



The dunes are the most unique and outstanding feature within Eureka Valley. Three factors are needed to build a dune formation: the presence of a source of sand; a recurrent wind strong enough to move the sand; and a place where the sand can accumulate. Weathered outcroppings of sandstone and alluvial fans provide the sand. Winds of necessary velocity are common, particularly in the spring. The configuration of the surrounding mountains causes the winds to eddy and deposit the suspended sands in the southern end of the valley. North of the dunes, the valley narrows and then opens into a large circular basin at the southern end. North and northwest winds, funneling through the constricted part of the valley, swirl around the southern basin, and, slowed down, lose their ability to transport the sand which settles down into the dune system.

The exact age of the Eureka Dunes is unknown. In geologic terms they are considered recent, however, they are at least several thousand years old.

Rising 900 feet above the valley floor, these dunes are the tallest in all of California and the Great Basin. The Eureka Dunes are a unique natural resource that need to be preserved for the enjoyment of future generations.

CULTURAL RESOURCES

Archaeological sites are not uncommon near the Eureka Dunes. Because these sites are considered sensitive, they are not described in this brochure. The visitor to Eureka Dunes is reminded that unauthorized collection of artifacts and disruption of archaeological sites is a violation of federal law under the Antiquities Act.

Endangered Plants of the Eureka Valley Sand Dunes

What is an endangered plant species?

An endangered plant species is any plant which is in danger of extinction throughout all or a significant portion of its range.

How is it determined that plants are endangered or threatened species?

There are several considerations:

1. The present or threatened destruction, change, or reduction of the plant's habitat (home) or range.
2. Disease or predation (such as overgrazing by animals).
3. Not enough means to regulate the adverse effects on the plants.
4. Other natural or man-made factors affecting the plant's continued existence.

What is an Area of Critical Environmental Concern (ACEC)?

An ACEC is an area considered special because of unusual diversity of plant or animal life, unique geologic features or fossil deposits, rare concentrations of the remains of prehistoric or historic use and occupation, or other significant values. The Bureau of Land Management has special programs designed especially for such areas.

For Assistance, Contact:

BLM Rangers	(714) 351-6382
BLM Emergency Dispatch	(714) 351-6374
BLM Ranger (Big Pine)	(619) 938-2929
Inyo Sheriff	(619) 878-2441
Kern Sheriff	(619) 375-9761
Ridgecrest Hospital	(619) 446-3551
Northern Inyo Hospital	(619) 873-5811
Southern Inyo Hospital	(619) 876-5501

For More Information, Contact:

Ridgecrest Resource Area
Bureau of Land
Management
1415-A North Norma Street
Ridgecrest, CA 93555
(619) 446-4526

California Desert District
Bureau of Land
Management
1695 Spruce Street
Riverside, CA 92507
(714) 351-6394



Eureka Valley Dunes



EUREKA VALLEY DUNES

The vastness of the California Desert contains many areas endowed by nature, or man, with characteristics that set them apart. Eureka Dunes is one of these. In fact, Eureka Dunes is so unique that the Secretary of the Interior designated the dunes as a National Natural Landmark in early 1983. The Bureau of Land Management and the California Department of Fish and Game have developed a management plan to protect the areas unique habitat.

From a distance, the Eureka Dunes appear to float above the floor of the Eureka Valley. This image results because the light colored dunes stand out in sharp contrast to the surrounding mountains which are composed of very dark colored rocks. The highest point of the dunes stands 682 feet above the valley floor, making them the tallest in California.

The Eureka Dunes are about 40 miles south and east of Bishop but actually are about 56 miles by available roads. They are about 25 miles east of Big Pine, with access by unimproved dirt roads only.

The dune system is best described as "transverse dunes with a sand mountain." The total area of the designated Area of Critical Environmental Concern (ACEC), which includes the dunes, is eight square miles. The northern boundary is a main dirt road which crosses the north end of the dunes and continues into the Saline Valley corridor.

LOCATION

The dunes are in the northern part of the California Desert Conservation Area. They are accessible by driving 45 miles east from Big Pine or 50 miles north from Death Valley on paved or graded dirt roads.

