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Courtesy of Almond Board of California

A San Joaquin Valley almond orchard is flooded to recharge the aquifer underneath. The Almond Board of California has been recruiting growers to participate in field trials this winter to see if almond orchards can be flooded to replenish groundwater supplies without losing yield.

Almond grower says flooding orchards replenishes groundwater

By **TIM HEARDEN**
Capital Press



Cameron

One of the pioneers in field trials to replenish aquifers by flooding farmland in California's San Joaquin Valley says the practice could be a crucial step in maintaining the region's groundwater supplies.

Helm, Calif., farmer Don Cameron, who grows almonds, walnuts, pistachios, carrots and other crops on about 7,000 acres of sandy ground, received a federal conservation grant and started flooding his fields during the wet winter of 2011, he said.

Cameron applied the water to his pistachio, wine grape and alfalfa fields as well as some open ground before it went into tomatoes, and he saw no decreases in yields from the crops the following season, he said.

The only reason Cameron didn't flood his almond orchards was that he had no way to move large amounts of water to those fields. But he's certain that growers can flood almond orchards during the winter as long as they have porous soils and are careful with their timing.

"You don't want to have your orchard under water when a 40-mile-an-hour windstorm comes through or you'll see trees fall over," said Cameron, whose Terranova Ranch is about 30 miles southwest of Fresno. "I think we can do it. I think we have to be smart about how we do it."

Cameron's comments come as the Almond Board of California and the environmental group Sustainable Conservation have teamed to fund new orchard-flooding research on test plots in Merced, Stanislaus and Fresno counties. University of California-Davis researchers will determine whether groundwater recharge can take place without negatively impacting orchard health and crop yields.

In addition, the almond board is recruiting growers to take part in ongoing trials, as Sustainable Conservation will compile information from growers who are capturing ex-

cess floodwater and are using it for managed groundwater recharge, according to a news release.

The projects follow similar research by the California Water Foundation, which said this fall that flooding the most porous soils could curb groundwater overdraft on the San Joaquin Valley's east side by between 12 and 20 percent each year.

Separately, researchers Anthony O'Geen and Helen Dahlke of the UC's Division of Agriculture and Natural Resources have proposed using some of the state's 3.6 million acres of farms and ranches with suitable topography and soil conditions to recharge aquifers during the winter.

State water experts blame an overdraft of groundwater for causing land in the San Joaquin Valley to sink at historic rates. A recent National Aeronautics and Space Administration study showed land in the valley is sinking by nearly 2 inches per month in some places.

"One of the things the drought over the last three years has taught us in the Central Valley is that we need to diversify our water supply," said Gabriele Ludwig, the Almond Board of California's director of sustainability and environmental affairs. "Now we pretty much rely on surface water from rain and snowmelt captured by dams ... or we're relying on groundwater."

Groundwater recharge could be one of many solutions to water shortages that growers rely on in the future, along with treated wastewater and small-scale desalination, Ludwig said.

For Cameron, the 2010 grant from the USDA's Natural Resources Conservation Service enables him to take excess water from the north fork of the Kings River during wet winters and use it for groundwater recharge while saving several downstream farms and communities from flooding.

Modoc sucker removed from endangered species list

By **TIM HEARDEN**
Capital Press

YREKA, Calif. — A class of sucker fish that spawns in the streams of far Northern California and Southern Oregon has been taken off the federal list of protected species.

The U.S. Fish and Wildlife Service has determined that the Modoc sucker, which is native to the Upper Pit River watershed east of here, no longer needs protections under the Endangered Species Act.

Listed as endangered in 1985 because of habitat loss because of overgrazing and channelization caused by certain agricultural practices, the sucker now has a known distribution along 42.5 miles of habitat in 12 streams within three river sub-basins, the agency said.

"When we are able to bring a species back from the brink of extinction, it is a milestone



Courtesy of U.S. Fish and Wildlife Service

A Modoc sucker found in a small pool in Dutch Flat Creek, a tributary of Ash Creek, Calif., is shown. The U.S. Fish and Wildlife Service has removed the tiny suckers from the federal list of protected species.

worthy of our national attention," Fish and Wildlife Service director Dan Ashe said in a statement. "We share this victory with a range of public and private conservation partners who came together to make delisting this species

possible, providing another superb example of the kind of collaborative conservation that the ESA fosters as well."

The Modoc sucker is separate from the better-known Lost River and shortnose suckers, whose status as en-

dangered fish has led to water shut-offs in the Klamath Basin.

"This one is much smaller," FWS spokesman Matt Baun said in an email. "It's up to six inches long and lives in the streams of the Pit River and Goose Lake basins."

The Modoc sucker is the second fish to be delisted because of recovery. The Oregon chub was delisted earlier this year, the Fish and Wildlife Service stated. More than 30 species of wildlife have recovered and been removed from the list under the 1973 law.

Fish and Wildlife credits area ranchers for improving their management practices to help the fish, including building fences to exclude cattle from riparian areas. While such measures will no longer be mandatory now that the fish has been delisted, the agency expects them to continue, officials said.

Christmas fair gives ag students business experience

By **TIM HEARDEN**
Capital Press

REDDING, Calif. — Tyler Maszk, a crop sciences major at Shasta College, found out last weekend what it might be like to run a farm.

Maszk set up the tree sales for the annual Country Christmas Fair Dec. 5-6 at the college farm, where thousands of customers showed up to purchase their fresh-cut Christmas tree.

"I'm definitely seeing more of the management side of things — arranging crews, getting the crews together and making sure everyone has a job," he said.

Maszk is on the college agricultural students' leadership team, which organized the Christmas fair attended by as many as 6,000 area residents. The fair included visits with Santa, hay rides, a farm animal petting zoo and more than a dozen booths with student-made gifts.

Started several years ago as a way to generate income for a college agriculture program that was struggling to survive amid planned budget cuts, the fair has become so popular that it is now a fundraiser for other campus clubs, which send their members over to operate the craft booths and keep the proceeds.

Last year's fair netted \$35,000, from which \$5,000 was given out in scholarships and the rest was used to send the ag leadership students to competitions, agricultural instructor and adviser Trena Kimler-Richards said. This year, organizers planned to devote \$1,000 for equipment for victims of this summer's Valley Fire in



Tim Hearden/Capital Press

Ben Torres, an agricultural student at Shasta College in Redding, Calif., carries a Christmas tree out to be sold at the campus' annual Country Christmas Fair. The student-organized fair Dec. 5-6 raised funds for the college's ag leadership program.

Northern California.

"It's a great event for students and the community," Kimler-Richards said. "It's really well supported by the campus faculty, staff and administration. They really appreciate it."

Ag student Bailey Brownfield, the event's coordinator, said the fair teaches students business skills.

"It helps with marketing," she said, adding that students recorded an advertisement of the fair for a local radio station. "It definitely (teaches)

leadership skills and communication."

Shasta College has sold Christmas trees for some 35 years, and tried growing its own Scotch pine trees for several years but the area's climate wouldn't cooperate, Kimler-Richards said. Now the students procure trees from several farmers — Kay King of Monroe, Ore., and Ed Foster and Tracy Porter of Shingletown, Calif.

The students started selling the trees on Thanksgiving weekend and continued

during the weekend of the fair. Ag student Jake Martin, who helped with the sales, said he thinks it's a worthwhile event.

"It's one of the main fundraisers for the club," he said. "It lets us go on all our leadership trips."

The fair also familiarizes folks in the community about agriculture, Kimler-Richards said.

"It's just really important to develop agricultural awareness," she said. "This community really embraces this program."



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