

Flora

El Paso County's Environmental Services Department (ESD) staff has been asked to document the vegetation that occurs on the area known as Corral Bluffs (the Property). The purpose of this work is to identify plants and/or plant communities, including sensitive, threatened and endangered plants and incorporate these findings into the off-highway vehicle park master planning process.

ESD is aware that early spring vegetation conditions make plant identification challenging. Since perennial forbs are often obscure in the winter and annual forbs have not yet emerged, it is acknowledged that some plant species are not yet observable. Foot surveys conducted to date have resulted in the preliminary identification of several plant species. Representative species identified include: little bluestem (*Schizachyrium scoparium*), grama (*Bouteloua spp.*), ricegrass (*Oryzopsis spp.*), panicgrass (*Panicum spp.*), blazingstar (*Nuttallia spp.*), wild licorice (*Glycyrrhiza spp.*), Russian thistle (*Salsola spp.*), prickly pear (*Opuntia spp.*), yucca (*Yucca spp.*), mountain-mahogany (*Cerocarpus montanus*), juniper (*Juniperus spp.*), rabbitbrush (*Chrysothamnus spp.*) and piñon pine (*Pinus edulis*). This species list is very preliminary and should be regarded as only rudimentary due to the early season and unusually dry conditions.

Federally threatened and endangered species are protected under the Endangered Species Act (ESA) (16U.S.C. § 1531–1544) as amended. If a project requires a federal action or has a federal nexus and would have adverse effects on a federally listed plant species or its habitat, consultation with the U.S. Fish and Wildlife Services (USFWS) under Section 7 of the ESA would be required. To date ESD is not aware of any federal action or nexus. No federally listed plant species or communities have been identified on the Property to date. If and/or when the County takes title to the property, the County would be required to control noxious weeds on site under the Colorado Noxious Weed Act (CRS §§35-5.5-101 to 116). Only very small populations of noxious weeds have been noted on the Property to date.

Many sources of scientific data were also reviewed during the information gathering portion of ESD study of the flora on the Property. These sources include: "Soil Survey of El Paso County Area, Colorado" (June 1991) prepared by U.S. Department of Agriculture, Soil Conservation Service, "Natural Heritage Inventory of Schriever Air Force Base, El Paso County, Colorado" (July 2000) prepared by Colorado Natural Heritage Program (CNHP), Colorado State University (CSU), "Survey of Critical Biological Resources, El Paso County, Colorado" (December 2001) prepared by CNHP, CSU, and "Hillside Vegetation of the Colorado Springs Region" (January 2007) edited by Tass Kelso, Department of Biology, Colorado College. Additionally, in April 2008 ESD contacted the CNHP to prepare a report for the Property. This report would describe any occurrences of significant natural communities and rare, threatened or endangered plants and animals known from the Property. And as suspected, there was not a great deal of information found regarding the Property in Chip's Biodiversity Tracking and Conservation System (BIOTICS) database.

Our group received the invaluable assistance of Dr. Sylvia "Tass" Kelso, Professor of Biology at Colorado College in Colorado Springs, CO. Dr. Kelso is well known and accepted regionally and internationally for her work in plant taxonomy, many floristic studies and author of many manuscripts, publications and reports. Recently, Dr. Kelso accompanied the Flora team for a visit to assess the vegetation at the southeast corner of the property. Please find Dr. Kelso's report following the ESD Floral Group's conclusion.

Flora Group's Conclusion -- If the proposed trails are delineated, ESD staff recommends that the present team walk the entire proposed 20 mile trail route to note the presence of sensitive or unusual plants or atypical plant communities prior to trail construction. In the event that sensitive plant species or communities are found within the trail course, ESD would recommend an adjustment to the trail to ensure their preservation.

In addition -- If and/or when the County takes title to the property, members of the Colorado Native Plant Society have expressed a strong interest in providing a complete inventory of the Property area free of charge to El Paso County. In that event, Dr. Kelso has offered to oversee species collection, review and/or provide identification and retain voucher specimens at the Colorado College herbarium.

As mentioned previously, the following notes are from Dr. Kelso and are on file with El Paso County Parks.

