

Two wriggling ranch dogs greet me at Bill Vaughn's house in Grass Valley, west of Missoula. I'm there to see the state-registered "big tree" on his property; the dogs and I follow him behind his house into the edges of a slough. It's hard to imagine what this tree—a black hawthorn, scientific name *Crataegus douglasii*—will look like; typically, hawthorn is a shrub with inch-long thorns and blue-black or red "haws" or berries. It can grow tall, but as bushes do, with many skinny limbs reaching skyward. We wind around, over deadfall, under limbs, and there it is. "Wow," I say. Not the most sophisticated word in the English language, but you wind up saying it a lot in the presence of big trees.

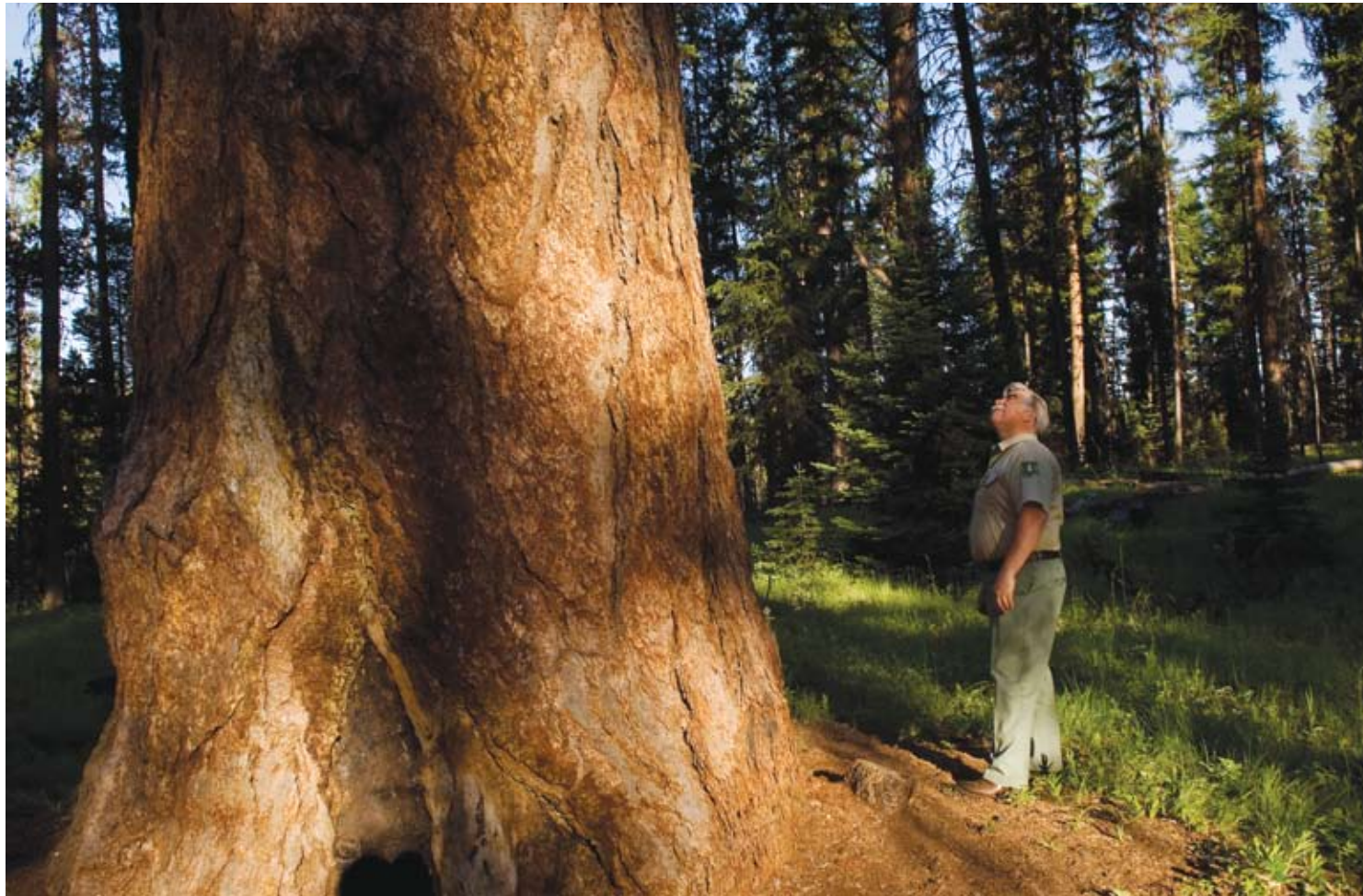
Vaughn's hawthorn isn't as huge as many of Montana's champions, but remarkably, it really is a tree, not a shrub. Its shaggy-barked trunk is substantial, thicker at 41 inches around than the average American waist. Hawthorns grow slowly, Vaughn tells me; he thinks this one's over 100 years old. "Hawthorns won't die. I wish they would—it's such great wood." Firewood is what brought Vaughn to this grove full of hawthorn trees; after 20 years, he'd used up all the dead ponderosa pines on his land and ventured into the slough. "Hawthorn takes a long time to cut," he says, eyeing a dead trunk nearby. "It's adamant." Vaughn, a writer, began researching hawthorn, which has lots of associated lore and grows in both Ireland, home of his ancestors, and Montana, where he grew up. Now hawthorn is a unifying theme in a family memoir he's crafting. His research also revealed that hawthorns in tree form are unusual. That's when he called Helen Smith. ▶

