Extension Service Crook County
Oregon State University, 498 SE Lynn Blvd, Prineville, Oregon 97754-2840
Phone 541-447-6228 | **Fax** 541-416-2115 | http://extension.oregonstate.edu/crook/

Testimony before Oregon House Committee on
Agriculture and Natural Resources
Tim Deboodt, PhD
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Good morning Chairperson Witt and members of the House Committee on Agriculture and Natural Resources. It is a pleasure to be before you this morning.

As a matter of introduction my name is Tim Deboodt and since 1987,I have served the central Oregon area as the person responsible for developing and delivering educational programs on rangelands, their use and management for OSU Extension Service. My educational and research programs focused on proper livestock grazing on rangelands, rangeland improvement and restoration and range/watershed issues including the impacts of western juniper. I work with public land management agencies, landowners and others to provide technical information and research findings for management issues related to Oregon's rangelands.

As part of my position, I serve on the Oregon Watershed Enhancement Board Region 4 review team, the Ochoco-Deschutes National Forest's Resource Advisory Committee and the Crook County Natural Resource Advisory Committee. I have served on state-wide committees for the Oregon Department of Agriculture, Department of Forestry and the Department of Environmental Quality. In 1999, I served on the Oregon Department of Forestry's Juniper Issues Ad Hoc Committee that reviewed the Forest Practices Act and its impact on juniper harvest/removal and rangeland restoration activities. SB 1151 (1999) was the product of that effort which provided for the exclusion Forest Practices regulations of juniper harvest activities on less than 120 acres.

I have participated in 3 different juniper work groups over the years whose primary interest was to explore and support the utilization of juniper as a by-product of rangeland restoration activities. My role and that of OSU has been to provide leadership and delivery of the educational and technical expertise in these projects and activities. My OSU Extension and research work has focused on engaging landowners and public land management agencies in the following juniper utilization projects:

Comparison of machine harvest versus hand felling: Cost and volume comparisons
Comparison of machine harvest versus hand felling: Soil Compaction response
Numerous demonstration trials of forestry equipment for harvesting western juniper including:

- Skid steer mounted shears
- Excavator mounted masticators
- Stroke delimbers
- Feller bunchers
- Chippers for biomass
- ATV mounted shears
- Forwarders for on-site movement of juniper logs to landings
- Skidders for moving logs from hillside to landings

My goal today is to introduce you to western juniper, review the biology and ecology of the tree, its impact on the landscape and a summary of the work done to date to restore rangelands once dominated by this plant.

In 1936, the US Forest Service estimated western juniper acreage in eastern Oregon to be 1.5 million acres. In a 1999 report published by the USFS that estimate had grown to over 6.5 million acres. Today juniper can now be found on over 10 million acres of eastern Oregon's rangelands. Despite 10's of thousands of acres being cut within the last decade, the rate of expansion is still greater than what is being controlled.

Beginning in the early 1980's, OSU Department of Rangeland Science began extensive studies on the biology and ecology of western juniper and the impacts on rangeland of control efforts. Drs. Rick Miller, Agricultural Experiment Station in Burns and Lee Eddleman from Corvallis provided leadership for these research efforts. Research showed that as western juniper gained dominance on these arid landscapes, shrubs died, perennial grasses and forbs disappeared, soil erosion increased and habitats were lost and the risk of catastrophic wildfire increased. With increasing tree density and juniper cover, less precipitation was available for other plant growth, ground water recharge and spring and stream flow.

In the early 90's, these findings led to the establishment by OSU of the only, long-term research project, documenting the impacts of juniper removal on water availability following the removal of juniper. Established in 1994, this project is now entering its 21st year of monitoring activity. The results of this project have been nothing short of eye opening. This project is known as the Camp Ck. Paired Watershed Study and was funded in part by OWEB.

Juniper control efforts are not new. In the late 1950's and 60's, the Oregon Department of Fish and Wildlife in cooperation with the Bureau of Land Management and others controlled juniper for the purpose of improving winter range for mule deer. Anchor chains drug by 2 large caterpillars pulled the trees out of the ground.

In the 1970's, juniper control was done with large caterpillars pushing the trees over and may have included pushing them into piles or windrows. Early studies conducted by OSU during this time indicated a 6 – 10 fold increase in grass growth following juniper removal.

In the 1980's, chainsaws became the primary method for juniper control. Cost share projects were small and usually limited to 130 acres or less per year per landowner. Limitations were placed on size of treated parcels because of the funding sources at the time. During the 80's, observations noted that with improved range conditions following tree removal, soil moisture retention was greater while others noted improved spring flow and in some cases intermittent streams becoming almost perennial. The goal of reducing soil erosion became the driver in these juniper control projects.

Into the 90's and 2000's, watershed health encompassed the goals that resulted in restoration activities. The creation of the Oregon Watershed Enhancement Board during this period provided a new funding source for cost share. With the threat of sage grouse listing and the decline in mule deer numbers in central and eastern Oregon, once again, habitat restoration is a reason for juniper control.

With interest in creating products from juniper and in attempts to meet a growing demand for raw materials, projects today are utilizing mechanical harvest methods on a limited basis to increase harvest volume. The overriding goals of most juniper control projects today focuses on either improved hydrologic function of the site; that is the capture, storage and safe release of water where it falls, or on habitat improvement for sage grouse and mule deer.

With the restoration work that was being done in the early 1990's, a common understanding was developed that cost share programs alone were not going to adequately address all the restoration needs. Costs for control are high, often over $100/acre and cost share funds are limited. The first juniper work group was formed in the early 90's to understand juniper's wood chemistry and to create protocols for drying juniper. With the help of the State, the OSU College of Veterinary Sciences studied the benefits of using juniper for animal bedding, everything from dairies to gerbils. OSU Extension and the US Forest Service Rural Development Division provided leadership to this effort.

In the early 2000's, a second juniper work group formed in central Oregon to explore harvest systems for juniper, address transportation issues and create site evaluation tools for ranking projects based on a variety of environmental factors. This group realized that range/ranch roads were not like forest/logging roads and those ranch roads create a significant barrier for the use of traditional log transportation methods. This problem is still not solved. OSU Extension in central Oregon provided the assistance and leadership for this second group as well.

Today with the Western Juniper Alliance in partnership with Oregon Solutions and many agencies, landowners, businesses, and NGO partners, have come together to address additional issues that limit the use of juniper. Customer awareness, stand inventories and marketing materials are some early accomplishments of this group. OSU's role, through has been to provide a point of contact for landowner and harvest information and the implementation of research projects that assist in moving these efforts forward. Most recently a need to better understand harvest system impacts on the landscape has emerged.

Over the years, juniper control has been focused on restoring Oregon's rangelands and the values/habitats they provide. The creation of jobs and the improved economic activity within our rural communities associated juniper utilization is a positive by-product of improving rangeland function, productivity and wildlife habitats. And it works!

The strength of OSU Extension in this on-going effort is that we are located in every county of the State. Our connections with landowners, land management agencies, and private businesses are matched by no one.

Thank you for your time and consideration.