

SILHOUETTE OF THE BURN

We still can see the stark remains, now twenty-one-years-old, of the fire that razed two-thirds of Yellowstone, leaving stumps and ash, back in 1988, the driest summer in the park's recorded history.

Along each blackened ridge march tall, grey, lodgepole stems. Some stand straight against the sky, unbranched and barren of needles, in memory of the fiery holocaust. Others tilt with stubs of branches, tips curled, cones clinging, awkward-angled.

And now beneath, on slopes at mountain's foot, thrives an unbroken, radiant verdure of fragile new pines, refreshing the fire's remains—new green spreading out in a welcome carpet, below high peak and craig of ghostly trunks, signaling the forest's rebirth.

— ECOLOGY —

LODGEPOLE PINES occupy special situations in the Northern Rockies and Great Plains because of their unique growing characteristics. The root systems of the lodgepole are very shallow, sometimes no more than eight inches deep. They can survive in many soil types, from the deep forest, dark soils to shallow, in acid soils and in such places as Yellowstone Park, where the soils are volcanic in origin, but also in sandier, sedimentary soils east of the Rockies in the grassland regions.

Lodgepole pines will not reproduce or grow in shaded conditions—not even in its own shade. Often it grows tall and spindly in sunlit areas devoid of other trees with 3-to-8-inch trunks and 20-to-40 feet tall and with tufts of needles only at the top.

The lodgepole cones are small, 1 to 1 1/2 inches long. Usually, they appear to be lopsided and somewhat heart-shaped, with a broader stem base and a pointed end. The winged cone seeds are small but edible. The cone is hard and woody, made up of thickened scales that remain closed unless subjected to heat, such as a forest fire, or very hot sun on one side of the cone. This characteristic makes

LODGEPOLE PINE

- Dependable for Structures • Indian Food & Medicine
- Sentinel of New Growth

—Elnora A. Old Coyote



lodgepole pine seeds readily available, first because of the protection of the woody cone so the seeds don't burn, and secondly, because the cones open only under heated conditions, they are the first plant that can grow on thin soils or charred soils following a forest fire, or on soils denuded by logging, farming or ranching

practices. If seeds are available, lodgepole will also invade grasslands, along with other shrubs, in the natural succession of a denuded area, going from mosses to grasses to shrubs.

Lodgepole trees are often seen as invaders scattered among the grasses at lower forest edge, but in the renewal of vegetation on bare ground, lodgepole performs a positive role. In many areas denuded of other trees or plants, lodgepole pines grow abundantly where thousands of cones have been dropped and opened or where the wind has carried the winged seeds. Thus even-aged stands of tall, slender lodgepoles are found at timberline, at the lower edges of forests, in open meadows within the forest, on areas of thin soils, often with minerals not tolerated by other vegetation.

In the successional progression, lodgepoles occupy an area only as long as there is much available sunlight. Over time, under improved soil conditions and shade of the lodgepoles themselves, other shade-tolerant trees, such as spruce and fir, grow and replace the lodgepole. Lodgepole pines mature in about 200 years, if a stand persists that long.

Forest management people know that selective cutting of larger or older trees does not work in stands of lodgepole pine, all of which are usually the same age, though varying in growth because of light and moisture factors. Since the roots are



shallow, if a grove of lodgepole is selectively cut to remove the big trees only, the smaller trees are left unprotected and subject to windfall. They will be blown down in a criss-cross tangle, like scattered toothpicks. Such a tangle of trunks, often resin covered, become fire hazards, decay readily, and are lost for further human use or environmental influences.

Because lodgepoles grow rapidly in even-aged stands, a clear cutting policy is the preferred harvesting method. Straight, tall, 80-to-100-foot trees, that are 8-to-14-inches in diameter, are valuable as electric poles. Most of our electrical and telephone poles have been lodgepole. Often the trunks rise to these heights with very little variation in diameter, hence are useful in log-home building. Smaller limbs have become useful in internal log and trim and furniture building.

