VEGETATION COMMUNITY TYPES OF THE NMSU CORONA EXPERIMENTAL RANCH

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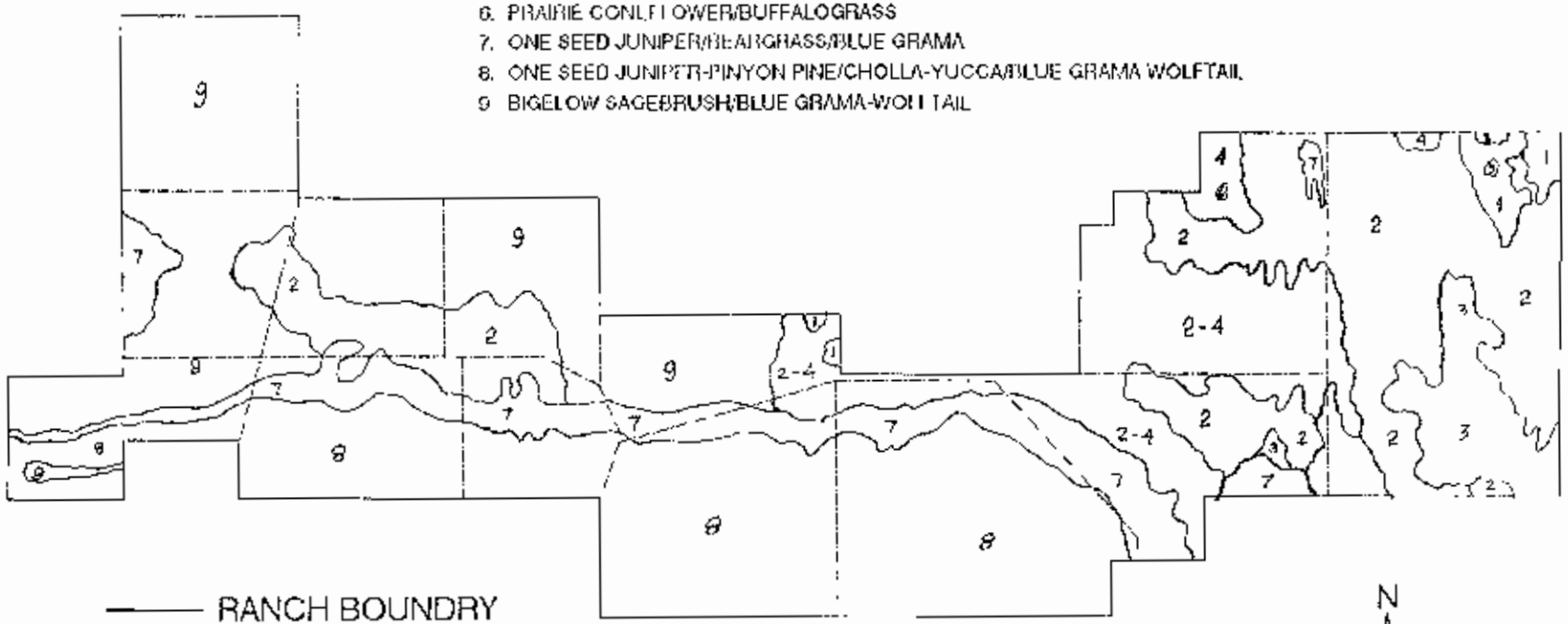
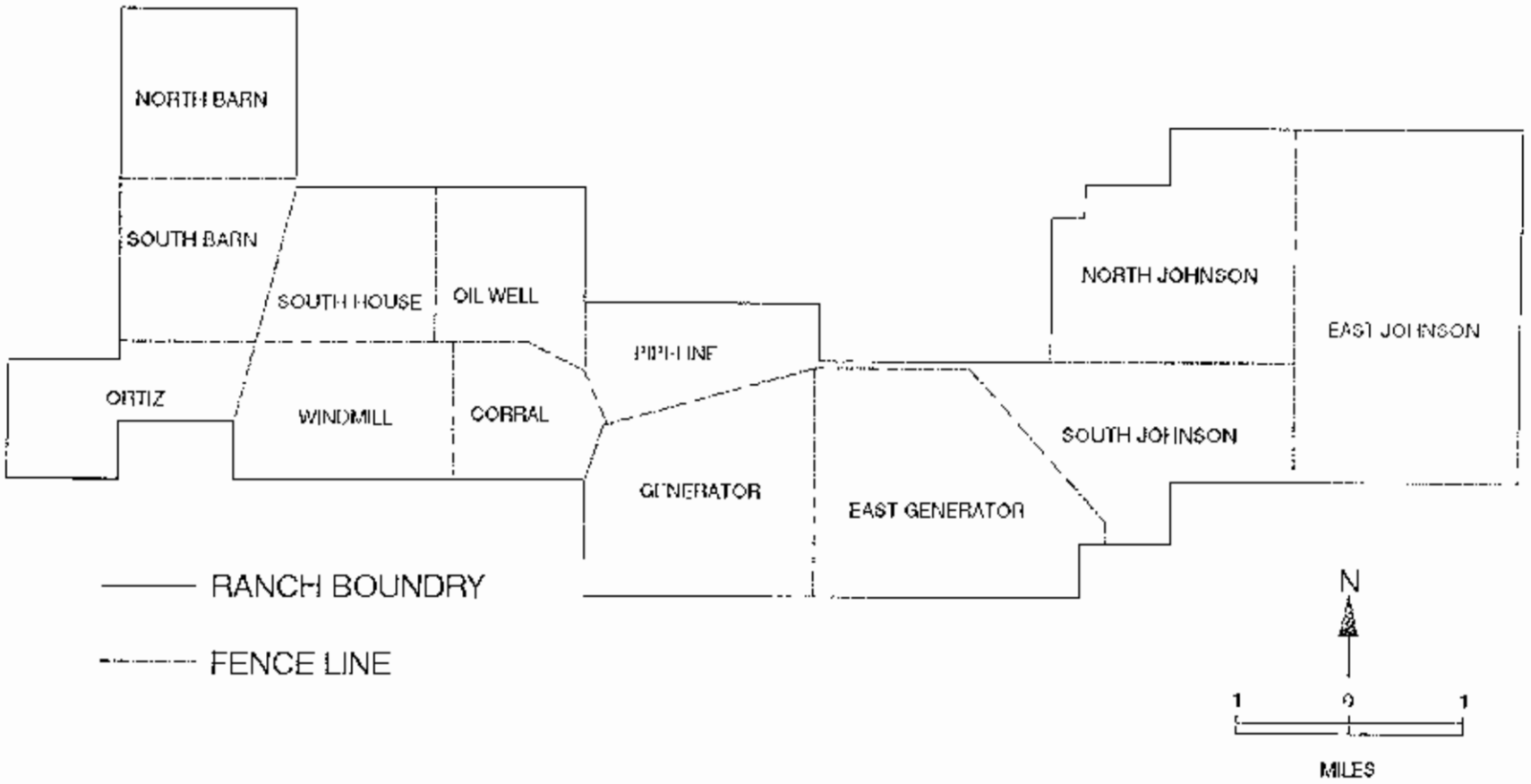
NMSU CORONA EXPERIMENTAL RANCH

