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By Melissa Flores

Threatened butterfly habitat preserved in Santa Clara County

In a spot hidden from the public in Santa Clara County, wildflowers cover the hills, dotting the terrain with bright orange, purples and yellows - California poppies, Mount Hamilton thistles and tidy tips.

The plants and others in the region make up a nectar concoction that is irresistible to the Bay checkerspot butterfly, an insect listed as threatened by the federal government.

The pristine preserve known as Coyote Ridge is not so far off the beaten path from the urban jungle that is taking over Santa Clara Valley. But a new Habitat Conservation Plan is in the works to protect lands in the valley such as those found in Coyote Ridge and to open up the spaces to public access.

"We have a wealth of expertise, political will and a citizenry that cares about the environment," said Stuart Weiss, an ecologist working on the Habitat Conservation Plan. "We can protect the environment and development if we find a way to mitigate the two."

In addition to the Bay checkerspot butterfly, Coyote Ridge is home to the California red-legged frog and the San Joaquin kit fox. The animals are listed as federally threatened and federally endangered, respectively. The region houses more than 430 plant species and is home to 10 animals listed as California Department of Fish and Game "special animals." They include such critters as burrowing owls, California tiger salamanders and golden eagles, among others.

Coyote Ridge stretches for 700 acres along the hilltops near Highway 101 between Morgan Hill and South San Jose. The Valley Transportation Authority, Waste Management, the Silicon Valley Land Conservancy and the County of Santa Clara own parts of the land, along with private owners. In order to put together the Habitat Conservation Plan over the next three years, local government groups and agencies such as the Santa Clara Valley Open Space Authority will work closely with federal and state agencies such as the California Department of Fish and Game and the U.S. Fish and Wildlife Service. They are charged with deciding the best way to preserve local wildlife while the county continues to develop.

Coyote Ridge is one of the few habitats left for the Bay checkerspot butterfly. Many of the spots around the San Francisco Bay Area historically inhabited by the winged creature have been taken over by development. The hills are home to a unique soil that serves as the backbone of the Checkerspot's ecosystem. Serpentine soil lies under 12,000 acres around the Santa Clara Valley and is rarely found outside the stretch of California from San Luis

Obispo up to the Oregon border.

"Serpentine rock is the state rock," Weiss said. "It has a strange chemical composition that is found near active tectonic plates."

The Bay checkerspot butterfly, on the federal threatened species list, feeds on nectar of a tidy-tip flower (yellow with white tips) last Thursday on Coyote Ridge.
Photo by: Martin Jimenez

Overlooking Coyote Valley, with U.S. 101 and the quarry ponds in the valley below, naturalists point to other serpentine soil areas targeted for conservation efforts in South Santa Clara County.
Photo by: Martin Jimenez

The rocky soil gets a low nutrient rating, but it is the perfect setting for native plants such as purple needle grass and California poppies.

"It is a refuge for native California flora and fauna," Weiss said.

The serpentine grasslands of Santa Clara Valley are not only at risk from continued urban development in the region, but also from some unusual culprits.

Non-native grasses that creep into the area can quickly take over the fields of wild flowers in two to three years if left unchecked. Along one low fence dividing the preserve from land along a street, Italian rye grass grows knee-high.

"Ammonia and nitric oxide is transported downwind," Weiss said. "15 to 20 pounds are absorbed per acre per year from the atmosphere…it's like giving it fertilizer."

The non-native grasses, such as Italian rye, thrive in the area due to the accidental source of fertilizer.

Weiss takes passive samples around the preserve, testing the level of nitrogen in the soil.

In the past, government agencies working to protect the region thought cattle's grazing was detrimental to the native flowers and the ecological system around the range. But a new understanding of the ecological system found that cattle grazing are essential to keeping the balance along the hills as nitrogen helps the non-native plants flourish.

"If it doesn't get grazed, [the grasses] overgrow. Cattle are absolutely essential," Weiss said. "It can take two to three years for the loss of habitat, but unfortunately, the response time with government agencies can take five to six years."

The unique make up of Coyote Ridge came to light in the 1990s when Waste Management decided to locate a landfill for San Jose nearby in Kirby Canyon. Waste Management set aside 250 acres as a butterfly reserve and created a management endowment to cover the cost of maintaining the preserve.

"They turned it into a model - land set aside and a management endowment," Weiss said. "It's not very often that a Fortune 500 company lobbies for an [endangered] species."

The Bay checkerspot butterfly relies heavily on the native plants during its life cycle. After mating in mid-April, the females lay their eggs on owl's clover and the larvae hatch two weeks later. They feast on the nearby plants. If the plants dry out too early in the season, few caterpillars will survive the winter months into the next spring when they become butterflies.

"The timing thing is why populations fluctuate wildly," Weiss said. "We've had highs of 800,000 to 900,000 and a low of 25,000."

The topography of the Coyote Ridge, with its north and south slopes, does help the butterflies. When the flowers dry up sooner on one side, the butterflies move to the other side and rotate through the region in search of food.

"We are working with the ecosystem because we know so much about it," Weiss said. "We are starting from a real strong knowledge base here. It makes decision making and planning a lot easier."

With the first phase of the project halfway through, the group will continue to collect data on the existing species and activities in the study area, which makes up two-thirds of the County land. Much of the land is in the Gilroy and Morgan Hill area, cities that are less developed than other parts of the County. The next phases of the project will include the development of a conservation strategy, public review and an environmental review process, and approval and permitting of the Habitat Conservation Plan.