



Forest Service

Rocky Mountain  
Research Station

General Technical Report  
RMRS-GTR-233

December 2009



# Vascular Plants and a Brief History of the Kiowa and Rita Blanca National Grasslands

Donald L. Hazlett, Michael H. Schiebout, and Paulette L. Ford



Hazlett, Donald L.; Schiebout, Michael H.; and Ford, Paulette L. 2009. **Vascular plants and a brief history of the Kiowa and Rita Blanca National Grasslands**. Gen. Tech. Rep. RMRS-GTR-233. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 44 p.

## Abstract

Administered by the USDA Forest Service, the Kiowa and Rita Blanca National Grasslands occupy 230,000 acres of public land extending from northeastern New Mexico into the panhandles of Oklahoma and Texas. A mosaic of topographic features including canyons, plateaus, rolling grasslands and outcrops supports a diverse flora. Eight hundred twenty six (826) species of vascular plant species representing 81 plant families are known to occur on or near these public lands. This report includes a history of the area; ethnobotanical information; an introductory overview of the area including its climate, geology, vegetation, habitats, fauna, and ecological history; and a plant survey and information about the rare, poisonous, and exotic species from the area. A vascular plant checklist of 816 vascular plant taxa in the appendix includes scientific and common names, habitat types, and general distribution data for each species. This list is based on extensive plant collections and available herbarium collections.

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*Cover: The Canadian River in Mills Canyon (photo by Don Hazlett).*

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# Vascular Plants and a Brief History of the Kiowa and Rita Blanca National Grasslands

Donald L. Hazlett, Michael H. Schiebout, and Paulette L. Ford

## Introduction

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The Kiowa and Rita Blanca National Grasslands (KNG and RBNG) are located in northeastern New Mexico and adjacent Oklahoma and Texas. This report represents the first comprehensive checklist of vascular plants that occur on or near these grasslands. The checklist serves as a baseline inventory for the area, and it is hoped that additional species will be added to it over time by others. These national grasslands, administered by the USDA Forest Service Cibola National Forest, encompass approximately 230,000 acres in four counties of New Mexico and one county each in Texas, and Oklahoma. The grasslands are managed for many uses. While livestock production is the most visible use of these lands, the grasslands are also managed for their natural and cultural resources and for recreation. Visitors come to the grasslands to hunt, fish, camp, hike, picnic, and view the scenery and associated wildlife.

This report has been prepared for the diverse audience of users of and visitors to the Kiowa and Rita Blanca National Grasslands. It will be of use to local educators, residents, ranchers, farmers, scientists, as well as to first-time grassland visitors.

## Human History

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### A Brief History of the Kiowa Nation

Several Native American groups once lived in northeastern New Mexico. Among these were the Kiowa, the Kiowa Apache, Comanche, Plains Apache, Mescalero Apache, and Jicarilla Apache. Although each of these groups has historical and cultural ties to this region, this brief history will focus on the Kiowa because the Kiowa National Grassland is named in honor of the Kiowa people, a unique and still thriving group of Native Americans. This Kiowa information is selected and condensed from Crum (1996), Lassiter (1998), Marriott (1971), Mayhall (1971), Newcomb (1961), Pritzer (2000),

and White (2000). The etymology of the Kiowa name has several interpretations. It is pronounced *Kai-o-wa* in Latin, *caygua* in Spanish, and *Kaiwa* in Comanche. Newcomb (1961) considered Kiowa as a variation of the actual Kiowa tribe name. He speculated that a literal translation to English of their self-assigned name would be “a people who paint the two halves of the body or face in different colors.” This style of body painting is still a Kiowa tradition. Pritzer (2000) agreed that the word Kiowa was self-designated, but suggested that it meant “Principle People.” Pritzer’s interpretation of the Kiowa name origin seems to be more accepted by anthropologists, but the half-body painting idea is more memorable.

The language of the Kiowa is one of the best clues as to the origin of this tribe. The Kiowa speak a Tanoan or Kiowa Tanoan language, a linguistic isolate that is not closely related to the language of any other nomadic Plains Indian group (Pritzker 2000). Instead, Tanoan is more closely related to the language of the sedentary Pueblo Indians that mainly live along the Rio Grande. Despite a linguistic similarity with the Pueblo in the Southwest, the first known reports of the Kiowa tribe are from the Missouri headwaters. From the Missouri headwaters, the Kiowa moved to southwestern Montana and then to the Black Hills region (Schnell 2000). In 1781, while in the Black Hills, the Kiowa were severely affected by a smallpox epidemic. As a consequence, the neighboring Lakota, Arapaho, and Cheyenne tribes forced the Kiowa to move south. Although the Kiowa have been absent from the Black Hills for more than 200 years, they maintain long-standing traditions in northern lands (Schnell 2000). One of these traditions is to consider “Bear Butte” (Devil’s Tower) as a sacred place (Schnell 2000; U.S. Department of the Interior 2005).

When the Kiowa fled the Black Hills region in the late 1700s they ventured far enough south to encounter the Comanche homeland in southeastern Colorado. They initially fought with the Comanche, but eventually the two tribes lived in peace.

In this southern Great Plains homeland, the Kiowa lived near the headwaters of the Arkansas, Cimarron, Canadian, and Red rivers. It is of interest that the Kiowa developed a tradition of wandering great distances on hunting or exploratory expeditions. For example, during one such expedition, the Kiowa encountered parrots and monkeys. Newcomb (1961) suggested that this particular excursion went as far south as Belize in Central America.

The peak Kiowa resistance to the “White” intruders from the East began around 1860 (Pritzker 2000). Kiowa leaders at this time included White Bear (*Satana*, *Satanta* or *Set tainti*), Sitting Bear (*Satank* or *Set angia*), Lone Wolf (*Gui pägo*), Kicking Bird or Striking Eagle (*Tene augope*), and Stumbling or Pushing Bear (*Setimkia*). The Medicine Lodge Treaty of 1867 stipulated the confinement of the Kiowa to reservations in Oklahoma (near Fort Sill). Given their nomadic tradition, however, the Kiowa could not live well when they were confined to a small area for long periods of time. It was natural for them to continue their tradition of excursions to distant places. These excursions inevitably led to armed conflicts with the U.S. military and with other policing authorities. The last major battles between military authorities and the Kiowa were led by Lone Wolf in 1874 and 1875 (Pritzker 2000).

The Kiowa Tribe is a federally recognized entity that occurs on about 7,000 acres in seven southwestern Oklahoma counties. The original Kiowa, Comanche, and Kiowa-Apache reservation (now collectively called the KCA) covered about three million acres in southwestern Oklahoma. The Kiowa have maintained their artistic and social organization skills (Crum 1996). Since 1968 the Kiowa tribal council has published the Kiowa Indian News. The Kiowa ability to retain traditions despite oppression is also evident in the survival of the children’s Rabbit Society with traditional songs and dances. A successful Kiowa writer is Scott Momoady, a member of the Kiowa gourd clan, who won a Pulitzer Prize for fiction in 1969 for his book “House Made at Dawn” (Crum 1996). Five well-known Kiowa artists in the early 1900s were the “Kiowa Five.” Another award-winning Kiowa artist, Barthell Little Chief, was featured in an Indian Country News article in 2000. Barthell Little Chief considers himself an artist who “makes Indian art,” not an artist who makes art about Indians—an important distinction.

The Kiowa Nation still exists, but no longer lives in the immediate vicinity of the Kiowa National Grassland. As the Kiowa language became less used, song and dance have emerged as more important and dominant

cultural symbols for the Kiowa as well as for other Native American groups (Lassiter 1998).

Although Kiowa do not currently live on the Kiowa National Grassland, they maintain strong cultural ties to this homeland (Schnell 2000). These ties, reminiscent of their long-standing ties to the sacred “Bear Butte” in Wyoming, help bond them to a landscape and to its plants and animals. Parts of the historical Kiowa homeland in New Mexico are now protected as the Kiowa National Grassland.

## Spanish and Other Early Settlers

The western Kiowa National Grassland section occurs in parts of Colfax, Harding, and Mora Counties. The major feature in this section is the Canadian River in Mills Canyon. Why the word Canadian for a New Mexico river? Canadian trappers may have coined this name, since early trappers would follow this river north to return to Canada. Alternatively, the Spanish word *cañada* could be the origin of this name, since in Spanish a *cañada* is a steep-walled canyon. Finally, *Caddo* means “red river” (Julyan 2001). Indeed, this 900-mile long river was previously known as both Red River (English) and *Río Colorado* (Spanish). Since these names were already in use for other rivers, perhaps only the Canadian name was left for use by cartographers for this river. On the other hand, cartographers could have retrieved even earlier river names since Francisco Vásquez de Coronado (*ca.* 1510-1554) called this river *Río Cicuye* (near Cicuyé Pueblo), Juan de Oñate (*ca.* 1598) called it *Río de la Magdalena*, and Juan de Zaldívar called it *Río de San Francisco* (Julyan 2001). The older names were used at a time when aerial satellites could not tell cartographers or explorers that various river names were actually different sections of the same, meandering river.

Mills Canyon has Spanish names for ravine and creek tributaries of the Canadian River. Among these are Arroyo Piedra Lumbre (Splendid Rock Creek), Cañon Mesteño (untamed canyon and a livestock guild), and Cañon Mesteñito (diminutive of *mesteño*). East of Roy is Tesquesquite Creek, an apparent misspelling of *tequesquite*. *Tequesquite* is *Náhuatl* (an Aztec language) for a white mineral that forms on some alkali creeks (Cobos 2003). This mineral has long been used in the Southwest in cooking (still available), as a medicine, and as a substitute for sodium bicarbonate. In southern Union County both Perico and Carrizo creeks have Spanish names. *Perico* means either parrot or a large-leaf monocot plant in the tropical genus *Canna*. If this creek were named after a parrot, it may have been a

word the Kiowa learned during one of their excursions into southern Mexico. Parrot as the origin for the Perico Creek name is not listed by Julyan (2001). The *Carrizo* name in Carrizo Creek is a Spanish word for rush.

The Spanish place names attest to the long Spanish occupation of this region, but the canyon itself and the nearby town of Mills were named in honor of Melvin Whiston Mills, a lawyer. Melvin Mills, born in Ontario, Canada, in 1845, was a prosecuting district attorney for Colfax, Taos, Rio Arriba, and Mora Counties in the late 1800s (Cates 2001). As a lawyer, Mills was involved in several famous trials, some of which were against powerful Land Grant interests. These legal tangles led Mills to a number of close encounters with mob violence. For example, Mills helped prosecute the Maxwell Land Grant Company while the defending lawyer was Frank Springer (town of Springer bears his name). At that time, Lucien Maxwell was the largest land-owner in United States history (Pearson 1961). The Maxwell Company was accused of fraudulent claims regarding its 1.7 million-acre land grant, a grant area that included what is now most of the Kiowa National Grassland. This litigation passed out of Mills' jurisdiction and went to the Supreme Court. In 1887, this highest court upheld the Maxwell right to these land claims. Nonetheless, litigation continued until the 1890s when this huge land grant area was finally broken up into smaller areas (Faulk 1968).

When he was not involved with litigation, Melvin Mills and his family filed homestead claims (1880-1881) on land that is now Mills Canyon, a key part of the Kiowa National Grassland. In an effort at irrigation, Mills diverted upstream river water into ditches. Some of these ditches are still visible (Hazlett, personal observation, Sept. 2006). Cates (2001) reported that the crops irrigated by Mills included 2,500 peach, 500 pear, 1,000 quince and an unknown number of prune, mulberry, plum, almond, grape, and other crops. Apricots may also have been in the planting mix, since there are still a few large apricot trees growing in Mills Canyon. Volunteer apples (*Malus*) and hedge apple trees can also be found in this canyon. Prior to the widespread use of barbed wire, the thorny hedge apple or Osage orange (*Maclura pomifera*) were planted in

rows as fences to contain livestock. In Mills Canyon, the hedge apples that were planted along irrigation ditches to help control erosion are still there (Hazlett, personal observation, Sept. 2006). The hedge apple fruits are not eaten, but these curiously wrinkled fruits are sometimes used for decoration and/or to keep cockroaches out of basements. The thriving Mills Canyon agricultural operation came to an abrupt end in 1904 when it was totally wiped out by a flood (Clay 1999). The story is told that after this flood Melvin Mills was in financial ruin and became a beggar. He died in 1925 on a cot in his old home, a mansion he had built in Springer (Clay 1999).

The Rita Blanca part of the Rita Blanca Grassland name refers to "Little White River," a name that comes from the Spanish sheep herders that inhabited the High Plains of the Texas Panhandle during the late 1800s. Also called Rita Blanca are Lake Rita Blanca State Park and the underlying Rita Blanca Aquifer in this same region.

The Rita Blanca National Grassland (fig. 1) occurs as a mosaic of public land in northwestern Oklahoma (Cimarron County) and northwestern Texas (Dallam County). In the late 1800s, the Panhandle areas of both these states were known as "no man's land," an unofficial part of Indian Country that was not officially a part of any state. This land became a refuge for outlaws, desperados, and horse thieves, since it was within the jurisdiction of no state. Its "no man's" status was enhanced in 1850 when Texas relinquished all claims to this area.

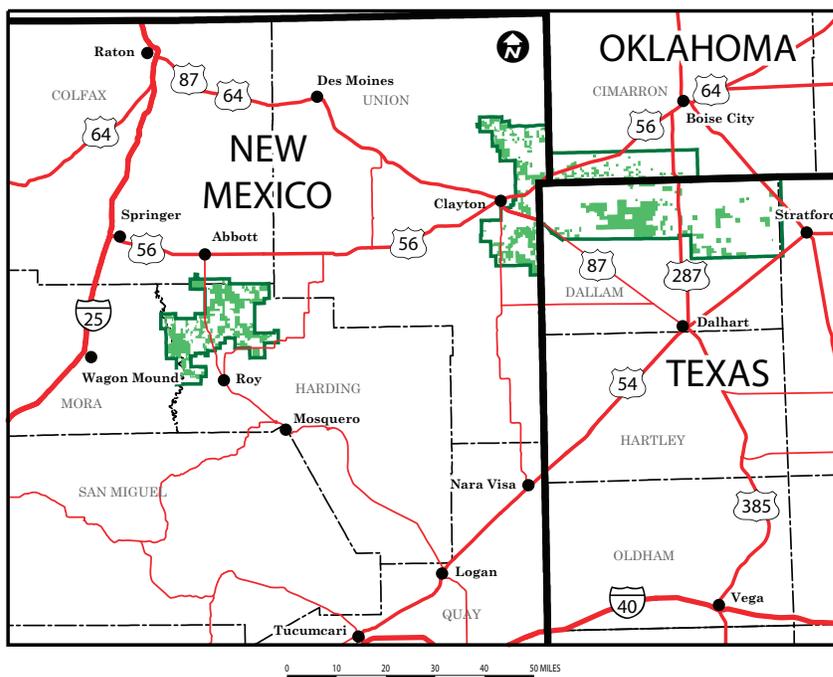


Figure 1—Map of Kiowa and Rita Blanca National Grasslands (green areas).

Local residents tried to organize and police themselves, but there were no legal authorities to settle disputes. In 1887, there was an effort to call this area Cimarron Territory (Young 2009). The Organic Act of 1890 made “no-man’s land” an official part of Indian Territory (Young 2009). This 1890 Act opened this Panhandle area to homestead settlement, 1 year after the famous Oklahoma Land Rush of 1889 when the more desirable Oklahoma lands further south were opened to White settlement.

## Dust Bowl to National Grassland

Robert Geiger, a reporter from Denver, wrote the following in April of 1935. “Three little words achingly familiar to the western farmer’s tongue rule life in the dust bowl of the continent — if it rains” (Wooster 1982). This was the first use of the phrase “Dust Bowl.” The part of the continent he referred to was a five-state area with the Oklahoma panhandle as the center. The rainless Oklahoma panhandle was surrounded by drought-stricken areas in southeastern Colorado, in southwestern Kansas, in northwestern Texas, and in northeastern New Mexico. Although Geiger’s intent was to emphasize “if it rains,” his reference to this area as a Dust Bowl is the phrase that has endured. Parts of Kiowa and Rita Blanca National Grasslands are located in this Dust Bowl area. These areas are Dallam County, Texas; Cimarron County, Oklahoma; and Union County, New Mexico (fig. 1). The Dust Bowl was a significant event in United States history.

Prior to the Dust Bowl “wake-up-call,” the American approach to land use, from Virginia westward, was to convert all forest or prairie into an agricultural cash crop. The attitude was that unlimited growth in agriculture was a good thing (Wooster 1982). There were seemingly no limits. Also, the prevailing culture did not place near as much value on intact native grassland as it did on plowed fields. The goal was to conquer and to control the environment with no understanding of environmental consequences. The fallacy of this attitude was not apparent until the rains stopped.

Prior to the Dust Bowl, the Wilson administration encouraged farmers to plant more wheat as a means to win World War I (Wooster 1982). The zeal to plant more crops continued west, well past the 100<sup>th</sup> meridian. Plowing native sod was further facilitated by new machinery, such as the one-way disc plow. Nature seemed to cooperate by providing a series of wet years in the late 1920s. The sod-busting incentives led to plowing of more than 33 million acres, much of it marginal land (Wooster 1982). Then came the drought and the wind. During 1938, the year of most severe wind erosion, an

estimated 10 million acres of plowed farmland had lost at least 5 inches of top soil. Another 13.5 million acres had lost at least 2.5 inches of soil. Soil loss to wind erosion was about 408 tons of soil per acre (Wooster 1982). Furthermore, the wind-blown soil carried organic matter and nitrogen, which left very poor soil behind.

As an example, in Cimarron County, Oklahoma, a county that now has more than 15,000 acres of Forest Service land, the average annual rainfall at Boise City is about 17 inches (Wooster 1982). The annual rain from 1926 to 1930 in Boise City averaged more than 19 inches — a boon for wheat farmers (Wooster 1982). In 1931, the 305,000 acres of wheat in Cimarron County averaged more than 21 bushels per acre; however, during the decade of the 1920s, wheat averaged about 13 bushels per acre in this county. Then the rain stopped. The annual precipitation in Boise City fell to only 9 inches in 1933 and 1934, and during the decade of the 1930s, the average yield of wheat per acre in Cimarron County was only 0.9 bushels per acre. This yield was not even enough seed to plant the next year’s wheat crop.

After this ecological miscue, a series of government programs were put into place to try to mediate the ecological damage caused by drought and wind erosion. Among these (June 1933) was the establishment of the Farm Credit Union (FCU) to refinance farm mortgages. Wind erosion was so severe around Felt, Oklahoma, that after August of 1934, the FCU would no longer provide grants or refinance loans to residents in this area. In 1933, funds from the Federal Emergency Relief Act (FERA), later called the Works Progress Administration (WPA), provided some jobs to residents, jobs *en lieu* of a cash handout. When the National Industrial Act and Emergency Relief Appropriations Act passed Congress in 1933 and 1935, it gave the federal government the authority to purchase failed cropland (Wooster 1982). The Bankhead-Jones Farm Tenant Act of 1937 eventually granted administrative authority to move about 3.85 million acres of Dust Bowl lands to the Great Plains Soil Conservation Service (SCS) (USDA Forest Service n.d.). The original intent was for the SCS to restore the eroded soil and to protect the grassland resources. The last administrative transfer of these lands was in 1954 when they were transferred to the USDA Forest Service. In 1960, Congress designated 136,562 acres of New Mexico land in Mora, Harding, and Union Counties as the Kiowa National Grassland (USDA Forest Service n.d.). The Rita Blanca National Grassland name was given to 77,183 acres of land in Dallam County Texas and 15,639 acres of land in Cimarron County Oklahoma.

## Kiowa and Plains Apache Ethnobotany

Native Americans (Kindscher 1987, 1992; Moerman 1998) and Spanish Americans (Curtin 1997) have sustained close relationships with the plants in their homelands and continue to do so today. Presented here are a few insights into the cultural connections between plants and the Kiowa and Plains Apache of northeastern New Mexico.

Moerman's book on Native American ethnobotany (1998) lists 86 plants that were utilized by the Kiowa people. About two-thirds of these occur on the Kiowa or Rita Blanca National Grasslands. It is not unusual for a Native American tribe to also use plants that are imported from other regions. For example, the Plains Apache used "fat medicine" (*Ligusticum porteri* or oshá) that was imported from the Rocky Mountains (Jordan 2008). About half of the Kiowa-utilized plants listed by Moerman are grasses that were used for fiber and as livestock forage. Among the non-grasses utilized were roots from buffalo gourds (*Cucurbita foetidissima*) and bush morning glories (*Ipomoea leptophylla*). Although buffalo gourds have foul-smelling leaves and fruits, these roots can be peeled and used as an emetic. The Plains Apache called bush morning glories "ghost throw it at you" or "grass bone medicine" (Jordan 2008). The Plains Apache had a fear of ghosts. If a ghost were to throw this root at someone it was believed to cause a paralysis in this person. The large roots of this shrub may have been a reason for its association with ghosts, since these twisted roots were reminiscent of whirlwinds (dust devils) and whirlwinds were also believed to be ghosts. Due to this danger, the Plains Apache very judiciously used this root as a medicine. Even then it was called "whirlwind medicine" and the Plains Apache were and are reluctant to store this ghostly plant in their houses.

The edible fruits used by the Kiowa were most often woody trees, shrubs, or vines. These woody plants grow mostly in riparian areas, ravines, and canyons. The genera of edible or medicinal fruits include *Celtis* (hackberry), *Juniperus* (cedar), *Pinus* (piñones), *Prunus* (chokecherry), *Rhus* (skunkbush sumac), *Ribes* (currants), *Sambucus* (elderberry), *Opuntia* (prickly pear), and *Vitis* (wild grape).

An interesting Kiowa plant use is that of the milky sap from both *Apocynum cannabinum* (Indian hemp) and *Euphorbia marginata* (snow-on-the-mountain) as chewing gums. These uses are of interest since both contain toxic chemicals. Perhaps these chewing gum plants are used for a purpose similar to that of the chemical-rich *Rhus glabra* (smooth sumac) chewing sticks of the Chippewa, Okanagon, and Omaha tribes. These smooth

sumac twigs are used as an antiseptic chewing stick to treat sore mouths and to clean teeth. It was no surprise that the Kiowa use the sap of *Argemone* species (prickly poppy) as an antiseptic to treat cuts and wounds (Moerman 1998). Modern research has confirmed that *Argemone* sap does contain antiseptic alkaloids (Stermitz 1966).

An unexpected Kiowa plant use is for *Paronychia jamesii* (nailwort), a mat-forming plant that has no striking feature and no well-established common name. The Kiowa reportedly used this plant to make a therapeutic tea. An ethnobotanical use of this plant could be an erroneous report of a plant use. If correct, such an unexpected use would warrant further investigation.

The recent book by Jordan (2008) on the Plains Apache discusses an interesting means by which plants in this region were perceived. Each plant was seen to be one of a pair. One plant was "real" and the other was its "imitation" or "mate." For example, *Pediomelum exculentum* was real and *P. cuspidatum* was its mate. Jordan also reported that *Plantago patagonia* is the basis for a boy's game called *horse race*. Boys would place bets and run as fast as they could for a certain amount of time in search of the longest flowering stem for this *Plantago*. After the set amount of time had passed, the boy with the longest stem won and collected the bets.

## Natural History

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### Vegetation

Ecologists have classified the semiarid vegetation in this study area in several ways. The ecoregion categories used by Bailey (1998) classify northeastern New Mexico as: Domain: Dry; Division: Temperate Steppe; and Province: Dry Steppe. This shortgrass steppe area is semiarid, generally treeless grassland, dominated by grasses and forbs, and characterized by large grazing mammals and burrowing animals (Lincoln and others 1998). It is estimated that less than 23 percent of true shortgrass steppe still exists in native vegetation (NGMR 1995). The Kiowa and Rita Blanca National Grasslands contain such steppe areas. General descriptions of the vegetation of these New Mexico grasslands can be found in Brown (1994) and Dick-Peddie (1993). Dick-Peddie classifies most of the Kiowa and Rita Blanca Grasslands as Plains-Mesa Grassland.

The study region includes tall-, mid-, and short-grass prairie components, all within the southern Great Plains (Wright and Bailey 1982). There are remnants of tall-grass prairie in southern Colfax County. If grazing has not been too severe in such areas, the deeper soil moisture allows for tall-grass plant species such as little bluestem

(*Schizcahyrium scoparium*), side-oats grama (*Bouteloua curtipendula*), and other bluestem grasses (*Andropogon*). Sandy areas have sand sage (*Artemisia filifolia*) and soapweed (*Yucca glauca*). Mid-grass prairie species occur at higher elevations near the Colorado border. In such areas, western wheatgrass (*Elymus smithii*), needle-and-thread (*Hesperostipa comata*), and sand dropseed (*Sporobolus cryptandrus*) are locally common. Most of Kiowa and Rita Blanca Grassland is rolling plains with shortgrass steppe species such as blue grama (*Bouteloua gracilis*), buffalo grass (*Bouteloua dactyloides*), and galleta (*Hilaria jamesii*). Areas that were once plowed or heavily grazed have a more frequent occurrence of purple three-awn (*Aristida longiseta*).

