

Pinyon Pine (*Pinus edulis*)



“No one knows precisely how sentient is a pinyon pine...” –Edward Abbey

Description: The pinyon cuts a stout, shrubby shape against the sky rather unlike the slim, elegant silhouette people typically associate with pines. Pinyons have rounded crowns, thick trunks and many branches. Mature trees on the Colorado Plateau commonly grow between 3-5 meters tall. These evergreens can be identified by their 1-2 inch long needles, gently curved and pointed at the tip, that come in packets of two. Red-brown bark is scaly and

furrowed. Green cones with spreading scales turn brown in autumn, signaling the start of the all-important pine nut harvest. From a distance, pinyon pines can be recognized by their darker, cooler hue in contrast to the paler blue-green or yellow-green of juniper.

Location: Pinyon pine grows in close association with multiple juniper species across the Rocky Mountain Region and south to New Mexico and Arizona. Well-suited to the arid southwest, pinyon-juniper forests cover millions of acres at elevations between 4,000 and 7,500 feet, commonly growing on rocky slopes and mesas. In the Red Cliffs Desert Reserve, look for pinyon pine in the Red Mountain Wilderness and in upper portions of the Cottonwood Wilderness. The ability of pinyon to sprout from seemingly impenetrable red sandstone will amaze you.



History: Multiple drought/high-temperature years in the early 2000's stressed southwestern forests, creating favorable conditions for infestation of pinyon pines by the bark beetle Pinyon Ips. At study sites in Arizona, New Mexico, Colorado and Utah, forty to eighty percent of pinyon pines died between 2002 and 2003. The huge expanses of dead, pale brown trees were detectable by satellite.



Pinyon die-off in the Jemez Mountains 2002-2004. Needles turn red-brown before falling off.

Scientists predict that climate change will cause more pinyon die-offs in the future. Current research focuses on the importance of microclimate in the pinyon recovery process. Microclimates are narrow, localized climates found within larger climates- like that of a cool canyon in the desert- that have a suite of favorable conditions for a certain species. Microclimates that are shaded, cooler and wetter are crucial for pinyons to regenerate.

Uses: Pine nuts have long been a crucial food source for animals and people. Birds like the Pinyon Jay and Clark's Nutcracker gorge on pine nuts in autumn and make large seed caches of up to 30,000 nuts! With each nut yielding approximately 20 calories, this is a great investment in energy. Seeds that don't get eaten germinate and grow into the next generation of pinyons. In southwest Utah, the Southern Paiute people gathered in autumn to harvest and roast large quantities of pine nuts in preparation for winter. To this day, the pine nut harvest is still a time of

gathering and celebration. The firm, pale nut consists of 50% fat, 25% protein and 25% carbohydrates with a flavor that is savory, herbal, and sweet. Pine nuts are a coveted crop in the U.S., second in production only to pecans. Used to garnish soups and salads, pine nuts are also the key ingredient in everyone's favorite pasta topper- pesto!

Sources:

"Colorado Pinyon." *NPS*, 5 Jan. 2018, <https://www.nps.gov/brca/learn/nature/pinyonpine.htm>

"It Takes a Microclimate to Raise a Pinyon Tree." *Science Daily*, 5. Jan. 2018, <https://www.sciencedaily.com/releases/2017/11/171107151315.htm>

Jensen, Mari N. "Underlying Cause of Massive Pinyon Die-off Revealed." *UANews*, 5 Jan. 2018, <https://uanews.arizona.edu/story/underlying-cause-massive-pinyon-pine-die-revealed>