

"All this land was basically tossed away as wasteland; no benefit to the public. Here we are—60, 70 years later—we've got this whole ecosystem in the works."

### **Causes and effects**

Western monarchs, butterflies that migrate in the fall from the Rockies to the California coast, previously were prevalent, numbering around 4.5 million in the 1980s. But the most recent annual Western Monarch Thanksgiving Count—covering the 2020-2021 overwintering season— found less than 2,000 had come to spend the cold months, continuing a trend tracked by Xerxes Society researchers.

River Partners and the Xerces Society connect the population decline to losses of habitat. While pesticides have decimated honeybees, herbicides have hit monarchs.

Roughly 1,500 native milkweeds have been been planted in Oroville as part of a monarch habitat restoration project made possible by a California Wildlife Conservation Board grant. PHOTO BY EVAN TUCHINSKY

#### Oroville Wildlife Area Manager A.J. Dill. Photo by Evan tuchinsky

Milkweed, which often grew among crops, has declined across breeding grounds as farmers adopted plants genetically modified to withstand weedkiller, predominantly Roundup.

A Sacramento judge ruled in November that insects are not covered under the California Endangered Species Act, and the U.S. Fish and Wildlife Service determined in December that protecting monarchs under the federal Endangered Species Act "is warranted but precluded."

All these factors cue the habitat project. "Restoration is a process," Laws said. "We're not just going to flip a switch and now it's perfect habitat. We're in the process of improving this area, and over time we'll see more and more pollinators come out.

"We've seen a couple different species of native bees today, some native flies that are really important pollinators. So there's diversity out here, and as this planting becomes more established, as there's more flowering, I think we're going to see more pollinators."

Added Dill: "Part of it is the activity level [at the project areas]. There's a lot of activity right now. Once the plants take off on their own, it's going to be different."

Cultivation at the Oroville site began last June. Laws said the dry winter and heat of spring and summer impacted milkweeds' blooming. Planting at Upper Butte Basin will start this fall.

Laws and her fellow researchers will regularly survey the sites to look for signs of monarchs, from caterpillars to full butterfly clusters.

In any case, she continued, "for a lot of these sites, they're going to be a lot better than the control [i.e., unrestored areas], which would have been just invasive grasses that provide no floral resources for monarchs or other pollinators. So, it's an improvement, for sure "



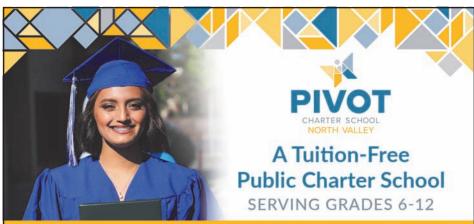
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