

DENDROCHRONOLOGY

Natural monuments

Reverence for old trees sparked early forest conservation efforts, even as ancient woodlands were cut with impunity

By **D. W. Stahle**

On 22 April 2022, US President Joe Biden issued an executive order to inventory mature and old-growth forests on public land. The order may prove to be particularly consequential because most of the oldest trees on Earth are found on federal land. Of the 10 species proven with tree-ring dating to include individual trees that have lived for at least 2000 years, eight are native to the United States, seven to the West, and five to California (1, 2). *Elderflora*, by historian Jared Farmer, is a book about the giant, sacred, and exceptionally old trees that have achieved scientific interest and popular reverence.

Farmer describes the emergence of the cultural phenomenon of venerating “elderflora” (old trees), a tradition practiced in both Eastern and Western cultures around such specimens as Abraham’s oak, an ancient tree in the West Bank with purported ties to the biblical Abraham; the dragon trees of the Canary Islands, which fascinated 19th-century European naturalists; and Montezuma bald cypress, respected in Indigenous and modern Mexico. Public veneration of exceptional trees has not always prevented destruction of the forests they inhabit, but Farmer argues that it may have helped sow the seeds of the modern conservation movement.

Elderflora describes in painful detail the cutting of the grandest forests on Earth. Some deforestation was colonial and capitalistic, some came out of a fear of the wild forest, and some arose from ideas about humankind’s dominion over nature. The reader will note a little revisionist history in these pages, but the book succeeds as a cultural history of the conservation ideal that led society to forest preservation.

Alexander von Humboldt’s vivid descriptions of megaflora, which he referred to as “monuments of nature,” promoted Western thought on forest protection during the 19th century, an era that was characterized by serious overexploitation of natural resources. Before protection efforts finally succeeded, 95% of the coast redwood forests in California—the tallest conifer forests on Earth—

were cut. This exploitation mindset was not restricted to the United States. As Farmer writes of the gigantic kauri forests in New Zealand, when “confronted with the rarest forests in creation...settlers could only imagine a wealth of pastures.”

The astronomer A. E. Douglass invented the method of tree-ring cross dating in the early 1900s and used it to date the then “oldest known” trees on Earth: two giant sequoias in California, which Douglass determined to be more than 3000 years old. His student and colleague, Edmund Schulman, traveled widely across the semi-arid United States seeking old conifers to develop exactly dated ring-width chronol-



Long-lived bristlecone pine trees thrive in cold, arid conditions.

ogies to document epic droughts and pluvials of the past.

In the 1950s, Schulman made a sensational discovery: bristlecone pine are more than 4000 years old in the White Mountains of California, which are still today the oldest-known living trees on Earth. Schulman cut down two of these exceptionally old trees for “detailed analysis.” There are many old bristlecone pine, but the sacrifice of these ancient trees was doubly regrettable because it was not necessary (thin cores can be removed without harming the tree) and because it was subsequently used to justify the cutting of what turned out to be the oldest tree yet known to have lived—a 4900-year-old bristlecone pine on Wheeler Peak in Nevada.

Not coincidentally, many of the oldest trees

Elderflora:
A Modern History
of Ancient Trees
Jared Farmer
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448 pp.



still left on Earth are not valuable for lumber production. Unfortunately, this did not prevent the late-19th-century cutting and dynamiting of 8000 giant sequoias—a species with coarse, brittle wood of only marginal value as lumber—in the Converse Basin, “the densest, grandest expanse of *Sequoiadendron* ever known.” Bristlecone pine is also “noncommercial” owing to its extremely slow growth in a cold, arid environment that perfectly illustrates Schulman’s principle of “longevity under adversity.”

The Pinyon-Juniper ecosystem covers 75,000 square miles of the American West (3), making it one of the largest areas of ancient woodland left on Earth. Yet this ecosystem

rarely receives much respect and is featured in only one paragraph in this otherwise-great book. These austere, never-cut woodlands could, like the other marvelous forests that Farmer discusses, benefit from greater attention and stronger protection to slow the loss of biodiversity, the decline of vertebrate abundance, and the closing of open space. ■

REFERENCES AND NOTES

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