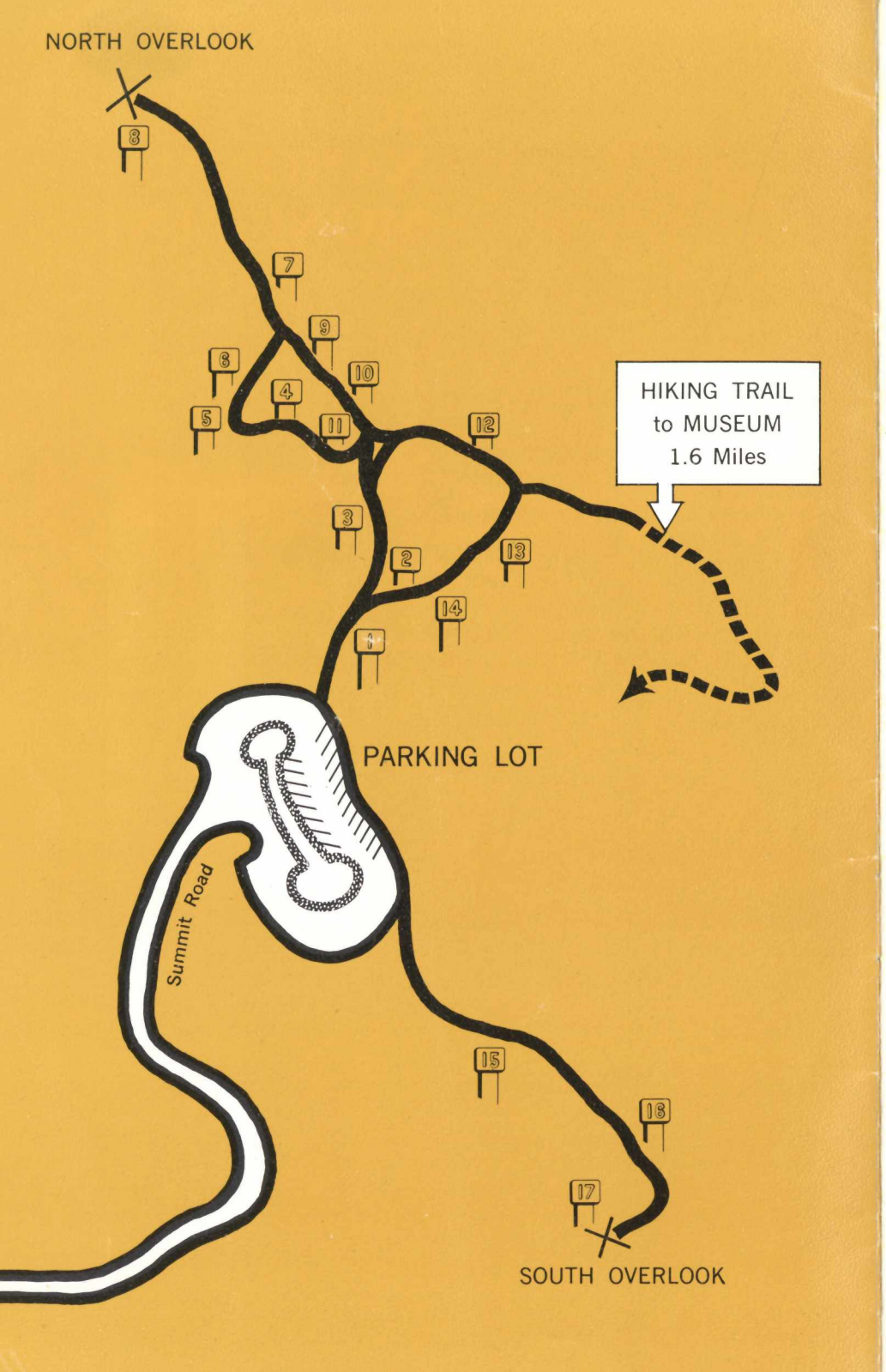
SUMMIT
SELF-GUIDING TRAIL

SCOTTS BLUFF NATIONAL MONUMENT

NEBRASKA



THE NATIONAL PARK SERVICE invites you to explore the trails on the summit of Scotts Bluff.

Consider yourself in an outdoor museum that contains both natural and historical features. Explore both, for the impact of each upon the other has been dramatic.

We have reached a period in the passing of time when, in man's struggle with nature, he has tipped the balance of power in his favor. Unfortunately, we are discovering the very natural forces that man has attempted to overcome are part of a complex system of which he is a part and upon which he depends. In effect, man has discovered that he is his own enemy.

