Trail Resources

Trail resources are numerous, complex, have extended periods of use, multiple periods of significance, and present challenges in their protection and preservation. They fall under a variety of jurisdictions, including federal, state, local, and private. These resources provide opportunities for exploration and discovery, as well as research and interpretation. In some cases, they contain important scientific information that can be collected and analyzed to address fundamental questions of importance in understanding these trails.

Trail resources combine natural and cultural elements, including routes, segments, and more than 60 different kinds of historic sites, from river crossings to springs and graves. Trail resources also include the terrain that directly affected the emigrants' experience. In designing strategies for the protection and use of trail resources, it is necessary to include both a natural and a cultural perspective.

Trail ruts and swales, graves, and inscriptions are the resources that tend to receive most of the attention from trail aficionados because they provide one of the most important pieces of visual evidence of the existence of the trails. Although the original trail users valued the trails themselves, it was the broader landscape that presented the greatest challenge and received most of their attention. As emigrant diaries indicate, environmental factors defined their course of travel and the nature of their experience. Emigrants were concerned with weather, the availability of water, food, fuel, and game. Emigrants also used natural landmarks such as Chimney Rock, Split Rock, and others, to guide their travel.

Regional Landscapes

This section contains a brief description of the natural resources contained in each of the seven major regional landscapes identified for the trails corridor. Differences in vegetation and physiography provide the main bases for distinguishing the different regional landscapes (or biogeographic regions) used in this plan. The presence of major water bodies, which became essential to the survival of most emigrant parties, is another important consideration in separating the various settings. The prevalent climate, soils, and fauna are also briefly described for each regional landscape.

County-specific information pertaining to threatened or endangered species has been compiled as a technical appendix and is currently available at the Denver Service Center through the Resource Planning Group. Upon completion of the plan the information will also be available through the Long Distance Trails Office.

Information about prime and unique farmlands, wetlands, and floodplains is so extensive that it is impracticable to collect and include in this document. This is because the alternative actions are programmatic and specific locations have not been identified for the location of signs and waysides. Site-specific information may be obtained through the following agencies:

- *Prime and unique farmlands* — Natural Resource Conservation Service
- *Wetlands* — U.S. Fish and Wildlife Service, Natural Resource Conservation Service, and U.S. Army Corps of Engineers
- *Floodplains* — Federal Emergency Management Agency

MISSIPSSIPI AND MISSOURI RIVERS STARTING POINTS

Physiography and Soils

The landscape is comprised mostly of gently rolling plains, but steep bluffs define a number of valleys. Some areas are nearly flat while others have high rounded hills. Elevations in this region range from 300 to 2,000 feet. Mollisols dominate this region.

Climate

Weather can be extreme, with hot summers and frequently cold winters. Average annual temperatures range from 40 to 60F. The average annual precipitation ranges from 20 to 40 inches.

Water Resources and Floodplains

This region is marked by well-defined drainage systems, with the Mississippi and Missouri Rivers as the major river systems. Other important rivers associated with the trails network are the Wakarusa, the Wolf, the Kansas, the Nemaha, and the Big and Little Blue. Numerous reservoirs have been constructed along many of these streams, and large aquifers underlie significant portions of this region.

Vegetation

Vegetation is characterized by intermingled prairie, groves, and strips of deciduous trees. In the west where trail routes converge in the Platte Valley, local soil conditions and slope exposures combine to create alternations of forest and prairie. Trees are found on north-facing slopes and near streams. The thin soils on the limestone hills support little tree growth, unlike the eastern part, where trees often cover the highest hills.

Moderately tall bunch grasses are the predominant vegetation on the prairies. Bluestem prairie is the most prevalent grassland and is dominated by big bluestem, little bluestem, switchgrass, and Indian grass, along with many species of wildflowers and legumes. In some areas deciduous forest is encroaching on the prairies. Little original vegetation remains because of extensive cultivation.

Upland forests are dominated by oak and hickory. Forests in the floodplains and on well-watered hillsides are richer, more diverse, and include eastern cottonwood, black willow, and American elm. Tallgrass species include little bluestem and needle-and-thread grass. Shorter dominants include blue grama, hairy grama, and buffalo grass. Other species found in the mixed-grass steppe are green needlegrass, sand dropseed, slender wheatgrass, galleta, and purple threeawn.

