

# BENEFITS OF WESTERN JUNIPER REMOVAL



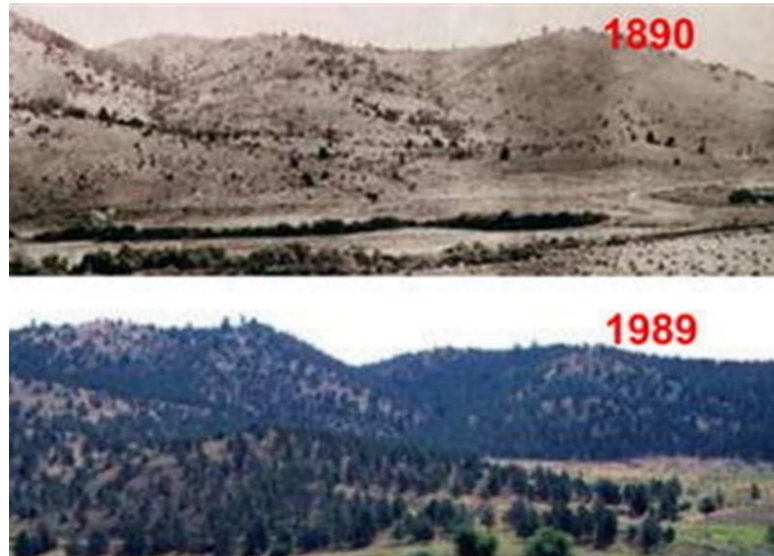
## Background

Since the 1880s, western juniper range has increased tenfold in Oregon, as evidenced in the picture (right) taken of the Keystone Ranch east of Prineville. In the past, juniper was limited primarily to areas that did not support fire on relatively unproductive soils. Reduction in fire has allowed juniper to spread beyond its pre-European settlement extent and it is now considered an invasive weed.

## The Drying of Oregon

Oregon has an estimated nine million acres of juniper lands, with nearly two million of those in Crook County alone. Potential water use of western Juniper within the current juniper area is 500,000-920,000 acre feet per year. This is equivalent to:

- A river flowing year-round at 680 to 1000 cfs per day
- Enough water to supply more than 1.3 to 2.4 million households
- Enough water to irrigate 160,000 to 300,000 acres annually



***“The juniper-dominated lands of central and eastern Oregon are being squandered...and the environmental quality and resilience of its landscape are threatened.”***

-Hugh Barrett, CSR Natural Resources Consulting

## Effects of Juniper Encroachment

- Increased canopy fuels and intense fire
- Reduced ability of soil to capture, store, and safely release water
- Decreased carbon sequestration
- Reduced productive potential, biological diversity, wildlife habitat quality, and forage value
- Increased erosion

## Benefits of Juniper Removal

- Estimated water savings of 100,000 gallons of water per acre per year
- Decreased risk of catastrophic wildfire and damage to watersheds
- Improved stream flows and native fish habitat
- Improved plant and animal health and biodiversity
- Increased carbon sequestration

## ***Camp Creek Paired Watershed Study***

*Two neighboring watersheds with similar characteristics were identified to analyze the effects of juniper removal. One watershed was left as-is and the other was cleared of western juniper <140 years of age. Results indicated that the treated watershed experienced: 1) increased late season spring flow (225%), 2) increased days of recorded ground water (41 days on average), and 3) increased availability of late season soil moisture.*

***Conclusion: removal of juniper and subsequent re-establishment of historical native shrub/grass plant community improved soil and water infiltration, reduced overland flow and soil loss making more water available for groundwater recharge and sustained spring flow.***