Big Sky  
Country is  
home to some  
of the nation's  
biggest trees

# Beyond Measure

Visitors walk through the interpretive trail and gaze at the Ross Creek Cedars near Troy.  
| Photo by Jesse Varnado

BY BETH JUDY



Tim Love, the district ranger for the Seeley Lake Ranger District, gazes toward the top of the world's largest western larch tree, which stands near Seeley Lake and is approximately 1,000 years old. | Photo by Jeremy Lurgio

Smith, an ecologist at the Forest Service Fire Sciences Lab in Missoula, coordinates Montana's big-tree register. In 1940, a nonprofit conservation group, American Forests, started a national register of champions, and each state also has one. Montana's register lists about 40 species/subspecies and over 63 champions—some are co-champions. Two on Montana's list, Fish Creek's "Big Pine" west of Missoula (a subspecies of ponderosa pine) and Seeley Lake's western larch (see article on page 42) are also national champions. Occasionally new species appear on Montana's list, and other species drop out—trees die or stop growing, for example. Last year, a new rule required remeasurement of champions every 10 years. Remeasurement (or lack of it) may knock some trees off the list or uncover new national champions.

Big trees aren't necessarily the tallest of their species. Three measurements, combined, make a champion: height; the trunk's circumference at chest height; and average diameter of the canopy. Botanist Peter Lesica says the trees' size has a genetic component, but it's also about site. "It could have its root in a crack that has water all the time, or where an outhouse used to be. It's nature *and* nurture." Along those lines, Lesica lobbied for separate

urban and wildland champions on the Montana list, and won. "It's not fair to compare trees that are watered with trees making it on their own."

The big trees occur across Montana, in the middle of forests and in people's backyards. Some have signs announcing their presence; others stand unacknowledged. The cool, moist northwest corner of the state—Lincoln, Sanders, and Flathead counties—hosts the largest number of big trees. "It's got the climate," Smith says. The register doesn't specify trees' exact locations for fear of vandalism and because about half the trees are on private land.

Three men have been involved in nominating nearly half of Montana's champions: Alan Lane of Troy, Martin Flanagan of Big Timber, and Mark Lewing of Stevensville. Searching out big trees was something Lewing did as he worked. As a unit manager for the state Department of Natural Resources and Conservation for 29 years, he traveled "every road in the Bitterroot," he says—among other things, helping people treat sick trees. He admits searching for big trees stimulates his competitive spirit, but mostly it's "something unique to do."

Why the fascination with size? Caroline Clemans, owner of Grouse Springs Nursery on the east side of ▶



Ross Creek Cedars. | Photo by Tim Gady

## Montana's big trees

Here are the Montana trees that may be some of the largest of their species in the United States. The trees are given a total score that includes circumference, height and crown spread. Some of these trees are formally listed on the American Forests National Register of Big Trees. Others are not yet listed but may be large enough to qualify for eventual listing, tree experts say.

If you have questions, contact Helen Smith, Montana's big-tree program coordinator, at 406-329-4707 and hsmith04@fs.fed.us.

### **Black Hawthorn**

Score: 95  
Location: Missoula County  
Owner: Bill Vaughn  
Measured by: Bill Vaughn, 2006

Location: Madison County  
Owner: State of Montana  
Measured by: Mark and Pamela Lewing, 1999

### **Hybrid Larch**

Score: 324  
Location: Lincoln County  
Owner: Kootenai National Forest  
Measured by: Steve Arno, Vick Applegate, 1996

### **Black Chokecherry (Potential Co-champs)**

• Score: 95  
Location: Flathead County  
Owner: Darrell Logan  
Measured by: Kirk Eakin, Charles Van Hook, 1992  
• Score: 92:

### **Western Larch**

Score: 425  
Location: Missoula County  
Owner: Lolo National Forest  
Measured by: Helen Smith, Micha Krebs, 1999

Location: Powell County  
Owner: Nimrod Fee  
Measured by: Jim Anderson, 1991

### **Rocky Mountain Douglas-fir**

Score: 408  
Location: Lincoln County  
Owner: Kootenai National Forest  
Measured by: Lynette Kelly, Jess Evans, Ben Isenburg, 1996

### **Western White Pine (Co-champs)**

• Score: 417  
Location: Lincoln County  
Owner: Kootenai National Forest  
Measured by: Alan Lane, 2008  
• Score: 410  
Location: Lake County  
Owner: Flathead National Forest  
Measured by: Dale Jorgenson, 2004

### **White Willow**

Score: 395  
Location: Ravalli County  
Owner: Lawrence Durland  
Measured by: Mark Lewing, Rosemary O'Neil, 1995

### **Rocky Mountain Ponderosa Pine**

Score: 455  
Location: Mineral County  
Owner: Lolo National Forest  
Measured by: Donald Wood, Don Campbell, 2005