## Fauna

Arthropods, birds, and mammals all play important roles in ecosystem functioning of shortgrass prairie, serving as decomposers, pollinators, herbivores, predators or prey. They cycle nutrients and form valuable links among trophic levels (Ford and McPherson 1996). The Kiowa and Rita Blanca are home to a variety of mammal, bird, amphibian, and reptile wildlife species that characterize the southern Great Plains ecosystem (table 1). Hundreds of bird species reside, overwinter, or migrate through the grasslands every year. Recently (since 2002), the Rocky Mountain Bird Observatory (RMBO) has conducted breeding season surveys on the Kiowa National Grassland, with special attention to migratory birds (Alison Cariveau, personal communication). Species of special interest to management plans for the grasslands are Ferruginous hawk, long-billed curlew, swift fox,

burrowing owl, mountain plover, and the black-tailed prairie dog (USDA FS 1999). Among the vast number of arthropod species that inhabit the shortgrass prairie are insect pollinators, many of which are essential foods for small mammals and birds. Other insects are known to cause extensive damage to grasslands (Thomas and Werner 1981; Ford and McPherson 1996). While density and diversity of small mammals generally are lower in shortgrass steppe than in other North American grasslands (Grant and Birney 1979; Stapp 1997), biodiversity of arthropods can be fairly high. For example, there are at least 25 species of grasshoppers alone recorded from the Kiowa National Grassland, not to mention the numerous species of crickets, spiders, beetles, and ants (Ford and McPherson 1996).

## Site Description

### Geology and Soils

Most of the Kiowa and Rita Blanca National Grasslands are located in the Raton section of the Great Plains physiographic province (Trimble 1993). This province is characterized by volcanism and rolling hills. These relatively level landscapes are comprised of upland Miocene gravel and sand, a landform that has existed with little change since the Pliocene. The movement and deposition of sediments of the Miocene-Pliocene Ogallala Formation in western Texas and eastern New Mexico were controlled by the topography of the underlying surfaces. The underlying strata include red to brown caliche sands of the Ogallala Formation of mid-Miocene to early Pliocene (4-12 million years ago) age. The topography of lower

**Table 1**—Common wildlife of the Kiowa and Rita Blanca National Grasslands.

Birds	Mammals	Reptiles and amphibians
Ferruginous hawk	Black bear	Prairie rattlesnake
Scaled quail	Mountain lion	Texas horned lizard
Mourning dove	Swift fox	Box turtle
Great blue heron	Black-tailed prairie dog	Tiger salamander
Long-billed curlew	American pronghorn	
Mountain plover	Thirteen-lined ground squirrel	
Burrowing owl	Grasshopper mouse	
Sandhill crane	Plains harvest mouse	
Roadrunner		
Western meadowlark		
Bald eagle		
Prairie falcon		
Common nighthawk		

strata was further modified by intrusions of igneous, volcanic material. These intrusions formed lone mountain peaks, mesas, and cones of various heights above the plains. Intrusive basalt flows from volcanoes covered and often protected the underlying sedimentary rocks from erosion. This basalt sometimes formed the tops of both mesas and flat plains. Other underlying strata, sometimes exposed in northeastern New Mexico, include red Triassic sandstones and siltstones of the Chinle formation. Also present in the study area are Greenhorn limestone, Dakota sandstones, and Mancos shale formations.

The southern end of the Raton geologic section includes the Canadian escarpment. This escarpment is located north of the Canadian River (Chronic 1987). The Canadian River cuts a 300- to 400-m deep canyon into the Tertiary and Mesozoic strata of the Las Vegas Plateau section of the Great Plains and the Canadian Escarpment. In this area some of these sedimentary surfaces are Permian limestone, part of the more erosion-resistant San Andres limestone.

Sand dunes occur in many places in the Raton Section of the High Plain province, especially on leeward sides of rivers where sand is derived from the ebb and flow of the channels. Sand dunes also are found where favorable winds have reworked sandy surfaces. Hills of sand, both residual and imported, occupy patches that vary in size from a few acres to a few hundred square miles. One of the largest sand dunes in the study area is on the Santa Rita Grassland in Texas and on the adjacent Kiowa Grassland in New Mexico.

The soils in the study area reflect not only the parent materials, but also a high degree of mixing due to water and wind erosion. The four main soil orders in the study area are Alfisols, Aridisols, Entisols, and Mollisols (Ritter 1978). Since Mollisols are the common soil type found in grassland ecosystems, it is the most abundant soil type in the study area. These soils are characterized by a thick dark brown organic surface layer called a “mollic epipedon,” which is derived from the organic matter from decomposed plant roots and from remnants of above-ground plant tissues. These soils are rich in calcium and

other plant nutrients. Since Mollisols retain water fairly well, they are good soils for crop production. Alfisols, the second most common soils in the study area, are soils often associated with broadleaf deciduous forest, but which also occur under grassland vegetation. These are well-developed soils that have a subsurface layer high in clay. A less common soil order in the study area is Aridisols. These arid and semiarid soils typically show calcification and salinization, which often makes them alkaline. There are pockets of these soils in the study area, often associated with ephemeral streams. The last soil order, the Entisols, are soils that have evolved relatively recently, and occur throughout the study area. Entisols have indistinct horizons due to inadequate weathering coupled with low precipitation. Many of the sandy soils in the study area are Entisols.

## Climate

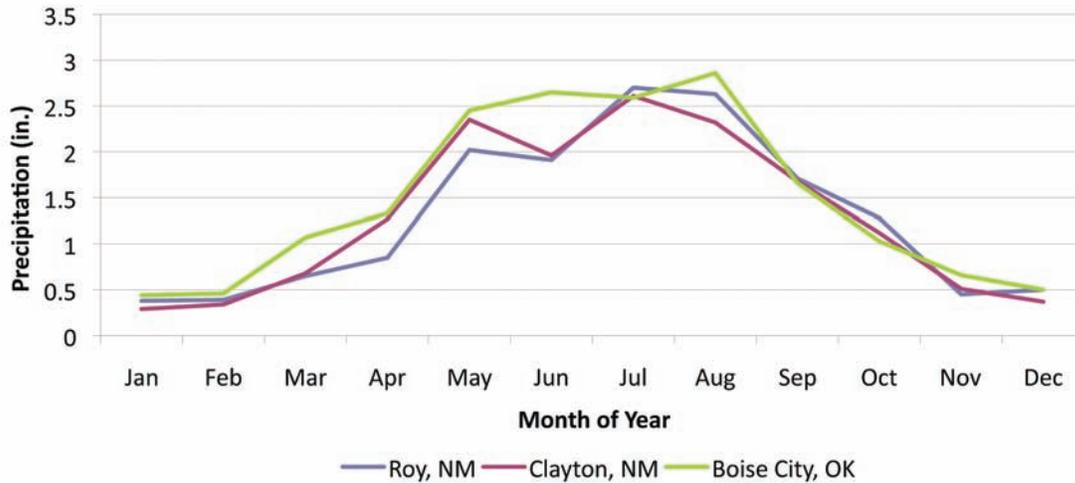
Annual precipitation amounts are fairly uniform (15 to 18 inches) across the study area. There are about 2 inches more annual precipitation on the Rita Blanca than on the Kiowa Grassland (table 2). For northeastern New Mexico, a bimodal distribution in precipitation often occurs with an increase in rainfall in April and a second pulse in precipitation during July and August (fig. 2). The July and August increase in moisture is associated with the monsoon effect (Rogash 2003). This bimodal precipitation distribution is less noticeable on the Rita Blanca Grassland where more uniform precipitation amounts occur throughout the summer.

The average temperatures across the study area identifies June, July, August, and September as the warmest months with an average summer temperature of around 70 °F (fig. 3). The elevation of weather station locations ranged from a high at Roy of 1,795 m (5,890 ft), an intermediate value of 1,515 m (4,970 ft) at Clayton, and the lowest value of 1,270 m (4,165 ft) at Boise City. This decrease in elevation is correlated with warmer summer temperatures. The coldest months were December to February at all three locations (table 3).

**Table 2**—Average monthly rainfall amounts (inches) for northeastern New Mexico and northwestern Oklahoma. Data from Roy, NM (Harding County) and WSO airport in Clayton, NM (Union County) are averages from 1914 to 2005. Data from Boise City, OK (Cimarron County) are averages from 1948 to 2007 (WRCC 2007).

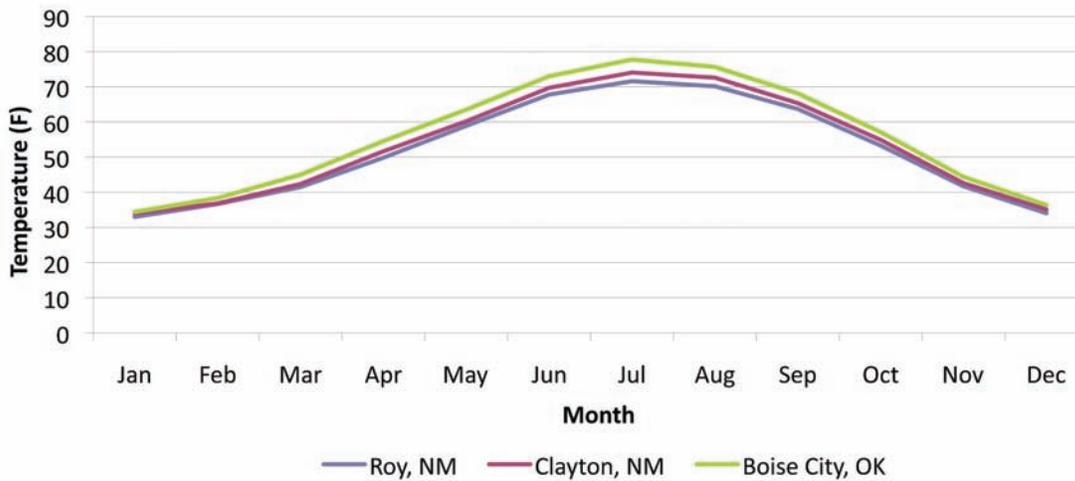
Location	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Roy	0.38	0.39	0.65	0.85	2.02	1.91	2.70	2.63	1.71	1.28	0.45	0.50	15.47
Clayton	0.29	0.34	0.68	1.27	2.35	1.96	2.61	2.32	1.68	1.12	0.51	0.37	15.50
OK	0.44	0.46	1.07	1.33	2.45	2.65	2.59	2.86	1.66	1.03	0.66	0.50	17.70

### Average Precipitation in Inches



**Figure 2**—Average monthly temperatures recorded for northeastern New Mexico and northwestern Oklahoma. Data from Roy, NM (Harding County) and WSO airport in Clayton, NM (Union County) are averages from 1914 to 2005. Data from Boise City, OK (Cimarron County) are averages from 1948 to 2007 (WRCC 2007).

### Average Monthly Temperature



**Figure 3**—Average monthly temperatures recorded for northeastern New Mexico and northwestern Oklahoma. Data from Roy, NM (Harding County) and WSO airport in Clayton, NM (Union County) are averages from 1914 to 2005. Data from Boise City, OK (Cimarron County) are averages from 1948 to 2007 (WRCC 2007).

**Table 3**—Average monthly temperatures (degrees Fahrenheit) recorded for northeastern New Mexico and northwestern Oklahoma. Data from Roy, NM (Harding County) and WSO airport in Clayton, NM (Union County) are averages from 1914 to 2005. Data from Boise City, OK (Cimarron County) are averages from 1948 to 2007 (WRCC 2007).

Location	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Roy, NM	33.0	36.6	41.5	49.8	58.9	67.8	71.6	70.2	63.7	53.3	41.7	34.1	51.8
Clayton, NM	33.9	36.8	42.3	51.6	60.2	69.7	74.1	72.6	65.3	54.9	42.6	35.1	53.3
Boise City, OK	34.4	38.3	45.0	54.5	63.5	73.0	77.8	75.6	68.1	57.1	44.4	36.4	55.6

## Three Study Regions

The study area for this report includes all of the Kiowa National Grassland, located on 136,562 acres of land in Mora, Harding, and Union Counties in New Mexico; and the Rita Blanca National Grassland, located on 77,183 acres of land in Dallam County Texas and 15,639 acres of land in Cimarron County Oklahoma. The administration of these National Forest System (NFS) lands is by the United States Department of Agriculture (USDA) Forest Service (FS). The study area is conveniently separated into three geographic units (fig. 1). Two of these units, the eastern and western parts of the Kiowa National Grassland, are in New Mexico. The third unit is the Rita Blanca National Grassland in Oklahoma and Texas. A brief description of each of these three areas follows.

**1. Eastern Kiowa National Grassland**—The eastern section of the Kiowa Grassland in New Mexico is entirely in Union County. These public lands range in elevation from a low of about 1,387 m (4,550 ft) in the southeastern part of the county near Carrizo Creek to a high of about 1,600 m (5,258 ft) to the north of Lookout Hill in northwestern Union County. All except the Shaded or Canyon/Ravine habitat occur in this section of the Kiowa Grassland.

Plants that occur in southern, sandy soils of Union County include sand sage (*Artemisia filifolia*), camphor weed (*Heterotheca subaxillaris*), annual buckwheat (*Eriogonum annuum*), waterleaf (*Phacelia heterophylla*), devil's claw (*Proboscidea louisianica*), and Dust Bowl primrose (*Oenothera engelmannii*). In pockets of sandy soil in northern Union County (i.e. near Seneca) sand-loving, hairy gaura (*Oenothera cinerea*) and bush penstemon (*Penstemon ambiguus*) are found. Throughout this area are also patches of loamy-soils dominated by buffalo grass (*Bouteloua dactyloides*), side-oats grama (*Bouteloua curtipendula*), and dropseed grasses (*Sporobolus*).

On rocky outcrops in northern Union County there are bluets (*Hedyotis nigricans*), white milkwort (*Polygala alba*), matted buckwheat (*Eriogonum tenellum*), Linheimer's longleaf eriogonum (*Eriogonum longifolium*), nailwort (*Paronychia sessiliflora*), and scapose bitterweed (*Tetraneuris scaposa*). Rocky ridges also have skunkbush sumac (*Rhus aromatica*), several stickleaf species (*Mentzelia*), and an occasional marbleseed (*Onosmodium molle*). The northernmost reach of the Kiowa National Grassland does not extend far enough to include the high elevation mesas near Colorado, a region with different plant species.

**2. The Western Kiowa National Grassland**—This western section of the Kiowa National Grassland occurs

in Colfax, Mora, and Harding Counties. There are two major landscape types in this section. The first is the non-canyon upland portion dominated by rolling grassland steppe, but with scattered occurrences of rocky outcrops, riparian, alkaline, and disturbed habitats. In contrast to Union County, sandy soils are less common in this section. The second major landform in this section is the Canadian River valley and associated ravines in Mills Canyon. This canyon is the main visitor attraction of the Kiowa National Grassland.

In Mills Canyon, the Canadian River valley flows for about 12 miles as it winds in and out of land administered by the Kiowa National Grassland. The river enters the northwest part of this western section at an elevation of about 1,800 m (5,800 ft) and flows south until it leaves public lands at about 1,600 m (ca 5,250 ft) elevation. Above the level Canadian River valley are moderate to steep cliffs. Occasionally, on both sides of this river are steep, desert-varnish canyon walls that rise 200 or 300 m about the valley floor. These cliffs end as upland plateaus, and peaks reach as high as 1,800 m (5,800 ft).

The many ravines and meanders of the Canadian River in Mills Canyon provide a diversity of microsites. Along the rocky slopes and canyon microsites are many woody plants, taxa that either occur here only or that occur infrequently elsewhere in the study area. These include piñon pine (*Pinus edulis*), ponderosa pine (*Pinus ponderosa*), Rocky Mountain juniper (*Juniperus scopulorum*), one-seeded juniper (*Juniperus monosperma*), New Mexico olive (*Forestiera pubescens*), apache plume (*Fallugia paradoxa*), black cherry (*Prunus serotina*), a few mesquite trees (*Prosopis glandulosa*), and dense, ravine-filled patches of scrub oak species with hybrids (*Quercus*). Also in the many ravine crevices are a number of ferns and spikemosses, some of which are infrequent.

Valley or riparian trees in Mills Canyon include cottonwood (*Populus deltoides*), cottonwood hybrids, various willow species (*Salix*), box elder (*Acer negundo*), and the exotic salt cedar (*Tamarix ramosissima*). Riparian forbs include typical wetland genera such as cattails (*Typha*), rushes (*Juncus*), sedges (*Carex*), bulrushes (*Schoenoplectus* and *Scirpus*), spikerush (*Eleocharis*), and leafy pondweed (*Potamogeton foliosus*). In the sandy soils of the Canadian River floodplain are plains sunflowers (*Helianthus petiolaris*), bush morning glories (*Ipomoea leptophylla*), contra hierba (*Kallstroemia parviflora*), marigold paperflowers (*Psilostrophe tagetina*), the wand-like prairie clovers (*Dalea enneandra*), and several varieties of New Mexico prickly pear cacti (*Opuntia phaeacantha*). Further out from the sandy floodplain soils

are occasional soapberry trees (*Sapindus drummondii*) and hoptrees (*Ptelea trifoliata*). The range of the soapberry tree extends into Central America.

Several rare and infrequent plant species in the western section of the Kiowa National Grassland occur in or near Mills Canyon. The best known of these are the infrequent spiny aster (*Herrickia horrida*) and one-flowered milkvetch (*Astragalus wittmannii*). An infrequent rush (*Eleocharis rostellata*) is known only from Sauz Creek in Colfax County.

**3. Rita Blanca National Grassland**—The Rita Blanca National Grassland ranges in elevation from a high of 1,433 m (4,700 ft) in the northwestern Cimarron County to a low of 1,128 m (3,700 ft) in southeastern Dallam County Texas. This area, like the adjacent eastern Kiowa Grassland section, is dominated by shortgrass steppe. All of the other habitats, except for Rocky Ravine/Canyon, occur on this grassland. Sandy soils are common. A clump-forming variety of sideoats grama grass (*Bouteloua curtipendula* var. *caespitosa*) is locally common in this area. A few plants that occur only on the Rita Blanca Grassland are a dwarf dalea (*Dalea nana* var. *nana*), a sandy-soil, round-leaf snakeweed (*Gutierrezia sphaerocephala*), and Nuttall's variety of cat-claw mimosa (*Mimosa aculeaticarpa*).

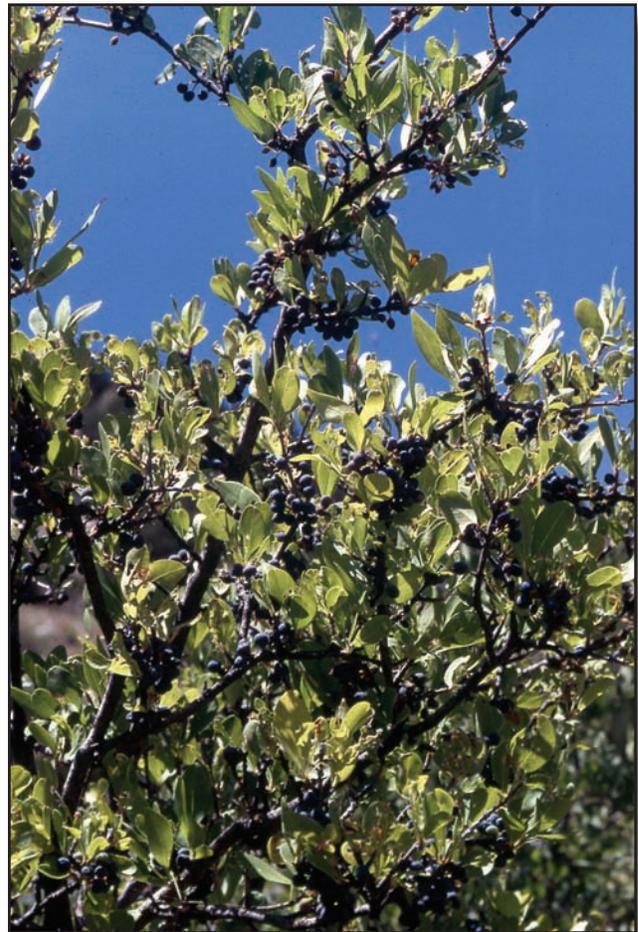
## The Study Area Habitats

Ecoregion and ecosystem descriptions for this study area are useful tools for range management. However, at smaller geographic scales, the ecoregion and plant community categories are often confounded by variations in topography, soils, and parent materials. In addition, anthropogenic activities such as drought, plowing, or a shift in grazing regimes can also alter the plant species mix within an ecoregion. In recognition of these variations, each plant taxon was assigned to a habitat. A habitat assignment provides a better indication of a taxon's ecological niche and is an aid to plant identifications.

We identified eight habitats in the study area. Seven of these are based on soil, water, and topographic conditions that are difficult to modify. The last category, not a habitat *per se*, is a species that has been planted. The letter or letters of the habitats were assigned to each plant taxon on the checklist (Appendix). General descriptions of these habitats follow.

**Alkaline Soils (A)**—These are lowland, sometimes floodplain areas with heavy, alkali soils. Salt grass (*Distichlis stricta*), bitterweed (*Hymenoxys odorata*), and alkali sacaton (*Sporobolus airoides*) are locally common in these areas.

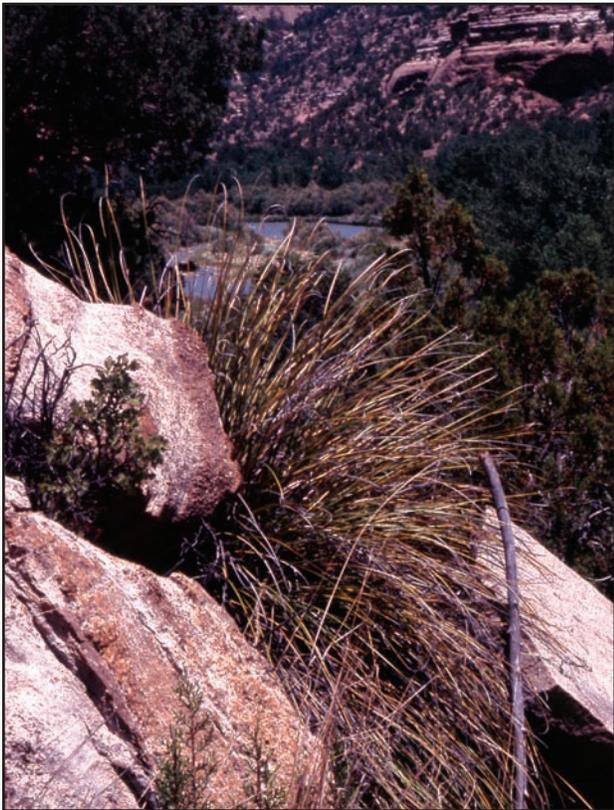
**Canyon/Ravine (C)**—These are the steep, rugged relief areas that include rocky cliffs, scrub oak, and shaded ledges. This habitat occurs in several areas, but is most abundant in association with plateaus and ravines of the Canadian River. Plants in this habitat include oak thickets (*Quercus*) and a set of woody taxa that rely on water that penetrates into soil at the downhill edges of exposed gravel or bedrock; among these are spiny aster (*Herrickia horrida*), coyote olive (*Forestiera pubescens*, fig. 4), banana yucca (*Yucca baccata*, fig. 5), and *Nolina sacahuista*, (fig. 6). In rock crevices near the top of the canyon are beard-lip penstemon (*Penstemon barbatus*, fig. 7). Other common plants include several species of cedar (*Juniperus*), apache plume (*Fallugia paradoxa*), skunkbush sumac (*Rhus aromatica*), currants (*Ribes*), poison ivy (*Toxicodendron rydbergii*), netleaf hackberry (*Celtis reticulata*), and mountain ninebark (*Physocarpus monogynus*).



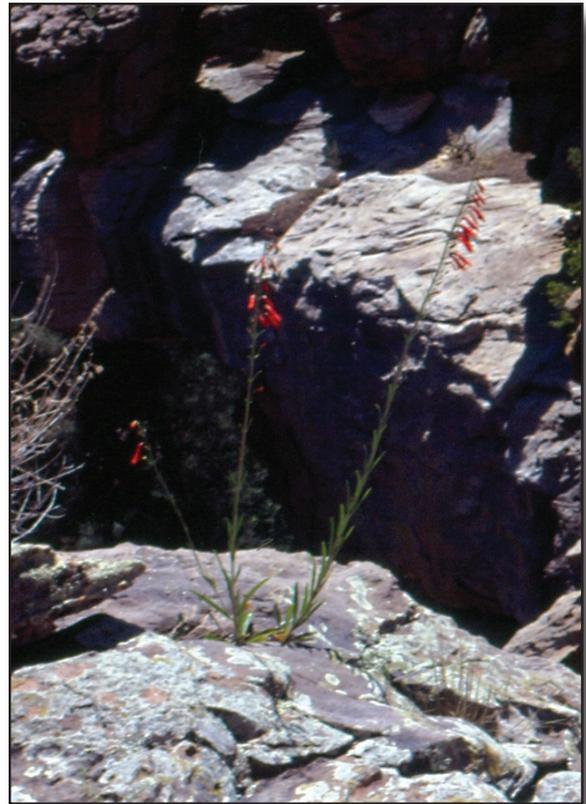
**Figure 4**—Coyote olive (*Forestiera pubescens*) with glaucous, blue-black drupes growing on a rocky hillside in Mills Canyon (photo by Don Hazlett).



**Figure 5**—Banana yucca (*Yucca baccata*) growing on a red soil, rocky slope in Mills Canyon (photo by Don Hazlett).



**Figure 6**—A narrow-leaved sacahuista (*Nolina texana*) emerging from a rocky hillside near the Canadian River, Mills Canyon (photo by Don Hazlett).



**Figure 7**—Beard-lip *Penstemon barbatus* with its bright red "sharkshead" corolla growing in a rocky crevice of Mills Canyon (photo by Don Hazlett).