VEGETATION COMMUNITIES

1. CHOLLA-YUCCA/BLUE GRAMA-FEATHERGRASS-CREEPING MUHLY
2. YUCCA/BLUE GRAMA FEATHERGRASS-SIDEOATS GRAMA
3. BLUE GRAMA-BLACK GRAMA
4. CHOLLA/BLUE GRAMA-POVERTY THREEAWN
5. CHOLLA/GALLETA
6. PRAIRIE CONEFLOWER/BUFFALOGRASS
7. ONE SEED JUNIPER/BEARGRASS/BLUE GRAMA
8. ONE SEED JUNIPER-PINYON PINE/CHOLLA-YUCCA/BLUE GRAMA WOLFTAIL
9. BIGELOW SAGEBRUSH/BLUE GRAMA-WOLFTAIL



NMSU CORONA EXPERIMENTAL RANCH
PASTURE NAMES



NMSU CORONA EXPERIMENTAL RANCH
VEGETATION COMMUNITY DESCRIPTIONS

VEGETATION COMMUNITY #1: Cholla-yucca/blue grama-feathergrass-creeping muhly

This community covers approximately 54 ha and is characterized by limestone sink-holes (Karst topography). This type of topography is best developed at only two locations on the ranch. One is in the northeast corner of the East Johnson Pasture and the other one in the northeast corner of the Pipeline Pasture. Mean elevation is 1811 m. Vegetation at the bottom of the pot-holes is dominated by Bouteloua gracilis, Muhlenbergia repens and in some cases also Sporobolus cryptandrus. Opuntia imbricata and Ceratoides lanata are prominent while Marrubium vulgare and Gutierrezia sarothrae are locally abundant. Some bare-ground due to rodent activity is evident in the bottoms of the sink-holes. The slopes and crests are characterized by the abundance of Stipa neomexicana, Bouteloua curtipendula and B. gracilis with scattered Yucca glauca and Artemisia bigelovii.

