

White Sands

NATIONAL MONUMENT • NEW MEXICO

THE HEART OF THE SANDS LOOP DRIVE

This 26-kilometer (16-mile) round trip scenic drive begins at the visitor center on U.S. 70 and winds into the heart of the dunes.

At the visitor center, museum displays depict the formation of the sand and familiarize you with the area. Refreshments and souvenirs may be purchased from a concessioner in the building. A park ranger is on duty to answer questions.

As you begin the drive, watch for the numbered posts at pull-out spaces along the righthand side of the road; they are keyed to the following paragraphs and are located to show you something important in the sand dune story. Instead of climbing the first dunes you see along the dune drive, wait until you have driven further. Ahead you will find ample parking and impressive dunes near the road.

GUIDE TO THE DRIVE

Post 1 The dunes to your left have become stabilized by vegetation. As the plant roots grow, they anchor the grains of gypsum, retarding the movement of these marginal dunes. Only a few species of plants are able to survive, but enough have become established among these fringe dunes to hold them in place.

Post 2 The low, grayish shrub so abundant here is fourwing saltbush; it should not be confused with sagebrush, which is found in the colder, higher Great Basin desert much farther north. The leaves of saltbush have a salty taste, and are palatable to wildlife. Saltbush grows only among the more stable marginal dunes like those to your left.

Post 3 Ahead are the San Andres Mountains, which border the Tularosa Basin on the west. To your right, the high mountain in the distance is Sierra Blanca. Its crest is just over 3,657 meters (12,000 feet) above sea level, and evidence of former glacial activity has been found there. Behind you, forming the eastern border of the basin, are the Sacramento Mountains. You are now about 1,219 meters (4,000 feet) above sea level. The largest nearby dunes are about 9 meters (30 feet) high.

Post 4 In front of the shifting dunes to your left plants are struggling to gain a foothold and to keep their crowns from being buried by the sand.

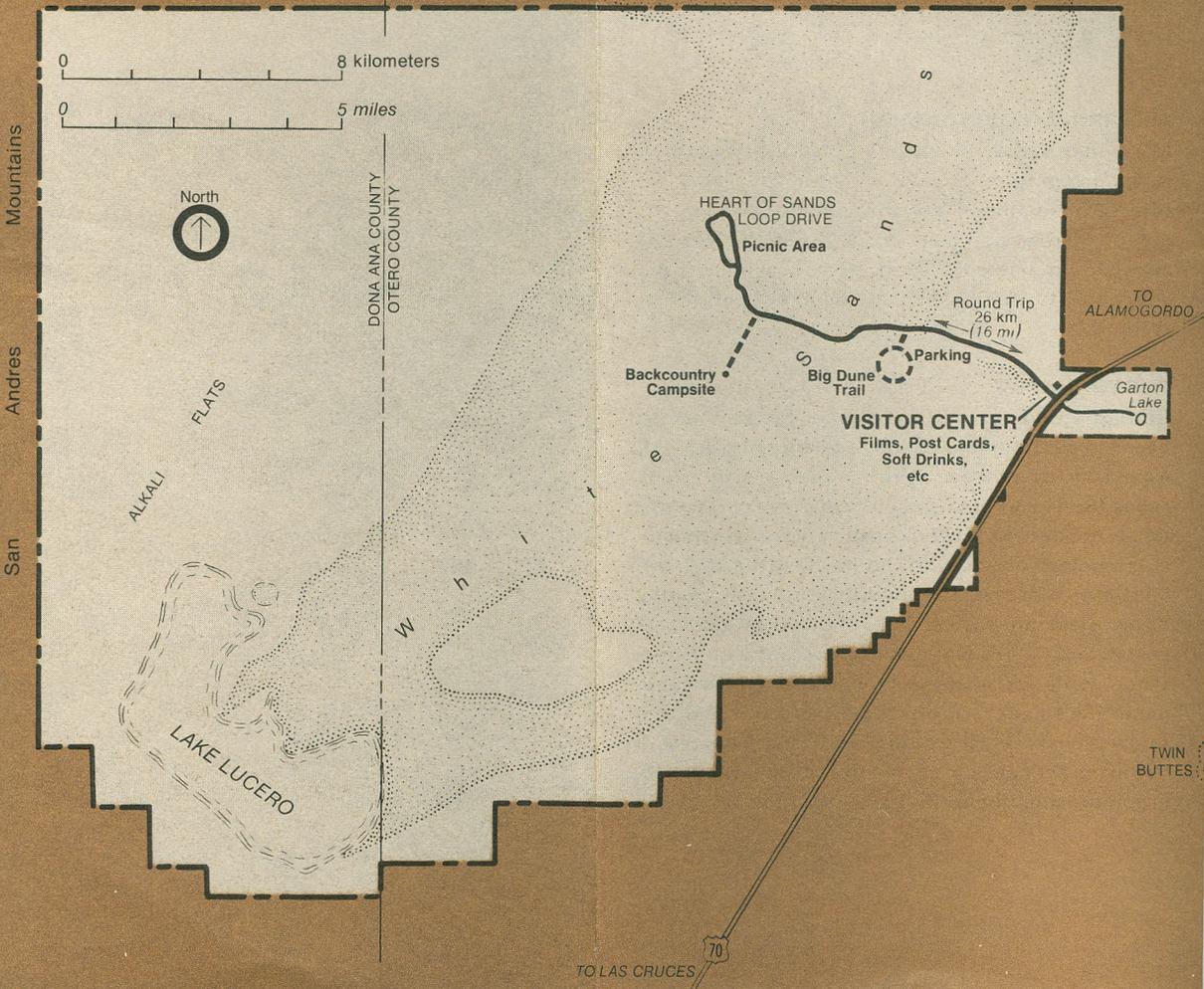
The dark-green shrub in the area to your right is iodinebush. The name is derived from the color and appearance of the dried sap from crushed stems of the plant.

