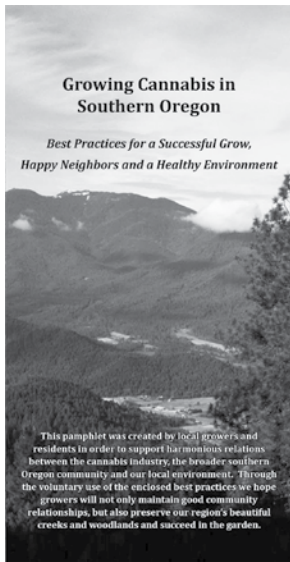


OPINIONS

Best practices for growing cannabis

BY EVELYN ROETHER

To support harmonious relations between the burgeoning cannabis industry, the broader community, and our local environment, a group of local growers and residents recently produced a brochure titled *Growing Cannabis: Best Practices for a Successful Grow, Happy Neighbors and a Healthy Environment*. Originally produced for and sponsored by the Williams community, the brochure has expanded its reach into greater southern Oregon and is available at local businesses and several government agencies.



Here are some suggested best management practices for cannabis growers.

Noise

- Check the noise levels at your property line. If you can hear your equipment, so can your neighbors.
- If you must produce loud noise, mitigate it, e.g., insulate structures, use low decibel fans, etc.

Light

- Make sure no light is leaving your property from sunset to sunrise.
- Hooded lights and blackout tarps are the best practice for lighted greenhouses.

Traffic

- Educate yourself and your employees about school zones, speed limits, and the presence of children and wildlife on the roads.
- If possible, hire local employees and organize carpools to reduce the number of trips associated with your operation.
- If you share an access road with neighbors, talk to them early in your process about ways to reduce the impact of associated traffic and road maintenance.

Visual impacts and setbacks

- Before building a fence, consider whether you need one and allow a reasonable setback from roads and lot lines.
- Try to build with materials that blend in with your environment or plant a hedgerow of fast-growing shrubs and trees instead.
- Follow all legal setbacks from lot lines and keep grow activities a respectful distance from neighbors' homes. Best practice is 100 feet from property lines for structures and 15 feet for fences.
- Incorporate wildlife corridors so that deer and other critters have safe passage.

Fire safety

- Have fire safety rules and a fire plan and make sure everyone you work with is familiar with them.
- Familiarize yourself with our local fire season and regulations.

Water usage

- Research your water rights and respect their limits.
- Consider using rainwater catchment, drip irrigation, and mulch, and make a plan for water conservation.

- Don't take water that is not legally yours to use.

Erosion and pollution

- Leave buffers of native vegetation around all waterways (best practice is 100 feet).
- After conducting activities that expose bare soil, re-seed, mulch, and create sediment traps.
- Pick up trash and limit sources of pollution.
- Provide appropriate bathroom facilities so that human waste is not a source of pollution.

Wildlife. Benefit the

wildlife that share our beautiful valley through organic practices; fertilizer and trash containment; generous setbacks; corridors; water conservation; noise, light and pollution mitigation; erosion control; and traffic safety.

Scale. Consider succeeding with a smaller grow before scaling up. Risks for neighbor conflicts, pest outbreaks, mold, labor shortages, and cost overruns all increase with the size of your grow.

Indoor versus outdoor. Consider growing outdoors. Outdoor grows are less expensive to operate, easier to manage, use less energy, and have fewer impacts on the environment and neighbors. If you do choose the greenhouse approach, consider using renewable energy.

Fertility and pest management. Consider growing your cannabis organically. Organic production is less expensive, better for the grower's health, and increasingly mandated by state testing standards.

Employees. Consider hiring local help and paying living wages. By hiring local, you support the local economy and help alleviate many of the negative impacts of transient laborers.

Links to useful references

- Oregon Sungrown Growers Guild (oregonsungrown.org)
- Oregon Department of Agriculture (water quality, cannabis, pesticide resources)
- oregon.gov/ODA/programs/NaturalResources/AgWQ/Pages/AgWQPlans.aspx
- oregon.gov/ODA/agriculture/Pages/Cannabis.aspx
- oregon.gov/ODA/programs/Pesticides/Pages/CannabisPesticides.aspx
- Oregon Department of Forestry, fire regulations (swofire.com/p/fire-season-regulations.html)
- Oregon Water Resources Department (oregon.gov/OWRD/pages/index.aspx)
- Oregon Water Resources Department, Josephine County Watermaster (541-479-2401)

For more information or to order copies of the brochure, please email your request to goodneighborpractices@gmail.com.

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Serpentine geology makes the Applegate unique

BY SUZIE SAVOIE

The lush, dense forests of our region sometimes give way to sparsely vegetated, rocky, and unique habitats called "serpentine barrens," where the underlying serpentine soil influences vegetation in very obvious ways, making the casual observer ask: "What is going on here?"