Fauna

Common animals in this region include mule deer, white-tailed deer, raccoon, opossum, coyote, jackrabbit, cottontail, badger, gray fox, and various rodent species. Large mammal species are more commonly found in the forested areas. Aquatic animals include river otter, beaver, mink, and various species of waterfowl. Birds of the riverine forests include belted kingfisher, bank swallow, spotted sandpiper, and green-backed heron. Upland species include horned lark, western meadowlark, sharp-tailed grouse, greater prairie chicken, bobwhite, quail, ring- necked pheasant, and mourning dove.

PLATTE RIVER

Physiography and Soils

This is an area characterized by rolling plains and table lands of moderate relief. The ecosystem of the Platte River floodplain consists of river channel islands and sandbars, lowland riverine forests, lowland native prairie, and upland native prairie.

This region is predominated by Mollisols with smaller areas of Entisols, such as the sandhills of Nebraska. The dominant soil formation process is calcification; salinization is dominant on poorly drained sites. Soils contain a large excess of precipitated calcium carbonate and are rich in bases.

Climate

Summers are warm to hot, and winters are cold and dry with an average annual temperature of 45F. Precipitation ranges from 20 inches in the eastern part of the region to around 10 inches in the more westerly reaches.

Water Resources and Floodplains

The Platte River and its tributaries are the major aboveground water sources for the region, which is also underlain by large aquifers. The Platte's major tributaries include the Elkhorn and the Loup. The Ogallala is the major aquifer. Lake McConaughy, a large reservoir on the North Platte above its confluence with the South Platte River, serves as an important recreational and storage facility for the water of the middle Platte Valley.

Vegetation

The upland native prairie of the Platte Valley features short grasses, usually bunched and sparsely distributed. Commonly found grasses include blue grama, buffalo grass, western wheatgrass, and needlegrass. Lowland native prairie resembles the upland prairie with the addition of shrubs such as snowberry and wild rose. Riverine forest species include American elm, slippery black locust, cottonwood, and osage orange. Trees on the islands and sandbars include salt cedar and sandbar willow.

Fauna

The Platte valley is home to a rich and diverse animal and bird population. Common mammals include mule deer, white-tailed deer, pronghorn, opossum, coyote, red fox, gray fox, striped skunk, badger, and numerous species of shrews and rodents. Aquatic mammals include beaver, mink, and muskrat. The U.S. Fish and Wildlife Service has determined that the area supports about 142 species of breeding birds. Among these are great blue heron, American bittern, Canada goose, blue-winged teal, golden eagle, bald eagle, sharp-tailed grouse, and sandhill crane.

The Platte River is home to more than 60 species of fish, many of which have been introduced. Among the more common species are plains minnow, bigmouth shiner, fathead minnow, river carpsucker, carp, channel catfish, white bass, white crappie, black crappie, and walleye.

ROCKY MOUNTAINS / CONTINENTAL DIVIDE

Physiography and Soils

In this area landforms are predominantly arid plains interspersed with isolated hills and low mountains. Elevations range between 6,000 and 8,000 feet on the plains with the hills and mountains rising between 1,000 and 2,000 feet above the plains. The Sweetwater River floodplain defines much of the trails corridor in this landscape setting.

In the Wyoming basin soils are alkaline Aridisols. Subsoils contain a layer enriched with lime and/or gypsum, which may develop into a caliche hardpan. In the Rocky Mountains, soil orders occur in zones corresponding to vegetation, ranging from Mollisols and Alfisols in the montane zone to Aridisols in the foothill zone. In addition, because of steep slopes and recent glaciation, there are areas of Inceptisols.

Climate

Climate is semiarid and cool with average annual temperatures ranging between 40 and 52F. Winters are cold, and summers are short and hot. Average annual precipitation ranges from 5 to 14 inches and is evenly distributed throughout the year.

Water Resources and Floodplains

Water resources in this arid region are limited. The major streams are the Sweetwater and Green Rivers. The trails corridor follows the Sweetwater floodplain for most of its 175-mile length through the Wyoming basin. As the only sizable perennial stream between the Platte and the Green, the Sweetwater served as an essential lifeline for westbound emigrants. There are some scattered freshwater springs in the region, and beaver activity has helped create wetland environments in some areas.

