



PAT MUNDAY

# Big sagebrush

*Artemisia\* tridentata\*\**

\* This genus of several hundred plants belonging to the aster family derives from Artemis, the Greek goddess of hunting who befriended wild animals and plants.

\*\* Latin for “three teeth,” referring to the three lobes on the leaf.

BY LEE LAMB

Sagebrush country can appear monotonous and desolate if only viewed from the highway. But those who venture into these plant communities discover beauty, diversity, and color. Montana’s extensive rangelands contain 16 types of woody sagebrush, including four subspecies of the most common variety, big sagebrush.

## Identification

Big sagebrush, the tallest sagebrush species, grows up to 15 feet high. A woody perennial member of the sunflower family, big sage has a round shape with a relatively short trunk supporting many stout, upward-growing branches. Big sagebrush sprouts grayish-green, three-lobed, fan-shaped leaves covered with silky silver hair each spring and fall. The leaves emit a sweet, pungent odor throughout the year. They remain on the plant through winter, providing green, nutritious forage to pronghorn and other wildlife during the cold months. Big sagebrush flowers in August and September, producing dense clusters of small, inconspicuous blossoms.

Montana native Lee Lamb lives in Coeur d’Alene, Idaho.

## Range

Big sagebrush is the most common and widely distributed sagebrush species in the western United States and Canada. It ranges from British Columbia and Alberta south through the western states to northern New Mexico and east to the Dakotas and Nebraska. In Montana it grows in valleys and basins and on plains, plateaus, and mountain slopes nearly everywhere except for a swath of central Montana north of U.S. Highway 2 and in the state’s far northwestern corner. Highly tolerant of drought, big sagebrush does best in well-drained soils.

## Subspecies

Montana is home to four of the six big sagebrush subspecies: basin, Wyoming, mountain, and subalpine (or spicate). While their ranges occasionally overlap, precipitation levels and soil type determine where each subspecies grows. You’re more likely to find the mountain and basin big sagebrush subspecies in the deeper soils of wetter southwestern Montana. Subalpine big sagebrush is mainly found in the wetter Hebgen Lake area. And Wyoming big sage is most common in the shallower soils of drier eastern Montana.

## Wildlife Value

Sagebrush isn’t a favorite of livestock, but wildlife find it delectable and nutritious. Sage-grouse, sharp-tailed grouse, sage and Brewer’s sparrows, sage thrashers, and pygmy rabbits can’t survive without the food, nesting cover, and escape cover that big sagebrush provides. A sage-grouse eats nothing but sagebrush leaves in winter. Pronghorn take advantage of big sage’s highly digestible crude protein, eating substantial amounts throughout the year. Mule deer feed on the plant every season except summer. Elk, jackrabbits, and many other birds and small mammals rely on big sagebrush in varying degrees for food and shelter. One biologist calls sagebrush stands “the forests of the prairie.”

## Fire

Big sagebrush can withstand bitter cold, severe drought, blazing heat, and relentless winds. A single plant can live for 200 years. The only thing big sage can’t survive is fire. And because the plant is slow to re-establish after a fire—100 years to recover an old-growth sage stand—burning is the main way sage is eliminated in an attempt to make land more hospitable to cattle and crops.

## Status and Management

Montana has lost about half its original big sagebrush country to plowing, burning, and herbicide spraying. That’s been tough on wildlife. “The decline of species like mule deer, pygmy rabbits, and sage-grouse is directly tied to a decline in sagebrush itself,” says Mike Frisina, FWP range and habitat coordinator. “As the sage goes, so goes our wildlife. We know we have to better manage sage—and change public attitudes—if we are going to save these wildlife species.”

FWP has bought conservation easements that protect some sagebrush lands using Habitat Montana dollars. Though sage continues to be removed across its range, Frisina says some landowners are working with FWP to conserve sagebrush grasslands through the Montana Sagebrush Initiative. Using primarily federal funds, the program has secured roughly 200,000 acres of sage through 30-year leases that give landowners a one-time payment of \$12 an acre to protect sagebrush grasslands used by sage-grouse. 🐘