
3766:				
Urban Land, Protected-----	---	---	---	---
Saxman, Protected-----	Sandy Lowland (pe21-28)	6,000	4,750	3,500
3767:				
Urban Land, Protected-----	---	---	---	---
Willowbrook, Protected-----	Subirrigated (pe21-28)	9,500	8,500	7,500
3768:				
Urban Land, Protected-----	---	---	---	---
Yaggy, Protected-----	Sandy Lowland (pe21-28)	6,000	4,750	3,500
3900:				
Warnut-----	Subirrigated (pe21-28)	9,500	8,500	7,500
3926:				
Water-----	---	---	---	---
3966:				
Willowbrook-----	Subirrigated (pe21-28)	9,500	8,500	7,500
4004:				
Yaggy-----	Sandy Lowland (pe21-28)	6,000	4,750	3,500
4005:				
Yaggy-----	Sandy Lowland (pe21-28)	6,000	4,750	3,500
Saxman-----	Sandy Lowland (pe21-28)	6,000	4,750	3,500
4110:				
Zellmont-----	Sandy (pe21-28)	4,000	3,000	2,000
Poxmash-----	Sandy (pe21-28)	4,000	3,000	2,000

