

New research from OSU's native bee project could benefit farmers

By SIERRA DAWN McCLAIN
Capital Press

CORVALLIS, Ore. — New research on native bees could help Oregon farmers, support pollinators and boost public knowledge about wild bees.

Oregon State University researchers this February released the results of a 2019 statewide native bee survey, a project within the volunteer-run Oregon Bee Atlas, an initiative founded in 2018 that tracks wild bee species and their plant hosts across the state.

Andony Melathopoulos, OSU Extension's pollinator health specialist and assistant professor, said this "powerful biodiversity dataset" not only tracks wild bee species but analyzes their interactions with flowering plants — documenting which flowers certain bees prefer, for example.

Melathopoulos said this kind of information could help farmers more strategically support local bee populations, which is not only good for bees but may give growers the ability to boost crop yields and market their products as high-biodiversity.

Lincoln "Linc" Best, lead taxonomist for the Oregon Bee Atlas, agreed.

"I think this will really empower the farm sector, the forestry sector," said Best.

The data was collected by volunteers via the Oregon Bee Atlas. Some of the volunteers are now "Master Melittologists" — a melittologist studies bees — in a program modeled after OSU's Master Gardener program.

In the program, OSU researchers train volunteers to locate, identify and preserve bees from the more than 620 species of native bees in Oregon.

For this dataset, in 2019, volunteers submitted 25,022 bee specimens from all Oregon counties. This represented 224 unique bee species and 45 bee genera. Volunteers also collected samples from 352 unique flowering genera, resulting in the largest contemporary state-level database tracking interactions between



Lynn Ketchum/OSU

Andony Melathopoulos



Oregon State University

The Oregon lava hole bee (*Atoposmia oregona*) had not been seen in Oregon since 1969. Until recently, it had only been seen on four occasions in Oregon. It was rediscovered by Master Melittologist Ellen Watrous on the same lava fields in McKenzie Pass where it was first discovered in 1927.

bees and plant hosts.

The volunteers also made two big discoveries.

Master Melittologist Judi Maxwell of Grants Pass found a rare Small Stonecrop Mason Bee for the first time in Oregon.

Another rare bee called the Lava Hole Bee was found by Master Melittologist Ellen Watrous of Corvallis — the first documented

in Oregon since 1969.

Many of the 25,022 bee specimens were found on or near farms, which Melathopoulos said is evidence that Oregon's diverse crop mix supports bee populations.

"Agriculture is often implicated with bee declines," he said. "That's sometimes true, but we're not the Midwest. Here in Oregon, farmers are doing a good job overall, and specialty crops are actually contributing to many diverse types of bees."

Using the new research, farmers can further step up their efforts to support bees.

Farmers will soon be able to track which wild bee species have been found in their area and the types of plants those bees prefer. From there, Melathopoulos said, growers can see which bee-friendly plants or trees they already have and what they can add to "complete the suite."

Melathopoulos and Best said they are working with several Oregon farms, including Willamette Valley Vineyards, in trials this year to explore which plants can support wild bees.

Best and his team are currently developing an interactive online Oregon Bee Atlas with a map and simple user interface so that farmers can search for particular bee species or plants.

"We're working hard to publish that in the next few months," said Best.

Citing drought, feds to deliver zero water to Central Valley farmers

By SIERRA DAWN McCLAIN
Capital Press

SACRAMENTO — With California entering its third year of severe drought, the U.S. Bureau of Reclamation announced a zero-water allocation for irrigation districts via the Central Valley Project, a 400-mile-long web of dams, canals and other water facilities.

The decision will impact farmers in 29 counties across the state's major agricultural region, likely prompting growers to plant different crops, fallow acres or tear out vineyards and orchards.

"It's very concerning. Farmers are disappointed, frustrated, angry," said Tricia Stever Blattler, executive director of the Tulare County Farm Bureau.

This year's outlook is even more grim than the last.

In 2021, farmers started with a 5% allocation from the federal government and ended at 0% as the drought intensified.

In a report prepared for the state Department of Food and Agriculture, the University of California-Merced found that last year's drought was responsible for an estimated loss of 8,745 farm-related jobs, \$1.2 billion in direct costs and 395,100 acres of cropland left dry and unplanted — an area larger than Los Angeles.

According to Reclamation, this year's allocation was based on current reservoir storage, rainfall and snowpack levels. The agency can change the allocation later this year if conditions change.

"Basically, our region has been bone-dry since the beginning of the year. We got off to a great start with rain in October and snow storms in December, and then it just flattened," said Ernest Conant, Reclamation's regional director.

Farmers with a 0% surface water allocation are grasping for alternatives. But other options will be limited due in part to local agencies taking action under

SGMA, the Sustainable Groundwater Management Act.

Passed in 2014, SGMA regulates how California groundwater is managed.

During 2021's drought, many farmers pumped more groundwater. But this year, some groundwater sustainability agencies — local agencies tasked with implementing SGMA — are planning to cap the amount of groundwater farmers can pump.

"There are not many options left," said Blattler in Tulare. "Purchasing water is one of the only options available."

Buying water on the spot market can be difficult, partly because prices are volatile. According to WestWater Research, a market research firm, in March 2020, water was trading hands for about \$200 per acre-foot. In June 2021, it hit \$1,000 per acre-foot.

Farmers will face difficult decisions, said Blattler, including "when to pull the plug" on a crop.

In contrast to irrigation districts, other contractors will have larger allocations. Drinking and industrial uses, for example, are allocated 25% of their historical use, and California state law requires some water to remain in the system in regions with endangered fish species.

Reclamation can't circumvent the state; the federal agency must comply with California law to protect fish habitat, even if that means delivering no water to farmers.

Environmental nonprofits, including Save California Salmon and The Nature Conservancy, say mandated flows are crucial to protect fish and to keep saltwater from creeping into freshwater rivers, making them unfit for human use.

But many farmers say they are unhappy with how the state manages water.

Jamie Johansson, president of the California Farm Bureau Federation, said in a statement that the zero-water allocation "demonstrates the overdue need for new water storage."

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