Dr. Tass Kelso's report --

Tass Kelso

We did a preliminary visit to assess aspects of vegetation at the southeast corner of the property, following the main drainage down approximately ½ its length and also did a quick view of the northeast corner to assess a potential ephemeral pond area that just hits the corner of the property. Conditions were very dry with almost no spring green-up visible. No forbs were flowering or leaf shoots visible above ground; grass species retained dry heads from the previous growing season. Comments on vegetation and recognizable flora in each section are given below.

Northeast Sector, Shoulder and Main Drainage

Vegetation on the upper shoulder and flats consists primarily of relatively intact mixed grass prairie, dominated by short to midgrass species such as blue grama (*Bouteloua gracilis*), ryegrasses (*Elymus* spp.), and needlegrass species (*Stipa*). Vegetation cover is nearly 100% and there is little evidence of adventive species. As the shoulder drops off the side into the drainage, cover becomes more broken and consists of more open grass cover: grama grasses (*Bouteloua gracilis* and *B. curtipendula*), three awn (*Aristida purpurea*), ricegrass (*Oryzopsis hymenoides*) and little bluestem (*Schizachyrium scoparium*), intermixed with shrubs such as mountain mahogany (*Cercocarpus*

montanus), occasional rabbitbrush (*Chrysothamnus nauseosus*), and juniper (*Juniperus monosperma*). Prickly pear species (*Opuntia*, mostly *O. polyacantha*, but probably also *O. macrorhiza*) are also common.

Sand Arroyos. The arroyo canyon we traversed was narrow, with stretches of flat bottom covered with deep sand and shelves, ledges, and potholes of sandstone. Petrified wood and various geological structures were very obvious. The sides are very steep and highly eroded, so vegetation cover is quite sporadic. The bottom of the drainage appears to be subject to intense flooding, so is generally clear of at least perennial vegetation. In addition to the species listed above for the canyon shoulders, common species in the arroyo bottoms and lower benches include wild buckwheat (*Eriogonum umbellatum*), occasional four-wing saltbush (*Atriplex canescens*), skunkbrush (*Rhus aromatica*), and scattered yucca (*Yucca glauca*). Grass species noted include tall stands of Canada rye (*Elymus canadensis*), as well as prairie sandreed (*Calamovilfa longifolia*) and giant sand dropseed (*Sporobolus giganteus*). The latter two species are obligate to deep sandy soils, and *Sporobolus giganteus* is uncommon to rare in El Paso County. My records and observations for it are only from Chico Basin. I was again struck by the highly native nature of the vegetation, and the only two weedy species noted were a few stems of Canada thistle (*Cirsium canadensis*) and some Russian thistle (*Salsola* sp.). I did not note any unusual microhabitats such as cliff ledges or seeps that might support an unusual array of forbs or ferns. The arroyo was primarily notable as a hot, dry environment with quite unstable substrate, and in certain areas (the bottom and on side benches), for the deep sandy soil. In the growing season, some of these sites might possibly support ephemeral herbaceous species or annuals known to inhabit such sites on the plains such as *Euploca convolvulacea* (bindweed heliotrope), sand amaranth (*Amaranthus arenicola*), *Palafoxia sphacelata*, *Polanisia jamesii* (James clammyweed), or *Chenopodium cycloides**, None of these species except *Chenopodium cycloides* currently are of conservation concern statewide, but none are common in our region.

While the arroyo bottom here was too fragmented to be considered a sand community, such a community might be present near the face of the bluffs where this or other drainages fan out onto flatter terrain and these areas might be prioritized for botanical surveys in the early summer.

Northeast Corner: Upper grassland

We also viewed briefly the upper grassland of the NE corner to assess a possible wetland of interest. This drainage area supports a small pond on private property outside the site, but no wetland vegetation or potential playa was apparent on the property itself. The drainage site supports species of *Artemisia*, some weeds such as mullein, and various grasses. Vegetation cover here is primarily composed of mountain muhly (*Muhlenbergia Montana*) and blue grama (*Bouteloua gracilis*), again with a high level of cover. Yucca is much more common here than on the SE corner and forms larger patches.