Many people are familiar with and have visited the largest area of serpentine in North America, the Josephine Ophiolite, roughly situated between the coast and Grants Pass where one can see California pitcher plants (*Darlingtonia californica*) and hike the unique Kalmiopsis Wilderness. While the Applegate doesn't have Darlingtonias, the biological diversity and unique flora of our watershed are also heavily influenced by the occurrence of serpentine.

If, like me, you are not a geologist, the following explanation sums it up in a tangible way:

"Terrestrial life, perched on the Earth's continental crust, has evolved on soils formed from relatively low-density rocks such as granite that are rich in silica, calcium, potassium, and phosphorous. The chemistry of these soils is usually amenable to plant growth almost by definition. Deeper in the Earth, forming its mantle and most of its oceanic crust, are darker and denser ultramafic (high iron and magnesium) rocks and minerals. Near the surface they may become serpentinized—altered in contact with water. These submarine rocks are seldom seen on land but occasionally become stranded on the edges of continents during the process of subduction (the disappearance of one crustal plate beneath another). The resulting terrestrial islands of ultramafic rock, or serpentine outcrops, are truly 'unearthly' in their appearance. (Serpentine is technically a mineral, but the same word is often used for ultramafic rocks, the soils that form from them, and the unique ecosystems that form on them.) Serpentine soils are deficient in plant-essential nutrients and often also in organic matter... whereas they are enriched in magnesium and sometimes in nickel, chromium, and cobalt. This unusual chemistry gives rise to rocky, sparsely vegetated landscapes that form striking boundaries with the lush vegetation on neighboring soils. In some parts of the world, serpentine has given rise to spectacular levels of plant endemism" (*Serpentine: The Evolution and Ecology of a Model System*, edited by Susan Harrison and Nishanta Rajakarua).

In other words, serpentine comes from deep in the Earth and is very old. Although serpentine occupies less than one percent of the land surface of the earth, it has an ecological importance that far outweighs its extent, making it special where it occurs—like the Applegate! Everyone should also be aware of the possible threats to the survival of its rare plants and ecosystems from ongoing land management activities.

Get out and see some of the unique serpentine habitat in the Applegate River



The red, weathered serpentine rock of the Red Buttes gives rise to unique plant communities. Photo: Luke Ruediger.

Watershed this summer! And don't forget your plant identification manual!

• **Big Red Mountain.** Use Forest Service Road 20 on the Siskiyou Crest to access the Pacific Crest Trail (PCT) at either Siskiyou Gap or Wrangle Gap. Plants to see: split-hair paintbrush (*Castilleja schizotricha*) and Lee's lewisia (*Lewisia leana*). Threats: Off-highway vehicle (OHV) impacts.

• **Observation Peak.** Use Forest Service Road 20 on the Siskiyou Crest to access the PCT at the signed PCT crossings west of Jackson Gap. Plants to see: Henderson's horkelia (*Horkelia hendersonii*) and Whitney's milk vetch (*Astragalus whitneyi*). Threats: OHV impacts and public land grazing.

• **White Mountain.** Head east on the PCT from Cook and Green Pass to access this remote and interesting geologic area in the Condrey Mountain Roadless Area. Plants to see: Siskiyou willow-herb (*Epilobium siskiyouense*) and Lemmon's sword fern (*Polystichum lemmonii*). Threats: Public land grazing impacts.

• **Red Butte.** Head west on the PCT from Cook and Green Pass. Walk below the serpentines of Cook and Green Butte on your way to the iconic Red Buttes themselves. Continue west along the PCT in the Red Buttes Wilderness to see more serpentine at Kangaroo Mountain and Kangaroo Springs. Plants to see: Baker's cypress (*Hesperocyparis bakeri*), Siskiyou fritillary (*Fritillaria glauca*), and Siskiyou hastingsia (*Hastingsia serpentinicola*). Threats: Chromium mining and US Forest Service proposal to reintroduce public land grazing in the Red Buttes Wilderness.

• **Sucker Gap.** Located within the Red Buttes Wilderness along the Boundary Trail. Plants to see: Howell's lousewort (*Pedicularis howellii*) and false turtlehead (*Nothochelone nemorosa*). Threats: None. Thankfully, it's protected wilderness.

• **Bolt Mountain.** Unusual low-elevation serpentine between Wilderville and Murphy. Park at Fish Hatchery Park and hike the Bolt Mountain Trail. Plants to see: Hall's violet (*Viola hallii*), Indian dream fern (*Aspidotis densa*), and large flowered star tulip (*Calochortus uniflorus*). Threats: None currently.

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