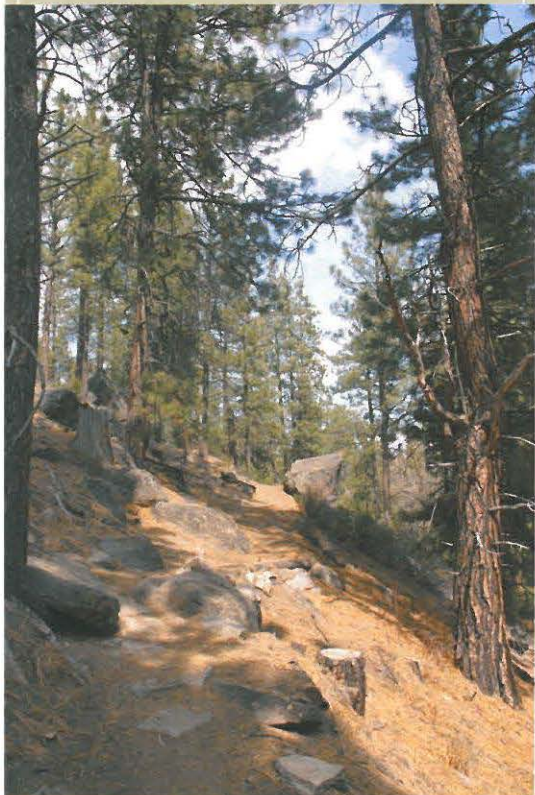




Bend Park &
Recreation
DISTRICT

Shevlin Park Interpretive Trail

*A natural history of Shevlin Park
via a one-mile loop starting
at Fremont Meadow.*



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6 Deciphering a stump. An old stump like this holds a wealth of historical information. Each ring on the stump represents one year, so you can tally the tree's age when it was cut. Wet or dry periods affect a ring's width. Evidence of fires can be seen in scars in the rings.

7 Noxious weeds. Noxious weeds have invaded Shevlin Park, as well as the entire region. The intruders include spotted knapweed, Canada thistle, cheatgrass and dalmatian toadflax. They displace native plants and threaten the ecosystem. Park crews have removed most of the weeds from the park, but disturbed areas like this intersection of trails are common places to find them. If you see an infestation of noxious weeds, please alert Park Services at 388-5435.

8 Big basalt boulder. This boulder rolled here long ago from a lava flow that poured out of the ground a few miles up Tumalo Creek. Central Oregon is built on numerous layers of volcanic rock, and this volcanic region is home to volcanoes.

9 Nature's recycler. Evidence from two major storms lies here. On New Year's Day 2009, a hurricane-force storm blew down numerous trees. A 1994 storm did similar damage.

Notice the various stages of decay in the piles of fallen debris. Tree debris make good places for hundreds of species of wildlife to nest, court, feed, store food and hibernate. Amphibians, invertebrates and decomposers find a moist, insulated home. Nitrogen-fixing bacteria from insects stockpile nitrogen in the ground which gets used by plants as the logs slowly decay.

10 Wetlands. Wetlands are places where soils are at least temporarily saturated with water each year. To the left is a rare pool which fills each spring and is used by frogs and salamanders to lay eggs. Wetland plants in this area include the abrasive horsetails, which lack a flower or seed. They were used by pioneers to scrub pots.

11 Spruce grove. The cold canyon microclimate here explains the presence of the Engelmann spruce, usually found in higher elevations of the Cascades and Rocky Mountains. Their straight trunks have a reddish-brown color and scaly texture. They can grow up to 120 feet tall and 3 feet in diameter. Branches have short, stiff, bluish-green needles. This was a shadier grove before the New Year's Day 2009 storm tore down a huge number of trees. Park crews left many of the piles of downed logs so they can decay and provide wildlife habitat.

Note how shallow the root systems are on the upturned roots. This, along with poor gravelly soil, leaves trees in this drainage vulnerable to high winds.

