



Scotts Bluff Vegetation

Changing Landscape

Scotts Bluff National Monument is a unique historic landmark which preserves both cultural and natural resources. Sweeping from the river valley woodlands, to the mixed-grass prairie, to pine studded bluffs, Scotts Bluff contains a wide variety of wildlife and landscapes. The 3,000 acres comprising Scotts Bluff conserves an area of the Great Plains which has not been significantly changed by human occupation.

Working with the National Park Service in 1933–1938, 23,000 trees and shrubs were planted by the Civilian Conservation Corps, under the “New Deal” employment program. Eastern red cedar (non-native) was planted along the back canyons and in gullies to prevent soil erosion. There were no trees along the North Platte River in the 1800’s or even the early 1900’s. Spring floods scoured the river banks and frequent prairie wildfires removed any seedlings that tried to take hold. Today reservoirs both upstream and downstream control flooding, and fires have been all but eliminated. Box elder, cottonwood and willow trees dominate the flood plain of the river. Trees along the river and in the canyons of Scotts Bluff National Monument provide shelter for deer and other wildlife. The high bluff with its ponderosa pines and junipers appear today as it did to the pioneers travelling to Oregon and California.

Trees of Scotts Bluff

Name	Native	Species
American elm	Y	<i>Ulmus americana</i>
Boxelder	Y	<i>Acer negundo</i>
Eastern red cedar	N	<i>Juniperus virginiana</i>
Eastern cottonwood	Y	<i>Populus deltoides</i>
Green ash	Y	<i>Fraxinus pennsylvanica</i>
Ponderosa pine	Y	<i>Pinus ponderosa</i>

Name	Native	Species
Rocky Mountain juniper	Y	<i>Juniperus scopulorum</i>
Russian olive	N	<i>Elaeagnus angustifolia</i>
Sandbar willow	Y	<i>Salix exigua</i>
Siberian elm	N	<i>Ulmus pumila</i>
Tamarisk (salt cedar)	N	<i>Tamarix</i>

To many emigrants crossing the flat and treeless prairie, the 800 foot Scotts Bluff with evergreen conifers on top, provided a welcome relief from the often monotonous landscape of the plains. The conspicuous trees on the summit and in the canyons were ponderosa pines and Rocky Mountain junipers. Junipers, often called “cedars”, usually grow in dry, rocky soils. The evergreen foliage is scalelike with overlapping branchlets or pointed and awl-like with new growth. In some cases both kinds of foliage are found on the same tree. The semi-fleshy bluish cones are often called “juniper berries”. They are 0.2 inches in diameter, covered with a gray, waxy substance, and reach maturity in one to three seasons.



Rocky Mountain juniper



Ponderosa pine

American Indians ate the “berries” fresh or in cakes, as flavoring for meat, and young shoots were boiled for tea. Wildlife also eat the berries. Junipers are currently used in ornamental plantings, as wind breaks and fence posts. The ponderosa pine was named for its heavy wood in 1826 by David Douglas, a Scottish botanical explorer. The tree has slender needles in a bundle of 2 or 3 and are covered with a tough waxy coating, which provides excellent insulation from cold and heat alike. Its bark is blackish, rough and furrowed into ridges. The cones are light reddish brown and conical shaped. Indians used the cones to make quick fires. These scraggly pines are home for white-breasted nuthatches, magpies, and even porcupines.

Biological Diversity on the Prairie

Biological diversity refers to the seven major habitats that have been identified within the monument. These habitats are riverine woodland, mixed-grass prairie, canal bank, pine-studded bluffs, shrub dominated slopes and sandstone badlands. Tree species in the riverine woodlands are eastern cottonwood, american elm and green ash. Dominant grass species of the mixed-grass prairie are little bluestem and side-oats grama. Common plants and shrubs include snowberry and yucca. Scattered along the pine-studded bluffs are ponderosa pine and Rocky Mountain juniper. Shrub dominated slopes are primarily covered with skunkbush sumac and Rocky Mountain juniper. The major cover of depressions and drainages in the badlands are sedges: downy brome and rabbitbrush.

Biological Diversity on the Prairie (continued)

John C. Fremont in 1842 described the conifers of the high plains this way: “On the summits were some stunted pines, many of them dead, all wearing the same ashen hue of desolation . . . We left the place with pleasure.” The Plains were often described in the early 1800’s as “The Great American Desert”. It was even said that “not a speck of vegetable matter existed”.

