

ENVIRONMENT

Western monarch butterfly count continues to go down



PHOTOS BY SHMUEL THALER — SANTA CRUZ SENTINEL

A monarch butterfly alights on a eucalyptus blossom in Lighthouse Field in Santa Cruz on Wednesday as other butterflies fly past.

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PORTLAND » The western monarch butterfly population is the lowest it has been in five years.

That is according to estimates from last year's Western Monarch Thanksgiving Count, an annual monarch census facilitated by the Xerces Society for Invertebrate Conservation. Over 150 citizen scientists participated in the 2017 count, and were able to cover more sites than ever before.

"I think people in California, and throughout the U.S., have understood that monarchs are in trouble and really want to help," said Sarina Jepsen, the Xerces Society endangered species program director. "Unfortunately, despite this massive search effort we've had, we're not counting any more butterflies."

Volunteers reported seeing just over 192,000 monarchs



Monarchs fill the branches of a eucalyptus tree in Lighthouse Field.

across 262 sites in the western states. To put that number in perspective, back in 2013, the count totaled 211,000 butterflies — but about 100 fewer sites were surveyed. This indi-

cates the western monarch population continues to shrink even as conservationists strive to restore their habitat, said Jepsen. "In the western U.S., there are efforts throughout the land-

scape to restore breeding habitat by planting milkweed and nectar plants for monarchs," she said. Particular attention has been paid to overwintering sites along the California coast, where monarchs live between November and March. Over the last few decades, monarchs have disappeared from about 60 California overwintering sites.

Housing developments now stand where the coastline once teemed with butterflies. "Along the California coast, these areas where these monarchs choose to spend winter are the same places that people really like to live," explained Jepsen. Though habitat loss is a huge factor in the western monarch's decline, researchers aren't sure it's their biggest threat.

Eastern monarchs have also dwindled in recent decades. Their decline was driven by changes in agriculture, namely the introduction of GMO corn

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that spewed gases and particles into the air and water too. A study in Wednesday's journal Science Advances figures sometime after the asteroid crash, unusual and extra strong eruptions happened on the floor of the oceans, probably in what are now the Pacific and Indian oceans. The study authors calcu-

Spray

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chemical and physical restraints are dehumanizing. "The shackles, the pepper spray, really are there for punishment. It's more pressure for the youth to just explode," said Holsa, 27, who said he was pepper-sprayed at least three times, sometimes inadvertently, while serving time in Sacramento and Yolo county lockups.

"It causes a person, an individual, to start thinking they're animals, they're beasts; they're monsters," he said.

Jim Salio, president of Chief Probation Officers of California, said pepper spray is most often used to prevent fighting. His organization is seeking alternative legislation that would call for studying best practices for using pepper spray.

"Having pepper spray not available, not available on the individual officers,

would make it difficult to deter a violent attack, a violent attack that's taking place right in front of you," said Salio, who is San Luis Obispo County's chief probation officer.

Critics say pepper spray is particularly harmful to those with respiratory problems and repeated exposure can cause illness.

Thirty-five states no longer allow pepper spray in juvenile detention halls, while only California, Illinois, Indiana, Minnesota, South Carolina and Texas allow employees to routinely carry canisters, according to the advocates and state officials. The remaining states allow its use in some capacity, but employees do not routinely carry it.

The issue has been hotly debated nationwide in recent months.

South Carolina began allowing police to carry pepper spray in its main youth prison after a 2016 riot.

But Rhode Island officials rejected union officials' request to let detention cen-

ter employees carry pepper spray in July. Oklahoma is phasing out its use, while Wisconsin juvenile prisons are under federal court order to reduce disciplinary methods including pepper spray and shackles.

Reform groups filed a federal complaint in 2014 alleging that pepper spray was used so frequently in San Diego County juvenile facilities that employees seemed to view it "as an all-purpose behavioral management tool."

Nothing came of the complaint, but its use was declining in San Diego County lockups a year later, said Youth Law Center staff attorney Virginia Corrigan, who is among those seeking statewide limits.

Aside from county facilities, pepper spray also is allowed in the California Division of Juvenile Justice, which houses offenders up to age 25 who generally have committed the most serious or violent felonies.

The division says it has cut its use by more than half since 2010.

U.S. Magistrate Judge Jill Burkhardt did not provide details during a brief hearing, but Rabobank said last month that the subsidiary would likely acknowledge that employees hid information from regulators nearly five years ago. It marks one of the largest U.S. settlements involv-

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and soy products and the increased use of certain herbicides, said Jepson.

"The story in the western U.S., with our smaller coastal California population, is less clear," she said.

The western monarch faces many threats as it flutters through California. Changes in the use of agricultural land and herbicides have paralleled shifts in the East, to an extent.

The quality of monarch habitat pales in comparison to past conditions as milkweed, flowering plants and trees for clustering become more scarce. Climate change, severe droughts and intense winter storms have left their mark on overwintering sites. Disease, wildfires, smoke and mudslides may have a part to play, but it's not well understood, Jepson said.

At a few sites in Santa Cruz County, including Natural Bridges State Park and Moran Lake, the number of monarchs was

ing comment. Last month, former bank subsidiary compliance officer George M. Martin agreed to cooperate with authorities in a deal that delays his prosecution for two years.

Martin, a vice president and anti-money laundering investigations manager,

maintained or improved. At Lighthouse Field State Park, where clustering trees are currently being restored, the butterfly count was also stable. Pismo Beach remains an important overwintering site, though the 12,000 monarchs spotted last year signal quite a drop from the 100,000 counted back in 1997.

At Pacific Grove's Monarch Sanctuary there were 17,100 counted in 2016. That dropped to 7,350 in 2017.

Monarchs are classified as a "Species of Greatest Conservation Need" by the state, but they and their overwintering habitat enjoy little legislative protection. After assessing the current ordinances in place to protect the butterflies, the Xerces Society "concluded there was essentially no protection," said Jepson. The few city- and county-specific regulations that do exist are limited in scope, only protecting monarch habitat when the insects are actually present.

As many monarch

ican customer who made more than \$10 million in suspicious transactions. They say a bank in Calexico on the Mexico border wanted more business. Authorities seized the account in 2011 on suspicion it was being used to move millions of dollars in drug proceeds.

hotspots are public areas, the habitat is often degraded by ordinary maintenance and use of the space.

U.S. Fish and Wildlife Service are currently assessing whether monarchs should be added to the endangered species list. They are bound to announce their decision by June 2019.

People who have lived in California for many decades are noticing the gradual disappearance of their favorite iconic insect, said Jepson. As recently as the 1980s, western monarchs numbered in the millions. Jepson first saw them in the 1996 at Natural Bridges State Beach in Santa Cruz, when numbers were still over 1.2 million. The Thanksgiving Count was founded a year later.

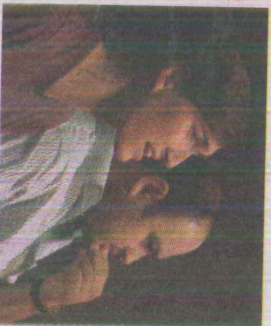
"It's interesting when we see a population of animals go from being so numerous to so few," she said. "I think that many people recognize that this butterfly should be able to exist with humans in the landscape - They really enrich our lives."

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