A small playa, or dry lake, can be seen on the right as you approach the first sand dunes.

Post 5 You are now entering the dune area. The large dune ahead and to your left is quite active and would soon bury the road if the sand were not frequently cleared away. Occasionally the dune wins the battle and the road must be re-routed. Pushed by the prevailing southwest wind, all the active dunes are slowly moving northeast, some as much as 20 feet or more a year.



WHITE SANDS NATIONAL MONUMENT



It is much more difficult for vegetation to survive in moving sand than in stationary sand. Among the few species of plants that can get a precarious foothold on the dunes are skunk-bush sumac (squawbush), soaptree, yucca, rubber rabbitbrush, fourwing saltbush, and cottonwood.

Post 6 To your right are several gypsum pedestals. The plants were once growing on top of the dune, and their roots, penetrating deep into the sand, bound the grains together. The still-active dune moved on slowly, leaving the columns behind.

Post 7 Note the level depressions between the dunes. You may be surprised to learn that the water table is high here and in some of these depressions water is only a meter below the surface. This water contains much gypsum in solution, but it provides moisture that many species of plants can use, which explains the growth of vegetation. On your left is a small cottonwood, and to your right other cottonwoods are visible.

Post 8 You are now entering the section of the drive that takes you into the heart of the dunes. The road from here on is pure, hard-packed gypsum.

You may pull off the road and park only in established areas. Climb a dune and view this vast sand sea.

The picnic areas and comfort stations are just over 2 kilometers (1.5 miles) ahead. Watch for children on the road.

REGULATIONS

White Sands National Monument is a natural area. Removal or disturbance of archeological or natural objects, sand, selenite crystals, plants, or animals is prohibited.

Speed limits are posted and enforced. Driving or parking on dunes or outside established parking areas is not permitted. Secure your vehicle and safeguard your property.

Help keep the sands clean by using the fireplaces and trash containers. Ground fires are prohibited.

Pets must be leashed or under physical restraint at all times.

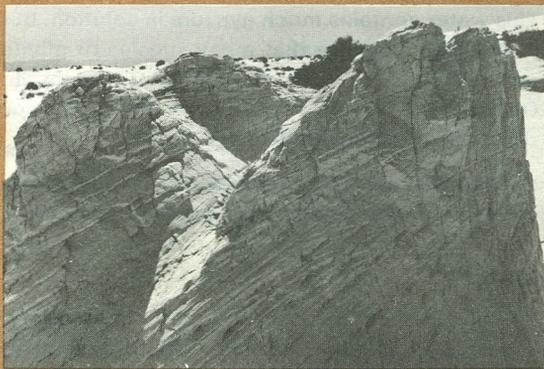
SAFETY TIPS

Natural conditions in the White Sands can be hazardous. Do not tunnel into the sand dunes. A sand tunnel collapses easily causing rapid suffocation. Injuries can occur when sand surfing, so be careful. Never sand surf near the roadway. It is easy to become lost when hiking, especially during sandstorms. Don't hike alone. Do not stop on the road. Pull off the road into an established parking area before stopping.

Pedestrians in picnic areas should be careful of heavy traffic. Be alert and watch your children.

Great wavelike dunes of gypsum sand grace the floor of the Tularosa Basin of southern New Mexico. In this harsh, constantly changing environment, plants and animals have evolved unique forms for survival. This national monument preserves a vast undulating landscape of brilliant white sand, the most impressive part of the world's largest gypsum dune field.

Created millions of years ago by downfaulting of a huge block of the earth's crust, the Tularosa Basin is surrounded by mountains and highlands. In these mountains, including the forested Sacramentos to the east and the rugged San Andres to the west, are massive layers of gypsum rock.



For centuries, waters collecting from seasonal rains and melting snows in these high ranges have eroded the gypsum deposits. The dissolved gypsum is carried into Lake Lucero, the lowest part of the basin. There the warm sun and dry winds, prevalent much of the year, evaporate the water, leaving a gypsum-crystal encrusted dry lake bed.

The arid southwest wind persistently scours the bed of Lake Lucero and the alkali flats to the north. Weathering disintegrates the gypsum crystals into sand-size, glistening white grains which are swept away by the wind and added to nearby embryonic sand dunes. As each dune grows and moves farther from the lake and flats, new ones form, rank after rank, in a seemingly endless procession.