The landscape wasn’t always this way. Just 15,000 years ago, the high plains environment differed markedly from that of today. Open forests of juniper, pine and spruce covered much of the region. As the earth slowly warmed and the glaciers retreated, the flora and fauna of the high plains underwent a revolution. Within a few thousand years, the mammoths, camels, and other mammalian and avian species disappeared. Forests, savannas, swamps and tundra gave way to prairie. On the western edge of the prairie, where the Rocky Mountain rain shadow limited precipitation to 10 to 20 inches per year, drought-tolerant blue grama and buffalo grass took hold. Only on the high bluffs did a few pines and junipers manage to survive. Why the trees survived exclusively on the bluffs is a mystery. Perhaps the high bluffs provided a safe haven from prairie fires or the only place where the soil structure enabled trees to out-compete prairie grasses.

Grasses of Scotts Bluff

Grasses of mixed grass prairie combine short and tall species. These species are hardy, drought resistant and deep rooted plants. Bovine species are better able to digest these tough grasses than horses or mules, making oxen a good choice to pull covered wagons during the westward migration of the 19th century.

Grasses	Native	Species
Big bluestem	Y	<i>Andropogon gerardii</i>
Blackroot sedge	Y	<i>Carex elynoides</i>
Blue grama	Y	<i>Bouteloua gracilis</i>
Buffalo grass	Y	<i>Bouteloua dactyloides</i>
Common cattail	Y	<i>Typha latifolia</i>
Crested wheatgrass	N	<i>Agropyron cristatum</i>
Downy brome (cheatgrass)	N	<i>Bromus tectorum</i>
Intermediate wheatgrass	N	<i>Elymus hispidus</i>
Japanese brome	N	<i>Bromus japonicus</i>
June grass	Y	<i>Koeleria macrantha</i>
Kentucky bluegrass	N	<i>Poa pratensis</i>
Little bluestem	Y	<i>Schizachyrium scoparium</i>
Needle-and-thread	Y	<i>Hesperostipa comata</i>
Prairie sandreed	Y	<i>Calamovilfa longifolia</i>
Purple threeawn	Y	<i>Aristida purpurea</i>
Sand bluestem	Y	<i>Andropogon hallii</i>
Sideoats grama	Y	<i>Bouteloua curtipendula</i>
Smooth brome	N	<i>Bromus inermis</i>
Switchgrass	Y	<i>Panicum virgatum</i>
Tall wheatgrass	N	<i>Thinopyrum ponticum</i>
Threadleaf sedge	Y	<i>Carex filifolia</i>
Western wheatgrass	Y	<i>Pascopyrum smithii</i>



Little bluestem



Needle-and-thread

Shrubs of Scotts Bluff

Native shrubs serve a variety of purposes. Yucca leaves were used for weaving and the roots as an astringent cleanser by the Indians; winterfat is considered a good food for cattle as it has more fat than grasses in the winter and skunkbush sumac, although smelly, is useful as medicine for colds and toothaches among others and the branches make good baskets.

Shrubs	Native	Species
Buffalo currant	Y	<i>Ribes aureum</i>
Buffaloberry	Y	<i>Shepherdia argentea</i>
Canada thistle	N	<i>Cirsium arvense</i>
Common sunflower	Y	<i>Helianthus annuus</i>
Curlycup gumweed	Y	<i>Grindelia squarrosa</i>
Scouringrush horsetail	Y	<i>Equisetum hyemale</i>
Field bindweed	N	<i>Convolvulus arvensis</i>
Fringed sagebrush	Y	<i>Artemisia frigida</i>
Kochia	N	<i>Kochia scoparia</i>
Musk thistle	N	<i>Caruus nutans</i>
Plains pricklypear	N	<i>Opuntia polyacantha</i>
Plains yucca (soapweed)	Y	<i>Yucca glauca</i>
Poison ivy	Y	<i>Toxicodendron radicans</i>
Prickly poppy	Y	<i>Argemone polyanthemus</i>
Rabbitbrush	Y	<i>Chrysothamhus nausosus</i>
Russian thistle	N	<i>Salsola tragus</i>
Sand sage	Y	<i>Aremisia filifolia</i>
Scarlet globemallow	N	<i>Sphaeralcea coccinea</i>
Showy milkweed	Y	<i>Asclepias speciosa</i>
Skunkbush sumac	Y	<i>Rhus trilobata</i>
Western snowberry	Y	<i>Symphoricarpos occidentali</i>
White sweet clover	N	<i>Melilotus albus</i>
Wild prairie rose	Y	<i>Rosa arkansan</i>
Winterfat	Y	<i>Krascheninnikovia lanata</i>
Yellow sweet clover	N	<i>Melilotus officinalis</i>



Plains yucca



Winterfat



Skunkbush sumac