

Nebraska's Unique Native Trees

Nebraska, like the rest of the Great Plains, is not well-known for its trees. After the retreat of the last Ice Age glaciers about 10,000 years ago, grasslands came to dominate the center of the continent leaving Nebraska only 3% forested at the time of settlement. Someone flying high above Nebraska now could be forgiven for looking down at the vast quilt-like pattern of farm fields and prairie and think that the state is devoid of important trees. They would be wrong.

Nebraska is at the geographic center of the country and is quite literally where east meets west. Here is where the eastern deciduous forest meets its western limits, where western pine forests meet their eastern limits, and where northern boreal species left over from the last Ice Age meet their southern limits. The evidence is clear that over the eons, species pulsed in and out of the state depending on climatic conditions. Although Nebraska is no longer covered by vast-stretches of woodland, we can still be proud of the trees we have. In fact, where else in the country can you hop in the car and after just a few hours of driving venture through majestic oak-hickory forests and boreal groves before arriving in western pinelands?

Southeast Nebraska is where the bulk of tree diversity is found in the state, with over 30 native species occurring there. Places like Steamboat Trace Trail and Indian Cave State Park are great places to experience the richness of hardwood species including several types of oak, two species of hickory, buckeye, ironwood, linden, redbud, and pawpaw among others. Believe it or not, a new native species was recently documented when several butternut (a relative of walnut) were found growing along the Steamboat Trace south of Nebraska City in 2018. How did this species escape botanical notice for so long?

In our state, oak-dominated forests typically follow river corridors where moisture is more abundant. These fingers of woodlands stretch north and west, following the major river systems such as the Missouri, Elkhorn, Platte, Loup and Niobrara. As the forests move north and west, the number of species gradually drops off so that by the time we reach the Valentine area, just a few species like bur oak, linden and ironwood remain. Scattered across central Nebraska are a few pockets of bur oak-dominated hardwood that exist as remnant islands of trees, hinting at a past that was once more favorable to hardwood forests in this part of the world.

In the more arid western Nebraska, evergreen-dominated forests are prominent in the Pine Ridge area of the northern Panhandle as well as in the Wildcat Hills south of Gering. These forests are home to tree species more common in the western U.S., including Ponderosa pine, Rocky Mountain juniper and water birch, along with shrubs such as mountain mahogany and grape holly.

Linking east to west (or vice versa) across northern Nebraska is the Niobrara River corridor, one of the nation's great scenic and botanical treasures. The Niobrara valley serves as a conduit of eastern hardwood species moving west and it's also a corridor for Ponderosa pine to reach as far east as Rock County. But what really makes the Niobrara valley so special are the remnant boreal species still holding on including quaking aspen and paper birch. In the Valentine area, such as at Smith Falls State Park or at the Fort Niobrara National Wildlife Refuge, one can find eastern, western and boreal forest species all coming together in close proximity to each other.

One of the many important values of Nebraska's trees lies in their adaptability. The tough Great Plains climate weeded out lesser species long ago. And those that did survive have evolved a genetic capacity to tolerate extreme weather conditions including brutal heat, bitter cold and extreme drought. No wonder trees are farther apart here. But they are here and their genetic "toughness" makes many of these species adaptable to a changing climate.

Yes, Nebraska is mostly farm and prairie country, which is beautiful all in itself. But we do have some incredible trees and anyone seeking an unusual tree adventure would do well to check out these rare tree locations:

- **Burr Oak Canyon** south of Culbertson (near the Kansas state line) consists of about a half mile ravine of bur oaks that are dozens of miles from any other native bur oaks. They're left over from a more tree-friendly climate thousands of years ago.
- **Lehman Springs/Hackberry Hollow** near Sidney. Out on the shortgrass prairie northeast of Sidney, where trees generally do not occur, is a spring-fed draw that has sustained hackberry trees for thousands of years. The locals refer to the ravine as Hackberry Hollow.
- The Pine Bluffs of western Kimball County. Nestled along I-80 at the Wyoming state line is the only stand of native limber pine in Nebraska. At least one tree has been core-dated to be over 600 years old.
- Wildcat Hills Nature Center south of Gering on Highway 71 are dominated by Ponderosa pine and Rocky Mountain junipers, some of which have been dated to over 800 years old. An unusual shrub species to see here is mountain mahogany.
- Anything in the Pine Ridge of northwest Nebraska including Chadron State Park, Fort Robinson State Park, Gilbert-Baker Wildlife Management Area (WMA), and Sowbelly Canyon.
- The Cowboy Trail just southeast of Valentine along Highway 20 is a trailhead with a short link to an old railroad trestle bridge spanning the Niobrara River. Here one can see incredible views of the Niobrara River valley, including rich native prairie mingling with bur oak and ponderosa pine.

- In the Niobrara River Valley east of Valentine oaks, pines, aspen and birch all grow within a stone's throw of each other.
- Happy Jack Peak along the Highway 11 corridor near North Loup is one of Nebraska's more scenic drives. It's a great place to see native bur oaks and explore mixed-grass prairie while climbing the peak. While there, visit the adjacent chalk mine.
- Basswood Ridge WMA southwest of South Sioux City is dominated by bur oak and linden (basswood) and is also one of the northernmost reaches of bitternut hickory and red oak.
- Table Rock WMA near Table Rock is one of just a few locations in the state to see blackjack oak.
- The Standing Bear Trail corridor between Beatrice and Barneston is a good place to see several hardwood species that meet their western limits, including Ohio buckeye, shagbark hickory and chinkapin oak.
- The Steamboat Trace Trail Corridor from just south of Nebraska City to south of Brownville allows close viewing of native oaks and hickories as well as pawpaw and the newly discovered Butternut.
- The area south of Salem in Richardson County is a great place to find the shrubby and rare dwarf chinkapin oak growing on rocky knobs and along road cuts.

The Nebraska Statewide Arboretum has been growing and distributing progeny of many of these trees for several years. Look for them at Arboretum plant sales throughout the year at plantnebraska.org.

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