**Disturbed Soils (D)**—These are disturbed areas by roads, pens, buildings, loading chutes, corrals, etc. The crowned county roads allow run-off waters to accumulate in ditches, which creates a disturbed, mesic roadside habitat. Among the roadside exotic plants are smooth brome (*Bromus inermis*), cheatgrass (*Bromus tectorum*), tackbur (*Tribulus terrestris*), yellow sweet clover (*Melilotus officinale*), Virginia ground cherry (*Physalis virginiana*), and the infrequent crested wheatgrass (*Agropyron cristatum*). Native plants that occur in roadside habitats include purple ground cherry (*Quincula lobata*), Gray's ragweed (*Ambrosia grayi*), bahia (*Picradeniopsis*), and silver bluestem (*Bothriochloa laguroides*).

**Prairie/Steppe (P)**—The prairie or steppe habitat is the most extensive habitat type. It represents the many areas of relatively level plains with undulating hills that are covered by mid-grass prairie and shortgrass steppe vegetation. Soils in this habitat range from loam to silty and sandy loam. These are erosion mixed soils that occur as a surface veneer soil layer of varying depths over underlying bedrock. Buffalo grass (*Bouteloua dactyloides*) and galleta grass (*Hilaria jamesii*) are common on fine-textured soils, while blue grama (*Bouteloua gracilis*) is more common on loam soils. Western wheatgrass (*Elymus smithii*) is more abundant in mesic swale areas. In some areas, snakeweed (*Gutierrezia sarothrae*) and/or cane cactus (*Opuntia imbricata*) are common.

**Planted (PL)**—There are a few planted species scattered across these public grassland areas. These include an occasional honey locust (*Gleditsia triacanthos*), mulberry (*Morus alba*), Siberian elm (*Ulmus pumila*), and hedge apple (*Maclura pomifera*). Of these trees, the Siberian elm is best able to reseed itself, such as in sandy pastures near Boise City, OK. In Mills Canyon, there are a few apricot (*Prunus armenia*) and apple (*Malus*) trees that serve as a reminder of fruit orchards that once grew here.

**Riparian/Wetland (R)**—This is the most exclusive of the habitat types, since taxa identified as riparian/wetland taxa seldom occur in any other habitat. This wetland habitat occurs as perennial and ephemeral rivers, creeks, and wet spots. These include the Canadian River (and tributaries), North Canadian River, Carrizo Creek, Cienequilla Creek, Sauz Creek, Perico Creek, many ephemeral creeks, stock ponds, and wet spots. Common plant genera in these areas are notorious wetland plants such as spikerush (*Eleocharis*), horsetails (*Equisetum*), sedges (*Carex*), rushes (*Juncus*), bulrushes (*Schoenoplectus*), smartweeds (*Persicaria*), willows (*Salix*), cottonwoods (*Populus*), and cattails (*Typha*). An infrequent riparian plant species on the Kiowa National Grassland is the traveling spikerush (*Eleocharis rostellata*) from Sauz Creek (fig. 8).

**Rocky/Gravel Outcrops (G)**—These are open steppe, usually elevated areas that occur where erosion has exposed a rocky, gravel surface or barren. A barren can



**Figure 8**—A new shoot at the tip of an *Eleocharis rostellata* leaf (Sauz Creek, Colfax County). This asexual reproductive ability has earned this plant the common name of traveling spikerush (photo by Don Hazlett).

be defined as a sparsely vegetated area, such as a knoll or hill, with exposed bedrock of shale, shale-derived soils, chalk, or limestone soils with microorganisms in a calcite matrix (Kelso and others 2003). In general, these outcrop habitats are distinguished from canyon and ravines by their isolation, small size, and lack of steep relief features. Due to unique soils and substrates, these outcrops are the primary habitat for several infrequent and endemic plant species. For example, in this habitat there is the endemic one-flowered milkvetch (*Astragalus wittmannii*) and the endemic Spellenberg's groundsel (*Packera spellenbergii*). Infrequent plant species here are

alpine feverfew (*Parthenium alpinum* = *P. tetraeuris*), silky orophaca (*Astragalus sericoleucus*), nailwort (*Paronychia sessiliflora*), and bluets (*Hedyotis nigricans*).

**Sandy Soils (S)**—Ancient sand dune inclusions as well as more recent Aeolian deposits occur throughout the study area. Since water penetrates deeper and more quickly into sandy soil, less rain water is lost to evaporation in this soil type. This water is more available to deep-rooted perennials. Dominant plants on sandy soils include (*Yucca glauca*, fig. 9) and soapweed sand sage (*Artemisia filifolia*, fig. 10). Also in these areas are annual buckwheat (*Eriogonum annuum*), waterleaf



**Figure 9**—Sandy soil habitat (note flowering *Yucca glauca*) located north of Seneca in Union County (photo by Don Hazlett).



**Figure 10**—Sandy soil habitat in southern Union County with an abundance of white-corymb, annual buckwheat (*Eriogonum annuum*), and sand sage (*Artemisia filifolia*) (photo by Don Hazlett).

(*Phacelia heterophylla*), camphor weed (*Heterotheca subaxillaris*), and horseweed (*Conyza canadensis*). In the sandy floodplain of the Canadian River in Mills Canyon are *Opuntia phaeacantha* (fig. 11) and *contra hierba* (*Kallstroemia parviflora*). A sandy soil plant of special interest in terms of its geographic distribution is Dust Bowl primrose (*Oenothera engelmannii*). The natural distribution of this primrose overlaps very well with the areas of Oklahoma, Texas, Colorado, and New Mexico that were hardest hit by the 1930s Dust Bowl. To see this plant is to realize that you are in the area where the Dust Bowl was severe.

## Methods

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### Field Survey Methods

A preliminary plant checklist was based on available species lists from each of the six counties and on the checklist of the Comanche National Grassland (Hazlett 2004). Added to this working checklist were plant occurrence records from several online databases: Flora of Texas, Oklahoma vascular plants, and the Museum of Southwestern Biology in New Mexico. All plant species on the working checklist were then searched for in the field to confirm their presence or absence in the study area. Plant collections were made to augment this initial checklist. Hazlett made collections in Union, Colfax, Harding, and Mora Counties during July and August of 2001, during

June and August 2003, in August 2005, and in September 2006. Schiebout collected in Union, Colfax, Harding, and Mora Counties during the spring and summer of 2004 and 2005 (May to August). Schiebout collections were also made on nearby private lands (Schiebout 2006).

Voucher specimens were collected during all field surveys to document plant occurrences. The timing of field trips was arranged to sample as many different substrates and habitats at as many different times of the year as possible. More survey time was spent on rocky outcrops, sandy soils, in riparian areas, and in the diverse habitats of Mills Canyon. Schiebout collected all plant species that were in flower or fruit. Hazlett collected all plant species that were not already known from a county or that were not readily identified in the field. Plants were collected throughout the growing season, but the least collected months during these 5 years were March and April. The least collected region was the easternmost part of the Rita Blanca National Grassland.

All collections were pressed, dried, and identified. Hazlett collected nearly 400 voucher specimens. Schiebout collected over 9,000 specimens with about 26 percent of these taken from public land (Schiebout 2006). Hazlett and Schiebout specimens are archived in herbaria at the University of New Mexico (UNM) and University of Colorado (CU), but most specimens are at the University of Northern Colorado (GREE). Approximately 25 percent of the plant species on the checklist do not have a voucher specimen cited. These



**Figure 11**—*Opuntia phaeacantha* in a sandy floodplain of the Canadian River, Mills Canyon (photo by Don Hazlett).

non-vouchered plant taxa were determined as present one of two ways: (1) definitively identified during field work or (2) very clearly identified as present in regional floras.

To verify the identification of out-of-range plant species names that sometimes occurred on county lists, a trip was made to the Museum of Southwestern Herbarium in Albuquerque. We were not able to visit the Texas or Oklahoma herbaria to verify the accuracy of online plant names for Cimarron or Dallam Counties. Therefore, we listed as present here only the common, widespread taxa that were listed. The online Texas and Oklahoma county lists were also used to determine the presence of a plant as near the Rita Blanca Grassland (Appendix).

## Plant Species Nomenclature

The taxonomic nomenclature for the checklist follows the online Checklist of Vascular Plants for the Southern Rocky Mountain Region by Snow (2009). Since many plant species have recently had taxonomic name changes, we selected Snow's checklist in an effort to publish the scientific names that best align with peer-reviewed taxonomic publications and with our current understanding of phylogenetic (evolutionary) relationships. It is recognized that many species names on the checklist are unfamiliar to non-botanists. For this reason, we also included well-known synonyms (Appendix). Nomenclature in the PLANTS database (United States Department of Agriculture, Natural Resources Conservation Service 2007) was followed for plant species not covered by Snow's southern Rocky Mountain checklist.

In addition to the volumes of the Flora of North America (1993+), various regional floristic treatments were consulted for plant identifications. These included: *A Field Guide to the Grasses of New Mexico* (Allred 2005), *Manual of Vascular Plants of Texas* (Correll and Johnston 1970), *Shinners & Mahler's Illustrated Flora of North Central Texas* (Diggs Jr. and others 1999), *Flora of the Great Plains* (Great Plains Flora Association 1986), *Manual of the Grasses of the United States* (Hitchcock 1950), *Native and Naturalized Leguminosae (Fabaceae) of the United States* (Isely 1998), *Field Guide to Sedge Species of the Rocky Mountain Region* (Johnston 2001), *A Flora of New Mexico* (Martin & Hutchins 1980), *Colorado Flora Eastern Slope* (Weber and Wittmann 2001), and *A Utah Flora* (Welsh and others 2003). Common names were taken from these sources as well as from Hazlett (in preparation), PLANTS (United States Department of Agriculture, Natural Resources Conservation Service 2007), Sivinski (2007), Welsh and others (2003). Other

publications consulted include *Rare Plants of the Cimarron National Grassland* (Freeman 1989), *Vascular Plant Species of the Comanche National Grassland in Southeastern Colorado* (Hazlett 2004), and *A Handbook of Rare and Endemic Plants of New Mexico* (New Mexico Native Plants Protection Advisory Committee 1984).

## Habitat Designations

Seven habitat types and a category for planted species were designated. The habitats were established by considering edaphic, land-use, topographic and hydrologic features (see Site Description on page 6). Every plant taxa on the checklist was assigned to one, sometimes two of these habitats. Habitat assignments were based on field notes and the taxonomic literature (see Appendix).

## Geographic Distributions

To provide information on plant distributions, the presence or absence of each plant taxon within each of three National Grassland areas was recorded on the checklist (Appendix). These three regions are (1) Kiowa National Grassland in Mora, Colfax, and Harding Counties; (2) Kiowa National Grassland in Union County around Clayton; and (3) Rita Blanca Grassland in Cimarron County OK and Dallam County TX. Three columns were established on the checklist to report where a taxon is known to occur (Appendix). If a taxon is not yet known from these public lands, a directional letter occurs in a column to indicate the direction away from this region where it has been reported.

## Results and Discussion

The results of these surveys are a checklist of 826 plant species that occur on or near the Kiowa or the Rita Blanca National Grasslands (Appendix). Of this total, 706 (85 percent) occur on public lands. The remaining 120 taxa (15 percent) occur in northeastern New Mexico, but have not yet been reported to occur on public grasslands. There are 91 exotic plant taxa on the list, which is 11 percent of the total. A total of 81 plant families are represented in this flora. The best represented families are Asteraceae (20 percent of all species), Poaceae (17 percent of all species) and Fabaceae (8 percent of all species). Cyperaceae (sedges) and Brassicaceae (mustards) are the next most common plant families with taxa numbers that totaled about 3 percent of the total. The remaining 76 plant families each contain less than 3 percent of the taxa.

When the primary habitats of all plant species were tallied, the most species-rich habitats were the open steppe and riparian areas with 27 percent and 26 percent, respectively, of all plant taxa. The high species-richness of the riparian areas is accentuated when it is recognized that riparian areas or wetlands comprise less than 2 percent of the study area. The third most species-rich habitat, with 17 percent of the taxa, is the Canyon/Ravine habitat that is most common in Mills Canyon. The species-rich Rocky/Gravel Outcrop habitat occurs throughout the study area, but is usually present only as small areas within a matrix of steppe vegetation. Although this Rocky/Gravel Outcrop habitat comprises less than 1 percent of the study area, approximately 8 percent of all plant taxa occur here. Disturbed soils include all soil types and are the primary habitat for 13 percent of all plant species, most of which are exotics. Sandy soils are the primary habitat for 9 percent of the taxa, while less than 1 percent of the taxa are associated with alkaline soils.

## New Mexico Rare Plants

The notion of a rare plant has several interpretations. The most commonly used is that of an endemic plant that only occurs in a relatively small geographic area. In this sense, the most rare plant on the Kiowa National Grassland (Rare Plant of New Mexico website) is *Astragalus wittmannii* (one-flowered milkvetch). The one-flowered milkvetch is known only from knolls of Greenhorn limestone in Colfax, Harding, and Mora Counties, and occurs on the Kiowa National Grassland (Harding County), on BLM land, on State of New Mexico, and on private land.

Also rare by this definition is *Packera spellenbergii* (Spellenberg's groundsel). This species is known to occur within 3 miles of the Kiowa Grassland, but it has not yet been discovered on public lands. *Packera spellenbergii* occurs in northern Harding and southwestern Union Counties on gravelly hills and mesa rims of chalky, sandy limestone. Its habitat is gravel on knolls in short grass steppe and juniper savanna vegetation from 1,650 to 1,750 m (5,400 to 5,800 ft) elevation (New Mexico Rare Plant Council 1999). Sections of Kiowa National Grassland northeast of Roy are within the area and elevation range of this rare plant. These areas were unsuccessfully searched for this *Packera* in 2003. Although neither of these two species is federally listed as threatened or endangered, both taxa are listed by the State of New Mexico as species of special concern and by the Forest Service as sensitive plant species.

The Natural Heritage Programs ranks each infrequent plant into categories: globally rare (G1 to G5) and state rare (S1 to S5). A lower number in either of these categories (G1 or S1) indicates a more rare plant. Using this system, *Astragalus wittmannii* is G3 and S3 while *Packera spellenbergii* is G2 and S2. The New Mexico Natural Heritage Program considers several other plants in this region as infrequent enough to be tracked. These include: *Asclepias uncialis* (dwarf milkweed) as a G3/G4 and S3/S4; *Herrickia horrida* (spiny aster) as a G3 and S2; *Parthenium alpinum* (alpine feverfew) as a G3 and S2; and *Penstemon auriberbis* (Colorado beardtongue) as a G4 and S2. Our field work determined that *Penstemon auieberbis* is fairly common in northeastern New Mexico and might be considered for reassignment to a lower rank. We also determined that *Herrickia horrida* (spiny aster) is locally common on the east-facing rocky slopes that occur west of the Mills Canyon Campground in Mora County.

If the geographic area where rare plants are known to occur is expanded 10 to 20 miles outward from the Kiowa or Rita Blanca Grassland boundary, several other infrequent plants occur. West of the Kiowa Grassland in Mora County are *Calochortus gunnisonii* var. *perpulcher* (Pecos mariposa lily), *Delphinium sapellionis* (Sapello Canyon larkspur), and *Hackelia hirsuta* (New Mexico stickseed), but these are not tracked by the New Mexico Heritage Program. Two species in this same area that are tracked are *Eriogonum aliquidum* (Cimarron wild buckwheat) at G3 and S2 ranks and *Grindelia acutifolia* (Raton gumweed) at G2 and G3 ranks. Botanists should be aware of the possible presence of these plants on the Kiowa Grassland.

The infrequent *Selaginella weatherbiana* (Weatherby's spikemoss) occurs in west Colfax, San Miguel, Santa Fe, and Taos Counties in New Mexico. In Colorado, this species is sometimes abundant on north-facing slopes along the Front Range and has been found near the Great Sand Dunes (Weber and Wittmann 2001). It is possible that Weatherby's spikemoss occurs on the slopes and ravines of Mills Canyon.

A regionally common plant that is infrequent on the Kiowa National Grassland is *Yucca baccata* (banana yucca) in Mills Canyon. This is one of the furthest north locations for this yucca, one of the most important ethnobotanically useful plants in the desert Southwest (Moerman 1998). Another interesting plant is *Eleocharis rostellata* (traveling spikerush), a wetland plant that was seen only along Sauz Creek in Colfax County. This spikerush has stoloniferous stems that produce new plants near the tip of stems. In this fashion, the plant "travels."

## Oklahoma Rare Plants

The only rare plant reported from Cimarron County Oklahoma is *Asclepias uncialis* (wheel milkweed). This plant occurs in eight states, but very seldom (if ever) occurs in large populations. Its lone report from Oklahoma is from Black Mesa, Cimarron County, which is near, but not on the Rita Blanca National Grassland.

## Texas Rare Plants

Six endemic plant species, none of which are federally listed, occur in Dallam County Texas. These species are either endemic to Texas or are endemic to two or three states. The most infrequent of these is *Astragalus mollissimus* var. *marcidus* (withered woolly locoweed) that is ranked as a G5 and S2. This species is known from Dallam, Jeff Davis, and Presidio Counties in Texas. This taxon might occur on the Rita Blanca National Grassland, but its presence there has yet to be confirmed. *Phlox roemeriana* (goldeneye phlox) and *Astragalus pleianthus* (Edward's Plateau milkvetch) occur farther south into Texas. Two endemics that also occur in this area of Texas and in adjacent New Mexico are fairly widespread in western Texas: *Yucca campestris* (plains yucca) and *Muhlenbergia villosa* Swallen (hairy muhly). A two-state endemic (in north Texas and Oklahoma) from this region is *Juncus texanus* (Texas rush). Future field surveys may discover these plants on the Rita Blanca National Grassland.

## Exotic Plants

Williamson and Fitter (1996) introduced an interesting rule-of-thumb regarding exotic plant species. This rule states that one-in-ten imported plant species establishes well enough to become a self-sustaining, naturalized population. From the 10 percent that do establish, another one-in-ten becomes a serious noxious weed (negative economic effects). If we employ this rule to the 91 exotic plants on the checklist, we would expect 8 to 10 exotic species to be well established. This is close to the actual count in this study, since 8 of 91 exotics (close to 10 percent) are on noxious weed lists. The next 10 percent proportion of these 8 would be the number of "serious" weeds. This is 10 percent of 8 or one (rounded up) most noxious weed species. Candidates for the indistinction of most noxious weed species in the study area would include *Tamarix ramosissima* (salt cedar) and *Cirsium arvense* (Canada thistle).

According to the New Mexico State Noxious Weeds List (2003 version) (USDA/NRCS 2007), eight plants on the checklist are either class A (the worst), class B, or class C noxious weeds. The Class A weeds are Canada thistle (*Cirsium arvense*) and dalmation toadflax (*Linaria dalmatica*). The only Class B weed is bull thistle (*Cirsium vulgare*). Class C weeds are jointed goatgrass (*Aegilops cylindrica*), bindweed (*Convolvulus arvense*), Russian olive (*Elaeagnus angustifolia*), salt cedar (*Tamarix ramosissima*), and Siberian elm (*Ulmus pumila*). Perhaps not for the state, but in this region, salt cedar (Mills Canyon), Canada thistle (in most riparian areas), and bindweed (many disturbed sites) seem to deserve a higher rank. The aggressive colonization of salt cedar along the Canadian River is of concern to the administrators of these public lands. Management options, including mechanical removal, have been implemented to reduce existing stands of salt cedar in Mills Canyon. The other exotic plants are usually present in smaller patches, often in disturbed areas. Nonetheless, monitoring of small populations is suggested, since small populations can unexpectedly become much more aggressive invaders.

Exotic plants not on the New Mexico noxious weed lists include cheatgrass (*Bromus tectorum*), alkali weed (*Kochia scoparia*), tumbleweeds (*Salsola tragus*), and the nearby (west and north) musk thistle (*Carduus nutans*). These first three exotics are so common that control is generally deemed to be futile — they have unofficially been given a "green card" of permanent residency.

Perhaps due to their use as livestock forage, introduced grasses are not always included on noxious weed lists. For example, smooth brome (*Bromus inermis*) and Turkestan or yellow bluestem (*Bothriochloa ischaemum*) have long been planted in this region as part of soil stabilization efforts — at least since Dust Bowl years. Smooth brome can be quite aggressive, especially in cooler climates. In North Dakota, smooth brome can invade and completely replace unplowed, native grassland (D. Hazlett, author, personal observation of unplowed, yet all smooth brome vegetation along the Pembina River, near Walhalla, ND). The arid climate in this study area has so far kept the aggressive nature of smooth brome in check.

Another category of "weeds" are native plant taxa that colonize disturbed sites. These native pioneer plants of disturbed sites, like many exotics, are able to establish along roadsides or in fallow fields. These include Gray's ragweed (*Ambrosia grayi*), sandbur (*Cenchrus longispinus*), hog potato (*Hoffmanseggia glauca*), poverty

weed (*Iva axillaris*), bahia (*Picradeniopsis*), silver-leaf nightshade (*Solanum elaeagnifolium*), silky locoweed (*Sophora nuttalliana*), Virginia ground cherry (*Physalis virginiana*), purple ground cherry (*Quincula lobata*), tackbur (*Tribulis terrestris*), and American vetch (*Vicia americana*). The native sandbur, hog potato, silver-leaf nightshade, and poverty weed are sometimes on noxious weed lists.

## Toxic Plants

Toxic plants on the checklist were identified from the above-cited taxonomic literature and from New Mexico Cooperative Extension Service information (Allison n.d.). It is important to recognize that the type and toxin concentrations, and the degree of toxicity on different animals varies greatly. Plants are flagged as toxic only to indicate some sort of toxicity. Indeed, some of the toxic plants also have medicinal or pesticide uses (dose is important). Native plants listed that can be severe skin irritants include poison ivy (*Toxicodendron rydbergii*) and noseburn (*Tragia ramosa*). Plants that are poisonous to livestock due (in part) to high selenium concentrations include two-grooved milkvetch (*Astragalus bisulcatus*), woolly locoweed (*Astragalus mollissimus*), purple locoweed, (*Oxytropis lambertii*), and white locoweed (*Oxytropis sericea*). Other toxic native species include Palmer's pigweed (*Amaranthus palmeri*), antelope horns (*Asclepias asperula*), plains milkweed (*Asclepias pumila*), poison milkweed (*Asclepias subverticillata*), oak-leaf thorn apple (*Datura quercifolia*), jimson weed (*Datura stramonium*), white larkspur (*Delphinium virescens*), snow-on-the-mountain (*Euphorbia marginata*), bitterweed (*Hymenoxys odorata*), sacahuista (*Nolina texana*), marigold paperflower (*Psilostrophe tagetina*), poison suckleya (*Suckleya suckleyana*), thread-leaf groundsel (*Senecio flaccidus*), silver-leaf nightshade (*Solanum elaeagnifolium*), and buffalo bur (*Solanum rostratum*). Among the toxic exotic plants are whitetop (*Cardaria*), Bermuda grass (*Cynodon dactylon*), hound's tongue (*Cynoglossum officinale*), Russian olive (*Elaeagnus angustifolia*), tumble mustard (*Sysymbrium altissimum*), tackbur (*Tribulis terrestris*), and cocklebur (*Xanthium strumarium*).

## Conservation and Management \_\_\_\_\_

The Forest Service is committed to managing these public grasslands in a fashion that ensures the long-term survival of the natural resources. In addition to natural history components, these grasslands also contain

paleontological, historic, and prehistoric cultural sites, such as dinosaur tracks and a 2-mile section of the Santa Fe Trail (Raish 2004) that also receive management attention. Other areas are interesting because of high plant diversities. High plant diversity is important because it is currently our best indicator of high biodiversity (all organisms included). By this measure, Mills Canyon is the biodiversity hotspot of the Kiowa National Grassland.

These public lands are also an important source of plant genetic materials. A number of infrequent and several common plant species on the Kiowa National Grassland have potentially important plant biochemicals. Among the plant genera on our checklist with such a potential are: *Argemone*, *Datura*, *Delphinium*, *Echinacea*, *Kallstroemia*, *Lesquerella*, *Mentha*, *Oenothera*, *Plantago*, *Salvia*, *Solanum*, *Sphaeralcea*, and others. As a good example, consider *Echinacea angustifolia*. The population of *Echinacea* in Union County is one of the furthest southwest populations of this species. *Echinacea* has a long history as an effective herbal therapy for infective disorders, and its use is rapidly increasing (Brit 2007). The *Echinacea* population on the Kiowa National Grassland has morphological variations that make it of interest to ongoing research at the Iowa Center for Research on Botanical Supplements.

Also of note are rocky barrens and riparian areas. Since rocky outcrops have relatively few grasses or palatable forbs, they are typically not heavily grazed and include elevated sites. Riparian areas are significant areas in terms of both biodiversity and management. The impact of livestock can be very apparent in riparian areas because of the need of water for livestock in a semiarid region. Riparian areas are also prime areas for the establishment of additional populations of noxious plant species, especially salt cedar and Canada thistle. Given the high species diversity and water resource importance of riparian areas, their judicious management will continue to be a high priority.

## Acknowledgments \_\_\_\_\_

This report was initiated by personal interest of the first author, with some financial support for field work provided by the Kiowa and Rita Blanca National Grasslands, Clayton, NM, and all publication costs provided by the USDA Forest Service Rocky Mountain Research Station, Grassland, Shrubland, and Desert Ecosystems Program. We appreciate the encouragement and support provided by District Ranger Nancy Walls, Dan Garcia, and Jim O'Bryant, from the Clayton office. We also thank Neil Snow, botanist at Bishop Museum, Hawaii, for his help

and encouragement. We thank Dina Clark, Kenneth D. Heil, and Robert Sivinski who critically read and edited early drafts of this manuscript. We also thank Loa Collins and Helen Huntley of the USDA Forest Service Rocky Mountain Research Station for their editing of the final draft. I (Don) acknowledge my son Eric, who assisted with field work, and my wife Marta for her continuous support. I (Michael) also acknowledge the unwavering support from my wife Jodi, especially during the many hours spent in the field. I (Michael) gratefully acknowledge, appreciate, and thank the many landowners who allowed me access to their land. We also acknowledge the USDA Forest Service Southwestern Region, Geospatial Unit for providing the map.

