

# Petrified Forest



Desert paintbrush with petrified wood  
Fred Hirschmann

## Stories of Climate and Culture Told in Stone

This high, dry tableland was once a vast floodplain crossed by many streams. Tall, stately pine-like trees grew along the headwaters. Crocodile-like reptiles, giant amphibians, and small dinosaurs lived among a variety of ferns, cycads, and other plants and animals that are known only as fossils today. The tall trees—*Araucarioxylon*, *Woodworthia*, and *Schilderia*—fell and were washed by swollen streams into the floodplain. Silt, mud, and volcanic ash then covered the logs. This blanket of deposits cut off oxygen and slowed the decay of the logs. Silica-laden groundwater seeped through the logs and replaced the original wood tissues with silica deposits. As the process continued, the silica crystallized into quartz, and the logs were preserved as petrified wood.



Puerco Pueblo was occupied twice, from 1100-1200 and 1300-1400, but no one here in 1540.  
Tom Till



Ancient petroglyphs—this one is near Puerco Pueblo—are found throughout the park.  
Fred Hirschmann

That was about 225 million years ago in the Late Triassic Period. After that time, the area sank, flooded, and was covered with freshwater sediments. Later the area was lifted far above

sea level, and this uplift created stresses that cracked the giant logs. Over time, wind and water have worn away the layers of hardened sediments, exposing the fossilized remains of ancient plants and animals. The hills will continue to yield fossil treasures as ceaseless weather patterns sculpt the soft clay soils of the Painted Desert.

There are many stories here in the Petrified Forest. Evidence of early human occupation is readily visible on the landscape. Sites throughout the park tell of human history in the area for more than 10,000 years. We do not know the entire story, but there were separate occupations, a cultural transition from wandering families to settled agricultural villages—or pueblos—and trading ties with surrounding villages. Although evidence of these early people fades about 1400, their story remains through their dwellings, pot sherds, and petroglyphs.

In the mid-1800s U.S. Army mappers and surveyors exploring this area carried stories back East of the remarkable “Painted Desert and its trees turned to stone.” Next, pioneers, ranchers, and sightseers made their way into the area. After a period of using the wood for souvenirs and many commercial ventures, territorial residents recognized that the supply of petrified wood was not endless. In 1906 President Theodore Roosevelt set aside selected “forests” as Petrified Forest National Monument. In 1932 53,200 more acres of the Painted Desert were bought and added to the monument, and in 1962 the monument acquired national park status. In 1970 50,000 acres in the park became the first designated wilderness in the National Park System. Research continues to unlock the geological and human stories set aside for present and future generations here. Today the story of your visit is added to the long history of Petrified Forest National Park.

## Commercial Sources of Petrified Wood

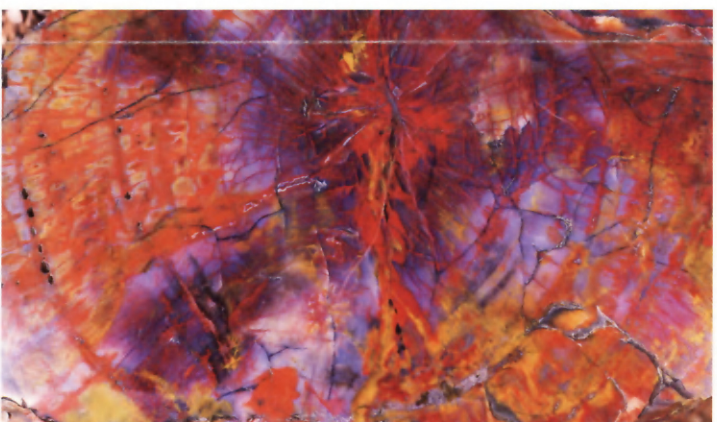
Petrified wood’s varied colors came from minerals in the silica-saturated waters. Iron, carbon, manganese, and sometimes cobalt and chromium produced patterns and blends of yellow, red, black, blue, brown, white, and pink. Petrified wood is surprisingly heavy, weighing nearly 200 pounds per cubic foot, and its hardness is seven on a 10-point scale.



Fred Hirschmann

It is illegal to collect or remove any petrified wood from the park. Samples of the same quality from the same deposits but collected outside the park may be obtained from nearby commercial sources. Petrified wood slabs are cut with giant, oil-cooled diamond saws. Then they are ground with silicon carbide grit to smooth the saw marks and roughness. This is followed by hours of polishing. Artisans fashion jewelry and other decorative objects from polished pieces.

**Do not take even the smallest piece of petrified wood from the park.** Multiplied by hundreds of thousands of visitors per year, the small pieces stolen from the park can quickly amount to tons.