White Sands is a place of extreme and often rapidly changing environmental conditions, capable of supporting only well-adapted life forms. A few varieties of the numerous small creatures living on and around the dunes have evolved a bleached coloration which enables them to blend with the white background for protection against their predators. These, together with plants that have special means for surviving the smothering sands, make up a living community—a dynamic life sys-

tem. Both plants and animals are entirely dependent on each other and together can survive the gypsum saturated desert environment.

CAMPING

There is no campground in the park. A primitive backcountry campsite is available but requires registration and clearance at headquarters. The nearest public camping facilities are in Lincoln National Forest, 56 kilometers (35 miles) to the east and at Aguirre Springs 48 kilometers (30 miles) to the west. Obtain information on national forest camping from: Forest Supervisor, Lincoln National Forest, Alamogordo, NM 88310. For information on Aguirre Springs write: District Manager, Bureau of Land Management, P.O. Box 1420, Las Cruces, NM 88001. There is also a campground in Oliver Lee Memorial State Park 16 kilometers (10 miles) south of Alamogordo, off U.S. Highway 54.



PICNICKING

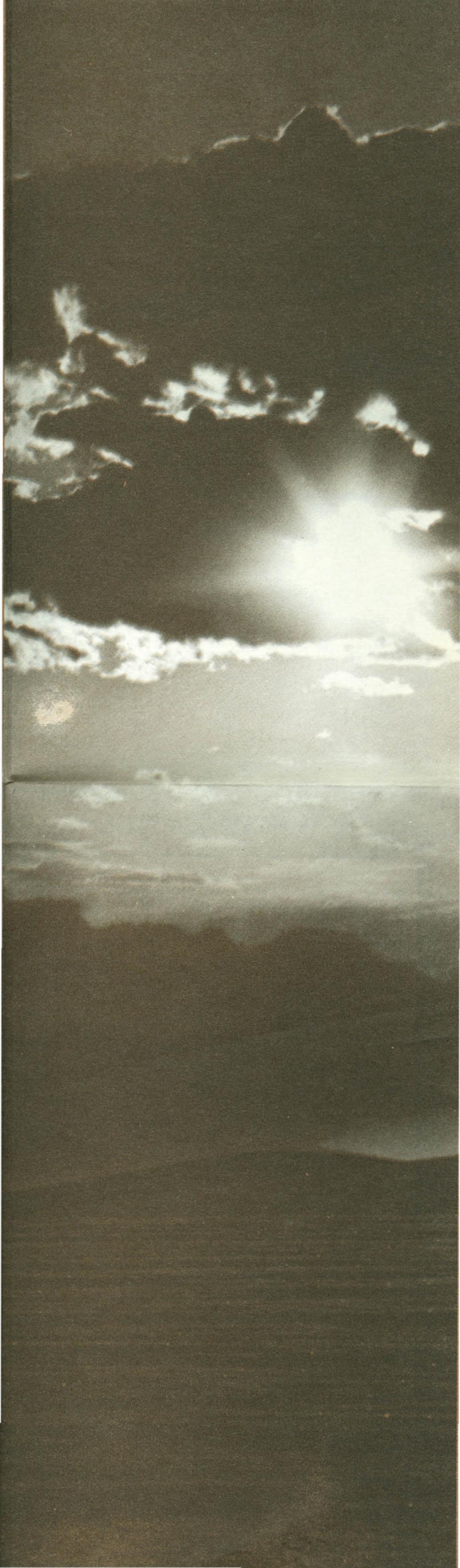
Near the end of the scenic drive are picnic areas with tables, fireplaces, and comfort facilities. Drinking water is available only at the visitor center.

INTERPRETIVE PROGRAMS

Many naturalist-conducted activities, including walks, evening programs, and star programs are offered in summer. Auto caravans to Lake Lucero are offered periodically throughout the year. A self-guiding nature trail is also available. Tune your radio to 1610 AM here for current park information.

PHOTOGRAPHY

Getting good photographs can be frustrating because of the high reflective quality of the sand, especially at mid-day. With modern single lens reflex (SLR) cameras and color film, no compensation is needed. But if your camera adjusts manually or is a polaroid-type, you should close the aperture one f-stop more than you would normally on sunny days. Black-and-white film should be underexposed and overdeveloped to increase contrast. When you photograph a subject against the sand, meter the subject and not the entire scene. Photography is best in early evening when shadows create fantastic scenes. Later, climb a dune and photograph the most beautiful sunsets in the world.



ADMINISTRATION

White Sands National Monument, established on January 18, 1933, and comprising nearly 596 square kilometers (230 square miles), is administered by the National Park Service, U.S. Department of the Interior. A superintendent, whose address is Box 458, Alamogordo, NM 88310, is in immediate charge. Phone (505) 437-1058.

The park is about 24 kilometers (15 miles) southwest of Alamogordo on U.S. 70/82. There is no scheduled transportation to the park, but rental cars are available in Alamogordo and Las Cruces (86 kilometers—54 miles).

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

National Park Service

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