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## Appendix: Checklist of Vascular Plants on Kiowa and Rita Blanca National Grasslands

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This appendix is the list of the scientific names, common names, habitats, and geographical location information for 816 vascular plants that occur on or near the Kiowa and Rita Blanca National Grasslands. Of this total, 695 (86%) are known to occur on these grasslands. The remaining 121 taxa occur nearby but have not yet been reported from these public lands. The inclusion of nearby plant species allows for a better representation of the regional flora. The exotic plant species (11% of the total) are indicated on this checklist by an asterisk. Also indicated are noxious, toxic, planted species, stinging hair plants, rare in NM (New Mexico Rare Plant Technical Council), rare in TX (Texas Conservation Data Center of The Nature Conservancy of Texas Forest Service) and New Mexico USFS sensitive plant species.

### Scientific Names, Voucher Specimens and Collectors

The first-listed binomial on this list follows Snow (2009). Well-known and other synonyms that help identify a taxon are included in brackets. Native American and Spanish common names are in italics. The checklist also has plant collector names and voucher specimen numbers. Plants collected by Hazlett (H) or Schiebout (S) have the appropriate letter and a specimen number. For other collectors (i.e. Snow) the collector's name is cited with the voucher specimen number. The herbaria codes are used to indicate where specimens are archived: University of Northern Colorado (GREE) and/or University of New Mexico (UNM).

### Geographical Information

The geographical information on the checklist refers to three regions of the study area: (1) western Kiowa National Grassland, (2) eastern Kiowa National Grassland, and (3) Rita Blanca National Grassland (see Site Description, page 6, for more information). The three columns of numbers to the left of each taxon refer to these three areas. The first or leftmost number indicates if a taxon is present or absent from the western KNG area. The middle number indicates if a taxon is present or absent from the eastern KNG area. The rightmost number indicates if a taxon is present or absent from the Rita Blanca National Grassland. Plant presence in an area is indicated by a "1" and plant absence is indicated by a "0" or by a letter. The "1 1 0" number sequence refers to a plant that has been seen or reported from both the western (the left-column 1) and eastern (the middle-column 1) sections of the Kiowa National Grassland, but not from the Rita Blanca National Grassland (the right-column 0).

Plant species not yet known from these public lands, but known to occur nearby have zeros plus a directional letter (n, s, e, or w) in one or more of the three columns. The presence of a letter indicates the direction away from the region, as indicated by the column, where this plant is known to occur. For example, the "0 0 s" sequence indicates a taxon that is not yet known from any public grasslands. However, this taxon is known to occur south of the Rita Blanca National Grassland (ca. within 20 miles), as indicated by the letter s in this column. The columns and letters provide general location information for these nearby plant species.

### Habitat Information

Each plant species on the checklist was assigned to one or two habitats (see Site Description, page 6, for more information). A capital letter to the left of a species name indicates the designated primary habitat. When a plant is assigned to a primary habitat, this does not mean that this plant cannot sometimes occur elsewhere. A few species were assigned two letters since they are common in two habitats (i.e. tumbleweeds and blue grama). Since each of the 816 taxa was assigned to a habitat, the proportional allocation of all plant

species among habitats was possible. The most species-rich habitats were the prairie/steppe habitat (primary for about 27% of the taxa) and the riparian/wetland habitat (primary for about 26% of the taxa). These and the remaining proportions of all plants among habitats are on the following list.

- A (< 1%) = Alkaline Soils
- C (17%) = Canyon/Ravine
- D (13%) = Disturbed Soils
- P (27%) = Prairie/Steppe
- R (26%) = Riparian/Wetland
- G (8%) = Rocky/Gravel Outcrops
- S (9%) = Sandy Soils
- PL (< 1%) = Planted

FERNS AND FERN ALLIES			
Region	Habitat	Scientific Name	Common Name
<b>Aspleniaceae / Spleenwort Fern family</b>			
1 1 0	C	<i>Asplenium platyneuron</i> (L.) Britton, Sterns, & Poggenb. H-12180	spleenwort
1 0 1	C/R	<i>Asplenium septentrionale</i> (L.) Hoffm. H-11716 GREE	forked spleenwort
1 0 1	C	<i>Asplenium trichomanes</i> L. subsp. <i>trichomanes</i>	maidenhair spleenwort
<b>Dryopteridaceae / Shield-fern family</b>			
0 n 0	C	<i>Cystopteris fragilis</i> (L.) Bernh. S-6655 GREE	brittle bladder-fern
0 1 0	C	<i>Cystopteris reevesiana</i> Lellinger	Reeves' bladder-fern
w 0 0	C	<i>Dryopteris filix-mas</i> (L.) Schott	male-fern
1 1 0	C	<i>Woodsia neomexicana</i> Windham S-1333 A GREE	New Mexico cliff-fern
1 1 0	C	<i>Woodsia oregana</i> D.C. Eaton subsp. <i>cathcartiana</i> (B. L. Robins) Windham H-12184 GREE	Oregon cliff-fern
<b>Equisetaceae / Horsetail family</b>			
1 1 1	R	<i>Equisetum laevigatum</i> A. Braun H-11673 UNM	scouring rush, <i>canutillo</i> , <i>cola de caballo</i>
<b>Marsileaceae / Pepperwort family</b>			
1 0 0	R	<i>Marsilea vestita</i> Hook. & Grev.	hairy waterclover
<b>Pteridaceae / Feather-fern family</b>			
n 0 0	C/R	<i>Adiantum capillus-veneris</i> L.	Southern maidenhair
0 n 0	C	<i>Argyrochosma fendleri</i> (Kuntze) Windham	Fendler's cloakfern
1 1 0	C	<i>Cheilanthes eatonii</i> Baker H-12183 GREE	Eaton's lipfern
1 1 0	C	<i>Cheilanthes feei</i> T. Moore H-12181 GREE	Santa Fe lipfern
1 1 0	C	<i>Cheilanthes fendleri</i> Hook. S-5448	Fendler's lipfern
1 0 0	C	<i>Cheilanthes wootonii</i> Maxon	beaded lipfern
1 0 0	C	<i>Notholaena standleyi</i> Maxon S-2483 GREE	star cloakfern
0 1 0	C	<i>Pellaea atropurpurea</i> (L.) Link H-12180 GREE	purple cliffbrake
<b>Selaginellaceae / Spikemoss family</b>			
1 1 0	C	<i>Selaginella densa</i> Rydb. H-11714 GREE	dense spikemoss
0 n 0	C	<i>Selaginella mutica</i> D.C. Eaton ex Underw. var. <i>mutica</i> H-12118 GREE	bluntleaf spikemoss
0 s 0	C	<i>Selaginella peruviana</i> (Milde) Hieron. Dittmer & Castetter-2853 UNM	Peruvian spikemoss
1 1 0	C	<i>Selaginella underwoodii</i> Hieron. S-5449 & 8694	Underwood's spikemoss
n 0 0	C	<i>Selaginella weatherbiana</i> R. Tyron <b>rare NM, Forest Service sensitive</b>	Weatherby's spikemoss

GYMNOSPERMS			
Region	Habitat	Scientific Name	Common Name
<b>Cupressaceae / Juniper or Cedar family</b>			
1 0 0	C	<i>Juniperus communis</i> L. var. <i>depressa</i> Pursh S-4697 GREE	dwarf juniper
1 0 0	C	<i>Juniperus monosperma</i> (Engel.) Sargent S-511 GREE	one-seed juniper
1 1 1	C	<i>Juniperus scopulorum</i> Sarg. [ <i>Sabina scopulorum</i> ] S-4190 GREE	cedar, <i>sabino</i> , Rocky Mountain juniper
<b>Pinaceae / Pine family</b>			
1 0 0	C	<i>Pinus edulis</i> Engelm. S-468 GREE	piñon pine
n 0 0	C	<i>Pinus flexilis</i> E. James	limber pine
1 1 0	C	<i>Pinus ponderosa</i> Lawson ex C. Lawson var. <i>scopulorum</i> Engelm. S-485 GREE <b>toxic</b>	ponderosa pine
0 1 0	C	<i>Pseudotsuga menziesii</i> (Mirb.) Franco var. <i>glauca</i> (Beissner) Franco S-5175 GREE	Douglas fir
<b>ANGIOSPERMS: Monocotyledons and Dicotyledons</b>			
Region	Habitat	Scientific Name	Common Name
<b>Aceraceae / Maple family</b> (see Sapindaceae)			
<b>Agavaceae / Agave family</b>			
1 0 0	C	<i>Yucca baccata</i> Torr. var. <i>baccata</i> S-6376 GREE	banana yucca, <i>datil</i>
0 s 0	C/G	<i>Yucca campestris</i> McKelvey Endemic to NM & TX	plains yucca
1 1 1	S/G	<i>Yucca glauca</i> Nutt. var. <i>glauca</i> S-1320 GREE	soapweed yucca, <i>amole</i>
1 0 0	C/G	<i>Yucca neomexicana</i> Wooton. & Standl. Knight 1653 UNM, S-7093 GREE	New Mexico Spanish bayonet
<b>Alismataceae / Water Plantain family</b>			
0 1 1	R	<i>Sagittaria cuneata</i> E. Sheld. S-7386 GREE	arum-leaf arrowhead
0 1 1	R	<i>Sagittaria latifolia</i> Willd. H-12107 GREE	<i>wappato</i> , duck potato
<b>Alliaceae / Onion family</b>			
w 0 0	P	<i>Allium cernuum</i> Roth (Rydb.) J. F. Macbr. S-8812 GREE	New Mexico nodding wild onion
0 1 0	P	<i>Allium drummondii</i> Regel S-3581 GREE	Drummond's onion
0 n 0	P	<i>Allium geayeri</i> S. Wats. S-5147 GREE	Geyer's onion
1 1 0	P	<i>Allium perdulce</i> S. V. Fraser var. <i>perdulce</i> S-3172 GREE	plains onion
0 1 0	P	<i>Allium textile</i> A. Nelson & J. F. Macbr.	textile onion
<b>Amaranthaceae / Pigweed family</b> (includes Chenopodiaceae)			
0 0 1	D	<i>Amaranthus albus</i> L. S-1531 GREE	tumble pigweed
0 1 0	S/D	<i>Amaranthus arenicola</i> I. M. Johnst. S-863 GREE	sand pigweed
1 1 1	D	* <i>Amaranthus blitoides</i> S. Watson S-7762 GREE	prostrate pigweed, <i>quelite colorado</i>
1 1 1	D	* <i>Amaranthus hybridus</i> L. S-8585 GREE	smooth pigweed
0 1 1	S	<i>Amaranthus palmeri</i> S. Watson H-11840 UNM <b>toxic</b>	Palmer's pigweed, <i>quelite yus</i>
1 1 1	D	* <i>Amaranthus retroflexus</i> L. S-2604 GREE	red-root pigweed
1 1 1	P/A	<i>Atriplex canescens</i> (Pursh) Nutt. var. <i>canescens</i> H-12093b GREE	four-wing saltbush
1 1 1	D	* <i>Chenopodium album</i> var. <i>album</i> L. S-218 GREE	lamb's quarters <i>quelite salado</i>
0 1 0	P	<i>Chenopodium atrovirens</i> Rydb.	Rocky Mountain or piñon goosefoot
1 1 1	D	<i>Chenopodium berlandieri</i> Moq. var. <i>zschackei</i> (Murray) Murr ex Asch. S-2798 GREE	pitseed goosefoot, <i>quelite cenizo</i>
0 s 0	S	<i>Chenopodium cycloides</i> A. Nelson <b>rare NM</b> , <b>Forest Service sensitive</b>	sandhill goosefoot
1 1 0	P	<i>Chenopodium desiccatum</i> A. Nelson S-433 GREE	thick-leaf goosefoot
1 1 0	P	<i>Chenopodium fremontii</i> S. Watson S-1335 GREE	Fremont's goosefoot
1 1 1	P	<i>Chenopodium incanum</i> (S. Watson) A. Heller H-11631 UNM	mealy goosefoot

1 1 1	P	<i>Chenopodium leptophyllum</i> (Moq.) Nutt. ex. S. Watson S-6593 GREE	narrow-leaf goosefoot
1 1 0	P	<i>Chenopodium pratericola</i> Rydb. H-11674 UNM	desert goosefoot
1 0 0	C/R	<i>Chenopodium simplex</i> (Torr.) Raf. S-8493 GREE	maple-leaf goosefoot
0 1 0	P	<i>Chenopodium watsonii</i> A. Nelson	Watson's goosefoot
0 0 1	S	<i>Corispermum americanum</i> (Nutt.) Nutt. var. <i>americanum</i>	American tickseed
1 1 0	S	<i>Cycloloma atriplicifolium</i> (Spreng.) J. M. Coult. H-11825 GREE	winged pigweed
1 1 1	S	<i>Froelichia gracilis</i> (Hook) Moq. H-12020 GREE	slender snake-cotton
0 0 s	D	<i>Guilleminea densa</i> (Humb. & Bonpl. Ex Willd.) Moq. var. <i>densa</i>	small mat-weed
1 1 1	D	* <i>Kochia scoparia</i> (L.) Schrad. S-7829 GREE [ <i>Bassia sieversiana</i> ] <b>toxic</b>	kochia, alkali weed
1 1 1	P	<i>Krascheninnikovia lanata</i> (Pursh) Meeuse & Smit H-11866 UNM	winter-fat
1 0 1	D/A	<i>Monolepis nuttalliana</i> (Schult.) Greene S-4625 GREE	Nuttall's poverty weed
1 1 1	D/P	* <i>Salsola australis</i> R. Br. [ <i>S. tragus</i> , <i>S. iberica</i> , <i>S. kali</i> ] S-761 GREE	Russian thistle, <i>cizaña</i> , tumbleweed
1 0 0	D/S	* <i>Salsola collina</i> Pall. H-11878 UNM	soft-spine tumbleweed
1 0 1	R/D	<i>Suckleya suckleyana</i> (Torr.) Rydb. S-8501 GREE <b>toxic</b>	poison suckleya
0 0 s	D/P	<i>Tidestromia lanuginosa</i> (Nutt.) Standl.	woolly tidestromia
<b>Anacardiaceae / Poison Ivy or Mango family</b>			
1 1 1	C	<i>Rhus aromatica</i> Aiton var. <i>trilobata</i> (Nutt.) A. Gray ex S. Watson [ <i>R. a.</i> var. <i>pilosissima</i> ] H-12080 GREE, S-467 GREE	lemonbush, tai-piah, three-leaf sumac, <i>lemita</i> , skunkbush sumac
1 1 1	C	<i>Toxicodendron rydbergii</i> (Small ex Rydb.) Greene S-461 GREE <b>toxic</b>	poison ivy, <i>hiedra venenosa</i> , <i>yiedra maligna</i>
<b>Anthericaceae / (includes part of former Liliaceae)</b>			
1 0 0	S	<i>Leucocrinum montanum</i> Nutt. ex A. Gray Sivinski 1839 UNM	sand lily
<b>Apiaceae / Carrot or Parsley family</b>			
1 1 1	R	<i>Berula erecta</i> (Huds.) Cov. var. <i>incisa</i> (Torr.) Cronquist S-8293A GREE	cutleaf water parsnip
1 1 1	P	<i>Cymopterus glomeratus</i> (Nutt.) DC. [ <i>C. acaulis</i> var. <i>acaulis</i> ] S-3594 GREE	plains spring parsley
1 1 1	P	<i>Cymopterus montanus</i> Torr. & A. Gray S-3171 GREE	prairie bisquit
1 0 0	C	<i>Harbouria trachypleura</i> (A. Gray) J. M. Coult. & Rose H-11623 GREE	wisk-broom parsley
1 1 0	P	<i>Lomatium orientale</i> J. M. Coult. & Rose	northern Idaho biscuit root
<b>Apocynaceae / Dogbane family (and Asclepiadaceae/Milkweed family)</b>			
1 1 1	R	<i>Apocynum androsaemifolium</i> L. H-11729 GREE	spreading dogbane
1 1 1	R	<i>Apocynum cannabinum</i> L. S-5404 GREE	dogbane, Indian-hemp
1 1 1	C/P	<i>Asclepias asperula</i> (Decne.) Woodson var. <i>asperula</i> [= <i>A. a.</i> subsp. <i>capricornu</i> ] H-11728 GREE	antelope-horns, <i>immortal</i>
1 1 1	C/P	<i>Asclepias engelmanniana</i> Woodson S-532 GREE	Engelmann's milkweed
w 0 0	R	<i>Asclepias incarnata</i> L. var. <i>incarnata</i>	swamp milkweed
0 1 1	P	<i>Asclepias involucrata</i> Engelm. ex Torr. S-5213 GREE	dwarf milkweed
1 1 1	P/S	<i>Asclepias latifolia</i> (Torr.) Raf. S-440 GREE	broadleaf milkweed
1 0 1	C	<i>Asclepias macrotis</i> Torr. S-6597 GREE	longhood milkweed
1 1 1	P/S	<i>Asclepias pumila</i> (A. Gray) Vail H-12031 UNM <b>toxic</b>	plains milkweed
1 1 1	R/D	<i>Asclepias speciosa</i> Torr. S-7987 GREE	showy milkweed
1 1 1	R/D	<i>Asclepias subverticillata</i> L. (A. Gray) Vail H-12065 GREE <b>toxic</b>	whorled or horsetail milkweed
0 1 1	C	<i>Asclepias uncialis</i> Greene <b>rare NM Forest Service sensitive</b>	wheel milkweed
1 1 1	P	<i>Asclepias viridiflora</i> Raf. H-11793 UNM	green comet

0 0 1	P/R	<i>Funastrum crispum</i> (Benth.) Schltld. S-1531 GREE [ <i>Sarcostemma crispa</i> ]	climbing milkweed
<b>Araceae / Aroid family</b> (includes Lemnaceae)			
1 0 0	R	<i>Lemna minor</i> L. S-5704 GREE	duckweed
<b>Asclepiadaceae</b> (see Apocynaceae)			
<b>Asteraceae / Sunflower family</b>			
1 1 1	R/D	<i>Achillea millefolium</i> L. var. <i>lanulosa</i> (Nutt.) Piper S-5101 GREE	yarrow, <i>milenrama</i>
1 1 0	C	<i>Ageratina herbacea</i> (A. Gray) R. M. King & H. Rob.	fragrant snakeroot
w 0 0	R/C	<i>Agoseris aurantiaca</i> (Hook.) Greene var. <i>purpurea</i> (A. Gray) Cronquist	orange-flowered goat chicory
0 n 0	R/C	<i>Agoseris parviflora</i> (Nutt.) D. Dietrich [ <i>A. glauca</i> var. <i>laciniata</i> ]	false agoseris
1 0 0	C	<i>Amauriopsis dissecta</i> (A. Gray) Rydg. [ <i>Bahia dissecta</i> ] H-12195	ragged-leaf bahia
1 1 1	P/S	<i>Ambrosia acanthicarpa</i> Hook.	bur ragweed, <i>estafiate</i>
1 1 1	S/P	<i>Ambrosia artemisiifolia</i> L. S-2298 GREE	annual ragweed
1 1 1	P	<i>Ambrosia confertifolia</i> DC. H-12088 GREE	Mexican ragweed
0 0 1	D	<i>Ambrosia grayi</i> (A. Nelson) Shinnars H-11963	bur ragweed
1 1 1	P	<i>Ambrosia psilostachya</i> DC. [ <i>A. p. coronopifolia</i> ] H-11807 UNM	western ragweed, perennial ragweed
1 0 0	D/A	<i>Ambrosia tomentosa</i> Nutt. S-7153 GREE	poverty weed, skeleton-leaf bursage
1 1 1	D	<i>Ambrosia trifida</i> L. H-12099 GREE	giant ragweed, bloodweed
1 0 0	C	<i>Antennaria marginata</i> Greene S-8531 GREE	white-margin pussytoes
1 0 0	C	<i>Antennaria parvifolia</i> Nutt. S-6387 GREE	common pussytoes
1 1 0	R	* <i>Arctium minus</i> Bernh. H-12095 GREE	burdock
1 1 0	P/G	<i>Artemisia bigelovii</i> A. Gray H-11638 UNM	Bigelow's or flat sage
0 1 1	P/G	<i>Artemisia campestris</i> L. var. <i>caudata</i> (Michx.) Palmer & Steyermer	field wormwood
1 1 1	P	<i>Artemisia carruthii</i> A. W. Wood ex. Carruth H-11812 UNM	Carruth's sage
1 1 1	R	<i>Artemisia dracunculus</i> L. H-11803 UNM	wild tarragon
1 1 1	S	<i>Artemisia filifolia</i> Torr. S-770 GREE	sand sage
1 1 1	P/D	<i>Artemisia frigida</i> Willd. S-428 GREE	fringed sage
1 1 1	G/C	<i>Artemisia ludoviciana</i> Nutt. subsp. <i>ludoviciana</i> H-12103 GREE	white sage, <i>altamisa</i> , Louisiana sage
		<i>Artemisia tridentata</i> Nutt.	big sagebrush,
1 0 0	P	var. <i>tridentata</i> S-1282 GREE	<i>chamiso</i>
1 0 0	P	var. <i>wyomingensis</i> (Bettle & Young) S. L. Welsh S-8579 GREE A disjunct occurrence	Wyoming big sagebrush
1 1 0	S/R	<i>Baccharis salicina</i> Torrey & Gray S-8401 GREE	Rio Grande seepwillow
1 1 0	P/C	<i>Baccharis wrightii</i> (T. & G.) A. Gray H-12086b UNM	Wright's baccharis
1 1 1	P	<i>Berlandiera lyrata</i> Benth. H-11832 UNM	green eyes, chocolate flower, <i>coronilla</i>
1 0 0	R	<i>Bidens cernua</i> L.	bur-marigold
w 0 0	R	<i>Bidens frondosa</i> L.	Devil's pitchfork
1 0 0	R	<i>Bidens tenuisecta</i> A. Gray	slimlobe begger-ticks
1 0 0	R	<i>Bidens tripartita</i> L. [ <i>B. comosa</i> ] S-8529 GREE	straw-stem beggar-ticks
1 1 0	C	<i>Brickellia brachyphylla</i> (A. Gray) A. Gray H-12059 UNM	lance-leaf brickellbush
1 1 0	C	<i>Brickellia californica</i> (Torr. & A. Gray) A. Gray S-8685 GREE	California brickellbush
0 1 0	P	<i>Brickellia eupatorioides</i> (L.) Shinnars var. <i>chlorolepis</i> (Wooton & Standl.) B. L. Turner S-2854 GREE	false boneset
1 0 0	C	<i>Brickellia grandiflora</i> (Hook.) Nutt. H-12188b GREE	tassel-flower, brickellbush
1 0 0	R	* <i>Carduus nutans</i> L. S-7841 GREE <b>noxious</b>	musk thistle, <i>cardo silvestre</i>
1 1 1	P	<i>Chaetopappa ericoides</i> (Torr.) G. L. Nesom [ <i>Leucelene ericoides</i> ] S-548 GREE	white aster, rose heat, baby aster