Petrified wood can show startlingly colorful crystal patterns. This cross-section of petrified wood is no less beautiful than polished samples.  
NPS/T. Scott Williams

## Research into Fossils Continues

Paleontologists have studied fossils in the park since the 1920s. Their important finds include skeletons of crocodile-like phytosaurs; “Gertie,” one of North America’s

earliest dinosaur fossils; and most recently a skeleton of the aetosaur *Stagonolepis*, a large, heavily armored plant-eating reptile (right). Supported by dona-

tions, paleontologists still make fossil discoveries and try to figure out what this land was like 225 million years ago, in the Late Triassic Period.

*Stagonolepis*



Painting by Douglas Henderson  
courtesy of Petrified Forest  
Museum Association

## Colors in The Tepees Area

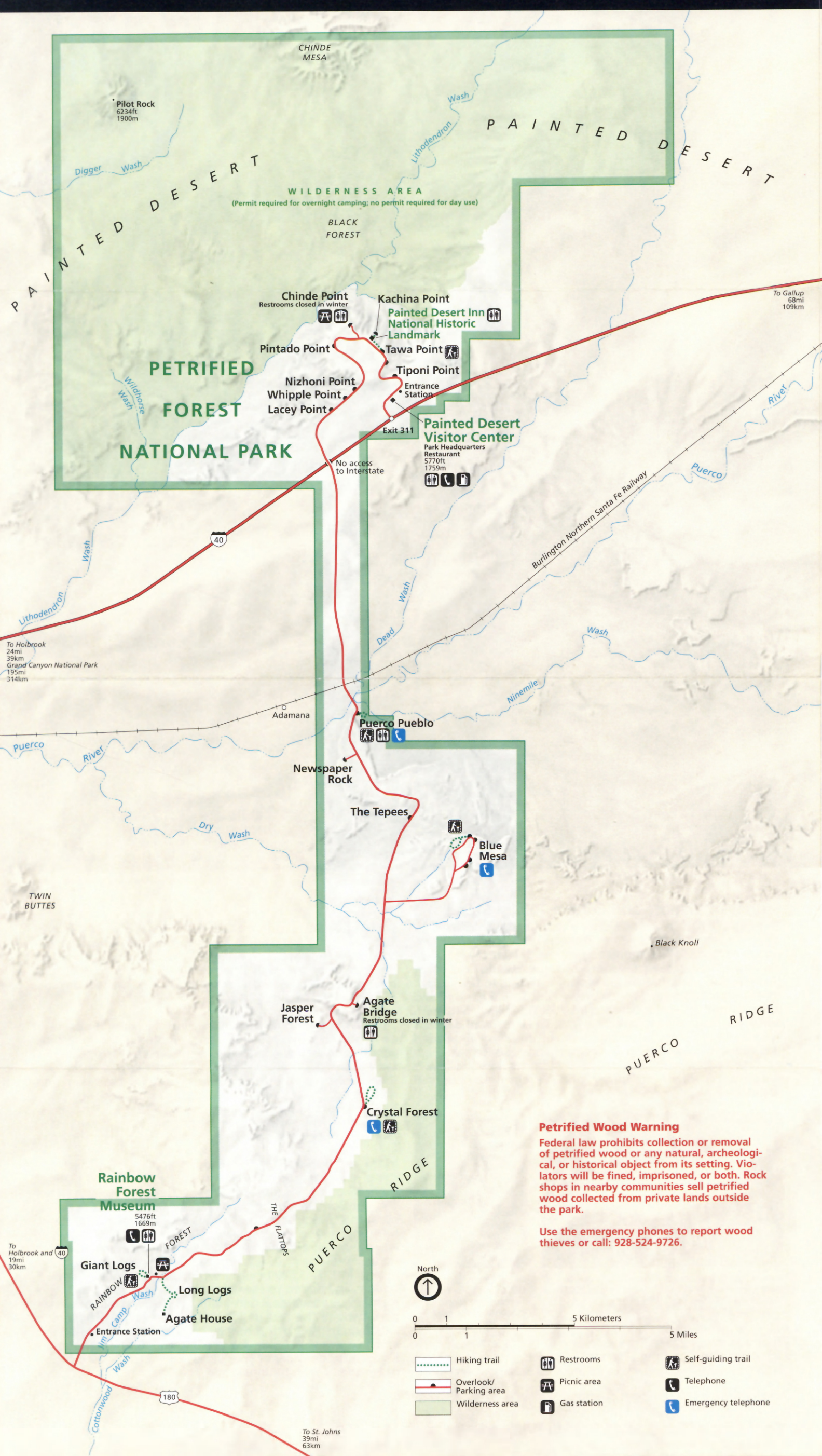


Distinct white layers are sandstone. The cap of The Tepees is

clay. Dark layers are caused by high carbon content. Darker reds are iron-stained siltstone. Reddish

bases are stained by iron oxide, which is also called hematite.  
NPS/T. Scott Williams

# Visiting Petrified Forest



## Petrified Wood Warning

Federal law prohibits collection or removal of petrified wood or any natural, archeological, or historical object from its setting. Violators will be fined, imprisoned, or both. Rock shops in nearby communities sell petrified wood collected from private lands outside the park.