### **Whiplash or Greenleaf Willow**

Score: 55  
Location: Sweetgrass County  
Owner: Bureau of Land Management  
Measured by: Martin Flanagan, 2004

### **Narrowleaf Cottonwood (Co-champs)**

• Score: 255  
Location: Sweetgrass County  
Owner: Unknown  
Measured by: Martin Flanagan, 2000  
• Score: 249

### **Silver Buffaloberry (Co-champs)**

• Score: 33  
Location: Madison County  
Owner: Unknown  
Measured by: Martin Flanagan, 2000  
• Score: 33  
Location: Sweetgrass County  
Owner: Bureau of Land Management  
Measured by: Martin Flanagan, 2004

Flathead Lake, found and nominated the state's largest Pacific yews. "We humans like to find things and catalog them," she says. "It's always fun to see what's biggest." For Lesica, at work on a comprehensive guide to Montana's plants, the register has scientific value. "An herbarium specimen can't tell you how tall a tree is, and most data in books comes from other states. This tells me a species' maximum size in Montana." Says Lewing, "People have a thing for big trees. They get you thinking."

With trees, size equates with age; the big trees are old. "I stand at the base of one," Smith says, "and think of what it's been through, how resilient it is. How much fire has it seen? How many Native Americans camped beneath it?" University of Montana forestry professor Carl Fiedler reflects, "We treasure venerable old people and architecture. It's the same with trees. They've shown they can take what's thrown at them."

While the age of some big trees boggles the mind, it's still graspable on a human scale, unlike geologic time. "They're historic relics that are still alive," says retired research forester and tree farmer Steve Arno. A thousand years ago, for instance, when the champion western larch was a sprout, Indian cultures in the Southwest were carving cliff dwellings; Leif Eiriksson and his sister were poking around the East coast. As the Big Pine settled in along Fish Creek, Europeans settled in in Maryland, Arizona, and Boston. A glance from fur trader David Thompson might have fallen on Clemans's young yews as he paddled Flathead Lake. In 1878, Officers' Row was built at Fort Missoula; the champion western juniper stood between two of the houses. Now, only stone foundations remain. The tree lives on.

Some trees with shorter lifespans are more personally significant. Corvallis resident Karolyn Simpson remembers it was her grandparents, around 1915, who planted the fantastically huge champion plains cottonwood that hangs on, barely, in a neighbor's yard. Astrid Morris and Kathleen Cook, also in the Bitterroot, raised families in the shade of the champion box elder and American elm, respectively. The box elder was already there in 1951, and old, when Astrid, now 81, married her husband and moved into the house. In contrast, the champion European mountain ash in Pete and Lynn Boehm's house in Missoula only goes back to 1964, but the Boehms are still proud of it. Lynn, who grew up in their house, remembers climbing the tree as a kid; now her family barbecues in its shade. "It's beautiful," she says. "We don't throw balls at it," attests 8-year-old Olivia Boehm solemnly. Her father shakes his head. "The age of some of these trees; it makes you feel small."

Big trees, says Arno, speaking especially of wildland champions, are "legacies of historic ecosystems. I don't think we'll see a lot of them again. Historic disturbances like fire are kept at bay now. On national forest, we don't do much management, so trees starve to death—like giving carrots a square-inch each in a garden." In addition, he says, loggers tended to cut big ones, citing the huge stumps we all run across now and then. Smaller trees proliferated. Now dense forests cover the landscape.

Arno says the big tree program is about appreciation; he hopes it sparks interest in trees and forests. Some of the champion trees bear evidence of humans' interest and intimacy. A trail of large nails up the plains cottonwood's trunk and a game of tick-tack-toe scratched in its cambium show an owner's grandchild was there. A few initials carved in the Big Pine, which is threatening to fall into Fish Creek, keep expanding with the tree. The Boehms hung a face on their mountain ash—two eyes, a nose, and a mouth



Montana Fish, Wildlife and Parks river recreation manager Chet Crowser stands near the nation's largest known Rocky Mountain Ponderosa Pine alongside Fish Creek, west of Missoula. | Photo by Linda Thompson, Missoulian

sticking out a tongue, purchased at nearby Shopko. Vaughn and his wife call their hawthorn Maeva, an ancient Irish name. Astrid Morris, her eyes on her box elder, muses, "I wonder which of us will go first." And the champion white willow, which persists in scraping the sky behind an abandoned farmhouse near Lake Como in the Bitterroot, still wears, like a necklace, the rusty cable and pulley that pulled one of its rotten trunks down.

Mostly, however, the big trees go on growing and people go on living their lives around them. Yet what forestry professor Carl Fiedler says seems true. "We don't articulate it or think about it a lot, but trees are very much part of our consciousness." ■

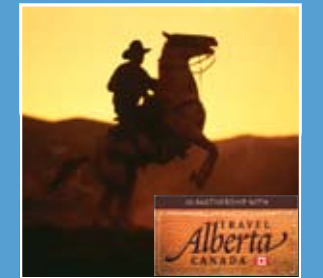
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