A special characteristic of lodgepole is the structural makeup of the trunks and stems. The xylem, the water conducting tube in a lodgepole stem, is made up of elongated, overlapping cells, called *tracheids*, that make

lodgepoles tough-to-impossible to break in a crosswise manner. This tough-to-break resistance and tall slimness make the lodgepole pine an ideal tree for rail fences or corrals, for mine timbers and utility poles, and for railroad ties.

And, as we know, lodgepole trunks 20-to-30 feet tall and no more than 3-to-4 inches in diameter were useful to Indian people as the basic frame for their tipis,



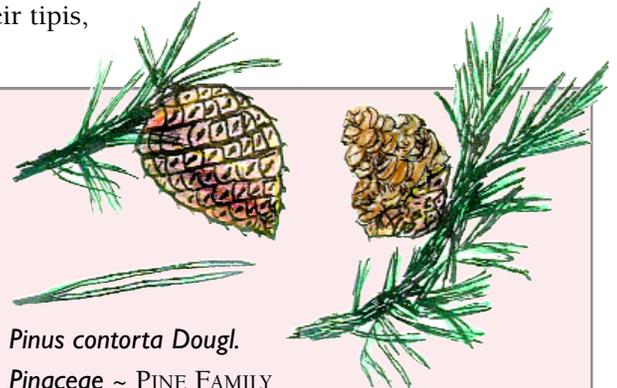
INDIAN NAMES

CROW: *Ashiilia, Ba'achiia*

CREE: *Mi-nah-i-kwah-tik*

NORTHERN CHEYENNE:
SESTOTO'E

Lodgepole pines vary from 30 to 100 feet tall, and from 3 to 5 inches to 2 1/2 feet in diameter. Their maximum height is 180 feet tall; their width is 3 feet in diameter, with a long, clear, slender, cylindrical bole (trunk) and a short, narrow, rounded and pyramidal crown. This pine grows from a scrubby shape of multiple trunks, often contorted, to a tall straight tree. Its height depends on environmental factors, such as elevation, rainfall and sunlight. Lodgepole pine is an evergreen with flat needles in bundles of two needles with



Pinus contorta Dougl.

Pinaceae ~ PINE FAMILY

a semi-transparent, short sheath at the base holding the needles together. The somewhat stiff needles vary in length from 1 to 3 inches long depending upon habitat. In a drier area or on an aging tree the needles are shorter. The bark is 1/2 to 3/5 inches thick, orange-brown to grayish, and flaky or scaly, covered here and there with gummy pitch.

Lodgepole pine is the only 2-needle pine growing native in the Rocky Mountain region; however, many other two-needle pines have been planted and grow well, such as mugo pine (*Pinus mugo*) and scotch pine (*P. sylvestris*).



and as poles for making their *travois* for pulling their belongings by horse for miles, following the buffalo herds.

The wood of the lodgepole is soft and, while not used for larger construction, is useful as paper pulp, or to grind and press into sheets for particleboard. Because of the softness and resinous content, lodgepoles make a quickly burning, hot fire for campfires and cooking. It is often used in fireplaces at intervals of burning between harder, slower burning woods to burn out the residues that collect in chimneys.

Lodgepole pine is very vulnerable to insects such as bark beetles and to “mistletoe” growths that cause damage. The bark is susceptible to sun-scald. All of these conditions weaken the trunks.

— SHELTER —

The Plains Indians were quick to learn and very successful in their use of lodgepole pine for the structures for their hide-covered shelters, for use of its edible parts, for its resin or gum, for firewood, for fashioning utensils and frames to dry meat on, and finally, for the ease with which tipis could be set up and taken down and converted to *travois* for loading and moving, when such a move was necessary to follow the buffalo—their main source of food, hides, and to fulfill almost all of their needs.



I build my tipi of lodgepole pine and buffalo hide. This is my second mother—I come home to her shelter.

