

Sonoma County's Cedars a rare geologic wonder

CONSERVATION But no public access yet to Sonoma County gem

Peter Fimrite, Chronicle Staff Writer

Jan. 16, 2012 Updated: Jan. 15, 2012 9:57 p.m.

At an old mining camp in the mountains above Cazadero in Sonoma County is a Mars-like panorama of steep crumbling red slopes, bizarre, mineralized formations and green serpentine rock.

The 11-square-mile area, called the Cedars, is a mysterious land of one-of-a-kind geological phenomena next to the Austin Creek State Recreation Area and Armstrong Redwoods State Reserve that almost nobody in the Bay Area knows anything about.

That's because it's almost impossible to get there - yet it is a land rich with possible answers to many scientific questions, and it could be a source of information for climate scientists searching for a way to fight global warming.

Recently, a Chronicle reporter and photographer rode in a caravan of four-wheel-drive vehicles that crossed Austin Creek seven times as it wound its way over thickly forested hills and past dilapidated homesteads to reach what conservationists agree is a remarkable landscape that must be preserved.

A conservation easement was purchased on some of the land, and the U.S. Bureau of Land Management now owns 2,000 acres in the center, but the vast majority of this important geologic region is private property, subject to the whims of the owners.

Privately owned lands

Seventy-seven percent of the rugged hills and woodlands are owned by ranchers, outdoorsmen and homesteaders, whose parcels range in size from 40 to 700 acres. The core area, where the mineral deposits and odd calcium carbonate formations can be seen, is 8 miles as the crow flies from the nearest parking area and accessible only via a winding dirt road that is often impassable.

"There is no legal access, which means we have to work collaboratively with the owners and partners to develop a plan for the area," said Roger Raiche, a botanist and landscape architect who, with his partner, David McCrory, just completed the sale of 500 acres in the main canyon that the BLM will control.

"Easements are limited to docent-led tours or scientific study," said Raiche, who is actively working with several nonprofit land-preservation groups to protect the rest of the 35,000 acres that conservationists have named the Cedars Conservation Region.

The tour of the canyon illustrated why so many are so eager to preserve the land. The rocky, mineral-rich oasis is essentially a giant block of the igneous rock known as peridotite that was squeezed up through the Earth's crust over the past 200 million years. The giant upwelling relieved intense pressure inside the Earth and allowed the exposed rock to expand.

The steep, crumbling cliffs are the result of that expansion. They are also, geologists say, one of the best examples in the world of a rare metamorphic transformation - the peridotite from the Earth's mantle is changing before our eyes into the signature green rock known as serpentine.

"I see this as a kind of Shangri-la, a hidden treasure," said Ralph Benson, executive director of the Sonoma Land Trust.

The ongoing metamorphic process has caused a chain reaction of geologic wonders. Spring water filled with white calcium carbonate bubbles through fissures in the rock, creating large crystalline formations that line pools and form undulating patterns along Austin Creek, including a spectacular 5,000-year-old snow-like sheet that flows over a waterfall.

The deposits are an example of carbon sequestration in nature, experts say, a potential source of information for scientists fighting global warming.

"Here is nature (sequestering carbon) for us," said McCrory, who co-owns a landscape design business with Raiche. "Geology and geo-chemistry experts are really interested in these springs."

Unique plant species

NASA scientists are particularly intrigued, McCrory said, because the highly alkaline springs harbor uniquely specialized microbes that may offer clues to how life could form on otherwise inhospitable planets.

The weathered hills, which are high in magnesium, iron, and chromium, are also home to five species of orchid and at least eight plant species that don't exist anywhere else, including the Cedars manzanita.

Although remote, the Cedars region was known to early homesteaders who first moved into the area in the 1880s. The central portion, known then as Red Slide, was considered uninhabitable and was, for the most part, ignored until World War I, when a chromium mine was established.

The area was officially named the Cedars sometime in the 1940s, a name that some locals had used for decades on the mistaken belief that the abundant cypress trees were cedar, Raiche said. The mines were abandoned after World War II ended and America no longer needed domestic chromium.

Raiche said he first visited the property in 1981. He and McCrory bought the 500 acres in 1999 and have sought to preserve the area's unique features ever since.

The Sonoma Land Trust joined the effort to preserve the area six years ago. The trust purchased 45 acres in 2007 and, in December, used \$160,000 from the Resources Legacy Fund to pay for a conservation easement prohibiting development on 160 acres of privately owned property in the area.

Guided tours

Save the Redwoods League brokered the \$600,000 purchase of the Raiche-McCrory land this past fall and transferred title to BLM, which already owns 1,500 acres in what conservationists call "the core serpentine zone."

The bulk of the money for the purchase came from *the Gordon and Betty Moore Foundation* and the *California State Coastal Conservancy*. Raiche and McCrory still own 20 acres where the mines used to be.

The land trust is working with the owners and other partners to set up guided tours of the property, but unlimited public access may never be possible.

"We need some time to balance research with public access and come up with the institutional arrangement for it," Benson said. "The role of the land trust is to preserve the larger Cedars region in cooperation with the landowners and

protect the ecology of the region for a long time. The value of this is in the flora and fauna here, the mineral springs and the biology, which is delicate."