Vegetation

This region is characterized by patches of shrublands. The dominant species in this region is the Wyoming big sagebrush. Other common species are the black sagebrush, gardner saltbrush, greasewood, western wheatgrass, junegrass, prickly pear cactus, and rabbitbrush. Trees and large shrubs are rare, even in the Sweetwater floodplain. Common plant species found here include alkali sacaton, fringed sagewort, silver sagebrush, and rubber rabbitbrush.

Fauna

Despite its arid character, this area supports a variety of animals. The most common large mammal is the pronghorn, although mule deer may be found in the more sheltered areas of the floodplain and in gullies. Herds of mule deer and elk occasionally will descend into the basin during unusually harsh winters. Other species include coyote, red fox, swift fox, badger, bobcat, and several species of burrowing rodents. The black-footed ferret, an endangered species, is also found in the area.

This area is an important breeding and resting ground for migrating waterfowl. Common species include mallard, pintail, green-winged teal, gadwall, and Canada goose. Sage grouse is the most common upland bird species. Numerous raptors inhabit the area, including Swainson's hawk, bald and golden eagles, the ferruginous hawk, red-tailed hawk, prairie falcon, great horned owl, and burrowing owl.

Common reptiles include sagebrush lizard, horned lizard, and prairie rattlesnake.

SNAKE RIVER–COLUMBIA PLATEAU / PACIFIC NORTHWEST

Physiography and Soils

The trails corridor moves into Idaho north of Bear Lake and then passes through parts of five small Idaho mountain ranges — the Portneuf, Bannock, Sublette, and Cotterell Ranges and the Deep Creek Mountains.

Elevations range between 5,000 and 8,000 feet. Monumental rock outcroppings, such as the City of Rocks, characterize parts of this landscape setting.

Along the Columbia–Snake River Plateau soils are similar to those in the Wyoming Basin. This area also has extensive alluvial deposits in the floodplains of streams and in the fans at the foot of the mountains. Dry lake beds are numerous, and there are extensive eolian deposits, including both dune sand and loess. Aridisols dominate all basin and lowland areas; Mollisols are found at higher elevations.

Climate

Average annual temperatures range between 45 and 50F. Precipitation ranges between 10 and 20 inches annually. Summers are warm and dry, with most precipitation falling in the winter months.

Water Resources and Floodplains

This region's surface water resources include Bear Lake and several streams and rivers, such as the Snake River, Bear River, and the Raft River.

Vegetation

Lower elevations are arid grasslands dominated by big sagebrush, rabbitbrush, and crested wheatgrass. Higher elevations feature piñon/juniper woodlands, mixed scrub slopes dominated by big sagebrush, mountain snowberry, bitterbrush, and some conifer/aspen woodlands. Common species in riparian areas include aspen, willow, box elder, chokecherry, sedge, and bluegrasses.

Fauna

This region supports a large and diverse animal population. Common large mammals include elk, mule deer, black bear, bighorn sheep, mountain lion, bobcat, and porcupine. Several species of burrowing and tree-dwelling rodents are found here. The City of Rocks is home to an unusually high number of bat species, including Townsend's big-eared bat, the desert pallid bat, big brown bat, small-footed myotis, and silver-haired bat. Aquatic mammals include beaver, river otter, and muskrat.

CASCADE RANGE

Physiography

The emigrants preponderantly used the north-south depression between the Cascades and the Coastal Range. Mountains of the Coastal Range rise 5,000 feet above sea level. The interior Cascade Range, which dominated the emigrant experience, has higher mountains between 8,000 and 9,000 feet.

Crossing of major rivers, such as the Klamath, the Rogue, the North and South Umpqua, and the Willamette, challenged travelers in this extremely rugged terrain.

Andisols are extensive where underlain by volcanish ash. Most Inceptisols are found west of the Cascades. Dry soils predominate in the rain shadow east of the mountains.

Climate

The climate is generally mild throughout the year. Annual temperatures average 48 to 55F. Moderate rainfall reaches its maximum in the winter; in the summer precipitation is quite scarce. Average annual precipitation ranges from 15 to 60 inches, but in much of the area, the range is from 30 to 45 inches. The rain shadow created by the Coastal Range is responsible for the drier climate. Fog partially compensates for the summer drought.