Four tall, straight pine poles make the basic form of my home and represent those things that protect me:

- To the **Northeast**, is day coming;
- To the **Southeast** is eternal summer when all things grow and flourish;
- To the **Southwest** is where man leaves this world and follows old man over the horizon;
- To the **Northwest** is eternal winter when cold comes and freshens the earth.

Badger taught me to stake my home to Mother Earth.

Bear and mountain lion at my door are my guardians. Owl and coyo te sit on the two poles that control the smoke from my lodge. They are my sentries by night and by day.

Each new day, I come from my home, walk four straight steps, then I go as the sun journeys.

— FOOD —

The inner bark, the moist, growing, cambium layer, which came off the tree when the bark was removed, could be scraped off the bark and used for food, either fresh or dried, for later use as emergency food, especially in the early spring. Indian people soon learned not to eat too much at a time, which resulted in stomach pains.

Though small, the seeds were eaten. They are flavorful, nutritious and easily digested. Since the cones are hard and closed, they must be heated to open, so the nourishing seeds will fall out or can be removed for food. The pitchy secretions on the bark were scraped off and chewed as gum.

— MEDICINE —

Lodgepole-pine needles, as all pine needles, make a pleasant-tasting tea with a mildly expectorant and diuretic effect. The inner bark, when boiled slowly and sweetened with honey or the sap from the box elder tree, or with the cottonwood’s inner bark, is stronger than the needle tea as an expectorant, and was used after the feverish, infectious stage of a chest cold for the relief of pain.



The resinous pitch was even more soothing. A piece the size of a currant was chewed and swallowed and acted as an expectorant and to break up bronchial congestion. This remedy was reported as mild enough to use with children.

Northern Indians of British Columbia, the Knife People, also collected the gum from cones and bark, boiled it and mixed it with melted animal fat to produce a salve or ointment for rheumatic or arthritic pain, or sore muscles and joints. The same salve



was rubbed on throat, neck, chest and back to relieve congestion, sore throats and coughing. Ointments and salves were especially helpful when applied during or after sweat or steam baths, or when just sitting near a fire.

It is reported that Flathead Indians used the sap for burns and boils. For burns, the sap was heated until black, mixed with one part bone marrow to four parts sap and used as a salve. For a poultice, the same mixture was molded into a flat cake and applied to boils.

The Kootenai Indians have mentioned eating the inner bark (cambium) as a treatment for tuberculosis. ■



A Crow Camp

The traditional lodging of the Crows is the tipi. It was originally constructed from buffalo hides, usually 14 but as many as 20. Today, the Crow tipi is identified by its towering shape, very lengthy poles, by being almost perpendicular at the back, and by its whiteness.

The Crows seldom painted their tipis. There is spiritual significance to the placement of the tipi and its poles. The doorway of the tipi consistently faces east to the rising sun. It is built around four poles. These represent the four directions and the four seasons. They also represent the original Crow tribal lands. The tipi itself represents a woman.

Two triangular-shaped pieces of canvas called smoke flaps, held by two poles, extended from above the entrance and functioned as ventilators.

To the rear of the lodge is the chief pole or center pole. In Crow tradition, this area is the place of honor, where the man of the tipi keeps his personal medicine bundle.

The number of poles depended on the size of the tipi. Twenty-one-pole tipis were only owned by the chiefs. Eighteen-pole tipis were used by the rest of the Crow tribe.

Women were responsible for making and maintaining their family's tipi. They would erect them, furnish them, and move them from place to place with the aid of horses. This allowed the men to hunt and defend against enemies. The woman's ability as a housekeeper defended her status in the tribe. Taking care of her home was an important part of a Crow woman's life.



DR. ELNORA (STENERSEN) OLD COYOTE, age 86, grew up in Eastern Montana and married John M. Old Coyote, a full-blooded Crow Indian. With the help of many tribal people, she has been researching and teaching the use of native plants for many years. She has studied and written about over 300 Montana plants. Included here are her notes on ecology and folklore, and her original sketches and poems. Elnora lives in Huntley, Montana, and can be reached at (406) 348-2474.