Through interpretation of the history and the natural features of Scotts Bluff, the National Park Service hopes to bring about an awareness of an appreciation for man's history and the complex environment in which he lives.

ADMINISTRATION

Scotts Bluff National Monument is administered by the National Park Service, U. S. Department of the Interior. A superintendent, whose address is Box 427, Gering, Neb. 69341, is in immediate charge.

AMERICA'S NATURAL RESOURCES

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources." The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.

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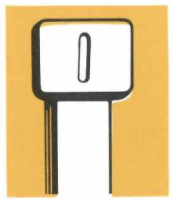
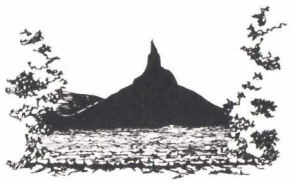


CHIMNEY ROCK

Look to the east and if the air is clear, you can see a slender column, some 23 miles in the distance, rising upon a broad conical base about 500 feet above the North Platte River. This is Chimney Rock, one of the famous landmarks of the Oregon Trail. It had such an impact on those who traveled by it in oxen-drawn covered wagons that it was sometimes called "the eighth wonder of the world." Journals and guidebooks of the period from 1830 to 1866 frequently used adjectives like "famous," "noted," "notorious," "grand," "splendid," and "celebrated," to describe this unique geologic phenomenon. The deceptive distance between Scotts Bluff and Chimney Rock is noted in the diaries of many emigrants who passed it between 1832 and 1869. This is attributed to the extreme clarity of the atmosphere at that time.



WILD CURRANT

(*Ribes* spp.) is common throughout the rough terrain of the monument. There are two different species found in the area—golden and wax.

Pioneer journals indicate that this small shrub provided a welcome treat for many late-season emigrants of the Oregon Trail.

In the 1800's, a fungus that attacks white pine trees found its way into the United States from Europe. This fungus lives on the currant during one phase of its life cycle. In some of the white pine forests, an intensive effort has been made to eradicate the wild currant, thereby controlling the disease.

GEOGRAPHY AND GEOLOGY

You are standing on the summit of the northernmost end of a chain of bluffs that is 17 miles long. The rough outline of this chain resembles a shepherd's crook, with the Wildcat Hills to the south representing the straight staff and Scotts Bluff the "flare" at the north end of the crook.

The top of this bluff is capped with a hard sandstone caprock of the Monroe Creek Formation of the Miocene Epoch. The hard caprock protects the soft sandstone layers beneath it—once it is removed, the erosion process is extremely rapid. Rain, snow, wind, freezing, and thawing have thus eroded away many cubic miles of rock material that once occupied these high plains. This small chain of bluffs is a remnant of it.

The very magnitude of the bluff that attracted you to it also marks it as a hazard if you should happen to venture off the trail to the cliff's edge. Please protect yourself by remaining on the established trails.

FETID SUMAC

(*Rhus trilobata*), or skunkbush, is another native plant adapted to the semiarid conditions throughout the monument. Its ability to grow in the not-too-fertile soil of the canyons and gullies of the region make it an important soil stabilization plant.

The three-lobed leaves are often mistaken for the wild currant that also grows in the area. Its clusters of red, hairy fruit are not edible to man but do provide a valuable food source for birdlife.

BIRDS AND OTHER WILDLIFE

A few of the common birds you may observe along the trail are the black-billed magpie, rock wren, several species of hawks and falcons, cliff swallow, and juncos. For a more complete bird checklist, see the last page of this booklet.

The most observed animals include the Rocky Mountain mule deer, red fox, and cottontail rabbits. Other small animals which are equally abundant but which you may not see quite as often are the raccoon, skunk, opossum, and numerous small rodents. Occasional visitors are the badger, coyote, mink, and beaver. At one time, the bison, bighorn sheep, and black bear were here, but they are no longer in the Scotts Bluff area.

Black-billed Magpie

The black-footed ferret, a one-time resident, is now an endangered species near extinction. The ferret's primary food source is the once-abundant prairie dog. Poisoning directed at rodents, elimination of natural prey and den holes, destruction of original grasslands, and shooting by people hunting prairie dogs for sport are among the reasons the ferret is now on the verge of extinction.

Red Fox

Like winds and sunsets, wild things were taken for granted until progress began to do away with them. Now we face the question whether still a higher 'standard of living' is worth its cost in things, wild and free.

