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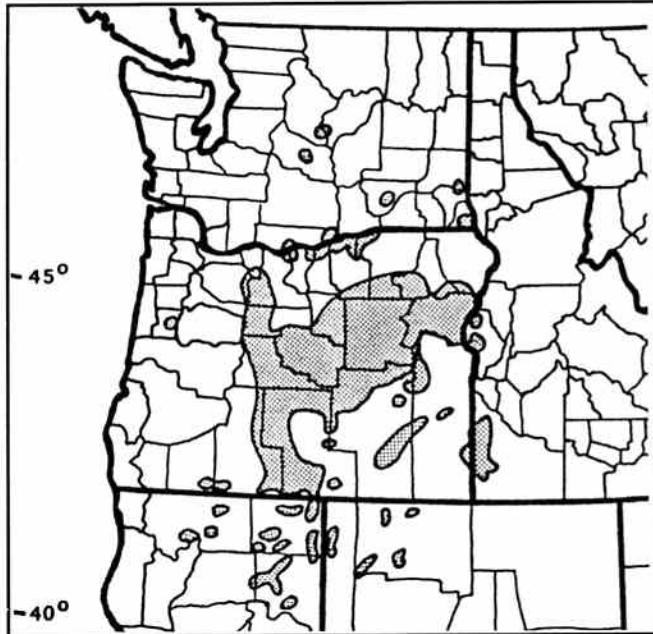
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The Western Juniper

By STUART GARRETT

No tree is more evocative of Oregon east of the Cascades than the juniper. While our pines are found throughout the West, the heart of the worldwide range of western juniper is in Central and Eastern Oregon. Those gnarled and ancient trees growing straight out of lava leave an indelible impression on anyone who has ever experienced an Oregon high desert sunset.



Generalized distribution of western juniper (shaded portion). Tree densities vary among and within the different localities.

Biology

The western juniper (*Juniperus occidentalis* Hook.) is not usually a large tree. It is frequently under 30 feet tall but is rarely over 70 feet high. It tolerates a variety of soils and substrates. The species is either dioecious or monoecious. It sends out sprays of pollen in March which is extremely allergenic to some people. It has attractive grayish blue seeds that stay on the tree for two years. The seeds are a favorite of birds of the thrush family. Townsend's solitaires apparently survive primarily on these seeds through part of the winter. Passage through the gut of a bird scarifies the seed coat so that it more readily germinates. Many young junipers are found growing in a sagebrush where a perching bird has deposited a seed. In central Oregon many rows of junipers line roadways. These trees were deposited by birds perching on fences, not planted, as many people assume!

The juniper is important for other animals. Maser lists over 70 species that use juniper in some fashion. Cavity nesters make use of the long lasting stumps. The trees provide cover and shade and food for other species including mammals such as deer, elk, etc. Bats hide in them. Indians used the juniper wood for bows, firewood, and shelter. The bark made sturdy

baskets. Ranchers utilize the trees for long lasting fence posts.

Juniper engages in chemical warfare; the alleopathic chemicals in its foliage which inhibit the germination and growth of juniper seeds and other plants. The several pests of juniper include two mistletoes, two rusts, a wood borer, and a rot.

Management

Juniper is on the increase in Oregon in a number of areas. Old photos document this well. At least three reasons are offered for this change. One has to do with fire suppression. Young junipers are very susceptible to fire. Their bark is thin. Many older trees stand on rocky ridges where fire frequencies are low. The Euro-American suppression of fire over the last 100 years has generally favored juniper increase. Another reason for juniper increase is livestock grazing. Cattle tend to prefer grasses and removal of grass competition favors woody species. Removal of fine fuels (grasses) also decreases the fire frequency, which favors juniper. Finally, Dr. Pete Mehringer at Washington State University has shown through pollen counts in core samples from Steens Mountain, Oregon, that changes in climate cause junipers to increase or decrease in significant amounts. Perhaps our weather is changing to favor juniper.

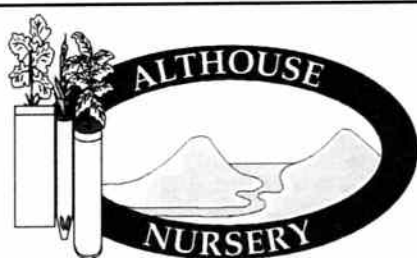
In any event, agencies and landowners are striving to control juniper. Cutting and burning of these trees is increasing. Studies have shown that on a given piece of land, cattle forage can be increased by up to 300 percent by controlling juniper. This is a strong economic incentive for ranchers. Some environmental groups feel that juniper control is being overdone. Economic uses of the trees are being sought. The best one that I've seen is for beautiful rustic furniture being produced in Prineville and Burns.

Closed juniper canopies eliminate most other plants. This leaves nearly bare soil which is more erodable, reduces water infiltration, and promotes the invasion of exotic species such as cheatgrass. This is particularly devastating in overgrazed areas. Studies show that a medium sized juniper control can increase streamflow in a basin. Percolation and infiltration of precipitation is also hindered. Rain or snow falling on juniper branches is more likely to evaporate in our dry climate before it reaches the ground.

The juniper is a complicated and interesting denizen of Oregon's high desert. Maligned by many and admired by few, this is a remarkable tree.

References

- Maser, Chris, in *Western Juniper Ecology and Management*, U.S. Forest Service, Portland, OR 1978.
- Mehringer, Peter, in *Proceedings of the Pinyon-Juniper Conference*, U.S. Forest Service General Technical Report INT-215, 1987.



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