

Routt Area, Colorado, Parts of Rio Blanco and Routt Counties

4E—Yampatika silty clay, 12 to 25 percent slopes

Map Unit Setting

Elevation: 6,300 to 7,200 feet

Mean annual precipitation: 16 to 20 inches

Mean annual air temperature: 40 to 44 degrees F

Frost-free period: 80 to 110 days

Map Unit Composition

Yampatika and similar soils: 95 percent

Description of Yampatika

Setting

Landform: Structural benches, hills

Landform position (three-dimensional): Head slope, nose slope, side slope, base slope

Parent material: Slope alluvium derived from shale over residuum weathered from shale

Properties and qualities

Slope: 12 to 25 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 12 percent

Gypsum, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water capacity: Low (about 4.6 inches)

Interpretive groups

Land capability (nonirrigated): 6e

Ecological site: Claypan (R048AY296CO)

Typical profile

0 to 4 inches: Silty clay

4 to 10 inches: Silty clay

10 to 20 inches: Clay

20 to 28 inches: Clay

28 to 32 inches: Bedrock

10C—Bulkley silty clay, 3 to 12 percent slopes

Map Unit Composition

Bulkley and similar soils: 100 percent

Description of Bulkley

Setting

Landform: Hills

Landform position (three-dimensional): Base slope, head slope, nose slope, side slope

Parent material: Colluvium derived from sandstone and shale and/or slope alluvium derived from sandstone and shale

Properties and qualities

Slope: 3 to 12 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Gypsum, maximum content: 5 percent

Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)

Interpretive groups

Land capability (nonirrigated): 4e

Ecological site: Claypan (R034XY296CO)



Report — Rangeland Productivity and Plant Composition

Routt Area, Colorado, Parts of Rio Blanco and Routt Counties

Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/ac	Lb/ac	Lb/ac		Pct
4E—Yampatika silty clay, 12 to 25 percent slopes						
Yampatika	Claypan	800	500	300	Western wheatgrass	20
					Alkali sagebrush	20
					Wyoming big sagebrush	20
					Bluebunch wheatgrass	10
					Bottlebrush squirreltail	5
					Letterman's needlegrass	5
					Miscellaneous perennial grasses	5
					Saskatoon serviceberry	5
					Miscellaneous perennial forbs	5
					Mountain big sagebrush	5
10C—Bulkley silty clay, 3 to 12 percent slopes						
Bulkley	Claypan	—	—	—	—	—



Rangeland Productivity with Plant Community

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

This table shows, for each soil that supports vegetation suitable for grazing, the ecological site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in the 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 the 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 (NRCS).

Total dry-weight production is the amount of vegetation that can be expected to grow annually in a well managed area 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, normal, 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.

Characteristic vegetation (the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil) is listed by common name. Under *rangeland composition*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range management requires 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 the "National Range and Pasture Handbook," which is available in local offices of NRCS or on the Internet.

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.

Reference: United States Department of Agriculture, Natural Resources Conservation Service, [National range and pasture handbook](#).