Water Resources and Floodplains

Major rivers, going from east to west, include the Klamath, the Rogue, and the North and South Umpqua. These rivers characterize this region and carry the abundant precipitation of the Cascade Range to the Pacific. The Willamette is another major waterway, but unlike the other rivers in the area, it turns north until its waters meet the Columbia River at Portland. Poorly drained sites with swamp or bog communities are abundant in this region.

Vegetation

The principal trees are western red cedar, western hemlock, and Douglas-fir. In the interior valleys, the coniferous forest is less dense than along the coast and often contains deciduous trees, such as bigleaf maple, Oregon ash, and black cottonwood. There are prairies that support open stands of oaks or are broken by groves of Douglas-fir and other trees. Principal indicator species are Oregon white oak and Pacific madrone.

Fauna

Mule deer is the most common large mammal. Others include elk, mountain lion, and bobcat. Small mammals include mice, Douglas squirrels, martens, Townsend chipmunks, red tree voles, and bushtail wood rats. The western gray squirrel lives in oak trees, and the bushytail wood rat builds nests on shrub-covered stream margins and at forest edges. Isolated thickets are inhabited by brush rabbit and gray fox.

Ruffed grouse inhabit the same scattered thickets. Canada goose winters exclusively in the Willamette Valley. The periodically abundant acorn crop attracts flocks of band-tailed pigeons, acorn woodpeckers, and mountain quail.

The dry terrain is ideal for reptiles, including the northern Pacific rattlesnake, the only poisonous snake in the Pacific Northwest.

GREAT BASIN

Physiography and Soils

The topography of the Great Basin is extremely varied. Elevations range from 5,000 feet to over 13,000 feet. Much of the region is made up of separate interior basins, some of which are dry lake beds.

Aridisols dominate all basins and lowland areas; forest soils are found at higher elevations. Narrow bands of Entisols lie in stream floodplains and rocky landscapes. Salt flats and playas without soils are extensive in the lower parts of basins with interior drainage.

Climate

Climatic conditions vary significantly. Summers in the semidesert and desert areas are hot and dry, while winters are generally cool with periods of near or below-freezing temperatures. Average annual temperatures range from 40 to 55F. Annual precipitation may be as low as 5 to 8 inches.

In Nevada and Utah, summers are dry; winters are long and often cold with average annual temperatures as low as 38F. Average precipitation may reach 25 to 35 inches in the higher elevations, most of it falling as snow.

Water Resources and Floodplains

There are a few perennial streams in the lower elevations of the Great Basin. The Humboldt, Truckee, Walker, and Carson Rivers are the only sizable permanent streams, and even the Humboldt eventually disappears in the Nevada desert. Permanent and intermittent streams are more common in the higher elevations of the mountain province, and there are some small subalpine and alpine lakes in the mountains. Some valleys are underlain by substantial aquifers that produce ground-surface springs. Riparian and wetland communities are extremely rare throughout this landscape setting, but are essential to the health of the ecosystem.

Vegetation

Sagebrush, including Wyoming big sagebrush and black sagebrush, dominate the lower elevations. Other common plants include antelope bitterbrush, shadscale, rubber rabbitbrush, horsebrush, winterfat on the salt desert, and alkali-tolerant greasewood on the alkali flats.

At higher elevations common plants include piñon pine and juniper, mountain serviceberry and snowberry, ponderosa pine, aspen, Douglas fir, and Engelmann spruce. In the Humboldt River Valley, common plants include the bluebunch wheatgrass, Indian ricegrass, winterfat, greasewood, needle-and-thread grass, horsebrush, and Great Basin wildrye.

Fauna

Large mammals include mule deer, pronghorn, mountain lion, badger, and spotted skunk. Other mammals include pocket gopher, kangaroo rat, and other rodents. Beaver and raccoon are found in riparian areas. Reptile species include fence lizard, gopher snake, and prairie rattlesnake.

Upland bird species include sage grouse, chukar partridge, and California quail. A variety of raptors inhabit the Great Basin, including golden eagle, bald eagle, ferruginous hawk, Swainson's hawk, and red-tailed hawk.

The Humboldt River contains a variety of warm-water fish species, including channel and bullhead catfish, blue gill, yellow perch, white crappie, largemouth bass, small mouth bass, and white bass.