—Aldo Leopold

LICHENS

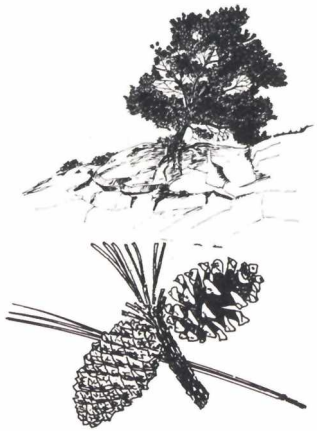
Plant succession is most conspicuous and easily observed when a bare area has been newly made available for plant colonization. The wind exposed this hard sandstone, and we see the first evidence of plant succession.

The brown, orange, and green crustlike objects on the bare rocks are called *lichens*. They are actually composed of two completely different plants—a fungus and an algae, living together and dependent upon each other. The green or blue-green algae provide food for the fungi which in turn provide moisture for the algae.

These plants cause corrosion of the rock surface and catch a little dust from the wind. Formation of soil in this manner is an extremely slow process, for the only time the lichen emerges from its dormant dry state is when it becomes moist from rain or snow. Then, within a matter of a few minutes, it swells, some change color, and the life processes continue for a brief time. As the rock dries, these processes again slow down and become dormant, awaiting the next summer shower or winter's melting snow. This is truly a remarkable example of adaptation.

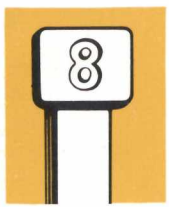
PONDEROSA PINE

(*Pinus ponderosa*). You may be as surprised as the early pioneers were to find ponderosa pine growing on the unfertile-looking slopes of Scotts Bluff. Wood was a rare commodity on the high plains of the Oregon Trail; emigrants frequently made note of its scarcity in their diaries.



The low annual precipitation and poor shallow soil cause the small size of the pine trees on Scotts Bluff. Ponderosa pines of the same age in States further west may grow from 150 to 180 feet high and to 3 or 4 feet in diameter.

You've heard of individuals "going it alone," despite all adversities. Here's an example in the plant community. This stunted ponderosa pine has had a difficult time surviving under the adverse conditions of low rainfall, cold winter temperatures, high winds, and little soil. The exposed roots indicate that topsoil once was present, but many years ago eroded away. Most of the living part of this tree lies deep in cracks and crevices beneath the surface as it seeks scarce nutrients and water in its struggle for survival.



NORTH OVERLOOK

The extremely rough terrain between this point and the North Platte River illustrates why emigrants were forced to leave the river and travel first through Robidoux Pass (8 miles to the south) and later through Mitchell Pass (west of the present monument visitor center). To cross the river at this point to avoid the bluffs and badlands area was extremely hazardous. It was up to a mile wide at that time, and its bed consisted of soft silt and quicksand.

The Mormons established a trail that started on and followed the north side of the river. It also passed within view of the bluffs and crossed to the south side of Fort Laramie (55 miles west of here). As the valley became settled, the river was dammed, altered, and its size and course changed. When this occurred, the plant and animal communities were also drastically altered. Traces of the old riverbed still remain evident throughout the valley.

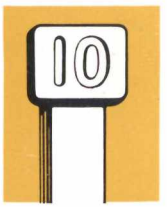
NORTH PLATTE VALLEY

The vast panorama of this valley presents a modern community of diverse economic interests. The rich, irrigated, agricultural farmlands produce a variety of crops. Thousands of cattle are raised throughout the 10-mile-wide valley each year.

Making up the landscape also are several thousand houses, forming, from left to right, the progressive communities of Scottsbluff (north of the river), Terrytown, and Gering (south of the river).

Imagine, if you can, twice as many people in the valley. Such a growth is entirely possible within the next 30 years or so. Landscapes and cityscapes, such as the panorama in front of you, vividly set forth our conservation goal—the development and protection of a quality environment which serves both the demands of nature for ecological balance and the demands of man.

YUCCA

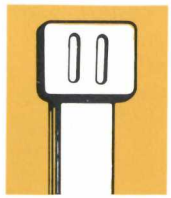


(*Yucca glauca*), a member of the lily family, is especially adapted to the low 14-inch average rainfall of this region as it stores large amounts of moisture in the long, tuberous root, allowing little of it to escape through the hard waxy leaves. Its spike of creamy white blossoms adds beauty to the landscape during June.

Indians used the fibers of this plant's leaves to make baskets, mats, cloth, and rope. The mashed roots were used as a form of soap by both the Indians and early pioneers.

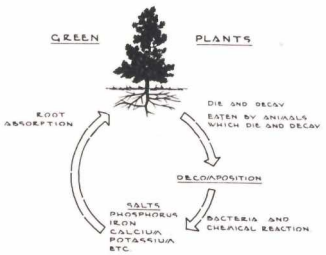
Look for elevated clumps of yucca. These are *hummocks*—clumps of vegetation holding a small amount of soil in place and collecting additional soil in the form of dust. While this is occurring, the unstable soil immediately surrounding the plant or clump of plants is blown or washed away, leaving the appearance that the plant has been elevated.