VEGETATION COMMUNITY #2: Yucca/blue grama-feathergrass-sideoats grama

This community type covers approximately 1806 ha (20% of the ranch) and occurs principally on limestone outcrops on tops of ridges in rolling topography. This vegetation type and variants extend part way down slopes in thin, rocky soil and is the dominant type on the eastern third of the ranch. It is also found in the Oil Well, South House and South Barn Pastures. Mean elevation is 1811 m. The dominant grasses are Stipa neomexicana, Bouteloua gracilis and B. curtipendula, with Lycurus phleoides, Aristida purpurea, Schizachyrium scoparium (on sandy soils), Sporobolus cryptandrus and Bouteloua hirsuta becoming prominent in some sectors. Yucca glauca commonly occurs throughout the community with Nolina microcarpa, Opuntia imbricata, Artemisia bigelovii, Dalea formosa and Gutierrezia sarothrae varying from low to high prominence. Bare soil averages about 5% on this type and surface rock about 6%. Understory vegetation averages about 20 cm in height.

VEGETATION COMMUNITY #3: Blue grama-black grama

This community type covers approximately 396 ha (4.6% of the ranch) at piedmont or drainage bottoms entirely on the east side of the ranch. The mean elevation is the lowest of any community on the ranch at 1765 m. The only pastures with this type are the East and South Johnson Pastures. The most prominent species is Gutierrezia sarothrae with scattered Yucca glauca and Opuntia imbricata. Ceratoides lanata is also conspicuous. The most important grasses are Bouteloua gracilis and B. eriopoda. Other prominent grasses are Bouteloua curtipendula and Aristida purpurea. Lycurus phleoides and Aristida divaricata are found scattered throughout the community in varying degrees. The aspect dominant is Gutierrezia sarothrae.

VEGETATION COMMUNITY #4: Cholla/blue grama-poverty threeawn

This community type covers approximately 218 ha (2.5% of total ranch surface) on slightly hilly or rolling topography overlapping onto flat plains at piedmont. This type is found entirely on the eastern side of the ranch in the East Johnson and North Johnson Pastures. Mean elevation is 1791 m. The dominants among the grasses are Bouteloua gracilis, Aristida divaricata, A. purpurea and Lycurus phleoides. Scattered patches of Bouteloua curtipendula are also evident. Gutierrezia sarothrae is a common aspect and true dominant with co-dominance of Opuntia imbricata and Yucca glauca. Scattered patches of Artemisia bigelovii are present.

VEGETATION COMMUNITY #5: Cholla/galleta

This community type covers less than 5 ha in one playa in the East Johnson Pasture. This ephemeral lake is found near the old wagon road close to the northern boundry of the ranch at an elevation of 1783 m. Smaller playas may be present in the area but were not sampled. The dominant species is Hilaria jamesii followed closely by the aspect dominant Opuntia imbricata. Hilaria forms a uniform unbroken mat on the playa. Other prominent species are Bouteloua gracilis, Aristida divaricata and Gutierrezia sarothrae.

VEGETATION COMMUNITY #6: Prairie coneflower/buffalograss

This community type covers less than 5 ha in one playa in the North Johnson Pasture at an elevation of 1789 m. This variant is surrounded by the Cholla/blue grama-poverty threeawn Community just as is Community #5. Buchloe dactyloides is almost an exclusive dominant forming a dense uniform unbroken mat across the playa. Some Muhlenbergia repens is interspersed. Ratibida tagetes is abundant throughout the Buchloe mat.

VEGETATION COMMUNITY #7: One seed juniper/beargrass/blue grama

This community type covers approximately 673 ha (8% of the ranch) and averages 1806 m elevation. This is the ecotone between dense Pinyon-Juniper communities and Grassland communities stretching as a narrow band from east to west across the ranch. Besides the continuous band, isolated patches are found in the North Johnson, South Johnson, and South Barn Pastures. Mule deer take refuge in this type after feeding in open grassland. Topographically, this community is found on rolling hilly terrain on high ground or ridge tops. Limestone or sandstone outcrops are common and the vegetation varies accordingly. The number of grass species is diverse in this ecotone and number at least 20. The most common woody species are Juniperus monosperma and Brickelia laciniata plus Yucca glauca. Nolina microcarpa is an aspect dominant along with Juniperus monosperma. The most common grasses are Bouteloua gracilis, B. hirsuta and B. curtipendula on limestone outcrops whereas Bothriochloa springfieldii, Schizachyrium scoparium and Lycurus phleoides dominate on sandstone outcrops.