Use the emergency phones to report wood thieves or call: 928-524-9726.

## Visiting the Park

**Visitor Centers** There are three visitor facilities in the park. The Painted Desert Visitor Center has a 20-minute orientation movie and exhibits. Painted Desert Inn National Historic Landmark is a Pueblo Revival-style structure with cultural history exhibits. Rainbow Forest Museum has exhibits about petrified wood, geology, and paleontology. All visitor facilities have bookstores and restrooms.

**Park Road** The 28-mile park road offers overlooks with long-distance vistas of the Painted Desert and parking areas for access to hiking trails, picnic areas, and the designated wilderness.

**Tawa Point and Rim Trail** Easy one-mile round-trip between Tawa and Kachina points. An unpaved trail with wayside exhibits and plant identification signs.

**Kachina Point and Rim Trail** Renovated by the Civilian Conservation Corps in the 1930s, Painted Desert Inn boasts extensive views of the Painted Desert, and murals by Hopi artist Fred Kabotie. Access to Rim Trail.

**Puerco Pueblo** A partially stabilized 100-room pueblo built about 1250 may have housed nearly 1,200 people. A short paved trail through the site offers wayside exhibits and views of petroglyphs.

**Newspaper Rock** With spotting scopes provided, see hundreds of petroglyphs etched into stone from the overlook.

**The Tepees** Layered blues, purples, and grays created by iron, carbon, manganese, and other minerals stand in cone-shaped formations.

**Blue Mesa and Blue Mesa Trail** A three-mile loop road with views of badlands, log falls, and pedestal logs and a strenuous and steep self-guiding one-mile loop trail.

**Jasper Forest** Erosion of the high rocky bluff has left hundreds of petrified logs once encased in the bluff strewn across this valley below.

**Crystal Forest and Trail** Easy 0.8-mile paved trail through a landscape of exquisitely colorful petrified logs that once held glassy amethyst and quartz crystals.

From Rainbow Forest Museum, an easy 0.5-mile walk to the trailhead for: **Long Logs Trail**—0.6-mile loop trail (1.6 miles round-trip) through the park's largest concentration of petrified wood; and **Agate House Trail**—0.5-mile trail (two miles round-trip) to a partially restored pueblo of petrified wood.

**Giant Logs Trail** Easy 0.4-mile paved trail with stairs, passes park's largest log, "Old Faithful." Enter through Rainbow Forest Museum.

## Services

Painted Desert: gift shop, restaurant, gas station, travel store, pay phone, post office; Rainbow Forest: gift shop, snack bar, pay phone. Find more restaurants, lodging, and campgrounds in nearby communities.

## Picnic and Camping

There are picnic shelters at Chinde Point and Rainbow Forest. There are no campgrounds in the park. For backcountry wilderness camping you must get a free permit at a visitor center.

## For More Information

Petrified Forest National Park, P.O. Box 2217, Petrified Forest, AZ 86028-2217  
928-524-6228  
www.nps.gov/pefo  
Email: PEFO\_Superintendent@nps.gov

National Park Service  
www.nps.gov



Painted Desert's varied palette unfolds before you from a trail near Kachina Point. NPS

**Wilderness Hiking and Camping** Park at Kachina Point. The wilderness trailhead is behind Painted Desert Inn. A free permit required for overnight camping is issued at all visitor centers up to one hour before the park closes. **Water** is not available in the backcountry; carry one gallon per person per day. There are no designated camp sites. No permit is required for day use. **Pets** are prohibited in the designated wilderness areas.

## Safety and Regulations

Please use caution and enjoy a safe visit.

- Lightning, high winds, and flash floods can accompany summer storms; avoid open areas.
- Elevation averages 5,600 feet; know your limits.
- Watch your step and your children—prevent trips and falls at overlooks and cliff edges and on trails.
- Do not throw objects over cliffs; people below may be injured.
- Do not climb on petrified logs—their sharp edges can inflict painful wounds.
- Avoid wildlife; they may carry deadly diseases.
- Do not stop in roadway; park in designated areas only.
- Pets must be on a leash at all times and are not allowed in buildings or off paved surfaces.
- Bicycles and motorized vehicles are permitted only on the paved park road.
- Federal law prohibits collecting plants, rocks, animals, fossils, archeological objects, and petrified wood.
- Loaded firearms are prohibited in the park.



**Save Time and Gas**  
**Eastbound:** I-40 Exit 285 to U.S. 180 east from Holbrook to south entrance, drive north in park to I-40.  
**Westbound:** I-40 Exit 311 to north entrance, drive south in park to U.S. 180, west to Holbrook and I-40.

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