12 Tumalo Creek trout. Redband rainbow trout, the only native trout in the Deschutes River system, are the most abundant species in Tumalo Creek. They have adapted over time to warmer summer stream flows and tend to have a shorter life span than other rainbows. The non-native brook trout, stocked here decades ago, are also common. Another

introduced species, brown trout, migrate up from the Deschutes.

13 Wildlife skyscraper. Look up. Snags like this one are crucial to hundreds of species of birds and mammals. Snags are standing dead trees in various stages of decay. Fungus softens the wood, insects colonize it, and woodpeckers excavate the cavity. Birds and mammals use snags for food, hunting perches or shelter.

14 Fire fuel reduction. In 2005, the hillside above you was cleared of brush and small ponderosa and fir trees to reduce fire hazard. It had been thick with foliage. Every 10 years crews remove smaller fire fuels manually or with prescribed fires, resulting in an open, park-like forest, more typical of pre-settlement times. Historically, wildfires were cooler and less devastating and actually benefited the forest.

15 Ponderosa pine. One of Central Oregon's more common trees, the Ponderosa pine (*Pinus ponderosa*), can grow to 200 feet tall and live to 600 years. Old growth Ponderosas are extremely fire resistant because of their thick bark and lack of lower limbs. They are drought tolerant, needing only 12 inches of precipitation annually.

16 Glacial soil. Most of the erosion that carved this canyon happened during the last ice age, from 90,000 years ago to about 11,000 years ago. During that time, glaciers covered most of the High Cascades. At their peak, glaciers reached to just a few miles upstream. Much of Shevlin Park's soil is derived from ash, pumice, sand and gravel that traveled through glaciers and down Tumalo Creek. Look for the smooth tumbled appearance of large rocks along the trail. About 7,700 years ago, one foot of ash

fell on this area during the eruption of Mount Mazama (Crater Lake). Look for its salt and pepper appearance along the trail.

17 Tough tuff. This valley has channeled many major floods and lava flows during its long history. The most devastating events are the super-heated clouds of glowing ash, pumice and gases known as pyroclastic flows, which leave behind a layer of welded rock known as tuff. Three prominent tuffs are exposed in the valley walls of Shevlin Park. Notice the orange color, from slightly rusted iron, and the large pieces of pumice here.

18 Lichen worlds. Lichens are both a fungus and an algae. They are considered pioneer species because they colonize bare rock and soil. Mosses, part of the plant kingdom, are greener and fluffier than lichens. Certain lichens are sensitive to air pollution and can be used as natural indicators of local air quality. Look closely at the diversity of lichens and mosses on this rock, differentiated by unique textures and colors. How many species do you see?

19 Tumalo Creek history. People have lived in Central Oregon for 11,000 years. Native Americans here likely used the Tumalo Creek drainage as a travel corridor between the Deschutes River basin and the high country and between the Klamath Basin and the trading center at The Dalles. Stone tools were manufactured from fine-grained basalt quarries upstream. The first settlers used this area for hunting, timber, irrigation and a fish hatchery. In 1921, Shevlin Park became a natural park for public recreation.

20 Mammals of Shevlin Park. Deer mice, ground squirrels, yellow pine chipmunks, rabbits, beaver and pine marten are a few of the smaller mammals that live in

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1 Natural habitats. Trees, logs, limbs, boulders and root wads in Tumalo Creek provide wildlife habitat and protect stream banks from the erosive forces of water. Logs reduce the water's speed, which deposits gravel in the streambed used by fish for spawning. Deep pools where fish live are created when water scours out a hole in the streambed as it passes over and under logs. Park crews occasionally build and restore in-stream habitats and the banks of Tumalo Creek to create refuges for small aquatic animals, including fish.

2 A view of the past. When settlers first arrived in Central Oregon they saw a different forest than is common today. Frequent, low-intensity fires, every five to 15 years, created an open, park-like setting with widely spaced old growth ponderosa pines and few shrubs. This stand gives you some sense of what the forest may have looked like 100 years ago.



