

**Sept. 13<sup>th</sup>, 2013 SEE Tour**  
**White Sands National Monument (WSNM) Report**  
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The first time I read about the White Sands National Monument was just a year ago when I flipped through the Aug 2012 edition of the “Travel + Leisure” magazine. There was an article talking about the “Undiscovered American Secrets of the Parks”, a document based on Photographer Ian Shive’s reflection. Shive said that although National Park is a wonderful place to visit, it is often rather crowded. Shive shared five favorite undiscovered places in National Park System and White Sands NM (National Monument) is one of them. When I saw the photo in the article -- the pure white sand dunes against the patchy blue sky, I was mesmerized. I was thinking it must be a photographer’s paradise.

When I first received FamilyKeepers’ 2013 SEE Tour itinerary early this year, I was happily surprised to find out that the White Sands NM is one of the destinations. I immediately marked my calendar.

I was very curious about where did the White Sand Dunes come from and why is it so white.

White Sands NM is located at the south-central part of New Mexico, about 150 miles south of Albuquerque. It’s the rare gypsum sands that form snow–white dunes rising up to 60 feet above the Tularosa Basin floor.

The massive dunes are created when rain and melting snow dissolve gypsum from the surrounding mountains and carry them into the seasonal lakes or playa. Desert heat evaporates the playa quickly, causing gypsum crystals to form. Dry winds expose the crystals, eroding them gradually into sand-sized particles that are blown into the dune field. Unlike dunes made of quartz-based sand crystals, the gypsum does not readily convert the sun's energy into heat and thus can be walked upon safely with bare feet -- even in the hottest summer months.

All these elements have to happen in the right time and the right place, that is why there are only 3 major white sand areas on earth. Covering 275 square miles, here is the largest gypsum dune site in the world.

Gypsum is rarely found in the form of sand because it is water-soluble. Normally rain would dissolve the gypsum and carry it to the sea. The Tularosa Basin is enclosed, which means that it has no outlet to the sea and the rain or melted snow

that dissolves gypsum from the surrounding San Andres and Sacramento Mountains is trapped within the basin.

During the last ice age, a lake known as Lake Otero covered much of the basin. When it dried out, it left a large flat area of selenite crystals which is now the Alkali Flat. The age-old scene is continuously performing. Now another lake, Lake Lucero, at the southwest corner of the park, is a dry lake bed, at one of the lowest points of the basin, which occasionally fills with water. It will go through the same cycles as it has done for millions of years ago. The Lake Lucero will dry up; the gypsum crystals will be eroded and become sands, then get blown away to the dunes. Up to this day, the sand dunes are still forming. With the most active dunes, it can move at a rate of up to 30 feet per year.

Many species of plants and animals have developed very specialized ways of survival in this area of cold winters, hot summers, with very little surface water and highly mineralized ground water. The Dune Life Nature Trail that Professor SU took us to tread today, gave us a much better understanding of the intricate inter-relationships of the wildlife in such a challenging environment. .

With 275 square miles of the white sand dunes, 110 square miles are within the White Sands NM. The rest is the White Sands Missile Range surrounding the WSMN. Because the park lies completely within the White Sands Missile Range, both the park and U.S. Route 70 between Las Cruces and Alamogordo, New Mexico, are subject to closure for safety reasons when tests are conducted on the missile range. On average, tests occur about twice a week, for duration of one to two hours. Located on the northernmost boundaries of White Sands Missile Range, the Trinity Site can be found, where the first atom bomb was detonated.

**You can experience multiple areas of the Monument by feet.**

**There are five different marked hiking trails in the park.**

**Playa Trail:** Length: 330 yards (300 m) round-trip

Average Completion Time: 20 minutes

Difficulty: Easy

**Dune Life Nature Trail**

Length: One mile (1.6 km) loop

Average Completion Time: 1 hour

Difficulty: Moderate

### **Interdune Boardwalk**

Length: 650 yards (585 m)

Average Completion Time: 20 mi

Difficulty: Easy

### **Alkali Flat Trail**

Length: 5 miles (8 km) round-trip

Average Completion Time: 3 hours

Difficulty: Strenuous

### **Backcountry Camping**

Length: 2.2 miles (3.5 km) round-trip

Average Completion Time: 1.5 hours

Difficulty: Moderate

### **Other Activities:**

1. Sunset Strolls—one hour after sun set every date led by the Park ranger
2. Full moon hike—once a month on the specified date.
3. Full noon hike with India bone
4. Lake Lucero tour
5. Sunrise photography—twice a year.
6. Sled
7. Car –8 mile one way drive—Dune drive.
8. Backcountry Camping—If you are lucky enough to get one of the 10 nightly backpacking permits given out daily. You can walk the moonlit gypsum dunes and camp on pure white sand. It's like falling asleep in a Georgia O'Keeffe painting.

There is an 8 mile Dune drive. There are many stops for you to see.

You can re-fill the water at the visitor center.

If you plan to go hiking, remember to bring enough water.

If you are going to Alkali flat, you may want to bring a compass.

For photographer, you will need a lot of memory on your sim cards and a good battery.

It was such a memorable trip to the largest gypsum white sand dune area in the world !