Images-



Local environmental and governmental visitors walk past the headwaters of Austin Creek. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach. Brant Ward/The Chronicle



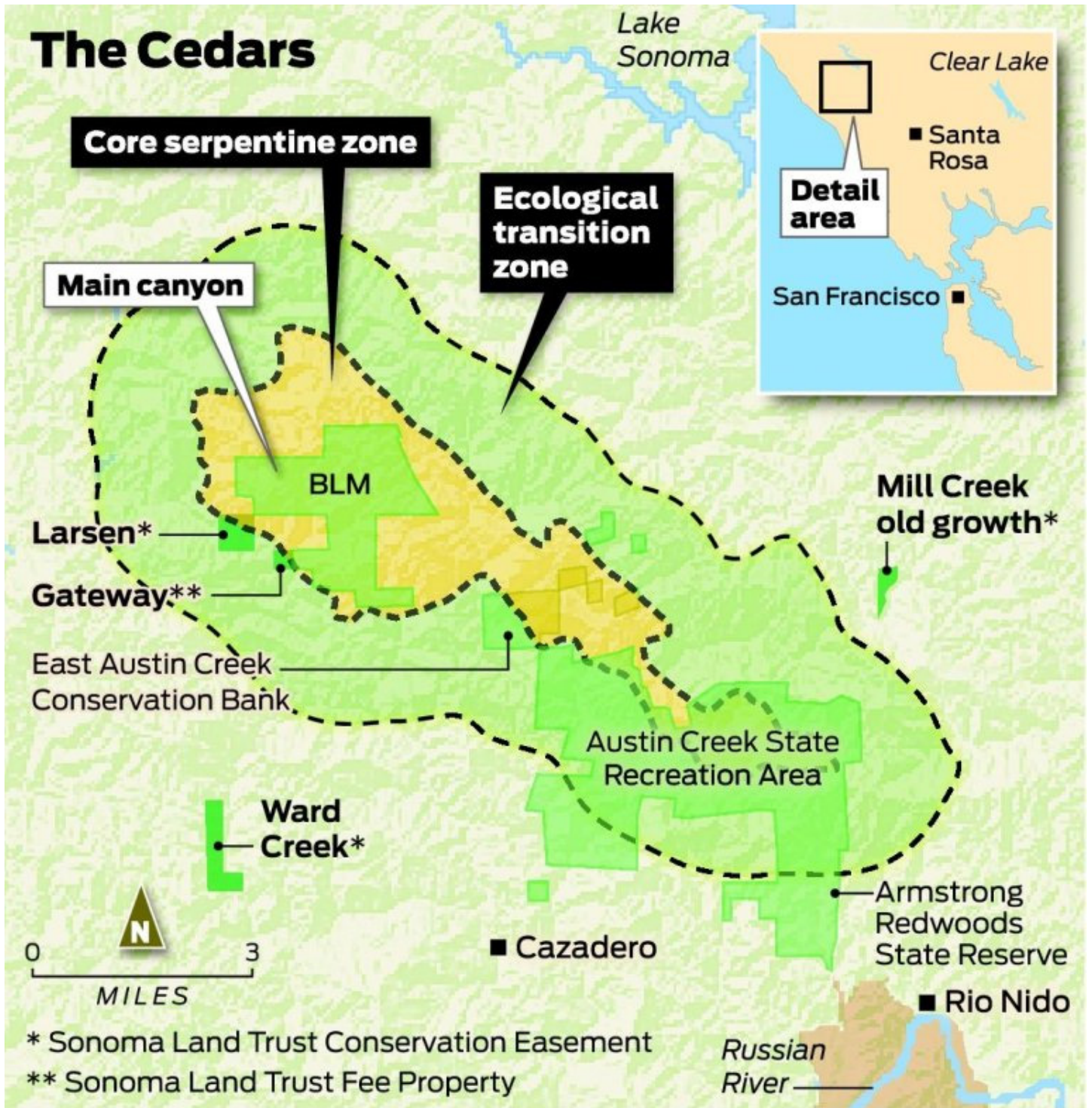
2. Calcium carbonate accumulates as water oozes from nearby rock formations. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



3. Noted botanist and property owner Roger Raiche explains the topography of The Cedars. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



4. A waterfall in The Cedars has concentrations of calcium carbonate on its' face. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



5. map no caption



6. The Cedars Conservation plan should protect the area and provide limited public access. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



7. Roger Raiche (left) and David McCrory plan to form a "Friends of The Cedars" group. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



8. A blooming Cedars Manzanita in The Cedars valley. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



9. Property owners and conservationists Roger Raiche and David McCrory brought some sculpture to The Cedars. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



10. Calcium carbonate accumulates near a creek as the water passes through the nearby rock formations. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



11. The headwaters of Austin Creek bring water into The Cedars. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



12. The rocky passes in The Cedars are covered by stone which breaks easily. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



13. Serpentine soils are responsible for unique botanical growth and the reddish color of the hills in The Cedars. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



14. David McCrory (left) and Roger Raiche hike across a mountain summit in The Cedars. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.



15. Members of local environmental groups and government agencies hike in a steep and rocky trail in The Cedars area. The Cedars, a unique 11 square mile land mass in rural Sonoma County, has serpentine soils and unique geologic characteristics. A recent acquisition will create an ecological preserve to provide scientific research and educational outreach.

Images by Brant Ward/The Chronicle

This article first appeared on SFGate.com <https://www.sfgate.com/science/article/Sonoma-County-s-Cedars-a-rare-geologic-wonder-2559079.php#taboola-8>