SIERRA NEVADA

Physiography and Soils

From the Great Basin, the east slopes of the Sierra Nevada rise abruptly from elevations around 4,000 feet to over 14,000 feet.

Ultisols are extensive on mountain slopes where the air is humid; dry Alfisols predominate at lower elevations. Entisols occupy the narrow floodplains and alluvial fans of the valleys.

Climate

Temperatures and precipitation vary widely in the Sierra Nevada. The lower east slopes of the mountains, which are in the rain shadow, receive as little as 10 inches of rain or less annually. The west slopes receive about 10 to 15 inches. At higher elevations precipitation may reach 70 inches, most of which falls as snow. Average annual temperatures also vary greatly from 52F on the lower slopes to only 35F at higher elevations.

Water Resources and Floodplains

There are many lakes in the Sierra Nevada. Most of these lakes were formed by morainal dams or water trapped in glacial cirques. Several large rivers, including the Sacramento, Feather, Yuba, American, and San Joaquin, drain the well-watered western slopes. The drier eastern slopes have fewer substantial streams. The eastern Sierra Nevada is drained by the Owen, Carson, Truckee, Susan, Mono, and Walker Rivers.

Vegetation

Vegetation zones in the Sierra Nevada are exceptionally well-delineated. The lower slopes and foothills, from about 1,500 to 4,000 feet, are covered by coniferous and shrub associations. On higher slopes, digger pine and blue oak dominate, forming typical open or woodland stands. Close-growing evergreen shrub or chaparral, dominated by buckbrush or manzanita, cover most of the low hills. Several species of oak are also associated with growth in this elevation.

In the central Sierra Nevada, which range in elevation from between 4,000 and 7,000 feet, common tree species include ponderosa pine, Jeffrey pine, Douglas-fir, sugar pine, white fir, red fir, and incense cedar. Giant sequoias are found in only a few groves on the western slopes. Jeffrey pine replaces ponderosa pine in the Sierra Nevada rain shadow on the eastern slopes. At lower elevations pine forests are replaced by sagebrush/piñon forest.

The Sierra Nevada's subalpine zones begin at 6,500 to 7,000 feet and range to around 9,500 feet. Mountain hemlock, California red fir, lodgepole pine, western white pine, and whitebark pine predominate.

The alpine zone covers the treeless areas above timberline.

Fauna

Common large mammals in the Sierra Nevada include mule deer, mountain lion, coyote, and black bear. Smaller mammals include golden-mantled squirrel, bushytail wood rat, flying squirrel, red fox, fisher, yellow-haired porcupine, long-eared chipmunk, and Trowbridge's shrew.

Common birds are mountain quail, Cassin's finch, Hammond's flycatcher, Lincoln's sparrow, Audubon's warbler, pine siskin, William's sapsucker, and mountain chickadee. Raptors include western screech-owl, Cooper's hawk, northern pygmy owl, and great gray owl. Ospreys and eagles are returning to the Carson pass area.

Cultural Landscapes

The trail experience of emigrants focused neither on a set of ruts nor on many isolated places along the way, but instead on the physical nature of the regions they traversed. Today, we define such areas as landscapes. A cultural landscape is defined as a geographic area, including both natural and cultural resources, and the wildlife and domestic animals associated with an historic event, activity or person exhibiting other cultural or aesthetic values.

The term landscape has tremendous variations in status, meaning, and usage. Ecologists often use the term ecoregion or ecosystem when they refer to landscapes. Among cultural geographers its definition has changed dramatically during the last half century and it continues to evolve. The cultural aspects of a landscape are as important as the natural features in defining management alternatives for the different trail resources.

Although landscapes have not been considered essential trail resources, they should be a high priority for managers because they define the nature of the trail, both at the time of the original use and at the present. Landscapes are a very important trail resource and need as much attention and protection as ruts and swales. Legally they merit the same treatment and protection as other cultural resources.

There is a historic precedent for this approach. The 1990 El Malpais General Management Plan identified a natural/cultural management zone instead of the traditional separation into natural and cultural resources. The two types of resources were put into one category for the following reasons:

- Natural and cultural sites were closely related.
- Knowledge of the location and the extent of numerous natural and cultural resources was so incomplete that their separate identification was not practicable.
- Significant sites were of special importance to one or more American Indian groups.
- The entire natural landscape is part of the cultural landscape.