1 0 0	R	* <i>Cichorium intybus</i> L. S-7046 GREE	chicory
1 0 0	R	* <i>Cirsium arvensis</i> (L.) Scop. S-7155 <b>noxious</b>	Canadian thistle, <i>cardo cundidor</i>
1 1 1	P	<i>Cirsium ochrocentrum</i> A. Gray S-431 GREE	yellow-spine thistle
1 1 1	P	<i>Cirsium undulatum</i> (Nutt.) Spreng. S-432 GREE	wavy-leaf thistle
1 0 0	R	* <i>Cirsium vulgare</i> (Savi) Ten. H-11885 UNM	bull thistle
1 1 1	R/S	<i>Conyza canadensis</i> (L.) Cronquist S-7725 GREE	horseweed, <i>pazotillo</i>
1 0 0	R	<i>Coreopsis tinctoria</i> Nutt. H-11733 GREE	golden tickseed
1 0 0	R	<i>Crepis runcinata</i> (E. James) Torr. & A. Gray var. <i>runcinata</i> S-9062 GREE	fiddleleaf hawkbeard
1 0 0	R	<i>Cyclachaena xanthifolia</i> (Nutt.) Fresen [ <i>Iva xanthifolia</i> ]	marsh elder, careless weed
0 1 0	D	<i>Diaperia prolifera</i> (Nutt. ex DC.) Nutt. var. <i>prolifera</i> [ <i>Evax prolifera</i> ] S-5207 GREE	rabbit tobacco
1 1 0	P	<i>Dyssodia papposa</i> (Vent.) Hitchc. S-3051 GREE	prairie dog weed
0 1 0	D	<i>Echinacea angustifolia</i> DC. H-11792 UNM <b>rare on KNG</b>	echinacea, black sampson
1 1 1	P	<i>Engelmannia peristenia</i> (Raf.) Goodm. & Lawson [ <i>Engelmannia pinnatifida</i> ] H-11658 UNM	Engelmann's daisy, <i>margarita del campo</i>
1 1 0	P/C	<i>Ericameria nauseosa</i> (Pall. ex Pursh) G. L. Nesom & G. I. Baird var. <i>nauseosus</i> [ <i>Chrysothamnus nauseosus</i> var. <i>nauseosus</i> ]	rabbitbrush, <i>chamiso</i>
1 1 0	S	<i>Erigeron bellidiastrum</i> Nutt. var. <i>bellidiastrum</i> S-282 GREE	sand fleabane
1 1 0	G	<i>Erigeron canus</i> A. Gray H-11642 GREE	hoary fleabane daisy
1 0 0	P/R	<i>Erigeron divergens</i> Torr. & A. Gray S-5429 GREE	spreading fleabane daisy
0 1 0	P	<i>Erigeron flagellaris</i> A. Gray H-11759 GREE	trailing fleabane daisy
1 1 1	P	<i>Erigeron tracyi</i> Greene [ <i>E. colo-mexicanus</i> ] H-11628 UNM	running fleabane daisy
1 1 1	P	<i>Gaillardia pinnatifida</i> Torr. H-11646 UNM	Hopi blanketflower
0 n 0	P	<i>Gaillardia pulchella</i> Foug. var. <i>pulchella</i> S-5015 GREE	firewheel
0 0 0	R/D	<i>Grindelia acutifolia</i> Steyer. S-1841 GREE	Raton gumweed
0 1 0	P/D	<i>Grindelia inornata</i> Greene var. <i>inornata</i> H-11837 GREE	rayless gumweed
		<i>Grindelia nuda</i> A. W. Wood	curlytop gumweed
1 0 0	P/R	var. <i>aphanactis</i> (Rydb.) G. L. Nesom S-396 GREE	<i>yerba del buey</i>
1 1 0	P/D	var. <i>nuda</i> S-2795 GREE	<i>pega pega</i>
1 1 1	P	<i>Gutierrezia sarothrae</i> (Pursh) Britton & Rusby S-719 GREE <b>toxic</b>	broom snakeweed, <i>escoba de la vibora</i>
1 0 1	P/D	<i>Gutierrezia sphaerocephala</i> A. Gray S-7191 GREE	round-leaf snakeweed
1 0 0	R	<i>Helenium autumnale</i> L. H-12105 GREE	fall sneezeweed
1 1 1	D	<i>Helianthus annuus</i> L. S-8635 GREE	common sunflower
1 1 0	P/R	<i>Helianthus ciliaris</i> DC. S-5202 GREE	Texas blueweed
0 1 0	D	<i>Helianthus pauciflorus</i> Nutt. ssp. <i>subrhomboides</i> (Rydb.) O. Spring & E. Schilling [ <i>H. rigidus</i> ] S-8717 GREE	stiff sunflower
1 1 0	P	<i>Helianthus petiolaris</i> Nutt. var. <i>fallax</i> (Heiser) B. L. Turner S-8261 GREE	plains sunflower
1 1 1	P/S	<i>Helianthus petiolaris</i> Nutt. var. <i>petiolaris</i> S-766 GREE	plains sunflower
0 1 0	R	<i>Heliomeris multiflora</i> Nutt. var. <i>multiflora</i> [ <i>Viguiera multiflora</i> ] S-8798 GREE	showy goldeneye, little sunflower
1 0 0	R/C	<i>Herrickia horrida</i> Wooton & Standl. [ <i>Eurybia horrida</i> ] H-11678 UNM <b>rare NM, Forest Service sensitive</b>	spiny aster
1 0 0	C	<i>Heterosperma pinnatum</i> Cav. H-12210 GREE	wingpetal
1 1 1	P/G	<i>Heterotheca canescens</i> (DC.) Shinn. S-2248 GREE	golden aster, gray camphor weed
0 1 1	S/D	<i>Heterotheca subaxillaris</i> (Lam.) Britton & Rusby S-8363 GREE	camphor weed, telegraph plant
		<i>Heterotheca villosa</i> (Pursh) Shinn.	false golden aster
1 1 0	P	var. <i>foliosa</i> (Nutt.) Harms S-7756 GREE	hairy golden aster
1 1 0	P	var. <i>minor</i> (Hook.) Semple S-1338 GREE	hairy golden aster
0 1 0	P	var. <i>nana</i> (A. Gray) Semple S-2190 GREE	hairy golden aster
1 1 1	P	var. <i>villosa</i> [H. <i>viscida</i> ] H-12216	hairy golden aster

1 0 0	G/C	<i>Hymenopappus filifolius</i> Hook. var. <i>cinereus</i> (Rydb.) I. M. Johnston H-11635 UNM	few-headed or fine-leaf woolly-white
1 1 0	G	var. <i>polycephalus</i> (Osterh.) B. L. Turner H-12039 UNM	many-headed woolly-white
1 1 1	P/S	<i>Hymenopappus flavescens</i> A. Gray var. <i>flavescens</i> S-253 GREE	yellow woolly-white
0 0 1	P	<i>Hymenopappus scabiosaesus</i> L'Her. var. <i>corymbosus</i> (T. & G.) B. L. Turner	long-flower woolly-white
0 1 0	P	<i>Hymenopappus tenuifolius</i> Pursh S-2028 GREE	white woolly-white
0 1 1	A/D	<i>Hymenoxys odorata</i> DC. S-4136 GREE <b>toxic</b>	bitterweed
0 1 0	C/G	<i>Isocoma rusbyi</i> Greene [ <i>I. pluriflora</i> , <i>Haplopappus heterophyllus</i> ]	southern jimmyweed, Rusby's golden-bush
1 1 1	D	<i>Iva axillaris</i> Pursh ssp. <i>robustior</i> Hooker. S-8442 GREE	poverty weed
1 1 1	R	* <i>Lactuca serriola</i> L. S-7338 GREE	prickly lettuce
0 0 s	D	* <i>Leontodon taraxcoides</i> (Vill.) Mérat ssp. <i>taraxcoides</i> Hutchins 13092 UNM	lesser hawkbit
n 0 0	R	<i>Liatris ligulistylis</i> (A. Nelson) K. Schum	blazing star
0 1 0	G	<i>Liatris mucronata</i> DC. S-2213 GREE	cusp blazing star
1 1 1	P	<i>Liatris punctata</i> Hook. var. <i>punctata</i> S-8271 GREE	blazing star, <i>cachana</i>
0 0 e	S	<i>Liatris squarrosa</i> (L.) Michx. var. <i>glabrata</i> (Rydb.) Gaiser	scaly blazing star
0 1 0	C	<i>Lorandersonia baileyi</i> (Woot. & Standl.) Urbatsch, Roberts & Neubig [ <i>Chrysothamnus pulchellus</i> var. <i>baileyi</i> ] S-2221 GREE	pretty rabbitbrush
1 1 1	P	<i>Lygodesmia juncea</i> (Pursh) D. Don ex Hook. S-290 GREE	skeletonweed, <i>chiquete de embarañada</i>
1 1 1	P/S	<i>Machaeranthera tanacetifolia</i> (Kunth.) Nees H-11924 UNM	tansyleaf aster, Tahoka daisy
1 1 1	G	<i>Melampodium leucanthum</i> Torr. & A. Gray S-566	plains blackfoot daisy
0 0 1	P	<i>Nothocalais cuspidata</i> (Pursh) Greene	sharp-point prairie-dandelion
0 1 0	R	<i>Packera cana</i> (Hook.) W.A. Weber & A. Löve	woolly goldenrod
0 1 0	P/G	<i>Packera fendleri</i> (A. Gray) W. A. Weber & A. Löve S-7868 GREE	Fendler's groundsel
0 1 0	P	<i>Packera neomexicana</i> (A. Gray) W. A. Weber & A. Löve var. <i>mutabilis</i> (Greene) W. A. Weber & A. Löve S-5394	New Mexico groundsel
0 n 0	P	<i>Packera plattensis</i> (Nutt.) W.A. Weber & A. Löve	prairie groundsel
0 1 0	P	<i>Packera pserdaurea</i> (Rydb.) W. A. Weber & A. Löve var. <i>flavula</i> (Greene) D. K. Trock & M. Barkley	falsegold groundsel
0 1 0	P	<i>Packera spellenbergii</i> (T. M. Barkley) C. Jeffrey <b>rare NM, Forest Service sensitive</b>	Carrizo Creek groundsel
0 1 0	P	<i>Packera streptanthifolia</i> (Greene) W. A. Weber & A. Löve	Rocky Mtn. groundsel
0 1 1	P	<i>Packera tridenticulata</i> (Rydb.) W. A. Weber & A. Löve S-5868 GREE	three-tooth ragwort
0 0 n	S	<i>Palafoxia rosea</i> (Bush) Cory	rosy palafox
0 1 1	S	<i>Palafoxia sphacelata</i> (Nutt.) Cory S-232 GREE	rayless Spanish needles
0 1 0	G	<i>Parthenium alpinum</i> (Nutt.) Torr. & A. Gray [ <i>Parthenium tetraeuris</i> ]	alpine feverfew
1 0 0	C	<i>Parthenium incanum</i> Kunth H-12200 GREE	<i>mariola</i>
0 1 1	P	<i>Pectis angustifolia</i> Torr. var. <i>angustifolia</i> S-2187 GREE	lemonweed, <i>cominilla</i>
1 0 0	C	<i>Pericome caudata</i> A. Gray var. <i>glandulosa</i> (Goodman) Harrington H-12121 GREE	taper-leaf or tail-leaf pericome
1 1 1	D/P	<i>Picradeniopsis oppositifolia</i> (Nutt.) Rydb. H-11633 UNMS	<i>hierba de chivato</i> , bahia
1 1 1	D/P	<i>Picradeniopsis woodhousei</i> (A. Gray) Rydb. H-11828 UNM	bahia
1 1 1	C	<i>Pseudognaphalium canescens</i> (DC.) W. A. Weber subsp. <i>canescens</i> H-12217 GREE	Wright's cudweed
1 1 1	C	<i>Pseudognaphalium stramineum</i> (Kunth) W. A. Weber S- 8419 GREE	cotton-batting plant
1 0 0	S/C	<i>Psilostrophe tagetina</i> (Nutt.) Greene H-11691 UNM GREE <b>toxic</b>	marigold paperflower

1 1 1	R	<i>Ratibida columnifera</i> (Nutt.) Wooton & Standl. S-118 GREE	prairie coneflower, Mexican hat
1 1 1	P/D	<i>Ratibida tagetes</i> (E. James) Barnhart S-720 GREE	red coneflower, green Mexican hat, <i>dormilón</i>
1 1 0	D	* <i>Scorzonera laciniata</i> L. S-3337 GREE	false salsify
w 0 0	C/P	<i>Senecio atratus</i> Greene	tall black-tip ragwort
1 1 1	P/C	<i>Senecio flaccidus</i> Less. var. <i>douglasii</i> (DC.) Turner & T. M. Barkley [ <i>S. longilobus</i> ] S-5397 GREE <b>toxic</b>	thread-leaf groundsel
w 0 0	P	<i>Senecio fremontii</i> Torr. & A. Gray var. <i>blitoides</i> (Greene) Cronquist	Fremont's ragwort
1 1 1	P	<i>Senecio riddellii</i> Torr. & A. Gray S-7823 GREE [ <i>S. spartinoides</i> var. <i>fremontii</i> ]	broom groundsel, Riddell's ragwort
0 1 0	R	<i>S. canadensis</i> L. var. <i>gilvocanescens</i> Rydb [ <i>S. altissima</i> ] S-6940 GREE	Canada goldenrod
1 1 0	R	<i>Solidago gigantea</i> Aiton S-7685 GREE	late goldenrod
1 0 0	R	<i>Solidago missouriensis</i> var. <i>missouriensis</i> Nutt. S-7895 GREE	Missouri goldenrod
1 1 0	G/C	<i>Solidago mollis</i> Bartl. H-1043 GREE	soft or velvet goldenrod
1 0 0	R	<i>Solidago nana</i> Nutt.	dwarf goldenrod
n 0 0	P	<i>Solidago rigida</i> L. subsp. <i>humilis</i> (Porter) S. B. Heard & Semple	stiff or hard-leaf goldenrod
1 0 0	R	<i>Solidago speciosa</i> Nutt. var. <i>pallida</i> Porter H-12120	showy-wand goldenrod
1 1 0	R	<i>Solidago velutina</i> DC. subsp. <i>sparsiflora</i> (A. Gray) Semple H-1220 GREE	three-nerve goldenrod
s 0 0	R	<i>Solidago wrightii</i> A. Gray	Wright's goldenrod
1 1 1	R	* <i>Sonchus asper</i> (L.) Hill S-3569 GREE	prickly sow thistle
1 1 1	R	<i>Stephanomeria pauciflora</i> (Torr.) A. Nelson S-771 GREE	few-flowered wire lettuce
1 0 1	R	<i>Symphyotrichum ericoides</i> (L.) G. L. Nesom var. <i>ericoides</i> [ <i>Aster ericoides</i> L. var. <i>ericoides</i> ]	white heath aster, frost flower
1 1 1	R	<i>Symphyotrichum falcatum</i> (Lindl.) G. L. Nesom var. <i>crassulum</i> (Rydb.) G. L. Nesom [ <i>Aster falcatus</i> subsp. <i>commutatus</i> var. <i>commutatus</i> ]	white prairie aster, frost flower
1 0 0	R	<i>Symphyotrichum fendleri</i> (A. Gray) G. L. Nesom [ <i>Aster fendleri</i> ]	Fendler's aster
1 0 0	R	<i>Symphyotrichum frondosum</i> (Nutt.) G. L. Nesom [ <i>Aster frondosus</i> ] S-8517 GREE	leafy aster
1 1 0	R	<i>Symphyotrichum laeve</i> (L.) A. Löve & D. Löve var. <i>geyeri</i> (A. Gray) G. L. Nesom [ <i>Aster laevis</i> ]	smooth blue aster
1 0 0	R	<i>Symphyotrichum lanceolatum</i> (Willd.) G. L. Nesom var. <i>hesperium</i> (A. Gray) G. L. Nesom [ <i>Aster hesperius</i> ]	Siskiyou aster
0 1 0	R	<i>Symphyotrichum oblongifolium</i> (Nutt.) G. L. Nesom [ <i>Aster oblongifolius</i> ]	aromatic aster
1 0 0	C	<i>Symphyotrichum porteri</i> (A. Gray) G. L. Nesom [ <i>Aster porteri</i> ] H-12074 GREE	Porter's white aster
1 0 0	R	<i>Symphyotrichum spathulatum</i> (Lindl.) G. L. Nesom var. <i>spathulatum</i> [ <i>Aster occidentalis</i> ] H-11732 GREE	western aster
1 0 0	C	<i>Tagetes micrantha</i> Cavanilles H-12211 GREE	small-flower marigold
1 1 1	R	* <i>Taraxacum officinale</i> Weber ex F. H. Wigg S-3321 GREE	dandelion, <i>achichoria</i>
1 1 1	G	<i>Tetranneuris acaulis</i> (Pursh) Greene var. <i>acaulis</i> S-722 GREE	stemless bitterweed perky Sue
1 1 1	C/G	<i>Tetranneuris scaposa</i> (DC.) Greene var. <i>scaposa</i> H-11695	scapose bitterweed
0 1 0	P	<i>Thelesperma filifolium</i> (Hook.) A. Gray. S-8197 GREE	stiff greenthread
1 1 1	G/C	<i>Thelesperma megapotamicum</i> (Spreng.) Kuntze H-12070 GREE	Hopi greenthread, Navajo tea, <i>cota</i>
1 0 0	G	<i>Thelesperma subnudum</i> A. Gray H-11644 GREE	scapose greenthread
1 0 0	G	<i>Thymophylla aurea</i> [A. Gray] Greene ex Britton [ <i>Dyssodia aurea</i> ] H-11641 GREE	fetid marigold, <i>pagué</i> prairie dog weed
1 0 0	G	<i>Townsendia grandiflora</i> Nutt. H-11871 UNM	Easter daisy
0 1 1	G	<i>Townsendia exscapa</i> (Richards.) T. C. Porter	Easter daisy
1 1 1	D	* <i>Tragopogon dubius</i> Scop. S-496 GREE	goat's beard, yellow salsify

n 0 0	D	<i>*Tragopogon lamottei</i> Rouy	Jack-go-to-bed-at-noon
1 1 1	D	<i>Verbesina encelioides</i> (Cav.) Benth. & Hook.	golden crownbeard, <i>añil del muerto</i>
0 1 1	D/R	<i>Vernonia marginata</i> (Torr.) Raf. S-7679 GREE	plains ironweed
		<i>Xanthisma spinulosum</i> (Pursh) D. R. Morgan & R. L. Hartm	
1 1 0	G	var. <i>glaberrimum</i> (Rydb.) D. R. Morgan & R. L. Hartm [ <i>Machaeranthera pinnatifida</i> ]	shiny goldenweed, <i>hierba de la Quintana</i>
1 1 0	P	var. <i>gooddingii</i> (A. Nelson) D. R. Morgan & R. L. Hartm. H-11743 UNM	single-head goldenweed
1 1 0	P	var. <i>spinulosum</i> H-11808 GREE	lacy spine-aster
1 1 1	R	<i>Xanthium strumarium</i> L. [ <i>X. c. var. canadense</i> ] H-12136 GREE <b>toxic</b>	porcupine eggs, <i>cadillo</i> , rough cocklebur
1 1 1	G	<i>Zinnia grandiflora</i> Nutt. H-11702 GREE	plains zinnia
<b>Boraginaceae / Borage or Forget-me-not family</b> (includes Hydrophyllaceae)			
1 1 1	P/S	<i>Cryptantha cinera</i> (Greene) Cronq. var. <i>jamesii</i> Cronq. H-11634 UNM	James's cryptantha or bow nut
1 1 1	P/D	<i>Cryptantha crassisepala</i> (Torr. & A Gray) Greene var. <i>elachantha</i> I. M. Johnst. S-3324 GREE	thick-sepal cryptantha
1 1 1	P/D	<i>Cryptantha minima</i> Rydb. S-769 GREE	least cryptantha
1 1 1	G	<i>Cryptantha thyrsoflora</i> (Greene) Payson S-7730 GREE	calcareous cryptantha
1 1 0	R	<i>*Cynoglossum officinale</i> L. S-7922 GREE <b>noxious and toxic</b>	hound's tongue
1 0 0	D	<i>*Ellisia nyctelea</i> (L.) L. S-4206 GREE	waterpod
w 0 0	C	<i>Hackelia hirsuta</i> (Wooton & Standl.) I. M. Johnston <b>rare NM</b>	NM stickseed
1 1 1	S	<i>Heliotropium convolvulaceum</i> (Nutt.) A. Gray var. <i>convolvulaceum</i> [ <i>Euploca convolvulacea</i> ] H-11818	showy trumpet heliotrope
0 0 1	D	<i>Heliotropium curassavicum</i> L. var. <i>obovatum</i> DC. <i>Lappula occidentalis</i> (S. Watson) Greene	salt heliotrope stickseed
1 1 1	P/D	var. <i>cupulata</i> (A. Gray) L. C. Higgins S-3336 GREE	spiny sheepbur
1 1 1	P/D	var. <i>occidentalis</i> S-3340 GREE	spiny sheepbur
1 1 1	P	<i>Lithospermum incisum</i> Lehm. S-3496 GREE	hoary puccoon
n 0 0	C	<i>Mertensia lanceolata</i> (Pursh) A. DC. S-4662 GREE	prairie bluebells
0 1 1	G	<i>Onosmodium molle</i> Michaux. var. <i>occidentale</i> (Mack) I. M. Johnst. H-11850 UNM	marble-seed
0 1 0	S	<i>Phacelia heterophylla</i> Pursh var. <i>heterophylla</i>	water-leaf
0 1 1	S	<i>Phacelia integrifolia</i> Torr. var. <i>integrifolia</i> S-3522 GREE	Torrey's phacelia
<b>Brassicaceae or Cruciferae / Mustard family</b>			
w 0 0	C	<i>Arabis glabra</i> (L.) Bernh. var. <i>glabra</i>	tower rockcress
1 1 1	D/R	<i>*Camelina microcarpa</i> Andr. ex DC. S-4655 GREE	little false-flax
1 1 1	D/R	<i>*Cardaria chalepensis</i> (L.) Hand.-Mazz. <b>noxious</b>	white-top
w 0 0	D/R	<i>*Cardaria draba</i> (L.) Desv. <b>noxious</b> S-3723 GREE	white-top
1 1 1	D	<i>*Descurainia pinnata</i> (Walter) Britton var. <i>osmiarum</i> (Cockerell) Shinnery S-4619 GREE	western tansy mustard
1 1 1	D	<i>*Descurainia sophia</i> (L.) Webb ex Prantl S-4618 GREE	flixweed
0 0 s	S	<i>Dimorphocarpa candicans</i> (Raf.) Rollins	spectacle-pod
0 0 s	P	<i>Draba reptans</i> (Lam.) Fernald S-3213 GREE	smooth Whitlow grass
n 0 0	R	<i>Draba sterptocarpa</i> A. Gray	pretty draba
1 1 0	P	<i>Erysimum asperum</i> (Nutt.) DC. S-1321	western wallflower, <i>yerba del Apache</i>
		<i>Erysimum capitatum</i> (Douglas ex Hook.) Greene	
0 0 1	P	var. <i>argillosum</i> (Greene) R. J. Davis S-2303 GREE	Pursh's wallflower
0 1 1	P/S	var. <i>capitatum</i> S-726 GREE	sanddune wallflower
0 1 0	R/P	<i>Erysimum inconspicuum</i> (S. Watson) MacMill.	shy wallflower
1 1 1	P/D	<i>Lepidium densiflorum</i> Schrad. var. <i>densiflorum</i> S-5381 GREE	pepperweed, <i>lentejilla</i>
1 1 0	P/D	<i>Lepidium ramosissimum</i> A. Nelson var. <i>bourgeauanum</i> (Thell.) Rollins S-6586 GREE	Bourgeau's pepperweed

1 0 0	G	<i>Lesquerella intermedia</i> (S. Watson) A. Heller H-11730b [ <i>Physaria intermedia</i> ]	bladderpod
1 0 0	G	<i>Lesquerella montana</i> (A. Gray) S. Wats. H-11659 GREE [ <i>Physaria montana</i> ]	mountain bladderpod
1 1 0	G	<i>Lesquerella ovalifolia</i> Rydb. ex Britton var. <i>ovalifolia</i> H-12007 GREE [ <i>Physaria ovalifolia</i> subsp. <i>ovalifolia</i> ]	oval-leaf bladderpod
0 1 0	R	<i>Nasturtium officinale</i> R. Br. S-4234 GREE	watercress
1 0 0	C	<i>Pennellia micrantha</i> (Gray) Nieuwl.	mountain thelypod
1 1 0	R	<i>Rorippa sinuata</i> (Nutt.) Hitchc. S-1507 GREE	yellowcress
1 1 1	D	* <i>Sisymbrium altissimum</i> L. <b>toxic</b> S-4182B GREE	Jim Hill mustard, tumble-mustard
1 0 0	C	<i>Sisymbrium linifolium</i> Nutt. [ <i>Schoenocrambe</i> ] S-1342 GREE	flax-leaf plains mustard
1 0 0	R	<i>Thelypodium integrifolium</i> (Nutt.) Endl. Ex Walp. H-12072 GREE	thelypod
0 0 s	R	<i>Thelypodium wrightii</i> A. Gray subsp. <i>wrightii</i> S-8463 GREE	Wright's thelypod
1 1 0	R	* <i>Thlaspi arvense</i> L. S-5427 GREE	pennycress, <i>lentijilla</i>
<b>Cactaceae / Cactus family</b>			
		<i>Coryphantha vivipara</i> (Nutt.) Britton & Rose	
1 1 1	P	var. <i>arizonica</i> (Engelm.) W. T. Marshall S-422 GREE	Arizona spinystar
0 1 1	P	var. <i>vivipara</i>	spinystar
1 0 0	C	<i>Echinocereus fendleri</i> (Engelm.) F. Seitz ssp. <i>fendleri</i> S-3900 GREE	pink hedgehog cactus
0 n 0	G/C	<i>Echinocereus reichenbachii</i> (Terscheck ex Walp.) Haage f. ssp. <i>perbellus</i> (Britt. & Rose) N. P. Taylor	lace hedgehog cactus
1 1 1	P	<i>Echinocereus viridiflorus</i> Engelm. var. <i>viridiflorus</i> S-3558 GREE	green-flowered pitaya hedgehog cactus
1 0 0	C	<i>Mammillaria heyderi</i> Muehlenpf. var. <i>meiacantha</i> (Engelm.) L. Benson	little nipple cactus
0 1 1	P	<i>Opuntia cymochila</i> Engelm. & Bigelow [ <i>O. macrorhiza</i> var. <i>macrorhiza</i> ]	tuber-root prickly pear
1 1 1	P	<i>Opuntia imbricata</i> (Haw.) DC. var. <i>imbricata</i> [ <i>Cylindropuntia imbricata</i> ] S-6588 GREE	candelabra cactus, <i>entraña</i> , cane cholla
1 0 1	S	<i>Opuntia phaeacantha</i> Engelm. var. <i>phaeacantha</i> S-5004 GREE [ <i>O. phaeacantha</i> var. <i>camanchina</i> & var. <i>major</i> ]	New Mexico prickly pear tulip prickly pear
1 1 1	P	<i>Opuntia polyacantha</i> Haw. var. <i>polyacantha</i> S-6516 GREE [ <i>O. polyacantha</i> var. <i>trichophora</i> ]	plains prickly pear hair-spined prickly pear
n 0 0	P	<i>Pediocactus simpsonii</i> (Engelm.) Britton & Rose var. <i>simpsonii</i> [ <i>P. simpsonii</i> var. <i>minor</i> ]	nipple or plains cactus
<b>Cannabaceae / Hops family (includes Ulmaceae)</b>			
1 1 1	C	<i>Celtis reticulata</i> Torr. [ <i>C. laevigata</i> var. <i>reticulata</i> ] S-3574 GREE	netleaf hackberry
1 1 0	C/R	<i>Humulus lupulus</i> L. var. <i>neomexicanus</i> A. Nelson & Cockerell S-7897 GREE	New Mexico hops, <i>lupulo</i>
<b>Caryophyllaceae / Pink family</b>			
0 1 0	G/C	<i>Eremogone hookeri</i> Nutt. ex Torrey & Gray var. <i>hookeri</i> [ <i>Arenaria hookeri</i> Nutt. subsp. <i>hookeri</i> ]	tufted sandwort
0 1 0	C	<i>Eremogone fendleri</i> (A. Gray) Ikonnikov [ <i>Arenaria fendleri</i> ] S-7414 GREE	Fendler's sandwort
1 0 0	C	<i>Minuartia michauxii</i> (Fenzl.) Farw. var. <i>texana</i> (B. L. Robins.) Mattf. [ <i>Arenaria stricta</i> ] S-723 GREE	Texas stichwort
1 1 0	G/C	<i>Paronychia jamesii</i> Torr. & A. Gray H-11640 GREE	James's nailwort
0 1 0	G	<i>Paronychia sessiliflora</i> Nutt. H-12009 GREE	low nailwort
1 1 0	C	<i>Silene antirrhina</i> L. S-6162 GREE	sleepy catchfly