The soil on the summit of Scotts Bluff is extremely shallow, the vegetation fragile, and the winds very strong. This combination, with a little help from man, has resulted in the loss of soil from this area. You can help retain the native plants and soil of Scotts Bluff by remaining on the paved trails.



NATURAL CYCLE

About 100 to 110 years ago, this pine tree emerged as a seedling. Since that time, it has weathered drought, high winds, cold temperatures, insects, and disease. It has since reached maturity and is now dying.



Possibly a lightning strike tore open the bark that allowed bacteria, fungus, and insects to infest it. As it weakened, more and more organisms probably invaded it for food and shelter. In turn, the insects provided a valuable food source for the woodpecker—look at the hole in the side of the tree for evidence of this! The hole may also have been used as a nest for the woodpecker and other birds.

All this activity is probably of little economic value, but it has real biological meaning. From its seedling to its dying stage, the pine tree is involved in complex, interacting processes with many natural forces. It is only the hardiest pines that survive to maturity, and ultimately they too will succumb to the elements and recycle their minerals and organic material to the soil from which other plants will derive their nutrients.

ELEVATION

You are now standing 4,649 feet above sea level and about 800 feet above the North Platte River.

In 1933, the survey stake above you was flush with the surface of the sandstone in which it rests. As you can see, a large part of the stake is now exposed. Each time you step on this soft sandstone rock, a small amount of sand and dust is loosened. The strong winds that frequently occur then erodes the material away. Each passing visitor, each gust of wind repeats this process.

No longer must we conserve what we have; we must also restore what we have lost. As a famous naturalist once wrote, "What military laurels won in battle can compensate a nation where there is no space for mankind to walk through a forest, park or museum, where cities have no water, or where earth has died from lack of care?"

LIGHTNING STRIKE

During a summer thunderstorm in 1963, a park ranger observed a bolt of lightning strike this ponderosa pine. The tree was literally bathed in a ball of fire as the tremendous charge of electricity surged through it. Examination revealed a strip of bark ripped from top to bottom. A small fire was burning in the debris at its base. As you may observe, the tree has since healed, but the scar remains as a testimony to nature's force and violence. Look for other trees that have also been struck by lightning.

Many forest and range fires have occurred in exactly this manner and are a part of the natural processes. Little can be done to stop such natural fires, but those that are man-caused can be prevented. So, be careful along the trail with matches and cigarettes!

ROCKY MOUNTAIN JUNIPER

(Juniperus scopulorum) is abundant throughout the breaks of the Great Plains and in the dry, lower elevations of the Rocky Mountains. It is often mistakenly called "cedar"; actually, true cedars are not native in the Western Hemisphere.

The Indians throughout the West used berries, which are really tiny soft cones, for beads, and extracted a red dye from the roots. Pioneers used the decay-resistant trees for fenceposts, and the aromatic wood is still used in the construction of cedar chests.

GRASSLANDS

Native grasses have played an important part in the development of the West. In *American Heritage,* William Cotter Murray describes the role of grasses in this way—

> **The grass kept the Plains in place, kept them from becoming a real desert . . . In an environment with a maximum annual rainfall of only twenty inches and an evaporation rate as high as sixty per cent, there was a hairline balance between sun, water, rivers, soil, wind, and grass. The grass—putting down its roots four, even six feet into the soil, improving its structure, ventilating it, letting water penetrate it, keeping moisture loss low—held the balance of power and kept the environment from destroying itself. During the summer months the rain fell in thunderstorms, hailstorms even; water rushed in torrents down from the Rockies, carried by the Red River, the Platte, the Missouri. Against that force of water nothing could stop the erosion of the soil, nothing but a good thick carpet of grass to hold it down.**

A few of the common grasses that make up the "mixed grass prairie" of this region include blue grama, sideoats grama, buffalograss, needle-and-thread, little bluestem, sand dropseed, sand bluestem, and prairie sandreed.

> **Long after the grass came the People. They saw the beauty of grass as the robe of Earth . . . They learned the importance of grass as Nature's good steward . . . When the People had a big job to do, they copied Nature. They called their cooperative successes "a grassroots movement."**

—*U.S. Dept. of the Interior Conservation Yearbook 5, 1969.*

VOLCANIC ASH

Note the thin white layer on the opposite canyon walls immediately above the foot tunnel. This ash was deposited here in dust-storms millions of years ago as volcanic eruptions occurred far to the west. It is quite different from lava (which is actually molten rock); the wind can carry it hundreds of miles from the source of eruptions. You may also notice this 2-to-3-foot white ash band between the two upper tunnels on the summit-to-museum road.