3 Native shrub trio. To the left is wild rose (*Rosa spp.*). Its pinkish flowers turn into bright red rose hips in the fall. Native Americans used the fruit as a breath freshener and survival food. They are a valuable source of food for wildlife in winter.



To the right, with small, three-lobed leaves, is a bitterbrush (*Purshia tridentata*), which blooms in the spring and is eaten by wildlife such as deer and elk.

Straight ahead is green manzanita (*Arctostaphylos patula*), an evergreen shrub



characterized by its smooth, orange or red bark and twisted branches with clusters of flowers that bloom in early spring.

4 Riparian plants. Increased water flows and a higher water table in the park during the summer has prompted the growth of riparian shrubs such as colorful red osier

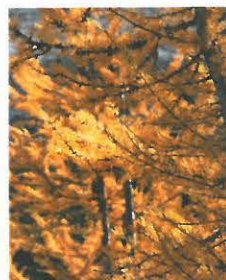


dogwood (*Cornus stolonifera*), along the creek. Its name comes from its brightly colored twigs and branches.



Another plant, the small snowberry bush, (*Symphoricarpos albus*), holds white berries that look like popcorn. While unpalatable to humans, they are a food for deer, rodents and birds. Native Americans used the berries for soap or on sores in a poultice. Tea was made from its bark as a remedy for diseases including tuberculosis.

5 Cold air conifers. This stand of mixed conifer trees is unusual at this elevation because of the canyon's unique conditions. The shade, soil moisture and cold mountain air from the Cascades allow species to grow that would normally thrive at higher elevations.

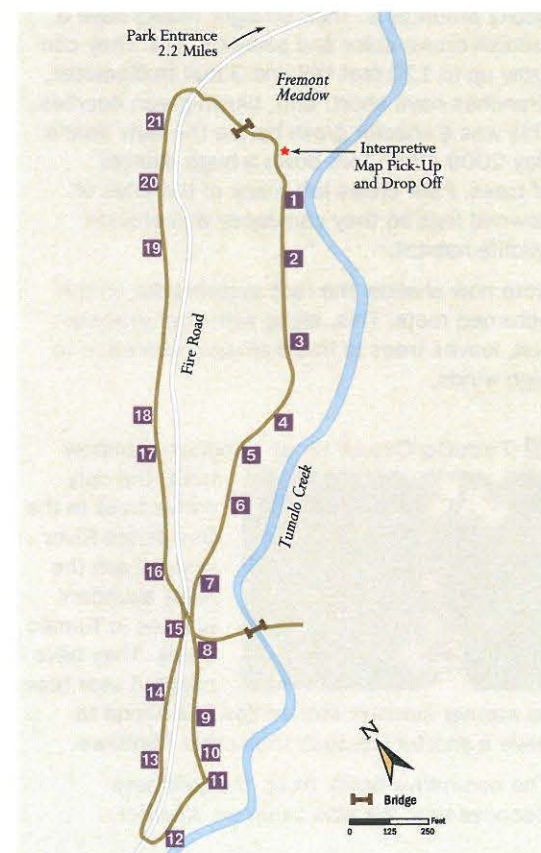


Look for the flat branches of the grand fir (*Abies grandis*), the soft 'bottle brush' branches of the Douglas Fir, (*Pseudotsuga menziesii*), the sharp short needles Englemann spruce (*Picea engelmannii*), and western larch or tamarack, (*Larix occidentalis*). The fine deciduous needles of the larch turn a brilliant yellow in fall before dropping.



the park. Large mammals that roam the area include cougars and black bear. The park lies in the Tumalo Mule Deer Winter Range. Look for signs of these mammals such as tracks, trails, dens or scat.

21 A forest at risk. A century of fire exclusion has put this forest in danger of being destroyed by a catastrophic wildfire. A thick shrub layer and unnaturally high density of young trees can allow fire to climb a ladder of fuels into the large trees. Nearly 85 percent of Oregon's 27.5 million acres of forest is at high risk of uncharacteristically intense fires.



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