<b>Chenopodiaceae (see Amaranthaceae)</b>			
<b>Cleomaceae / Beepiant family (includes Capparaceae)</b>			
0 1 1	D	<i>Cleome serrulata</i> Pursh S-8681 GREE	Rocky Mountain beepiant, <i>guaco</i>
1 1 1	S	<i>Polanisia dodecandra</i> (L.) DC. var. <i>trachysperma</i> (Torr. & A. Gray) H. H. Iltis S-7637 GREE	red-whisker clammy weed
0 1 0	S	<i>Polanisia jamesii</i> (Torr. & Gray) Iltis H-11821 UNM	James' clammyweed
<b>Commeliniaceae / Spiderwort family</b>			
1 1 1	S	<i>Commelina erecta</i> L. H-12029 UNM	erect dayflower, <i>hierba del pollo</i>
1 1 0	P	<i>Tradescantia occidentalis</i> (Britton) Smyth var. <i>occidentalis</i> S-5863 GREE	soft and tender, spiderwort
<b>Convolvulaceae / Morning Glory family (includes Cuscutaceae)</b>			
0 n 0	D	<i>Calystegia sepium</i> (L.) R. Br. var. <i>angulata</i> (Brummit) N. H. Holmgren S-3903 GREE	hedge false bindweed
1 1 1	D/R	* <i>Convolvulus arvensis</i> L. S-363 GREE <b>noxious</b>	field bindweed
1 1 1	P/D	<i>Convolvulus equitans</i> Benth. [ <i>C. incanus</i> ] S-678 GREE	Texas bindweed
w 0 0	P/D	<i>Cuscuta cuspidata</i> Engelm. [ <i>Grammica cuspidata</i> ]	cuspid dodder
0 0 e	P/D	<i>Cuscuta glomerata</i> Choisy	dodder, <i>yerba sin raiz</i>
0 0 1	D	<i>Cuscuta indecora</i> Choisy var. <i>indecora</i> [ <i>Grammica indecora</i> ]	bigseed alfalfa dodder
s 0 0	D	<i>Cuscuta pentagona</i> Engelm. var. <i>pentagona</i>	five-angled dodder
0 1 1	D	<i>Cuscuta umbellata</i> Kunth H-11811 GREE	dodder, <i>abrazos</i>
0 1 0	D/C	<i>Evolvulus alsinoides</i> (L.) L. S-2180 GREE	slender dwarf morning glory
1 1 1	S/G	<i>Evolvulus nuttallianus</i> J. A. Schult. H-11694 UNM	shaggy dwarf morning glory
1 0 0	C/R	<i>Ipomoea barbatisepala</i> A. Gray H-12189 GREE & CU	canyon morning glory, <i>trompio rojo</i>
1 0 0	C/R	<i>Ipomoea coccinea</i> L. H-12218 GREE	red star morning glory
1 1 1	S	<i>Ipomoea leptophylla</i> Torr. S-209 GREE	bush morning glory
<b>Cucurbitaceae / Gourd Family</b>			
1 0 1	D/R	<i>Cucurbita foetidissima</i> Kunth S-171 GREE	coyote or buffalo gourd, <i>calabazilla</i>
1 0 1	C/R	<i>Cyclanthera dissecta</i> (Torr. & A. Gray) Arn. H-12201 GREE	cut-leaf cyclanthera
<b>Cyperaceae / Sedge family</b>			
1 0 0	A/R	<i>Bolboschoenus maritimus</i> (L.) Palla subsp. <i>paludosus</i> (A. Nelson) A. Löve & D. Löve H-12062 GREE	alkali or cosmopolitan bulrush
0 1 0	R	<i>Carex bolanderi</i> Olney S-5473 GREE	Bolander's sedge
1 1 0	R	<i>Carex brevior</i> (Dewey) Mack. ex Lunell H-11665 UNM	short-beaked sedge
0 n 0	R	<i>Carex emoryi</i> (Dewey) S-4264 GREE	Emory's sedge
0 n 0	R	<i>Carex gravida</i> var. <i>lunelliana</i> (Mack.) F. J. Herm. [ <i>C. gravida</i> ] S-6811 GREE	heavy sedge
1 0 0	R	<i>Carex hystericina</i> Muhl. ex Willd. H-11680 UNM	bottlebrush sedge
1 1 0	R	<i>Carex lanuginosa</i> Michx. S-5476 GREE [ <i>C. pellita</i> Muhl. ex Willd.]	woolly sedge
0 n 0	R	<i>Carex occidentalis</i> L. H. Bailey S-4265 GREE	western sedge
1 0 0	C	<i>Carex pityophila</i> Mack. [ <i>C. geophila</i> ]	ground-loving sedge
1 0 1	R	<i>Carex praegracilis</i> W. Boott H-11664 GREE	blackcreeper sedge
1 0 0	R	<i>Carex vulpinoidea</i> Michx. H-11681 UNM	Fox sedge
1 0 0	R	<i>Cyperus aristatus</i> Rottb. var. <i>aristatus</i> H-12213 [ <i>C. squarrosus</i> ]	bearded flatsedge
1 0 0	R	<i>Cyperus esculentus</i> L. var. <i>leptostachys</i> Boeck. S-8569	yellow flatsedge, <i>coquillo</i>
1 0 0	R	* <i>Cyperus odoratus</i> L. H-12214	fragrant nutsedge, galingle

1 1 0	S	<i>Cyperus schweinitzii</i> Torr. H-11799 UNM	sand flatsedge
s 0 0	R	<i>Eleocharis macrostachya</i> Britt. in J. K. Small	stoloniferous spikerush
1 1 0	R	<i>Eleocharis palustris</i> (L.) Roem. & Schult. H-11873 UNM	common spikerush, <i>tulillo</i>
1 0 0	R	<i>Eleocharis rostellata</i> (Torr.) Torr. H-11869 UNM	traveling spikerush
1 0 0	R	<i>Schoenoplectus acutus</i> (Muhl. ex Bigelow) A. Löve & D. Löve var. <i>acutus</i> [ <i>Scirpus acutus</i> ] H-12125 GREE	hardstem bulrush, <i>tule</i>
1 1 1	R	<i>Schoenoplectus pungens</i> (Vahl) Palla var. <i>pungens</i> H-11663/unm [ <i>Scirpus americanus</i> ]	common threesquare, <i>tule</i>
1 1 0	R	<i>Schoenoplectus tabernaemontani</i> (K.C. Gmel.) Palla [ <i>Scirpus validus</i> ] H-11683 UNM	softstem bulrush, <i>tule</i>
1 0 0	R	<i>Scirpus pallidus</i> (Britton) Fernald H-11690 UNM	pale bulrush, <i>tule</i>
<b>Elaeagnaceae / Olive family</b>			
0 1 0	R	* <i>Elaeagnus angustifolia</i> L. <b>noxious</b> S-6018	Russian olive
<b>Euphorbiaceae / Spurge family</b>			
0 0 n	P	<i>Argythamnia humilis</i> (Engelm. & A. Gray) Müll. - Arg. var. <i>humilis</i>	low silverbush
1 0 0	C	<i>Argythamnia mercurialina</i> (Nutt.) Müll.-Arg. var. <i>mercurialina</i> S-7693 GREE	wild mercury
0 s 0	S	<i>Chamaesyce albomarginata</i> (Torr. & Gray) Small	whitemargin sandmat
1 1 0	G	<i>Chamaesyce fendleri</i> (Torr & A. Gray) Small H-11703 GREE	Fendler's spurge
n 0 0	D	<i>Chamaesyce geyeri</i> (Engelm.) Small S-2485 GREE	Geyer's spurge
1 1 1	D	<i>Chamaesyce glyptosperma</i> (Engelm.) Small S-8385 GREE	ridge-seeded spurge
1 1 1	G	<i>Chamaesyce lata</i> (Engelm.) Small S-7189 GREE	broad-leaved spurge
s 0 0	S	<i>Chamaesyce maculata</i> (L.) Small [ <i>E. supina</i> ]	spotted sandmat
1 1 1	S	<i>Chamaesyce missurica</i> (Raf.) Shinners H-11805 UNM	Missouri sand spurge
0 s 0	S	<i>Chamaesyce serpens</i> (Kunth) Small	matted sandmat
1 1 0	D	<i>Chamaesyce serpyllifolia</i> (Pers.) Small H-11657 GREE	thyme-leaved spurge
1 0 0	D	<i>Chamaesyce stictospora</i> (Engelm.) Small H-11656 GREE	mat spurge, <i>hierba de la golindrina</i>
0 1 1	S	<i>Croton texensis</i> (Klotzsch) Müll. - Arg. S-234 GREE	doveweed, Texas croton
1 0 0	G	<i>Euphorbia brachycera</i> Engelm. H-11784 GREE [ <i>E. robusta</i> ]	robust or horned spurge
1 1 1	D	<i>Euphorbia dentata</i> Michx. [ <i>E. davidii</i> Subils] S-6602 GREE	toothed spurge
1 0 0	G/C	<i>Euphorbia exstipulata</i> Engelm. H-11648 GREE	square-seed spurge
1 1 1	R/P	<i>Euphorbia marginata</i> Pursh [ <i>Agaloma marginata</i> ] S-7388	snow-on-the-mountain
0 s 0	D	<i>Euphorbia strictior</i> Holz. S-5037 GREE	panhandle spurge
s 0 0	S	<i>Stillingia sylvatica</i> Garden ex L. subsp. <i>sylvatica</i> S-5038 GREE	queen's delight
1 1 1	G/C	<i>Tragia ramosa</i> Torr. [ <i>T. stylaris</i> ] <b>stinging hairs</b> S-6551 GREE	<i>ortigilla</i> , noseburn
<b>Fabaceae / Caesalpinioideae, Mimosoideae &amp; Papilionoideae / Bean or Legume family</b>			
1 1 0	R	<i>Amorpha canescens</i> Pursh H-11677 UNM	leadplant
n 0 0	P	<i>Astragalus adsurgens</i> Pall. var. <i>robustior</i> (Hook.) Barneby & Welsh [ <i>A. laxmannii</i> ] S-6198 GREE	prairie milkvetch
0 1 1	R/P	<i>Astragalus bisulcatus</i> (Hook.) A. Gray var. <i>bisulcatus</i> S-4614 GREE <b>toxic</b>	two-grooved milkvetch
0 1 1	S/P	<i>Astragalus ceramicus</i> E. Sheld. var. <i>filifolius</i> (A. Gray) F. J. Herm	painted milkvetch
0 1 1	P	<i>Astragalus crassicaarpus</i> Nutt. var. <i>crassicaarpus</i> S-3511 GREE	gound plum
1 1 0	P	<i>Astragalus drummondii</i> Douglas ex Hook. Castetter 5957 UNM	Drummond's milkvetch
1 1 1	P	<i>Astragalus gracilis</i> Nutt. H-12023 UNM	slender milkvetch

0 1 0	P	<i>Astragalus lonchocarpus</i> Torr.	rushy milkvetch
1 1 1	P	<i>Astragalus lotiflorus</i> Hook. H-11796 UNM	lotus milkvetch
1 1 1	P	<i>Astragalus missouriensis</i> Nutt. H-11764 GREE var. <i>missouriensis</i> H-11833 UNM	Missouri milkvetch
		<i>Astragalus mollisimus</i> Torr. <b>toxic</b>	
1 1 1	P	var. <i>mollisimus</i> S-270 GREE	woolly locoweed
0 0 s	P	var. <i>marcidus</i> (Rydb.) B. L. Turner <b>rare TX</b>	woolly locoweed
n 0 0	P	<i>Astragalus nuttallianus</i> DC. var. <i>micranthiformis</i> Barneby	turkeypeas
1 1 1	P/A	<i>Astragalus racemosus</i> Pursh var. <i>racemosus</i> S- 3545 GREE	alkali milkvetch
0 1 0	G	<i>Astragalus sericoleucus</i> A. Gray var. <i>sericoleucus</i> [ <i>Orophaca sericea</i> ] H-12037 GREE	silky orophaca
0 n 0	P	<i>Astragalus shortianus</i> Nutt. in Torr. & A. Gray	Short's milkvetch
1 0 0	P	<i>Astragalus tenellus</i> Pursh H-11707	pulse milkvetch
1 0 0	G	<i>Astragalus wittmannii</i> Barneby H-11709 GREE <b>rare NM, Forest Service sensitive</b>	one-flower milkvetch
1 1 1	S	<i>Dalea aurea</i> Nutt. ex Pursh H-11693 UNM	golden prairie clover
1 1 1	P	<i>Dalea candida</i> Michx. var. <i>oligophylla</i> (Torr.) Shinnery H-11697 UNM	white prairie clover
0 1 1	S	<i>Dalea cylindrideps</i> Barneby	massive spike prairie clover
1 1 1	S/G	<i>Dalea enneandra</i> Nutt. H-11794 UNM	wand-like prairie clover
1 0 1	G/C	<i>Dalea formosa</i> Torr. H-11723 GREE	feather plume, pea-bush
1 1 1	G	<i>Dalea jamesii</i> (Torr.) Torrey & A. Gray H-11761 GREE	James' prairie clover
0 0 s	S	<i>Dalea lanata</i> Spreng. var. <i>lanata</i> S-1329 GREE	woolly prairie clover
0 0 1	S	<i>Dalea nana</i> Torr. & A. Gray var. <i>nana</i> S-615 GREE	dwarf prairie clover
1 1 1	G	<i>Dalea purpurea</i> Vent. var. <i>purpurea</i> H-11900 UNM	purple prairie clover
1 1 0	G	<i>Dalea tenuifolia</i> (A. Gray) Shinnery H-11655 UNM	slimleaf prairie clover
0 1 1	S	<i>Dalea villosa</i> (Nutt.) Spreng. var. <i>villosa</i> S-1017 GREE	silky prairie clover
1 1 1	P/G	<i>Desmanthus cooleyi</i> (Eat.) Trel. H-11815 UNM	Cooley bundleflower
0 0 n	R/D	<i>Desmanthus illinoensis</i> (Michx.) MacMill. ex B. L. Rob & Fernald S-2441 GREE	Illinois bundleflower
1 0 0	PL	<i>Gleditsia triacanthos</i> L. S-529 GREE <b>planted</b>	honey locust
1 1 1	R	<i>Glycyrrhiza lepidota</i> Pursh. H-11848 UNM	wild licorice
1 0 0	G	<i>Hedysarum boreale</i> Nutt. var. <i>boreale</i> H-11751 GREE	sweet broom
0 1 1	P	<i>Hoffmanseggia drepanocarpa</i> A. Gray H-11918	sicklepod hog potato
0 1 1	P	<i>Hoffmanseggia glauca</i> (Ortega) Eifert [ <i>H. densiflora</i> ] S-4398 GREE	hog potato, pignut, <i>camote de ratón</i>
1 1 0	R	<i>Lathyrus eucosmus</i> Butters & H. St. John S-8591 GREE	bush sweet-pea
1 1 0	P	<i>Lupinus plattensis</i> S. Watson H-11745 GREE <b>toxic</b>	platte lupine
1 1 0	P/S	<i>Lupinus pusillus</i> Pursh var. <i>pusillus</i> S-5387 GREE <b>toxic</b>	dwarf lupine, ant pennies
1 0 0	R	* <i>Medicago lupulina</i> L. S-450 GREE	black medic, hop clover
1 0 0	D	* <i>Medicago sativa</i> L. S-5460 GREE	alfalfa, hay
1 1 1	D/R	* <i>Melilotus albus</i> Medik. S-6604 GREE	white sweet-clover, <i>alfalfón</i>
1 0 0	D	* <i>Melilotus officinalis</i> (L.) Pall. S-5467 GREE <b>toxic</b>	yellow sweet-clover
0 1 1	C	<i>Mimosa aculeaticarpa</i> Ortega var. <i>angustata</i> (Torr. & A. Gray) Barnaby S-861 GREE	cat-claw mimosa
0 0 1	C	<i>Mimosa borealis</i> A. Gray S-5032 GREE	fragrant sensitive briar
0 0 s	C	<i>Mimosa microphylla</i> Dry.	littleleaf sensitive briar
0 0 e	P	<i>Mimosa quadrivalvis</i> L. var. <i>nuttallii</i> (DC.) Beard ex Barneby	sensitive briar
0 1 0	P	<i>Mimosa rupertiana</i> B. L. Turner [ <i>M. quadrivalvis</i> var. <i>occidentalis</i> ]	sensitive briar
		<i>Oxytropis lambertii</i> Pursh <b>toxic</b>	<i>frijolillo</i> , crazyweed,
0 1 1	G	var. <i>articulata</i> (Greene) Barneby	thin-leaf locoweed,
1 1 0	G	var. <i>bigelovii</i> A. Gray S-5875 GREE	Bigelow's locoweed
0 1 1	G	var. <i>lambertii</i> H-12030 H-1230 GREE	Lambert's locoweed
0 1 0	G	<i>Oxytropis sericea</i> Nutt. var. <i>sericea</i> <b>toxic</b> S-3291 GREE	white locoweed
0 1 1	G	<i>Pedimelum argophyllum</i> (Pursh) J. W. Grimes S-7975 GREE	silver scurf-pea
0 n 0	P/G	<i>Pedimelum esculentum</i> (Pursh) Rydb.	prairie turnip, <i>timpisila</i>
0 1 0	S	<i>Pedimelum hypogaeum</i> (Nutt. ex Torr. & A. Gray) Rydb. var. <i>hypogaeum</i>	subterranean Indian breadroot

0 1 0	P/S	<i>Pediomelum linearifolium</i> (Torr. & A. Gray) J. W Grimes H-11826	narrow-leaf scurf pea
1 1 1	G/C	<i>Pomaria jamesii</i> (Torr. & A. Gray) Walp. [ <i>Caesalpinia jamesii</i> ] H-12028	James' hog potato
		<i>Prosopis glandulosa</i> Torr.	mesquite
1 0 0	C	var. <i>glandulosa</i> H-11774 GREE	honey mesquite
s 0 0	C	var. <i>torreyana</i> (L. Benson) M. C. Johnston	western honey mesquite
1 1 1	S/G	<i>Psoralidium lanceolatum</i> (Pursh) Rydb. S-5392 GREE	lemon scurf pea
1 1 1	P	<i>Psoralidium tenuiflorum</i> (Pursh) Rydb. H-11629 UBM	scurfy pea, wild alfalfa
1 0 0	R	<i>Robinia neomexicana</i> A. Gray var. <i>neomexicana</i> H-11696 UNM	New Mexico locust
1 1 1	P	<i>Sophora nuttalliana</i> B. L. Turner [ <i>Vexibia nuttalliana</i> ] H-11622 UNM	silky locoweed, silky sophora
0 1 0	C/R	<i>Thermopsis rhombifolia</i> (Nutt. ex Pursh) Nutt. ex Richardson var. <i>rhombifolia</i>	golden banner
0 1 0	D	* <i>Trifolium fragiferum</i> L.	strawberry clover
0 1 0	R	* <i>Trifolium hybridum</i> L.	alsike clover
0 1 0	R	* <i>Trifolium pratense</i> L. var. <i>pratense</i> S-6386 GREE	red clover, <i>trebol</i>
0 1 0	R	* <i>Trifolium repens</i> L. S-8814 GREE	white clover
		<i>Vicia americana</i> Muhl. ex Willd.	
1 1 0	D	var. <i>americana</i> S-5280 GREE	American vetch
1 1 1	D	var. <i>minor</i> Hook. H-11762 GREE	American vetch
1 1 0	D	<i>Vicia ludoviciana</i> Nutt. var. <i>ludoviciana</i> Knight H-1585 UNM	Louisiana vetch
<b>Fagaceae / Oak family</b>			
		<i>Quercus</i> spp. <b>toxic</b>	
1 0 0	C	<i>Quercus gambelii</i> Nutt. H-11669 UNM	Gambel's oak
1 0 0	C	<i>Quercus grisea</i> Liebm. H-11781 GREE	gray oak
0 1 0	C	<i>Quercus mohriana</i> Buckl. ex Rydb. hybrid	Mohr oak
1 0 0	C	<i>Quercus pungens</i> Liebm	sandpaper oak
1 0 0	C	<i>Quercus X undulata</i> Torr. H-12151 UNM	wavy-leaf oak
1 0 0	C	<i>Quercus turbinella</i> Greene H-11700 UNM hybrid	scrub live-oak
<b>Fumariaceae (see Papaveraceae)</b>			
<b>Gentianaceae / Gentian family</b>			
1 0 0	R	<i>Centaurium calycosum</i> (Buckley) Fernald H-11731 GREE	Buckley's centaury, rosita
<b>Geraniaceae / Geranium family</b>			
1 1 1	D/P	* <i>Erodium cicutarium</i> (L.) L' Hér. ex Aiton S-3310 GREE <b>toxic</b>	red-stemmed fillare
0 1 0	C	<i>Geranium caespitosum</i> E. James var. <i>caespitosum</i> S-7993 GREE	tufted wild geranium
<b>Grossulariaceae / Currant family</b>			
0 1 0	C	<i>Ribes aureum</i> Pursh var. <i>aureum</i> S-6846 GREE	golden currant, anise bush
0 1 0	C	<i>Ribes cereum</i> Douglas [ <i>R. cereum</i> var. <i>inebrians</i> ] S-3255 GREE	red currant
1 1 0	C	<i>Ribes leptanthum</i> A. Gray S-6122	trumpet gooseberry, <i>garambuyo</i>
<b>Hydrangeaceae / Hydrangea family</b>			
0 n 0	C	<i>Philadelphus microphyllus</i> A. Gray S-7912 GREE	little-leaf mock orange
<b>Hydrocharitaceae / Frogbit family</b>			
0 n 0	R	<i>Elodea canadensis</i> Michx.	waterweed
<b>Iridaceae / Iris family</b>			
1 0 0	R	<i>Iris missouriensis</i> Nutt. S-4624 GREE	wild iris
1 0 0	R	<i>Sisyrinchium demissum</i> Greene H- 4625	stiff blue-eyed grass
1 0 0	R	<i>Sisyrinchium montanum</i> Greene var. <i>montanum</i> H-11878 UNM	strict blue-eyed grass