MITCHELL PASS

We are now offered an opportunity to look into the past. Note the contrast that is evident here. Now you see the marks of today's world—cars, utility poles, buildings, aircraft, and irrigation. From this very spot over 100 years ago, you would have seen the white-topped wagons of emigrant trains on their way to new homes in Oregon, gold in California, or a religious haven in Utah.

Between 1850 and 1869, about 150,000 men, women, and children, along with thousands of head of livestock, traveled the Oregon Trail through Mitchell Pass below and to your right. Wheeled vehicles did not use this pass, named after Robert Mitchell, a frontier Army officer, until 1850. At that time, soldiers from Fort Laramie, seeking a closer supply route from the east, cleared it with pick and shovel.

There is a short, paved foot trail to the Oregon Trail ruts in Mitchell Pass from the museum parking area.

BIRDS THAT MAY BE SEEN AT SCOTTS BLUFF

Herons and bitterns
Great blue heron—*Ardea herodias*
Black-crowned night heron—*Nycticorax nycticorax*

Swans, geese, and ducks
Canada goose—*Branta canadensis*
Mallard—*Anas platyrhynchos*
Green-winged teal—*Anas carolinensis*
Blue-winged teal—*Anas discors*
Common goldeneye—*Bucephala clangula*
Common merganser—*Mergus merganser*

American vultures
Turkey vulture—*Cathartes aura*

Hawks, kites, harriers, eagles
Red-tailed hawk—*Buteo jamaicensis*
Golden eagle—*Aquila chrysaetos*
Bald eagle—*Haliaeetus leucocephalus*
Marsh hawk—*Circus cyaneus*
Prairie falcon—*Falco mexicanus*
Sparrow hawk—*Falco sparverius*

Quails, partridges, and pheasants
Bobwhite—*Colinus virginianus*
Ring-necked pheasant—*Phasianus colchicus*

Plovers, turnstones, and surfbirds
Killdeer—*Charadrius vociferus*

Gulls and terns
Ring-billed gull—*Larus delawarensis*
Franklin's gull—*Larus pipixcan*

Pigeons and doves
Rock dove or domestic pigeon—*Columba livia*
Mourning dove—*Zenaidura macroura*

Cuckoos, roadrunners, anis
Yellow-billed cuckoo—*Coccyzus americanus*
Black-billed cuckoo—*Coccyzus erythropthalmus*

Owls
Screech owl—*Otus asio*
Great horned owl—*Bubo virginianus*
Burrowing owl—*Speotyto cunicularia*
Long-eared owl—*Asio otus*

Goatsuckers
Whip-poor-will—*Caprimulgus vociferus*
Common nighthawk—*Chordeiles minor*

Swifts
White-throated swift—*Aeronautes saxatalis*

Kingfishers
Belted kingfisher—*Megaceryle alcyon*

Woodpeckers
Yellow-shafted flicker—*Colaptes auratus*
Red-shafted flicker—*Colaptes cafer*
Hairy woodpecker—*Dendrocopos villosus*
Downy woodpecker—*Dendrocopos pubescens*
Red-headed woodpecker—*Melanerpes erythrocephalus*

Tyrant flycatchers
Eastern kingbird—*Tyrannus tyrannus*
Western kingbird—*Tyrannus verticalis*
Great crested flycatcher—*Myiarchus crinitus*
Say's phoebe—*Sayornis saya*
Western wood pewee—*Contopus sordidulus*

Larks
Horned lark—*Eremophila alpestris*

Swallows
Rough winged—*Stelgidopteryx ruficollis*
Barn swallow—*Hirundo rustica*
Cliff swallow—*Petrochelidon pyrrhonota*

Jays, magpies, and crows
Blue jay—*Cyanocitta cristata*
Black-billed magpie—*Pica pica*
Common crow—*Corvus brachyrhynchos*
Piñon jay—*Gymnorhinus cyanocephala*

Titmice, verdins, and bushtits
Black-capped chickadee—*Parus atricapillus*

Nuthatches
White-breasted nuthatch—*Sitta carolinensis*
Red-breasted nuthatch—*Sitta canadensis*

Creepers
Brown creeper—*Certhia familiaris*

Wrens
House wren—*Troglodytes aedon*
Rock wren—*Salpinctes obsoletus*

Mockingbirds and thrashers
Mockingbird—*Mimus polyglottos*
Catbird—*Dumetella carolinensis*
Brown thrasher—*Toxostoma rufum*

