## Red Hills Abloom in Gold by Pat Gogas

As the old mining cry said, "Thar's gold in them that hills," but this time it's not for your pocket, it's for your camera.

The Golden State is putting on a display of wildflowers at the Red Hills Recreation Area, off Highway 49 past Chinese Camp. It's a short drive and easy walking area. With the latest rains, the hills and streams are a gorgeous profusion of golden California poppies, yellow monkeyflowers and buttercups with carpets of goldfields. You can see why the poppy was chosen as the State flower—a tribute to the Golden State.

The golden colors are accented by white and purple lupine and brodiaea, with a splash of the bright red-orange of Indian paint brush. Popcorn flowers, five spots, birdseye gilia and the Rawhide Hill onion are others you will find. This 'onion' is found only in serpentine soil in Tuolumne County and named after the Rawhide Hill area.

The Red Hills is an Area of Critical Environmental Concern (ACEC) managed by the Bureau of Land Management (BLM) because of the unusual soil. The type of soil in an area is influenced by the type of rocks found there. Serpentine rock, California's State Rock, is the predominant rock type in the Red Hills. The Red Hills gets its name from the high iron and heavy metals found in serpentine. The iron and metals oxidize to a red or yellow color making it "rusty soil." Red Hills is low in almost all of the necessary nutrients plants need to survive. The high amounts of heavy metals would be toxic to normal plants. This makes the display doubly impressive as so many flowers actually grow and bloom so profusely. The plants have adapted to the poor soil conditions over thousands of years. Some are found no where else in the world.

Just as the parent rock in the Red Hills influences the soil there, the soil in your yard is influenced by the material around it. Our area has many different types of soil that will affect the plants you try to grow. It is good to find out if you need a certain type of nutrient to help your garden grow. Test your soil. Soil testing kits are available at your local garden center. These kits will help you determine if you need to supplement your soil with a particular nutrient. We've all tried to plant things in the garden that just don't make it. It may be that the nutrients the plant needs are lacking in that particular spot. Know that, unless you live near Chinese Camp, you won't have soil as bad at that found at the Red Hills but our area can have clay, sandy, chalky soils and any combination thereof. If you put the plant in poor soil its chances of survival are pretty low.

The Red Hills Recreation Area flowers do not last long. Once it gets warm the hills dry up and the flowers disappear. Some years the display is OK but this year it is great. Get your camera and go now before they disappear for the season.

Pat Gogas is a 2009 graduate of the University of California Master Gardener training program.