The same rationale applies to the present plan.

The major character-defining features of landscapes along historic trails depend on the local vegetation, hydrology, topography, and soil and sometimes the human modification of these elements. Variations in vegetation, land forms, water sources, and soils also help to identify boundaries among the various component landscapes of a linear resource. For example, High Rock Canyon — a segment of the California National Historic Trail's Applegate Trail in northwestern Nevada — is notably distinct from other segments of the Applegate Trail. Here, land forms and the physical remnants of the trail are keys to identifying the landscape boundaries. Nebraska and Kansas in general are part of another distinct landscape unit. The land is flat or gently rolling. Here, openness of the terrain is one of the most important character-defining features of the trail landscapes.

Pristine landscapes are still widespread along these trails. They provide an exceptional example of the interplay between the movement of people across the continent and the natural environment.

Archeological Resources

Thousands of archeological sites along the trails provide mute testimony to centuries of human occupation. The prehistoric sites lack written documentation and often date from a period prior to contact with Europeans and Americans. However, the physical remains found along the trails provide a glimpse of American Indian lives and of the earliest communication and trade routes.

These prehistoric routes were selected on the basis of environmental factors, such as physiography, vegetation, soils, and the presence of water. Indian trail routes led over mountain passes, from water source to water source, stopping at campsites with good fuel and water. Some of the sites that have been excavated, and many that have not, mark areas occupied and used by Indian tribes that the emigrants encountered. Many of the descendants of these historic tribes still occupy lands near the trails.

The emigrants followed many of these prehistoric routes as they moved westward, leaving behind both an impressive written legacy and a substantial legacy of inscriptions to mark their presence. Their campsites, wagon ruts, graves, and lost and discarded goods line the trails corridor, forming a linear outdoor record of their passage.

A number of constraints preclude the specific identification and discussion of trail-associated prehistoric and historic sites in this plan. Although the various state historic preservation offices have identification and documentation programs in place and federal agencies have the responsibility to survey and consider the effect of actions on archeological resources on public lands, the magnitude and the cost of completing regional surveys on these trails have discouraged them. Very often information on sites is contained in the files of these agencies, but because this information is not always uniformly collected or reported, the task of synthesizing massive data becomes overwhelming.

Some federal and state offices have undertaken specific archeological research in response to proposed undertakings. Often these are excellent studies that provide valuable information; however, they usually focus on such relatively small pieces of land (compared to close to 14,000 miles of trail addressed in this document) that they need a broader and more adequate context.

Some individual federal and, sometimes, state offices have completed specific archeological research studies in response to proposed undertakings. Coordination and cooperation among all the agencies and offices would be necessary for a program to inventory and summarize research conducted to date and the identification of areas where additional studies are needed.

Furthermore, many of these resources are located on private land, and unless they are certified or an agreement is reached with their owner, they are not available for public viewing. Currently, information on such sites is limited.

Finally, because vandalism can easily destroy fragile archeological remains, anonymity regarding the names and locations of these archeological sites offers some measure of protection.

Historic Resources

The historic resources associated with the California and Pony Express National Historic Trails are extensive. This plan identifies 264 high-potential sites and 53 high-potential segments, totaling 1,935 miles. In addition this plan's update for the Mormon Pioneer National Historic Trail identifies 55 high-potential sites and 6 high-potential segments, totaling 303 miles. For the Oregon National Historic Trail update this plan identifies 140 high-potential sites and 15 high-potential segments, totaling 442 miles.

Ethnographic Resources

This section provides general background on American Indians, their use of the trails, and their interaction with the emigrants. It describes the historical and cultural complexity of American Indians tribes associated with the four trails and explores how their indigenous presence and interactions with white settlers profoundly shaped the experiences of emigrants on the trails.

The Oregon, California, Mormon Pioneer and Pony Express trails cross various lands having important connections to a large number of American Indian tribes. Peoples such as the Lakota, Cheyenne, Arapaho, Ute, Pawnee, Blackfoot, Salish, Mandan-Hidatsa, Gros

Ventre, Sans Arcs, Kansa, Osage, and others made the lands west of the Missouri River their home in the years before the American Revolution.