Thrushes, bluebirds, solitaires
Robin—*Turdus migratorius*
Swainson's thrush—*Hylocichla ustulata*
Mountain bluebird—*Sialia currucoides*
Townsend's solitaire—*Myadestes townsendi*

Waxwings
Bohemian waxwing—*Bombycilla garrula*
Cedar waxwing—*Bombycilla cedrorum*

Shrikes
Starling—*Sturnus vulgaris*

Vireos
Bell's vireo—*Vireo bellii*
Red-eyed vireo—*Vireo olivaceus*
Warbling vireo—*Vireo gilvus*

Wood warblers
Orange-crowned warbler—*Vermivora celata*
Myrtle warbler—*Dendroica coronata*
Audubon's warbler—*Dendroica auduboni*
Yellowthroat—*Geothlypis trichas*
Yellow-breasted chat—*Icteria virens*
Wilson's warbler—*Wilsonia pusilla*
American redstart—*Setophaga ruticilla*

Meadowlarks, blackbirds, and orioles
Western meadowlark—*Sturnella neglecta*
Red-winged blackbird—*Agelaius phoeniceus*
Orchard oriole—*Icterus spurius*
Baltimore oriole—*Icterus galbula*
Bullock's oriole—*Icterus bullockii*
Common grackle—*Quiscalus quiscula*
Brown-headed cowbird—*Molothrus ater*

Grosbeaks, finches, sparrows, and buntings
Black-headed grosbeak—*Pheucticus melanocephalus*
Blue grosbeak—*Guiraca caerulea*
Lazuli bunting—*Passerina amoena*
House finch—*Carpodacus mexicanus*
Pine siskin—*Spinus pinus*
American goldfinch—*Spinus tristis*
Green-tailed towhee—*Chlorura chlorura*
Rufous-sided towhee—*Pipilo erythrophthalmus*
Lark bunting—*Calamospiza melanocorys*
Vesper sparrow—*Pooecetes gramineus*
Lark sparrow—*Chondestes grammacus*
White-winged junco—*Junco aikeni*
Slate-colored junco—*Junco hyemalis*
Oregon junco—*Junco oreganus*
Tree sparrow—*Spizella arborea*
Chipping sparrow—*Spizella passerina*
White-crowned sparrow—*Zonotrichia leucophrys*
Song sparrow—*Melospiza melodia*