VEGETATION COMMUNITY #8: One seed juniper-pinyon pine/cholla-yucca/blue grama-wolftail

This community type is the largest of the ranch covering approximately 2732 ha (31.6% of the ranch). Elevation varies from 5950 m in the East Generator Pasture to 6200 m in the Ortiz Pasture. This type forms a continuous band south of the ecotone described under Community type #7 and is characterized by dense stands of Juniperus monosperma and scattered Pinus edulis. Opuntia imbricata and Yucca glauca are prominent in openings and the understory is generally dominated by Bouteloua gracilis and extensive patches of Lycurus phleoides. Other common grasses are Aristida purpurea, A. divaricata, Bouteloua curtipendula and B. hirsuta. Gutierrezia sarothrae is constant but not abundant. Sandy blowouts within this vegetation type are dominated by Schizachyrium scoparium and Sporobolus cryptandrus as well as Juniperus monosperma and Quercus undulata. Pinus ponderosa appears on these sandy sites.

VEGETATION COMMUNITY #9: Bigelow sagebrush/blue grama-wolftail

This is the second largest community type on the ranch covering approximately 1871 ha (21.6% of the ranch). The average elevation is about 6100 m. Pastures containing this type are the Pipeline, Oil Well, South House, North and South Barn, and Ortiz, all located on the western half of the ranch. Bouteloua gracilis and Lycurus phleoides are the dominant species in this grassland type with Bouteloua curtipendula, Aristida purpurea and A. divaricata as secondary species. Artemisia bigelovii and Gutierrezia sarothrae are co-dominants while Opuntia imbricata and Ceratoides lanata occur in patches.

**** COMBINATION OF COMMUNITIES #2 AND 4:**

An area covering approximately 896 ha (10.4% of the ranch) is a mosaic of Vegetation Communities #2 and 4. The topography is rolling hills with Community #2 on limestone ridge tops or crests and Community #4 dominated by Gutierrezia sarothrae in the swales or valley bottoms.

POACEAE SPECIES LIST

SPECIES	COMMUNITY TYPES FOUND IN
Andropogon hallii	7,8
Aristida purpurea	
var. fendleriana	2,3
var. nealleyi	8,7
var. purpurea	1,2,3,4,7,8
Aristida havardii	2,3,4
Aristida divaricata	2,3,4,5,7,8
Aristida adscensionis	7,8
Bothriochloa springfieldii	4,7,8
Bouteloua gracilis	1,2,3,4,5,7,8
Bouteloua curtipendula	1,2,3,4,7,8,9
Bouteloua eriopoda	1,2,3,4,7,8
Bouteloua hirsuta	1,2,7,8
Buchloe dactyloides	6
Cenchrus incertus	8
Elymus smithii	6
Elymus longifolium	6,9
Eragrostis intermedia	1,2
Eragrostis secundiflora	8
Eragrostis erosa	7
Erioneuron pilosum	1,2
Hilaria jamesii	3,4,5,9
Lycurus phleoides	1,2,3,4,7,8,9
Muhlenbergia pungens	7,8
Muhlenbergia repens	1,2,3,4,5,6,7,8
Muhlenbergia torrevi	2,3,4,8,9
Munroa squarrosa	1
Oryzopsis hymenoides	2
Panicum obtusum	1,2,3,4,5,7
Panicum hallii	1,2,3,4
Piptochaetium fimbriatum	8
Schedonnardus paniculatus	9
Schizachyrium scoparium	7
Schizachyrium neomexicana	1,7,8
Setaria leucopila	7
Sporobolus contractus	1,2,8
Sporobolus cryptandrus	1,2,3,4,5,7,8,9
Stipa neomexicana	1,2,3,4,7,9
Tragus berteronianus	2,7,8,

OTHER PLANTS IDENTIFIED

SPECIES	COMMUNITY TYPES FOUND IN
Artemisia bigelovii	1,2,3,4,7,9
Berberis haematocarpa	2,8
Brickellia laciniata	7
Ceratoides lanata	1,2,3,4,9
Cirsium ochrocentrum	1,2,3,4,7
Commelina dianthifolia	7
Dalea formosa	2,7
Ephedra torreyana	1,2
Grindelia squarrosa	6
Gutierrezia sarothrae	1,2,3,4,5,.7,8,9
Hymenoxys richardsonii	2,4,7,9
Juniperus monosperma	2,4,7,8
Kramaria parvifolia	1,2
Marrubium vulgare	1,2
Mentzelia laciniata	4
Nolina microcarpa	1,2,4,7,8
Opuntia imbricata	1,2,3,4,5,8,9
Opuntia polycantha	1,2,4,5,7,8
Paronychia sessiliflora	2
Pinus edulis	7,8
Pinus ponderosa	8
Quercus undulata	8
Ratibida tagetes	6
Rhus trilobata	1,2,3,7
Senecio riddellii	2,4
Senecio longilobus	2,3,4,7
Solanum elaagnifolium	1,3,4,7,8
Thelesperma megapotamicum	4
Yucca baccata	8
Yucca glauca	1,2,3,4,7,8,9

NoteThis is a preliminary list of plants identified in December 1989 and includes only those species which could be properly identified at that time.