Forage and Forbs

Improve Forage and Native Plant Success in a Changing Climate

Ranching is a cornerstone of rural life here in the East Cascades, netting a range of goods from the land beneath our feet. And this is why ranchers and oak conservationists have a **shared interest** in understanding and caring for rangeland beneath and amongst Oregon white oak— range that leaves room for a wide variety of plants and animals, while delivering top-notch **forage for livestock** free of noxious weeds.

Our past informs our future

The definition of rangeland has certainly evolved since it was described as “any land not suitable for other economic purposes” almost a century ago. Generally speaking, lands used for ranching have low precipitation, shallow soils, or rough topography, but provide essential functions for the environment—they not only help grow food, but store carbon, mitigate fire behavior, and support native plants, pollinators and wildlife. Rangelands even absorb, store, and clean water as they provide protein-rich forage for livestock. That’s quite the list of accomplishments for land that’s supposedly “not productive”!

The grass isn’t always greener

Every spring, native perennial bunchgrasses like Idaho fescue, prairie junegrass and bluebunch wheatgrass flower and reproduce. But when these same native grasses are cropped frequently by livestock **before they can flower,** they tend to die back and give annual grasses like cheatgrass, medusahead, ripgut and ventenata the opportunity to flourish.

Annual Grasses vs. Perennial

Degraded oak rangeland (in this case with solid medusahead) has much lower biodiversity, poorer quality forage, and creates a robust fuel bed earlier in the summer.

Native perennial grasses stay greener longer and grow deeper, bulkier roots with each season, storing carbon safely below ground where it can't be consumed by fire.

Repeated spring grazing over time can encourage monocultures of annual grasses to form, displacing the flowering plants, or forbs, that normally sprout up between native grasses. This, in turn, affects the pollinators who are dependent on those flowering plants, right on up through the food chain, including to your livestock who may now be eating **less nutritious forage.** These same invasive grasses also die back sooner in the summer, creating a highly-flammable fuel bed that carries fire faster, earlier in the year.

Compared to these annual grasses, native perennial grasses provide better forage with higher amounts of protein for both livestock and wildlife. They grow deeper, bulkier roots with each season, storing carbon safely below ground where it can't be consumed by fire and carrying water deeper into the soil profile. Native grasses naturally leave more room for other plants to grow between them, and this same inherent patchiness does something else really important: it interrupts fire behavior.

Ranchers and conservationists have a shared interest in maintaining a healthy oak rangeland. So how do we do that?

Questions we're determined to answer:

How can changes to grazing practices help native grasses and flowering plants grow and reproduce?

How can grazing practices support the lifecycles of pollinators and birds?

What grazing regimes can reduce the risk of fire in oak woodlands by promoting perennial versus annual grasses?

How much carbon is stored by native grasses and can ranchers be paid to capture it?

How might increasing temperatures or drought impact forage production and plant lifecycles?

Are there tools we can develop to help rangeland managers adapt, in real time, to erratic weather patterns, wildfire and other stressors?

Foraging for answers

Grazing is an adaptable tool that can provide for your livestock while it preserves soil and plant health and supports wildlife.

Working with **Tip Hudson**, Extension Rangeland and Livestock Specialist for Washington State University, we've compiled four suggestions we'd love to put to work at home in the East Cascades—with your help, of course:

1. Periodically delay grazing until after seed set.

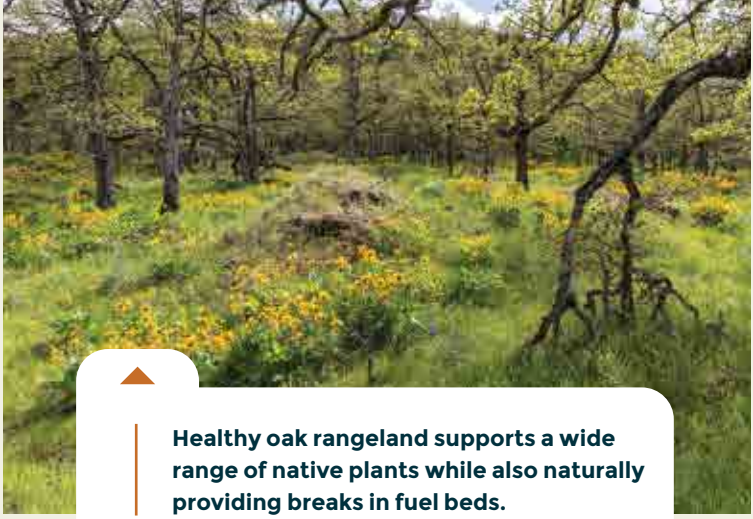
> Native grasses and flowering plants can recover when they're able to rest for a full reproductive cycle, from about March through July. Waiting until summer to put your animals out (at least once every three years) allows plants a chance to store food resources in the base and roots, and to produce seed vital to the recruitment of new native plants.

2. Create different pastures to use at different times in differing years.

> This allows plants that reproduce at different times of the year the opportunity to reproduce. Those green shoots that emerge in the fall? Mostly annual grasses. Let your livestock munch away. Limiting the duration of grazing to one month in a particular area can also help promote healthy range.

3. Consider light to moderate stocking rates (25-35% of net annual forage growth).

> This can feel like leaving money on the table, but it's really putting money in the bank while also protecting soil and increasing soil capacity to capture, store, and release water. This ultimately ensures reproductive success of preferred plants



Healthy oak rangeland supports a wide range of native plants while also naturally providing breaks in fuel beds.

creating long-term sustainability with better forage over the long run.

4. Aim to leave 1/3 of plant height intact after each grazing event.

When livestock don't graze plants all the way to the ground, plants are able to store carbohydrates for spring growth, producing better forage for the next year. Try to leave 1/3 of plant height intact after grazing. These residual stems also help with snow retention, storing water that's essential for growth in the spring and summer.

Want to hear more from Tip Hudson? Have a listen to *The Art of Range* podcast: A series of interviews with some of the brightest minds in rangeland management and livestock production at www.artofrange.com.

A LOCAL STORY

Meet Pat Davis

Pat Davis runs a ranch heavy with Oregon white oaks near Wamic, OR. His land even boasts a claim to fame: the "pioneer road" to the Willamette Valley.

"Our family bought the gate to Barlow Road. My mother was always protective of those ruts... If we had a project—logging or thinning, moving equipment—we weren't to move across them."

Deeply involved in the Wasco County Soil and Water Conservation District, it's clear Pat's commitment to Oregon and the East Cascades runs deep. He admits it wasn't too long ago that getting rid of oak trees was a routine practice, because they were considered to be weedy. But the darn things were tough and the effort didn't really pay off. So Pat's family started exploring how to use their land with the oak trees left intact.

Pat now works with a forester to maintain his woodland oak canopy at around 60 percent to support more forage and provide adequate shade for his cattle. He surmises the biggest challenge for Oregon white oaks is that people don't see their value. "It wasn't so long ago," he adds, "that [oaks] were considered a nuisance."

Oaks in the East Cascades use shorter heights and "shrubby" growth forms to overcome different environmental stressors. They are survivors!