AND SOME COMMON WILDFLOWERS

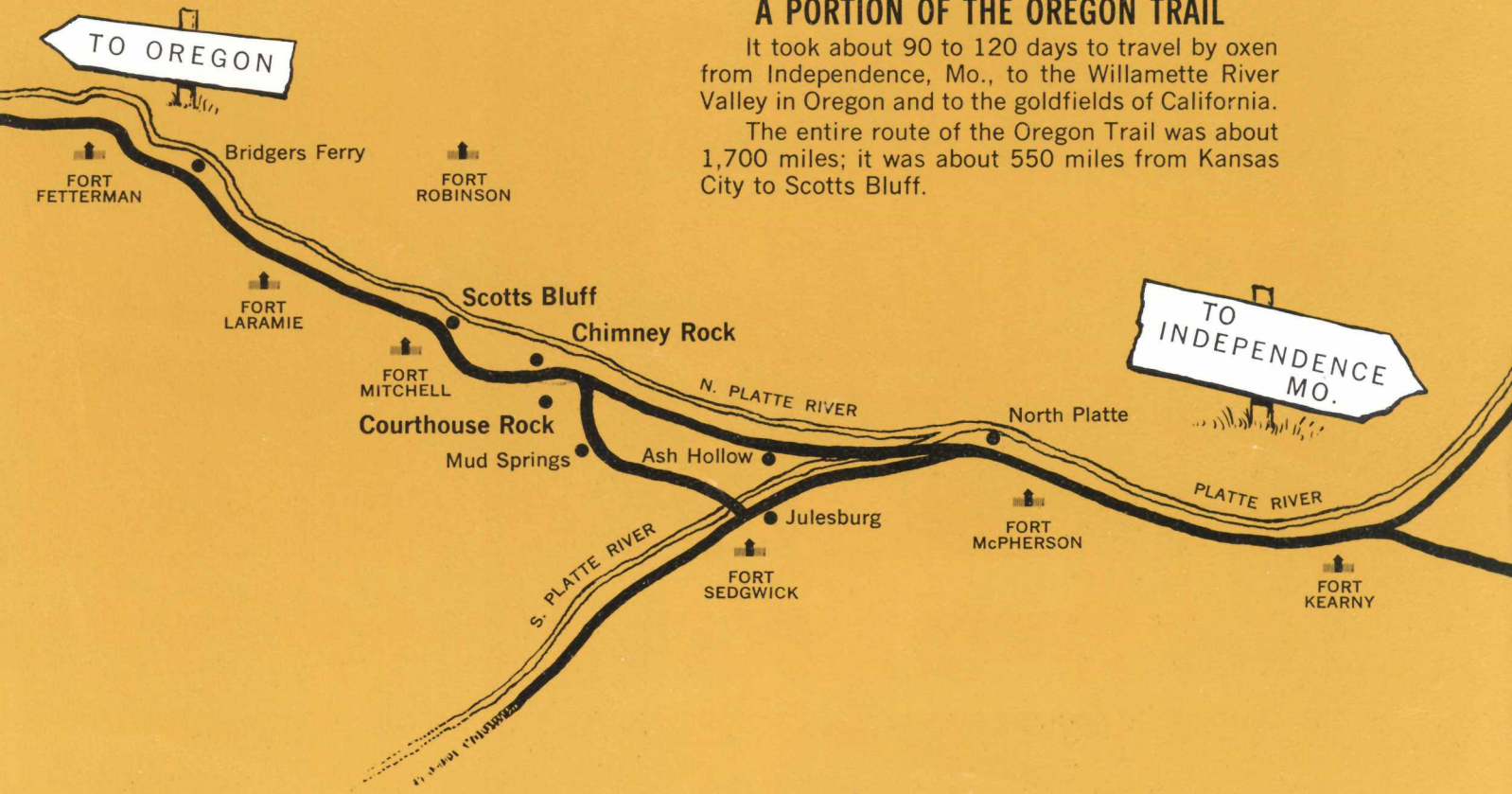
Banner, golden—*Thermopsis divaricarpa*
Besseycherry—*Prunus besseyi*
Black-eyed-susan—*Rudbeckia hirta*
Blazingstar, tenpetal—*Mentzelia decapetala*
Bluebell, hairbell—*Campanula rotundifolia*
Blue-eyed-grass, common—*Sisyrinchium angustifolium*
Buffaloberry, silver—*Shepherdia argentea*
Bur-marigold—*Bidens cernua* L.
Cactus, ball—*Mammillaria vivipara*
Chokecherry, common—*Prunus virginiana*
Coneflower:
Purple—*Echinacea angustifolia*
Upright prairie—*Ratibida columnifera*
Coralberry—*Symphoricarpos racemosus*
Crazyweed, Lambert—*Exytropis lamberti*
Currant:
golden—*Ribes aureum*
wax—*Ribes cereum*
Deathcamas—*Zygadenus* sp.
Elder, greenberry, American—*Sambucus canadensis*
Evening-primrose:
meriolix—*Meriolix serrulata*
white—*Oenothera eximia*
yellow—*Oenothera flava*
False-mallow—*Malvastrum coccineum*
Gaura, scarlet—*Gaura coccinea*
Gayfeather:
Kansas—*Liatris pycnostachya*
tall—*Liatris scariosa*
Gentian, tulip—*Eustoma russellianum*
*Goldenrod—*Solidago missouriensis*
Gumweed, curlycup—*Grindelia squarrosa*
Morning-glory, bush—*Ipomoea leptophylla*
Mountain-mahogany, birchleaf—*Cercocarpus betuloides*
Mustard, wild—*Brassica nigra*
Nightshade, buffalobur—*Solanum rostratum*
Parsley, whiskbroom—*Harbouria trachypleura*
Parsnip—*Pastinaca sylvestris*
Pasqueflower, American—*Anemone ludiviciana*
Pea, partridge—*Cassia fasciculata*
Pea-vine, white-flowered—*Lathyrus leucanthus*
Penstemon, shell-leaf—*Penstemon grandiflorus*
Phlox:
Moss—*Phlox subulata*
Sweetwilliam—*Phlox divaricata*
Poison-ivy, common—*Toxicodendron radicans*
Poppymallow—*Callirhoe involucrata*
Prairie-coneflower, upright—*Echinacea angustifolia*
Pricklypear—*Opuntia humifusa*
Pricklypoppy—*Argemone intermedia*
Puccoon, narrowleaf—*Lithospermum incisum*
Pussytoes (cat's toot)—*Antennaria campestris*
Rose, wild—*Rosa* sp.
Scurfpea, common breadroot—*Psoralea esculenta*
Serviceberry, Saskatoon—*Amelanchier alnifolia*
Snakeweed, broom—*Gutierrezia sarothrae*
Spiderflower, bee—*Cleome serrulata*
Spiderwort, bracted—*Tradescantia bracteata*
Starlily, common—*Leucocrinum montanum*
Sumac (skunkbush)—*Rhus trilobata*
Sunflower, prairie—*Helianthus petiolaris*
Verbena, woolly—*Verbena stricta*
Wallflower, western—*Erysimum asperum*
Watercress—*Rorippa nasturtium-aquaticum*
Wild-onion, garlic—*Allium mutabile*
Yucca (small soapweed)—*Yucca glauca*