<b>Juncaceae / Rush family</b>			
1 1 1	R	<i>Juncus arcticus</i> Willd. var. <i>balticus</i> (Willd.) Trautv. [ <i>J. balticus</i> ] S-8355 GREE	Baltic rush
1 0 0	R	<i>Juncus bufonius</i> L. S-8596 GREE	toad rush
1 1 0	R	<i>Juncus dudleyi</i> Wiegand S-476 GREE	Dudley's rush
s 0 0	R	<i>Juncus ensifolius</i> Wikstr. var. <i>montanus</i> (Engelm.) C. L. Hitchc. [ <i>J. saximontanus</i> ]	Rocky Mountain rush
1 0 0	R	<i>Juncus interior</i> Wiegand H-12135 GREE	interior rush
1 0 0	R	<i>Juncus longistylis</i> Torr. H-11872 GREE	longstyle rush
1 0 0	R	<i>Juncus nodosus</i> L. H-11718 GREE	knotted rush
0 0 e	R	<i>Juncus texanus</i> (Engel.) Coville Endemic to TX & OK	Texas rush
1 1 0	R	<i>Juncus torreyi</i> Coville S-8366 GREE	Torrey's rush
<b>Krameriaceae / Ratany family</b>			
1 1 0	P	<i>Krameria lanceolata</i> Torr. H-12149	trailing krameria
<b>Lamiaceae / Labiatae / Mint family</b>			
1 1 0	C/G	<i>Hedeoma drummondii</i> Benth. S-8610 GREE	Drummond's false pennyroyal
1 1 0	R	<i>Lycopus americanus</i> Muhl. ex W. P. C. Barton H-11867 UNM	American bugleweed
1 1 0	D	* <i>Marrubium vulgare</i> L. S-439 GREE	horehound, <i>marrubio</i>
1 1 0	R	<i>Mentha arvensis</i> L. S-11868 UNM	field mint, <i>poleo</i>
0 1 0	R	<i>Monarda fistulosa</i> L. var. <i>menthifolia</i> (Graham) Fernald S-7424 GREE	horsemint, beebalm, <i>oregano de la sierra</i>
1 1 0	P	<i>Monarda pectinata</i> Nutt. S-5600 GREE	<i>oregano del campo</i> , pagoda plant
1 1 0	D/P	<i>Salvia reflexa</i> Hornem. S-5830 H-11624 UNM	<i>chia</i> , lance-leaf sage
1 1 1	R/D	<i>Teucrium laciniatum</i> Torr. H-11813 UNM	cutleaf germander
<b>Lemnaceae / Duckweed family (see Araceae)</b>			
<b>Liliaceae / Lily family (see also Alliaceae, Anthericaceae, Ruscaceae)</b>			
		<i>Calochortus gunnisonii</i> S. Wats.	
n 0 0	P	var. <i>gunnisonii</i> S-7529 GREE	Gunnison's mariposa lily
w 0 0	P	var. <i>perpulcher</i> Cockerell <b>rare NM</b>	Pecos mariposa lily
<b>Linaceae / Flax family</b>			
0 1 0	P	<i>Linum berlandieri</i> Hook. var. <i>berlandieri</i> S-5206 GREE	Berlandier's flax
1 1 0	P	<i>Linum lewisii</i> Pursh var. <i>lewisii</i> S-721 GREE [ <i>L. perenne</i> var. <i>lewisii</i> , <i>Adenolinum lewisii</i> ]	wild blue flax, prairie flax
0 0 1	D	* <i>Linum perenne</i> L.	blue flax
0 1 1	P	<i>Linum pratense</i> (Norton) Small [ <i>Adenolinum pratense</i> ]	pale blue flax
1 1 1	P	<i>Linum puberulum</i> (Engelm.) A. Heller S-4594 GREE	yellow plains flax
1 1 1	P	<i>Linum rigidum</i> Pursh var. <i>compactum</i> (A. Nelson) C. M. Rogers S-5366 GREE	plains yellow flax
0 1 0	P	<i>Linum rigidum</i> Pursh var. <i>rigidum</i> (A. Nelson) C. M. Rogers H-12024 UNM	plains yellow flax
<b>Loasaceae / Loasa family</b>			
1 0 0	C/G	<i>Mentzelia albicaulis</i> (Douglas ex Hook.) Douglas ex Torr. & A. Gray	white-stem blazing star
1 1 0	G/S	<i>Mentzelia decapetala</i> (Pursh) Urb. & Gilg ex Gilg S-2161 GREE	ten-petal blazing star, cowboy lily
0 1 0	C	<i>Mentzelia multiflora</i> (Nutt.) A. Gray var. <i>multiflora</i> S-1046 GREE	blazing star, <i>pega pega</i>
1 1 0	G	<i>Mentzelia nuda</i> (Pursh) Torr. & A. Gray [ <i>M. nuda</i> var. <i>stricta</i> ] S-2182 GREE	straight blazing star, <i>pega pega</i>
1 1 0	G	<i>Mentzelia pumila</i> Torr. & A. Gray var. <i>pumila</i>	golden blazing star
0 1 0	G	<i>Mentzelia reverchonii</i> (Urb. & Gilg) H. J. Thomps. & Zavort S-7222 GREE	Reverchon's blazing star

<b>Malvaceae / Mallow family</b>			
0 1 0	R	<i>Callirhoë involucrata</i> (Torr. & A. Gray) A. Gray var. <i>involucrata</i> S-6843 GREE	purple poppymallow
1 1 1	D	* <i>Malva neglecta</i> Wallr. S-8511 GREE	cheeseweed, mallow, <i>malva del campo</i>
1 0 0	D/C	<i>Sphaeralcea angustifolia</i> (Cav.) G. Don H-12060 GREE	copper globemallow, narrowleaf globemallow
1 1 1	P	<i>Sphaeralcea coccinea</i> (Nutt.) Rydb. S-6557 GREE	scarlet globemallow, cowboy's delight, <i>yerba de la negrita</i>
1 0 0	C/R	<i>Sphaeralcea fendleri</i> A. Gray var. <i>fendleri</i> S-5398 GREE	Fendler's globemallow
<b>Martyniaceae / Sesame family (includes Pedaliaceae)</b>			
0 1 0	D/P	<i>Proboscidea louisianica</i> (Mill.) Thell. subsp. <i>louisianica</i>	devil's claw, <i>torito</i> , <i>curenitos</i> , <i>aguaro</i>
<b>Moraceae / Mulberry family</b>			
1 1 0	PL	* <i>Maclura pomifera</i> (Raf.) C. K. Schneid. H-12056 GREE <b>planted</b>	Osage orange, horse or hedge apple
1 0 0	PL	* <i>Morus alba</i> L. <b>planted</b>	white mulberry
w 0 0	C	<i>Morus microphylla</i> Buckl.	Texas mulberry
<b>Nyctaginaceae / Four o'clock family</b>			
0 1 0	S	<i>Abronia fragrans</i> Nutt. ex Hook. var. <i>fragrans</i> S-239 GREE	fragrant sand verbena
0 0 1	P	<i>Mirabilis glabra</i> (S. Watson) Standl. [ <i>M. carletonii</i> , <i>Oxybaphus carletonii</i> ]	smooth four o'clock
1 1 0	P	<i>Mirabilis hirsuta</i> (Pursh) MacMill. H-12002 UNM [some place as a syn. of <i>Mirabilis albida</i> ]	hairy four o'clock
1 1 1	P	<i>Mirabilis linearis</i> (Pursh) Heimerl [ <i>M. decumbens</i> ] H-11650 UNM	ribbon or narrow-leaf four o'clock
1 0 0	C	<i>Mirabilis multiflora</i> (Torr.) A. Gray H-11704 GREE	showy four o'clock
1 1 0	D	<i>Mirabilis nyctaginea</i> (Michx.) MacMill. S-5688 GREE	heart-leaf four o'clock, <i>maravilla</i>
<b>Oleaceae / Olive family</b>			
1 0 0	C	<i>Forestiera pubescens</i> Nutt. var. <i>pubescens</i> H-11737 GREE	New Mexico olive
<b>Onagraceae / Evening primrose family</b>			
1 1 1	R	<i>Epilobium ciliatum</i> Raf. var. <i>ciliatum</i> S-7553 GREE	fringed willowherb
1 0 0	G	<i>Oenothera albicaulis</i> Pursh S-3328 GREE	whitstem evening-primrose
1 1 0	R	<i>Oenothera canescens</i> Torr. & Frém. H-11766 GREE	spotted evening-primrose
n 0 0	G	<i>Oenothera cespitosa</i> Nutt. subsp. <i>cespitosa</i>	gumbo-lily, morning-lily
0 1 0	S	<i>Oenothera cinerea</i> (Woot. & Standl.) W. L. Wagner & Hoch subsp. <i>cinerea</i> [ <i>Gaura villosa</i> ] H-11806 UNM	hairy gaura
1 1 0	D/S	<i>Oenothera coronopifolia</i> Torr. & A. Gray H-11864 UNM	combleaf or hairy-throat evening-primrose
1 1 1	D	<i>Oenothera curtiflora</i> W. L. Wagner & Hoch [ <i>Gaura parviflora</i> , <i>G. mollis</i> ] S-7824 GREE	velvetleaf, elk antlers
1 1 0	C	<i>Oenothera elata</i> Kunth var. <i>hirsutissima</i> (A. Gray ex S. Watson) Cronquist S- 8423 GREE	Hooker's evening-primrose
1 1 0	S	<i>Oenothera engelmannii</i> (Small) Munz H-12026 UNM	Dust Bowl evening-primrose
1 0 0	C	<i>Oenothera flava</i> (A. Nelson) Garrett S-5431 GREE	yellow evening-primrose
		<i>Oenothera hartwegii</i> (Benth.) P. H. Raven	
0 0 n	G	subsp. <i>fendleri</i> (A. Gray) Towner & P. H. Raven [ <i>Calylophus hartwegii</i> subsp. <i>fendleri</i> ]	Fendler's sundrops
0 1 1	G	subsp. <i>pubescens</i> (A. Gray) Towner & P. H. Raven [ <i>Calylophus hartwegii</i> subsp. <i>pubescens</i> ]	Hartweg's sundrops

0 n 0	S	<i>Oenothera latifolia</i> (Rydb.) Munz.	pale evening-primrose
1 1 1	G	<i>Oenothera lavandulifolia</i> (Torr. & A. Gray) P. H. Raven [ <i>Calylophus lavandulifolius</i> ] H-11876 UNM	lavender evening- primrose
0 0 e	R	<i>Oenothera macrocarpa</i> Nutt. var. <i>incana</i> (A. Gray) W. L. Wagner	Missouri evening-primrose
1 1 1	S	<i>Oenothera pallida</i> Lindl. var. <i>runcinata</i> (Engelm.) Cronquist H-11735 GREE	pale evening-primrose
1 1 1	G/R	<i>Oenothera serrulata</i> Nutt. var. <i>serrulata</i> [ <i>Calylophus serrulatus</i> ] H-11625 UNM	plains yellow primrose
1 1 1	P	<i>Oenothera suffretescens</i> (Ser.) W. L. Wagner & Hoch [ <i>Gaura coccinea</i> ] S-130 GREE	scarlet gaura, <i>linda tarde</i>
0 0 s	P	<i>Oenothera triloba</i> Nutt.	stemless evening-primrose
1 0 0	R	<i>Oenothera villosa</i> Thunb. var. <i>strigosa</i> (Rydb.) Dorn H-11736 GREE	hairy evening-primrose
<b>Orchidaceae / Orchid family</b>			
0 n 0	C	<i>Corallorhiza maculata</i> (Raf.) Raf.	summer coralroot
1 0 0	R	<i>Epipactis gigantea</i> Dougl. ex Hook.	stream orchid
<b>Orobanchaceae / Broomrape family</b>			
1 1 0	C	<i>Castilleja integra</i> A. Gray var. <i>integra</i> S-1339 GREE	red paintbrush
1 1 1	G	<i>Castilleja sessiliflora</i> Pursh S-4590 GREE	downy paintbrush
0 n 0	P	<i>Orobanche fasciculata</i> Nutt. [ <i>Aphyllon fasciculatum</i> ]	clustered broomrape
		<i>Orobanche ludoviciana</i> Nutt.	Louisiana broomrape
1 0 0	P	var. <i>ludoviciana</i> H-11801	<i>flor de tierra</i>
n 0 0	P	var. <i>multiflora</i> (Nutt.) Beck H-11801 UNM	many-flower broomrape
0 0 1	R	<i>Orthocarpus luteus</i> Nutt. S-8002 GREE	owl clover
<b>Papaveraceae / Poppy family (includes Fumariaceae)</b>			
1 1 0	P	<i>Argemone hispida</i> A. Gray [ <i>A. platyceras</i> ] H-12041	hispid prickly poppy
0 1 0	P	<i>Argemone polyanthemos</i> (Fedde) G. B. Ownbey H-11819 UNM	prickly poppy, cowboy's fried eggs, <i>chocolate</i>
0 1 0	P	<i>Argemone squarrosa</i> Greene var. <i>squarrosa</i> H-12041 UNM	hedgehog prickly poppy, <i>cardo santo</i>
		<i>Corydalis aurea</i> Willd.	golden smoke
1 1 1	S	var. <i>aurea</i> S-8510 GREE	scrambled eggs
0 n 0	S	var. <i>occidentalis</i> Engelm ex A. Gray S-3204 GREE	curve-pod fumewort
<b>Pedaliaceae (see Martyniaceae)</b>			
<b>Phrymaceae (formerly in Scrophulariaceae)</b>			
0 n 0	R	<i>Mimulus glabratus</i> Kunth var. <i>glabratus</i>	monkey flower
<b>Plantaginaceae / Plantain family (includes part of Scrophulariaceae)</b>			
0 n 0	D	* <i>Linaria dalmatica</i> L. subsp. <i>dalmatica</i> <b>noxious</b> [ <i>L. genistifolia</i> subsp. <i>dalmatica</i> ] S-9057 GREE	butter and eggs, Dalmatian toadflax
1 1 0	P	<i>Penstemon albidus</i> Nutt. S-3493 GREE	white beard-tongue
1 1 0	S	<i>Penstemon ambiguus</i> Torr. ( <i>Leiostemon ambiguus</i> ) H-11804 UNM	bush or moth penstemon
1 1 0	P	<i>Penstemon angustifolius</i> Nutt. ex Pursh var. <i>angustifolius</i>	narrow beard-tongue
0 1 1	P	<i>Penstemon auriberbis</i> Pennell S-3563 GREE	Colorado beard-tongue
1 0 0	C	<i>Penstemon barbatus</i> (Cav.) Roth var. <i>torreyi</i> (Benth.) A. Gray H-12071	scarlet or beard-lip penstemon
0 0 s	P	<i>Penstemon buckleyi</i> Pennell S-3193 GREE	Buckley's beard-tongue
1 1 0	P	<i>Penstemon fendleri</i> A. Gray S-8606 GREE	Fendler's penstemon
0 n 0	R	<i>Penstemon glaber</i> Pursh var. <i>glaber</i>	sawsepal penstemon
1 1 0	P	<i>Penstemon jamesii</i> Benth. S- 413 GREE	James' beard-tongue
1 1 0	P	<i>Penstemon secundiflorus</i> Benth. subsp. <i>secundiflorus</i> S-765 GREE	side-bells penstemon
0 1 0	R	<i>Plantago eriopoda</i> Torr. S-5619 GREE	red-wool plantain
1 0 0	R	* <i>Plantago lanceolata</i> L. S-5450 GREE	narrow-leaf plantain
1 1 1	P/D	<i>Plantago patagonica</i> Jacq. H-12092 GREE	Indian woolly wheat

1 0 0	D	* <i>Plantago major</i> L. H-11880 UNM	plantain, <i>llantén</i> , “white man’s foot”
1 1 0	R	<i>Vernonica catenata</i> Pennell S-8494 GREE	water speedwell
1 1 0	R	<i>Vernonica peregrina</i> L. var. <i>xalapensis</i> (Kunth) H. St. John & F. W. Warren S-5426 GREE	hairy leaf speedwell
<b>Poaceae / Grass family</b>			
1 1 1	P/S	<i>Achnatherum hymenoides</i> (Roem. & Schult.) Barkworth [ <i>Oryzopsis hymenoides</i> ] S-504 GREE	Indian ricegrass
0 1 0	S/D	<i>Achnatherum robustum</i> (Vasey) Barkworth [ <i>Stipa robusta</i> ] S-3963 GREE	sleepygrass
1 1 0	C	<i>Achnatherum scribneri</i> (Vasey) Barkworth [ <i>Stipa scribneri</i> ] H-12090 GREE	Scribner needle-grass
0 1 1	D	* <i>Aegilops cylindrica</i> Host S-5534 GREE <b>noxious</b>	jointed goat-grass
0 1 0	P	<i>Agropyron cristatum</i> (L.) Gaertn. var. <i>cristatum</i>	crested wheatgrass
1 1 0	R	<i>Agrostis exarata</i> Trin. S-7314 GREE	spike bentgrass
1 0 0	R	* <i>Agrostis gigantea</i> Roth. [ <i>A. alba</i> ]	redtop
0 1 0	R	<i>Agrostis scabra</i> Willd. S-7946 GREE	rough bentgrass
1 1 1	R	* <i>Agrostis stolonifera</i> L. S-3325 GREE	creeping bentgrass
1 1 1	P	<i>Andropogon gerardii</i> Vitman S-7789 GREE	big bluestem
1 1 1	P/S	<i>Andropogon hallii</i> (Hack.) Wipff. S-465 GREE	Hall’s bluestem
w 0 0	P	<i>Aristida arizonica</i> Vasey	Arizona threeawn
0 1 0	P	<i>Aristida adscensionis</i> L. S-2036 GREE	six-weeks threeawn
0 1 0	P	<i>Aristida divaricata</i> Humb. & Bonpl. ex Willd. H-12203 UNM	poverty threeawn
0 1 0	P	<i>Aristida havardii</i> Vasey S-639 GREE	Havard’s threeawn
		<i>Aristida purpurea</i> Nutt.	noeatum, <i>tres barbas</i>
0 1 0	P	var. <i>fendleriana</i> (Steud.) Vasey	Fendler’s threeawn
1 1 1	P	var. <i>longiseta</i> (Steud.) Vasey S-133 & 780	purple threeawn,
0 s 0	P	var. <i>nealleyi</i> (Vasey) Allred [ <i>A. glauca</i> ]	Nealley’s threeawn
1 0 0	P	var. <i>wrightii</i> (Nash) Allred S-751	Wright’s threeawn
w 0 0	P	* <i>Bothriochloa bladhii</i> (Retz.) S. T. Blake	bluestem
		* <i>Bothriochloa ischaemum</i> (L.) Keng. var. <i>songarica</i> (Rupr. ex Fisch. & C. A. Mey.)	yellow bluestem King Ranch bluestem,
1 1 1	P	Celarier & Harlan H-12032 UNM	yellow bluestem
1 1 1	D	<i>Bothriochloa laguroides</i> (DC.) Herter subsp. <i>torreyana</i> (Steud.) Allred & Gould [ <i>Bothriochloa saccharoides</i> ] S-438 GREE	silver bluestem
1 1 0	P	<i>Bothriochloa springfieldii</i> (Gould) Parodi H-12075 GREE	Springfield’s bluestem
		<i>Bouteloua curtipendula</i> (Michx.) Torr.	
0 1 1	P	var. <i>caespitosa</i> Gould & Kapadia S-1035 GREE	spreading sideoats grama
1 1 1	P	var. <i>curtipendula</i> H-11844 UNM	sideoats grama
1 1 1	P	<i>Bouteloua dactyloides</i> (Nutt.) J. T. Columbus [ <i>Buchlœe dactyloides</i> ] S-523 GREE	buffalo grass
0 1 1	C	<i>Bouteloua eriopoda</i> (Torr.) Torr. H-12185 GREE	black grama
1 1 1	P	<i>Bouteloua gracilis</i> (Kunth) Lag. [ <i>Chondrosum gracilis</i> ] H-12193	blue grama
1 1 0	G/C	<i>Bouteloua hirsuta</i> Lag. var. <i>hirsuta</i> H-12057 GREE	hairy grama
0 1 0	D	<i>Bouteloua simplex</i> Lag.	annual or mat grama
1 0 0	P	<i>Bromus anomalus</i> Rupr. ex Fourn. S-462 GREE	nodding brome
s 0 0	R	* <i>Bromus catharticus</i> Vahl. S-7776 GREE	rescue grass
1 1 1	R	* <i>Bromus inermis</i> Leyss. [ <i>Bromopsis inemis</i> ] S-1349 GREE <b>noxious</b>	smooth brome
1 1 1	D	* <i>Bromus japonicus</i> Thumb. ex Murry <b>noxious</b>	Japanese brome, bald brome
1 1 1	G/C	<i>Bromus lanatipes</i> (Shear) Rydb. H-12117 UNM	woolly brome
1 1 1	D	* <i>Bromus tectorum</i> L. [ <i>Anisantha tectorum</i> ] <b>noxious</b> S-5413 GREE	downy brome, cheatgrass
1 0 0	R	<i>Calamagrostis stricta</i> (Timm) Koeler subsp. <i>inexpansa</i> (A. Gray) C. W. Greene	slender reedgrass
0 0 n	S	<i>Calamovilfa gigantea</i> (Nutt.) Scribn. & Merr.	big sandreed
0 1 0	S	<i>Calamovilfa longifolia</i> (Hook.) Schribn. var. <i>longifolia</i>	prairie sandreed

1 1 1	S/R	<i>Cenchrus longispinus</i> (Hack.) Fernald H-12034	cactus-grass, sandbur, <i>zacate Toboso, roseta</i>
0 s 0	S	<i>Cenchrus spinifex</i> Cav. [ <i>C. pauciflorus</i> ] S-2714 GREE	coastal sandbur
1 1 1	D	<i>Chloris verticillata</i> Nutt. H-11742 GREE	tumble-windmill grass
1 1 1	D	<i>Chloris virgata</i> Swartz	feather-windmill grass, <i>zacate lagunero</i>
1 1 0		* <i>Cynodon dactylon</i> (L.) Pers. var. <i>dactylon</i> S-6097 <b>noxious, toxic</b>	Bermuda grass, <i>zacate Ingles</i>
0 n 0	R	* <i>Dactylis glomerata</i> L. S-3965 GREE	orchard grass
1 0 0	D	<i>Dichanthelium acuminatum</i> (Sw.) Gould & C. A. Clark var. <i>acuminatum</i>	tapered rosettegrass
1 0 0	C	<i>Dichanthelium oligosanthes</i> (Schult.) Gould H-12133 var. <i>scribnerianum</i> (Nash) Gould [ <i>Panicum helleri</i> ] H-12133 GREE	Scribner's rosettegrass
0 1 0	D/R	* <i>Digitaria sanguinalis</i> (L.) Scop.	hairy crabgrass
1 1 0	A	<i>Distichlis stricta</i> (Torr.) Rydb. [ <i>D. spicata</i> ] S-7854	saltgrass, <i>zacate salado</i>
1 1 1	R	* <i>Echinochloa crus-galli</i> (L.) Beauv. var. <i>crus-galli</i> H-12093	large barnyard grass
0 0 0	D	<i>Echinochloa crus-pavonis</i> (Kunth) Schult var. <i>marca</i> (Wiegand) Gould S-2120 GREE	Gulf Coast barnyard grass
1 1 0	D	<i>Echinochloa muricata</i> (P. Beauv.) Fernald var. <i>microstachya</i> Wiegand S-8379 GREE	cockspur <i>zacate del agua</i>
1 1 0	R	<i>Elymus canadensis</i> L S-475 & 700 GREE	Canada wild-rye
1 1 1	P	<i>Elymus elymoides</i> (Raf.) Swezey var. <i>brevifolius</i> (J. G. Sm.) Dorn S-405 GREE	squirreltail
n 0 0	R	* <i>Elymus repens</i> (L.) Gould [ <i>Agropyron repens</i> ]	quackgrass
1 1 1	P	<i>Elymus smithii</i> (Rydb.) Gould S-403 GREE [ <i>Agropyron smithii</i> , <i>Pascopyron smithii</i> ]	western wheatgrass
0 1 0	P	<i>Elymus trachycaulus</i> (Link) Gould ex Shinners var. <i>trachycaulus</i> S-1505 GREE	slender wheatgrass
0 0 s	R	<i>Elymus virginicus</i> L. var. <i>submuticus</i> Hook. [ <i>E. curvatus</i> ]	Virginia wild-rye
1 1 1	D	* <i>Eragrostis cilianensis</i> (Allioni) Lutati ex Janchen S- 7664 GREE	stinkgrass, lovegrass, <i>zacate apestoso</i>
0 1 0	P	<i>Eragrostis curtipedicellata</i> Buckley S-7662	gummy lovegrass
0 1 0	D	* <i>Eragrostis curvula</i> (Schrud.) Nees var. <i>conferta</i> Staph. S-5595 GREE	weeping lovegrass
0 0 1	A	<i>Eragrostis intermedia</i> Hitchc.	plains lovegrass
s 0 0	C	<i>Eragrostis mexicana</i> (Hornem.) Link subsp. <i>mexicana</i>	Mexican lovegrass
1 0 0	D	<i>Eragrostis pectinacea</i> (Michx.) Nees ex Steud var. <i>pectinacea</i>	tufted lovegrass
1 0 0	D	<i>Eragrostis pilosa</i> (L.) P. Beauv. var. <i>pilosa</i> S-8554 GREE	India lovegrass
0 1 0	S	<i>Eragrostis secundiflora</i> J. Presl subsp. <i>oxylepis</i> (Torr.) S. D. Kock S-2229 GREE	red lovegrass
0 1 0	P	<i>Eragrostis sessilispica</i> Buckley H-12018 GREE	tumble lovegrass
0 1 0	S	<i>Eragrostis trichoides</i> (Nutt.) A. W. Wood S-473 GREE	sand lovegrass
1 1 0	C	<i>Erioneuron pilosum</i> (Buckley) Nash S-5390 GREE	hairy tridens, <i>zacate borreguero</i>
0 1 0	P	<i>Festuca arizonica</i> Vasey	Arizona fescue
1 1 1	P	<i>Hesperostipa comata</i> (Trin. & Rupr.) Barkworth ssp. <i>comata</i> [ <i>Stipa comata</i> ] S-2938 GREE	needle-and-thread
w 0 0	P	<i>Hesperostipa comata</i> (Trin. & Rupr.) Barkworth ssp. <i>intermedia</i> (Scribn. & Tweedy) Barkworth	intermediate needle-and-thread
1 0 0	C/G	<i>Hesperostipa neomexicana</i> (Thurb. ex Coult.) Barkworth	NM feathergrass
1 1 1	P	<i>Hilaria jamesii</i> (Torr.) Benth. [ <i>Pleuraphis jamesii</i> ] S-749 GREE	galleta
0 s 0	P	<i>Hilaria mutica</i> (Buckley) Benth. [ <i>Pleuraphis mutica</i> ] S-6054 GREE	Tobosa grass
1 1 1	R	<i>Hordeum jubatum</i> L. subsp. <i>jubatum</i> S-5421 GREE	foxtail barley
1 1 1	P/D	<i>Hordeum pusillum</i> Nutt. S-5390 GREE	little barley, <i>cebadilla silvestre</i>
0 s 0	R/D	* <i>Hordeum vulgare</i> L. S-4708 GREE	barley, <i>cebada</i>
0 1 0	P	<i>Koeleria macrantha</i> (Ledeb.) Schult. S-8737 GREE	junegrass
0 0 1	R	<i>Leersia oryzoides</i> (L.) Sw.	rye cutgrass