Additionally, United States government policies of the 1830s forced eastern tribes, such as the Delaware, Wyandotte, Shawnee, Cherokee, Choctaw, Weas, Piankashaw and others, onto reservations laid over the lands of the earlier inhabitants. Beginning in the 1840s, American and European emigrants also moved into these lands, establishing communities and contributing to the rich ethnographic tapestry of the American West. By 1893, many Indians had been regulated to reservations managed by the Department of the Interior.

More than 100 American Indian groups have been affected to a greater or lesser degree by the overland migration. Map 12 provides a general overview of the major Indian tribes at the time of the overland migration.

CULTURAL SKETCHES AND CULTURE AREAS

Comprehensively addressing such a lengthy and complex topic as the ethnography of the territories traversed by the trails is beyond the scope of this document. For this reason some of the ethnographic information has been synthesized around the concept of cultural areas. This concept addresses relatively large geographical regions characterized by societies that exhibit significant similarities in their social structure and in the way they adapt to the environment. The four emigrant trails involved approximately five different cultural areas of native North America. In an easterly to westerly direction, these are the Plains, Great Basin, Plateau, Northwest Coast, and California cultural areas.

Brief cultural sketches are given for the Lakotas, who occupied areas near the beginning of the trails corridor, and for the Paiutes, who inhabited areas near the end. The Lakota people were and still are part of the Plains culture area, and the Paiutes were and still are part of the Great Basin culture area, even though the latter overlapped into what is now California.

Although similar beliefs and behaviors among cultural groups are implied within a culture area, it is interesting to note that there were probably more cultural similarities (rather then differences) between the Lakota and Paiute peoples despite occupying different cultural areas. Nevertheless, these and all other native groups were distinct peoples. Being able to accurately distinguish among the various Indian tribes encountered along the trail corridor would have been advantageous to the emigrants, but often distinctions were not made. Different culture areas and tribes meant behavioral differences that the emigrants often did not perceive — sometimes to the detriment of the emigrants and the Indians alike. Stereotypical perceptions of behavior resulted in potential friends being regarded as enemies and vice versa. Of course, sometimes friends and enemies existed within the same culture area, which added to the complexity of the situation.

THE LAKOTA (SIOUX)

Politically the Lakota people were comprised of the following seven traditional tribal divisions:

- *Hunkpapa* — campers at the horns (or heads or ends) of a camp circle
- *Itazipcola* — sans arcs (without bows)
- *Mnikowoju* (also spelled Minneconjou) — planters beside a stream
- *Ogallala* — those who scatter or sow their own grain or seed
- *Oohenunpa* — two kettles or two boilings
- *Sicangu* — brules or burned thighs
- *Sihasapa* — blackfeet or those whose feet are darkened from burnt grass

The Lakota are known as the Teton or Western Sioux. The term Sioux is a French corruption of a Chippewa Indian word for the peoples living to the west of them, west of the edge of the Eastern Woodlands or Northeast culture area. The term collectively refers to three large tribes — from east to west, the Dakotas, Nakotas, and Lakotas. All speak related Siouan languages.

According to archeologists and anthropologists, several centuries ago the Lakota lived in the Carolinas. In the early 18th century the Lakota peoples migrated north and west, arriving in the central and southwestern parts of present-day South Dakota — their classic territory in American history and their home today. The Lakota themselves hold beliefs about their origins that indicate that their origin occurred in the Black Hills of South Dakota, from the earth according to the wishes of the Great Spirit.

Subsistence for the Lakota, after acquiring horses, was highly bison- or buffalo-dependent in remarkable and specialized ways utilizing all parts of the animal for food, clothing, tools, and other artifacts. Less than 15% of the traditional Lakota subsistence economy was based on the gathering of wild plants and small land animals; the rest involved hunting large animals, mostly buffalo. Occasional fishing occurred. There was no agriculture and no animal husbandry, except for taking care of their all-important horses. Horse care was an activity associated exclusively with men. Both sexes gathered, but women did appreciably more than men. To the extent that fishing took place, it was associated primarily with men.