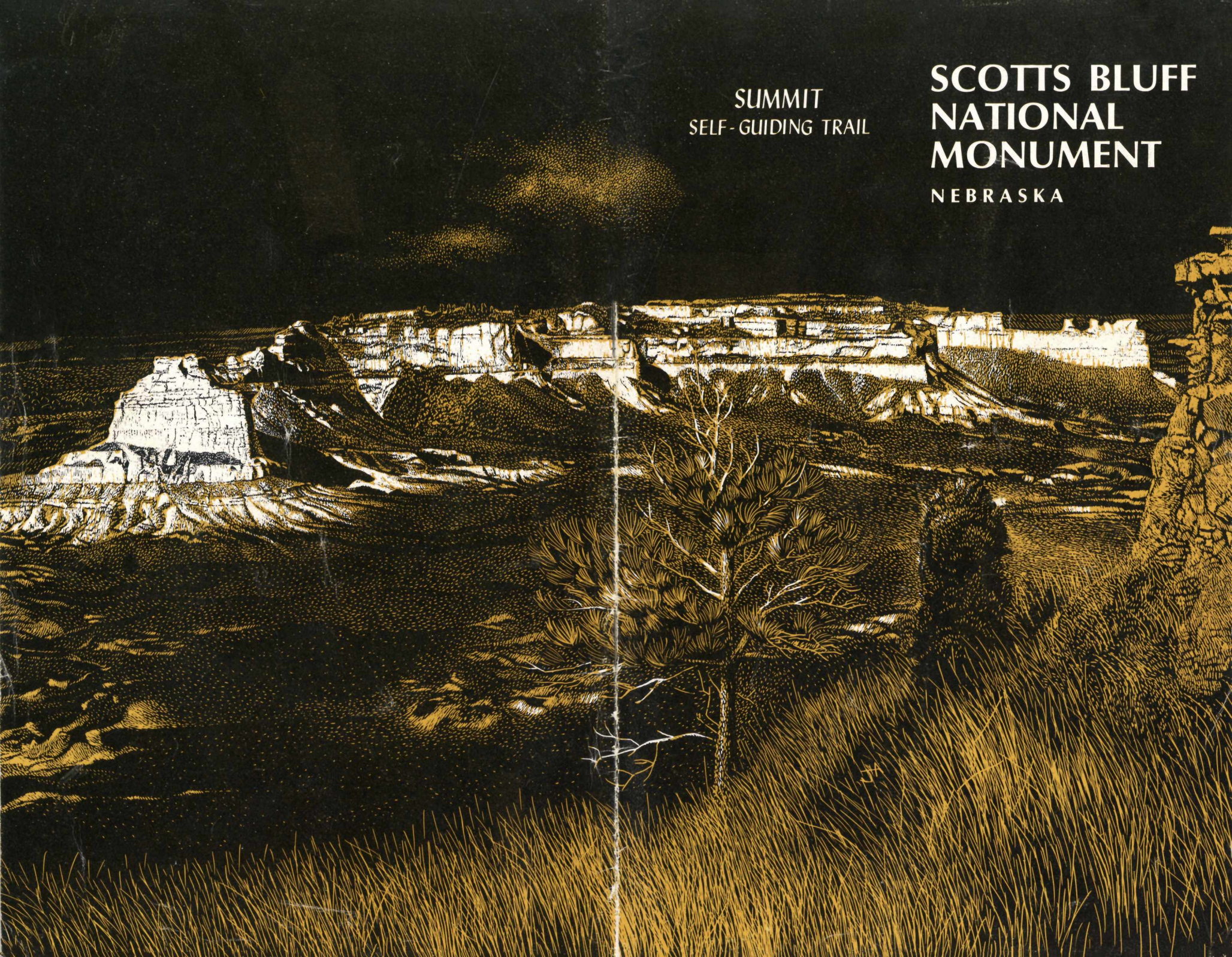
*Nebraska State flower.

A PORTION OF THE OREGON TRAIL

It took about 90 to 120 days to travel by oxen from Independence, Mo., to the Willamette River Valley in Oregon and to the goldfields of California.

The entire route of the Oregon Trail was about 1,700 miles; it was about 550 miles from Kansas City to Scotts Bluff.





SUMMIT
SELF-GUIDING TRAIL

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