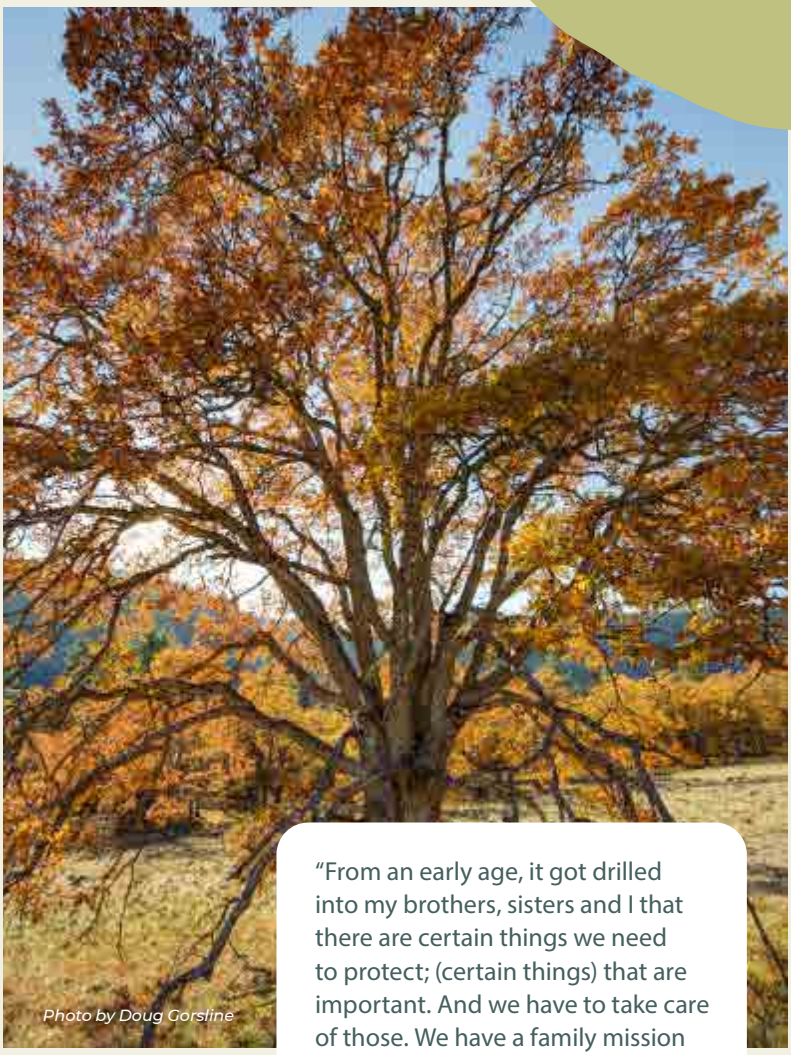


Photo by Doug Gorsline

"From an early age, it got drilled into my brothers, sisters and I that there are certain things we need to protect; (certain things) that are important. And we have to take care of those. We have a family mission with this place."

Pat Davis, Rancher

How you can help

We get that these ideas may be a shift from how you currently operate. There might even be barriers in place that are preventing you from trying them. But, if you're interested in exploring any of these approaches with us, we're interested in helping you do it!

Working lands are at the center of a healthy, whole community; one that provides for the needs of our families and ensures our open spaces and surrounding habitat last well into the future.

We know that ranchers care deeply about their land. And we also realize there are distinct challenges to present day ranching—things like inheritance taxes, large capital costs for equipment and land, the financial appeal of solar, wind, and residential development, lack of local meat-processing infrastructure, regulatory burdens, labor shortages, carnivore management, and climate change. Tools like conservation easements can make sure your land remains accessible for agriculture and habitat in the future, sometimes with strong financial incentives. How else can we help counter these challenges you face?

We'd love to hear more and to work with you on solutions that, together, restore a healthy range beneath Oregon white oaks. Send a message to Oaks@ColumbiaLandTrust.org!

Here are some other ways we can work together:

1. Help ECOP Partners like NRCS, SWCDs, and others **test grazing methods** under local conditions and develop practical, tested guidance we can share with others.
2. **Provide feedback** on what works and what doesn't, from your perspective. Allow our community to understand the problems you face on your range and the tools or resources you would benefit from.
3. **Join ECOP!** Let us know if you're interested in participating in a group that gathers to discuss emerging challenges in oak rangeland; pooling our resources and providing incentive opportunities, too.

We're working on incentive tools to make it worth your while.

Contact your local NRCS, conservation district, or land trust office to learn more about how you can get involved.

EAST CASCADES OAK PARTNERSHIP

Get connected:

www.EastCascadesOakPartnership.org
oaks@columbialandtrust.org
#EastCascadeOaks

Photo by Gabriel Olson