At marriage, bride price was called for in the form of horses and/or goods; that is, a substantial consideration was expected to be transferred from the groom or his relatives to the bride's relatives. Small extended families were the norm as a domestic unit in seminomadic bands, with independent polygynous families sometimes forming comparable domestic units. Polygyny was accepted in which a man could have more than one wife if he could afford them. There was some tendency for a man to marry sisters, a practice known as sororal polygyny. There was a greater tendency to marry out of the group; that is, to find a wife from another band. Residence at marriage was generally with the husband's kin in an extended family situation, but sometimes the wife's relatives provided a spot in their band, again by way of an extended family. The house type was round in configuration, the famous portable tepee of buffalo hide.

The Lakota conventional community was a seminomadic band that by and large had a permanent reference location or home base to which it regularly returned. Prairie grass conditions, water sites, and the movements of the buffalo herds were major determinants of where and when the band moved from one encampment to another.

Kinship descent was/is bilateral, like Euro-American reckoning, in which relatives were/are defined through both one's mother and father, not just the father as in patrilineal kinship descent, or the mother as in matrilineal descent. Sons had an expectation that they might follow their fathers as band headmen or other political leaders, but assumption of office was by consensus through recognition of merit, not any inherited status. This applied to the statuses of war leaders, buffalo-hunt leaders, and religious specialists, as well as the so-called peace chiefs, who constituted normal civic leadership when the band was not under attack or conducting a raid of its own.

THE PAIUTE PEOPLE

The Paiutes were dispersed in kin-based groups with seasonal rounds tied to water sources and harvesting cycles of mountain and valley. Seasons and altitude made a difference as to what was hunted and/or gathered and when. Some environmental or ecological adaptations were quite creative. For example, at a certain time each summer the larvae of caterpillars of the pandora moth were gathered to eat by the Paiutes of the Owens Valley. The Paiutes also practiced an aboriginal

form of irrigation, whereby streams were diverted at certain times of the year to enhance long-term gathering. It was not large-scale agriculture, but it had elements of horticulture and it was direct manipulation and management of an ecological niche of the environment based on indigenous knowledge.

Subsistence in general among Paiutes was heavily based on the gathering of wild plants and small land animals, often rabbits and other rodents. A significant but smaller percentage of their subsistence economy was based on hunting larger animals like deer and antelope. The gathering of pine nuts and, to a lesser extent, acorns was especially important. There was no reliance aboriginally on animal husbandry; that is, the raising of domesticated animals, or on agriculture as we know it as the large-scale planting of field crops. Plots of wild plants were cultivated through irrigation, however, as mentioned above. Fishing figured in where possible, but not nearly as much as hunting and gathering. A form of fishing was practiced in conjunction with Paiute irrigation. Fishing and hunting were men's activities; gathering was a women's pursuit.

At marriage, a small or token bride price was required via a symbolic payment or transfer of goods to the family of the bride. Small extended families were the norm with some activities centering at times on the nuclear family. Here, the father and mother, along with their dependent children, would temporarily act independently of other family members or family groups. Residence at marriage was sometimes with the wife's kin or in their immediate locality, but most often it was with the husband's kin. The basic house type was round in configuration and of brush construction that varied with the season. Rock shelters augmented by brush, poles, and logs also served as dwellings.

Paiute kinship descent was/is bilateral, like the Lakota and Euro-American rules of descent whereby relatives are determined equally through both one's mother and father. Also like the Lakota, there was a tendency to marry out of the group by finding a spouse from another group. Unlike the Lakota, Great Basin sociopolitical groups or bands were largely autonomous, with essentially no reference to any larger or regional decision-making groups. However, the idea of home districts has been suggested in which aboriginal bands may have come together to meet on a regular cycle to discuss and seek consensus on regional economic, ecological, and political matters.

Sons might have followed their fathers as political leaders, but like the Lakota, assumption of office was by recognition of individual merit, not by any concept of foreordained status.

Religious specialists existed as helpers and healers of people through recognition of their spiritual powers. The down side of being known to be in touch with the supernatural was that some persons could be perceived as harboring evil and thus, be accused of witchcraft.

Prescribed burning is often an overlooked part of traditional American Indian cultures. Controlled prescribed burning is the purposeful setting of brush and groundcover on fire to promote new plant and seed growth. Like the Lakota, various Paiute groups also engaged in this activity, which indicates that they had indigenous knowledge of the ecosystems and econitches in which they lived.