1 0 0	R	<i>Leptochloa dubia</i> (Kunth) Nees [ <i>Diplachne dubia</i> ]	green sprangletop
1 1 0	R	<i>Leptochloa fusca</i> (L.) Kunth subsp. <i>fasicularis</i> (Lam.) N. Snow S-7655 GREE	Mexican sprangletop, <i>zacate salado Mexicano</i>
1 1 0	C	<i>Lycurus phleoides</i> Kunth. S-469 GREE	common wolf-tail
1 1 0	C	<i>Lycurus setosus</i> (Nutt.) C. Reeder S-474 GREE	bristly wolf-tail
w 0 0	R	<i>Melica porteri</i> Scribn. S-7600 GREE	Porter's melicgrass
1 1 0	S	<i>Muhlenbergia arenicola</i> Buckley S-8476 GREE	sand muhly
1 1 1	R	<i>Muhlenbergia asperifolia</i> (Nees & Meyer ex Trin.) Parodi S-2470 GREE	scratch-grass muhly
1 0 0	C	<i>Muhlenbergia cuspidata</i> (Torr. ex Hook.) Rydb.	plains muhly
1 0 0	C	<i>Muhlenbergia depauperata</i> Scribn. Sivinski and Lowrey 2886 UNM	six-weeks muhly
n 0 0	R	<i>Muhlenbergia filiculmis</i> Vasey	slim-stem muhly
w 0 0	R/C	<i>Muhlenbergia filiformis</i> (Thurb. ex S. Watson) Rydb.	pull-up muhly
1 0 1	R	<i>Muhlenbergia mexicana</i> (L.) Trin.	Mexican muhly
1 0 0	P/C	<i>Muhlenbergia minutissima</i> (Steud.) Swallen Sivinski and Lowrey 2888 UNM	least muhly
1 0 0	P/C	<i>Muhlenbergia montana</i> (Nutt.) Hitchc. S-1351 GREE	mountain muhly
0 1 0	S	<i>Muhlenbergia pungens</i> Thurb. H-12000 UNM	sandhill muhly
1 1 0	D/C	<i>Muhlenbergia racemosa</i> (Michx.) Britton, Sterns, & Poggenb.	green muhly
1 0 0	P	<i>Muhlenbergia repens</i> (J. Presl.) Hitchc.	creeping muhly
1 0 0	C	<i>Muhlenbergia rigens</i> (Benth.) Hitchc.	deergress
1 1 1	P	<i>Muhlenbergia torreyi</i> (Kunth.) Hitchc. ex Bush S-750 GREE	ring muhly
1 1 0	P	<i>Muhlenbergia wrightii</i> Vasey ex J. M. Coult. S-1502 GREE	spike muhly
1 1 1	P/S	<i>Munroa squarrosa</i> (Nutt.) Torr. H-11765 GREE	false buffalo grass
1 1 0	P/R	<i>Nassella viridula</i> (Trin.) Barkworth [ <i>Stipa viridula</i> ] (R. & S.) Ricker ex Piper	green needle-grass
1 1 1	D	<i>Panicum capillare</i> L. H-12134 GREE	witch-grass, tickle-grass
1 1 0	P	<i>Panicum hallii</i> Vasey var. <i>hallii</i> S-6619 GREE	Hall's panicum
1 1 1	R	<i>Panicum obtusum</i> Kunth. S-493 GREE	vine-mesquite
1 1 0	R	<i>Panicum virgatum</i> L. H-12113 GREE	switch-grass
0 1 0	S	<i>Paspalum setaceum</i> Michx. [ <i>P. ciliatifolium</i> ] H-11958 GREE	thin paspalum
1 1 0	R	* <i>Phleum pratense</i> L. var. <i>pretense</i> S-7588 GREE	timothy
s 0 0	R	<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	common reed, <i>carrizo</i>
1 1 0	C	<i>Piptatherum micranthum</i> (Trin. & Rupr.) Barkworth [ <i>Oryzopsis micrantha</i> ] S-7951 GREE	little ricegrass
1 1 1	P	<i>Pleuraphis jamesii</i> [ <i>Hilaria jamesii</i> ] S-749 GREE	galleta
n 0 0	P	<i>Poa arida</i> Vasey	plains bluegrass
1 0 0	P	<i>Poa bigelovii</i> Vasey & Scribn. S-5395 GREE	Bigelov's bluegrass
0 1 0	P	<i>Poa fendleriana</i> (Steud.) Vasey subsp. <i>fendleriana</i> S-3620 GREE	mutton grass
1 1 1	R	<i>Poa palustris</i> L. S-5443 GREE	fowl bluegrass
1 1 1	R	* <i>Poa pratensis</i> L. subsp. <i>pratensis</i> S-464 GREE	Kentucky bluegrass
1 1 0	R	* <i>Polypogon monspeliensis</i> (L.) Desf. S-5385 GREE	rabbitfoot grass, <i>zacate cola de zorra</i>
0 0 s	R	* <i>Polypogon viridis</i> (Gouan) Breistr.	green rabbitfoot grass
1 1 1	D	<i>Schedonnardus paniculatus</i> (Nutt.) Trel. H-11768 GREE	tumblegrass
w 0 0	C	* <i>Schedonorus arundinaceus</i> (Schreb.) Dumort [ <i>Festuca elatior</i> var. <i>arundinacea</i> ]	tall fescue
w 0 0	C	* <i>Schedonorus pratensis</i> (Huds.) P. Beauv. [ <i>Festuca pratensis</i> ]	meadow fescue
1 1 1	P/G	<i>Schizachyrium scoparium</i> (Michx.) Nash var. <i>scoparium</i> S-6620	little bluestem
s 0 0	P	<i>Scleropogon brevifolius</i> Phil.	burro grass
n 0 0	D	* <i>Setaria italica</i> (L.) P. Beauv.	foxtail millet

1 1 0	R	<i>Setaria leucopila</i> (Scrib. & Merr.) K. Schum. S-6599 GREE	plains bristlegrass
1 1 1	R/D	* <i>Setaria pumila</i> (Poir.) Roem. & Schult. subsp. <i>pumila</i>	yellow foxtail
1 1 1	R/D	<i>Setaria viridis</i> (L.) P. Beauv.	green foxtail
1 1 0	R	<i>Sorghastrum nutans</i> (L.) Nash H-12083 UNM	Indian grass
1 1 1	R	* <i>Sorghum halepense</i> (L.) Pers. S-8475 GREE <b>toxic</b>	Johnson grass, <i>zacate</i> Johnson
1 1 0	R	<i>Spartina pectinata</i> Link H-12114 GREE	prairie cordgrass
		<i>Sphenopholis obtusata</i> (Michx.) Scribn.	
0 1 0	R	var. <i>major</i> (Torr.) K. S. Erdm. S-5624 GREE	prairie wedgescale
1 0 0	R	var. <i>obtusata</i> S-6622 GREE	prairie wedgescale
1 1 1	R/A	<i>Sporobolus airoides</i> (Torr.) Torr. S-498 GREE	alkali sacaton, <i>zacate alcalino</i>
0 s 0	S/D	<i>Sporobolus compositus</i> (Poir.) Merr. var. <i>compositus</i> [ <i>Sporobolus asper</i> ]	composite dropseed, tall dropseed
n 0 0	P	<i>Sporobolus contractus</i> A. S. Hitchc.	spike dropseed
1 1 1	S	<i>Sporobolus cryptandrus</i> (Torr.) A. Gray S-8480 GREE	sand dropseed
0 1 0	S	<i>Sporobolus giganteus</i> Nash H-11823 UNM	giant dropseed
0 1 0	P/C	<i>Tridens muticus</i> (Torr.) Nash var. <i>elongatus</i> (Buckley) Shinnars	slim tridens
1 1 1	P	<i>Vulpia octoflora</i> (Walter) Rydb. var. <i>octoflora</i> [ <i>Festuca octoflora</i> ] S-409 GREE	six-weeks fescue
<b>Polemoniaceae / Phlox family</b>			
0 n 0	C	<i>Aliciella pinnatifida</i> (A. Gray) J. M. Porter	sticky gilia
w 0 0	C	<i>Collomia linearis</i> Nutt. S-7565 GREE	mountain trumpet
1 1 0	C	<i>Giliastrum acerosum</i> (A. Gray) Rydb.	spiny blue bowls
1 0 0	G	<i>Ipomopsis aggregata</i> (Pursh) V. E. Grant subsp. <i>formosissima</i> (Greene) Wherry S-7458 GREE	scarlet gilia skyrocket
1 1 1	P	<i>Ipomopsis laxiflora</i> (J. M. Coult.) V. E. Grant H-12069 GREE	blue trumpet gilia
w 0 0	S	<i>Ipomopsis longiflora</i> (Torr.) V. E. Grant var. <i>longifolia</i> S-2313 GREE	trumpet gilia
1 1 1	G	<i>Ipomopsis spicata</i> (Nutt.) V. E. Grant subsp. <i>spicata</i> H-11749 GREE	spike gilia
s 0 0	C	<i>Phlox nana</i> Nutt. S-6125 GREE	Santa Fe phlox
<b>Polygalaceae / Milkwort family</b>			
1 1 1	G	<i>Polygala alba</i> Nutt. H-11853	white milkwort
<b>Polygonaceae / Knotweed or Buckwheat family</b>			
1 1 1	G/C	<i>Eriogonum alatum</i> Torr. var. <i>alatum</i> [ <i>Pterogonum alatum</i> ] H-11857 UNM	winged buckwheat
n 0 0	P/G	<i>Eriogonum aliquidum</i> Reveal <b>rare NM</b>	Cimarron buckwheat
1 1 1	S/P	<i>Eriogonum annuum</i> Nutt. H-11800 UNM	annual buckwheat
1 1 1	G	<i>Eriogonum jamesi</i> Benth. var. <i>jamesii</i> H-11756 GREE	James' buckwheat
1 1 1	G	<i>Eriogonum lachnogynum</i> Torr. ex Benth var. <i>lachnogynum</i> H-12010 UNM	woolly-cup buckwheat
0 0 1	S	<i>Eriogonum longifolium</i> Nutt. var. <i>lindheimeri</i> Gand. [ <i>E. longifolium</i> var. <i>longifolium</i> ]	long-leaf buckwheat
1 1 1	G	<i>Eriogonum tenellum</i> Torr. var. <i>tenellum</i> H-11717 GREE	matted buckwheat
1 1 0	R	* <i>Fallopia convolvulus</i> L. [ <i>Polygonum convolvulus</i> ] S-1736 GREE	climbing buckwheat
1 1 0	R	<i>Persicaria amphibia</i> (L.) A. Gray [ <i>Polygonum amphibium</i> ] S-7728 GREE	long-root smartweed
1 0 0	R	<i>Persicaria bicornis</i> Raf. [ <i>Polygonum bicornis</i> ] H-12208	pink smartweed
0 0 n	R	* <i>Persicaria hydropiper</i> (L.) Opiz. [ <i>Polygonum hydropiper</i> ]	mash-pepper knotweed

0 1 0	R	* <i>Persicaria lapathifolia</i> (L.) A. Gray [ <i>Polygonum lapathifolium</i> ] S-7728 GREE	dock-leaf smartweed
0 1 0	R	* <i>Persicaria maculosa</i> A. Gray [ <i>Polygonum persicaria</i> ] H-12108 GREE	Lady's thumb
0 1 0	R	<i>Persicaria pennsylvanica</i> (L.) M. Gomez [ <i>Polygonum pennsylvanicum</i> ]	Pennsylvania smartweed
1 1 1	D	* <i>Polygonum arenastrum</i> Jord. ex Boreau. [ <i>P. aviculare</i> ] S-4976 GREE	knotweed, <i>centinodio</i>
0 1 0	R	<i>Polygonum ramosissimum</i> Michx. subsp. <i>ramosissimum</i>	erect knotweed
1 1 0	R	<i>Rumex altissimus</i> A. W. Wood H-12122 GREE	pale dock
1 1 1	R	* <i>Rumex crispus</i> L. H-8700	curly dock, <i>acedera bendita</i>
0 1 1	R	<i>Rumex hymenosepalus</i> Torr. S-4965 GREE	<i>cañaigre</i> , tanner's dock
0 n 0	R	<i>Rumex salicifolius</i> Weinm. var. <i>denticulatus</i> Torr. H-11682 UNM [ <i>R. salicifolius</i> var. <i>mexicanus</i> ]	Mexican dock
1 0 0	R	* <i>Rumex stenophylus</i> Ledeb. H-12103	slender-leaf dock
0 1 0	R	<i>Rumex venosus</i> Pursh	wild begonia
<b>Pontederiaceae / Pickerel weed family</b>			
1 0 0	R	<i>Heteranthera limosa</i> (Sw.) Willd. H-12205	mud plantain
<b>Portulacaceae / Purslane family</b>			
0 0 1	D/S	<i>Portulaca halimoides</i> L.	silk-cotton purslane
1 1 1	D	* <i>Portulaca oleracea</i> L. S-2189 GREE	purslane, <i>verdolaga</i>
1 0 0	D	<i>Portulaca pilosa</i> L. H-12202 GREE	kiss-me-quick
1 0 0	D/P	<i>Talinum parviflorum</i> Nutt. H-12209	fameflower
<b>Potamogetonaceae / Pondweed family</b>			
1 0 0	R	<i>Potamogeton diversifolius</i> Raf.	water-thread pondweed
1 0 0	R	<i>Potamogeton foliosus</i> Raf. var. <i>foliosus</i> H-12054 GREE	leafy pondweed
<b>Primulaceae / Primrose family</b>			
1 0 0	C	<i>Androsace septentrionalis</i> L. S-6130 GREE	rock jasmine
<b>Ranunculaceae / Buttercup family</b>			
s 0 0	R	<i>Anemone cylindrica</i> A. Gray S-6737 GREE	wind flower
0 1 0	P/C	<i>Anemone patens</i> L. var. <i>multifida</i> Pritz [ <i>Pulsatilla patens</i> ] S-4742 GREE	pasque flower
1 0 0	R	<i>Clematis ligusticifolia</i> Nutt. S-7916 GREE	Western virgin's bower, <i>barba de chivato</i>
1 1 0	P	<i>Delphinium virescens</i> Nutt. S-5412 GREE <b>toxic</b>	white or plains larkspur
0 n 0	C	<i>Delphinium ramosum</i> Rydb. [ <i>D. robustum</i> ] <b>toxic</b> <b>rare NM, Forest Service sensitive</b>	robust larkspur
w 0 0	C	<i>Delphinium sapellonis</i> Tidestrom <b>rare NM, toxic</b>	Sapello Canyon larkspur
1 1 0	R	<i>Ranunculus cymbalaria</i> Pursh [ <i>Halerpestes cymbalaria</i> ] S-8492 GREE	marsh or alkali buttercup
0 1 0	R	<i>Ranunculus inamoenus</i> Greene var. <i>inamoenus</i> S-3571 GREE	graceful buttercup
0 1 0	R	<i>Ranunculus sceleratus</i> L. var. <i>multifidus</i> Nutt. S- 3616 GREE [ <i>Hecatonias sclerata</i> ]	blister buttercup
<b>Rhamnaceae / Buckthorn family</b>			
0 0 1	D/R	<i>Ceanothus fendleri</i> A. Gray H-11995 UNM	Fendler's buckthorn
<b>Rosaceae / Rose family</b>			
1 0 0	G/C	<i>Cercocarpus montanus</i> Raf. var. <i>argenteus</i> (Rydb.) F. L. Martin S-494 GREE	mountain mahogany
1 1 0	G	<i>Cercocarpus montanus</i> Raf. var. <i>montanus</i>	mountain mahogany
1 1 0	C	<i>Fallugia paradoxa</i> (D. Don) Endl. ex Torr. S-7862 GREE	apache plume, <i>poñil</i>
1 0 0	PL	* <i>Mallus pumila</i> Mill. H-11670 UNM <b>planted</b>	apple, <i>manzana</i>

n 0 0	C	<i>Physocarpus monogynus</i> (Torr.) J. M. Coult.	mountain ninebark
1 0 0	R	<i>Potentilla norvegica</i> L. subsp. <i>monspeliensis</i> (L.) Asch. & Graebn. S-8562 GREE	Norwegian cinquefoil
0 1 0	R	<i>Potentilla pensylvanica</i> L. var. <i>pensylvanica</i> S-6353 GREE	Pennsylvania cinquefoil
0 1 0	R	<i>Potentilla rivalis</i> Nutt. var. <i>millegrana</i> (Engelm. ex Lehm.) S. Watson S-8563 GREE	brook cinquefoil
1 0 0	PL	* <i>Prunus armeniaca</i> L. <b>planted</b>	apricot, <i>chavacana</i>
1 0 0	C	<i>Prunus serotina</i> Ehrhart H-11675 UNM	wild black cherry
1 0 0	R	<i>Prunus virginiana</i> L. var. <i>melanocarpa</i> (A. Nelson) Sarg. [ <i>Padus virginiana</i> ] S-443 GREE <b>toxic</b>	chokecherry, <i>chapulin</i>
1 0 0	PL	* <i>Pyrus communis</i> L. <b>planted</b>	common pear, <i>pera</i>
1 1 0	R	<i>Rosa woodsii</i> Lindl. var. <i>ultramontana</i> (S. Watson) Jeps. S-5455 GREE	wild prairie rose, <i>rosa silvestre</i>
1 0 0	C	<i>Rubus neomexicanus</i> Gray H-12132 GREE	New Mexico thimbleberry
1 0 0	C	<i>Rubus parviflorus</i> Nutt. var. <i>parviflorus</i> H-11715 GREE	thimble raspberry, <i>mora silvestre</i>
<b>Rubiaceae / Madder or Coffee family</b>			
n 0 0	C	<i>Galium boreale</i> L. S-6741 GREE	northern bedstraw
1 0 0	R	<i>Galium mexicanum</i> Kunth var. <i>asperrimum</i> (A. Gray) Higgins & S. L. Welsh S-5430 GREE	Mexican bedstraw
1 1 0	G	<i>Hedyotis nigricans</i> (Lam.) Fosberg var. <i>nigricans</i> H-11851 UNM	bluets, diamond flowers
<b>Ruscaceae / Butcher's broom family</b>			
1 0 0	C	<i>Nolina texana</i> S. Watson H-11724 GREE <b>toxic</b> [considered as conspecific with <i>N. greenei</i> ]	beargrass, <i>sacahuista</i>
<b>Rutaceae / Citrus or Rue family</b>			
1 0 0	C	<i>Ptelea trifoliata</i> L. S-509 GREE	hoptree
<b>Salicaceae / Willow family</b>			
1 0 0	R	<i>Populus X acuminata</i> Rydb. ( <i>P. angustifolia</i> x <i>P. deltoides</i> hybrid)	cottonwood
1 0 0	R	<i>Populus angustifolia</i> E. James.	narrow-leaf cottonwood
1 1 1	R	<i>Populus deltoides</i> W. Bartram ex Marshall var. <i>occidentalis</i> Rydb. S-3253 GREE	plains cottonwood, <i>álamo</i>
1 0 0	R	<i>Populus tremuloides</i> Michx. H-11671 UNM	aspens, <i>álamo tremblón</i>
1 1 1	R	<i>Salix amygdaloides</i> Andersson S-3591 GREE	peach-leaf willow, <i>álamo sauco</i>
n 0 0	R	<i>Salix arizonica</i> Dorn <b>rare NM, Forest Service sensitive</b>	Arizona willow
1 1 1	R	<i>Salix exigua</i> Nutt. var. <i>exigua</i> H-11848 UNM	sand-bar willow, <i>sauco</i>
1 0 0	R	<i>Salix lasiandra</i> E. Murr. var. <i>lasiandra</i> [ <i>S. lucida</i> ]	Pacific willow
<b>Santalaceae / Sandalwood family</b>			
1 1 1	G	<i>Comandra umbellata</i> (L.) Nutt. var. <i>pallida</i> (A. DC.) M. E. Jones S-3561 GREE	Lost blue of the Arapaho, bastard toadflax
<b>Sapindaceae / Soapberry family (includes Aceraceae)</b>			
1 1 0	R	<i>Acer negundo</i> L. var. <i>violaceum</i> (Kirchn.) Jaeger H-12115 GREE	box elder
1 0 0	R	<i>Sapindus saponaria</i> (L.) var. <i>drummondii</i> (Hook. & Arn.) L. D. Benson H-11725	soapberry, <i>jaboncillo</i> , <i>amolío</i>
<b>Scrophulariaceae / Figwort family (see Orobanchaceae, Phrymaceae and Plantaginaceae)</b>			
1 1 1	D/R	* <i>Verbascum thapsus</i> L. S-7750 GREE	common mullein, <i>gordolobo</i> , <i>puchón</i>
<b>Solanaceae / Nightshade family</b>			
1 1 1	P/D	<i>Chamaesaracha conioides</i> (Moric.) Britton H-12033	gray five-eyes

1 1 0	P/D	<i>Chamaesaracha coronopus</i> (Dunal) A. Gray H-12033 UNM	greenleaf five-eyes
0 1 0	P/D	<i>Chamaesaracha sordida</i> (Dunal) Gray	hairy five-eyes
0 1 0	D	* <i>Datura stramonium</i> L. S-590 GREE <b>toxic</b>	jimsonweed, <i>toloache</i>
1 0 0	D	<i>Datura quercifolia</i> H.B.K. H-12102 GREE <b>toxic</b>	oak-leaf thorn-apple
1 1 0	C/P	<i>Lycium pallidum</i> Miers. S-7833 GREE	wolfberry
		<i>Physalis hederifolia</i> A. Gray	ivy-leafed ground-cherry
1 0 0	P	var. <i>comata</i> (Rydb.) Waterf. H-11627 GREE	sticky-leaf ground-cherry
w 0 0	P	var. <i>fendleri</i> (A. Gray) Cronquist S-7734 GREE	Fendler's ground-cherry
0 1 0	S/P	<i>Physalis hispida</i> (Waterf.) Cronquist [ <i>P. pumila</i> ]	prairie ground-cherry
0 1 0	P/D	<i>Physalis longifolia</i> Nutt.	common ground-cherry
1 1 1	D/S	<i>Physalis virginiana</i> Miller H-11692 UNM	Virginia ground-cherry
1 1 0	D/P	<i>Quincula lobata</i> (Torr.) Raf. H-11841 UNM	purple ground-cherry
0 0 1	D	<i>Solanum americanum</i> Mill. S-8051 GREE	black nightshade
1 1 1	D/P	<i>Solanum elaeagnifolium</i> Cav. S-406 GREE <b>toxic</b>	silver-leaf nightshade, <i>tomatillo del campo</i>
1 1 1	D	<i>Solanum rostratum</i> Dunal S-430 GREE <b>toxic</b>	buffalo bur
1 0 0	D	<i>Solanum triflorum</i> Nutt.	cut-leaf nightshade
<b>Tamaricaceae / Tamarisk family</b>			
1 1 0	R	* <i>Tamarix ramosissima</i> Lebeb. H-12063 GREE <b>noxious</b> [ <i>T. chinensis</i> is morphologically similar]	salt cedar, tamarisk, <i>pino salado</i>
<b>Typhaceae / Cattail family</b>			
1 1 0	R	<i>Typha angustifolia</i> L. S-480 GREE	narrowleaf cattail
<b>Ulmaceae / Elm family (see Cannabaceae)</b>			
1 1 1	PL/S	* <i>Ulmus pumila</i> L. S-7834 GREE <b>planted</b>	Siberian elm, <i>olmo</i>
<b>Verbenaceae / Verbena family</b>			
		<i>Glandularia bipinnatifida</i> (Nutt.) Nutt.	Dakota vervain,
0 1 0	P	var. <i>bipinnatifida</i> H-11768 GREE	<i>moradilla</i>
1 1 1	P	var. <i>ciliata</i> (Benth.) B. L. Turner S-4089 GREE	Dakota vervain
1 1 1	D/R	<i>Phyla cuneifolia</i> (Torr.) Greene [ <i>Lippia cuneifolia</i> ] H-11771 GREE	wedgeleaf frog fruit
1 1 1	D/R	<i>Verbena bracteata</i> Lag. & Rodr. S-7748 GREE	big-bract /hoary vervain
1 0 0	P	<i>Verbena macdougalii</i> A. Heller S-1781 GREE	Macdougal vevain
<b>Violaceae / Violet family</b>			
1 1 0	C/G	<i>Hybanthus verticillatus</i> (Ortega) Baill. S-6563 GREE	nodding green violet, baby slippers
0 1 1	P	<i>Viola nuttallii</i> Pursh. S-4216 GREE	Nuttall's violet
<b>Vitaceae / Grape family</b>			
1 0 0	R	<i>Parthenocissus vitacea</i> (Knerr) Hitchc. [ <i>P. inserta</i> ] H-11695 UNM	five-leaved ivy
1 0 0	R	<i>Vitis acerifolia</i> Raf. [ <i>V. riparia</i> subsp. <i>longii</i> , <i>V. longii</i> ] H-11672 UNM	maple-leaf grape
0 n 0	R	<i>Vitis riparia</i> Michx. [ <i>V. vulpina</i> ]	riverbank grape
<b>Zygophyllaceae / Caltrop or Lignum Vitae family</b>			
1 0 0	P	<i>Kallstroemia parviflora</i> Norton S-6880 GREE <b>toxic</b>	warty caltrop, <i>contra hierba</i>
1 1 1	D	* <i>Tribulus terrestris</i> L. S-8330 <b>noxious</b>	goathead, puncture vine, tackbur, <i>abrojos</i> , <i>toboso</i>









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