RECREATION OPPORTUNITIES

The entire sand dune area was closed to all vehicle use in 1977. Other types of non-vehicular use are allowed and popular activities in the dunes include overnight camping, hiking and photography. For those wanting to drive off-highway vehicles on sand, the Olancho Dunes in southern Owens Valley and the Dumont Dunes south of Death Valley are open for such vehicular use.

SCENIC VALUES

The dominant form of the area is the majestic towering dune mass. Overlooking the dunes from a greater height to the east is the darker, imposing shape of the Last Chance Range. The dominating expression of color in the area is the soil and rocks. The contrast from the dull brown



valley, to the bright whitish-gray of the dunes, to the dark grey-black of the mountain ranges, to the luminous blue sky, expresses color as an important element of the landscape character.

A scene almost as striking as the dunes themselves is the prominent multicolored strata exposed on the face of the Last Chance Mountains. The form and rich colors of these strata create a background for the paler dune system, which, when viewed at dawn or sunset, create a panorama of sand and rock of exquisite beauty. With sufficient rainfall, an astonishing variety of color and beauty is displayed in a carpet of wild flowers in the Spring.

WILDERNESS

The Eureka Dunes ACEC is contained within Saline Valley Wilderness Study Area and has been designated as suitable for inclusion in the National Wilderness System.

Until Congressional review is completed, the area must be managed under the Bureau of Land Management's interim management policy and guidelines for land under wilderness review to ensure that wilderness characteristics and values are not impaired.

VEGETATION, FLORA, AND ENDANGERED PLANT SPECIES

The three major vegetation types predominant within the Eureka Dunes area are: Creosote bush scrub; allscale alkali scrub, which occurs along the edge of the playa due west of the dunes; and the psammophytic (or "sand plant") scrub steppe, which occurs on the dunes proper.

The primary species within the creosote bush scrub plant assemblage are creosote bush, bur sage, indigo bush and shadscale. Some of the species extend onto the low dunes so that there are no clearly defined boundaries between any of the vegetation types.

The playa periphery supports a plant assemblage of halophytes (salt tolerant plants) including allscale, shadscale, red molly, and alkali blite.

The Eureka Dunes themselves support a psammophytic plant assemblage. The word psammophytic refers to plants which inhabit sandy areas. The predominant species is Eureka dune grass, a perennial dune binding grass. This species, the only living member of its genus (*Swallenia*), is a federally listed endangered species and is endemic to Eureka Valley. It occurs throughout the dunes and is one of only two species present on the highest part of the dunes (the other being desert dicoria). Other species present on the lower and more stable portions of the dunes include: Eureka Dunes evening primrose, which is also federally listed as endangered; shining loco-weed, which is under review for possible listing; plicate clodonia; Indian rice grass; and another indigo bush.



Eureka Dunes
Evening Primrose



WILDLIFE

The Eureka Dunes support a relatively rich fauna. Vertebrates are well represented. Thirty species of birds are known to inhabit the dunes and the areas immediately adjacent to them. Six additional species, mostly water birds, are known to utilize the area during periods of standing water.

Fairy shrimp and shield are common in the playa after summer thunderstorms when water is present. These are evanescent creatures whose immediate concern is to mate and lay eggs which become encysted until water is again present.

At least nine species of reptiles occupy the Eureka Dunes. Other than bats, 15 species of mammals have been recorded, 10 of which are rodents. The most important is the pallid kangaroo mouse which reaches the southern limit of its range in this region. Carnivores include the coyote and bobcat. Although desert bighorn sheep are usually confined to the Last Chance Range, individual animals are known to approach the dunes during their rare migrations. As many as 16 species of bats occur; 11 of them fly in from nearby valleys, such as Owens, Saline, and Deep Springs.

GEOLOGY

Eureka Valley is a down-faulted desert basin surrounded by uplifted mountains: the Last Chance Mountains to the east, the Saline Mountains to the south, and the Inyo Mountains to the west and north. These rugged, sparsely vegetated and multicolored ranges stand out starkly from the sediment filled valley. Eureka Valley is a closed basin which, in earlier geologic times, was a large and deep freshwater lake. In the more arid climate of today, Eureka Valley contains a shallow ephemeral lake or playa more than two and one-half miles long by a mile wide.