# **Beaver dams could be the answer to some of California's drought**

By Santa Cruz Sentinel, adapted by Newsela staff 01.05.15

LOS GATOS, Calif. — Three years of drought have dried up California streams, rivers and wetlands.

One animal, the beaver, might be able to help the water flow again.

With their strong buck teeth and flat tails, beavers protect rivers against drought.

“This state has lost more of its wetlands than all other states," said Rick Lanman of the Institute for Historical Ecology in California. Wetlands are swampy lands often alongside rivers or other bodies of water. "Beavers can rebuild those wetlands.”

**The Building Begins**

To start a dam, they drag a tree across a shallow stream. The beavers carry rocks and mud with their paws, and branches with their big front teeth. The dams in beaver ponds block the water so it does not flow away.

Beaver dams help the environment in ways that humans cannot easily copy. They turn land into a sponge that soaks up water. Their dams create richer soil in which plants can grow. They slow the flow of streams and keep bushes alongside streams healthy. The bushes keep river banks from wearing away. The dams help create wetlands that birds and deer like. They also help the endangered fish and the California red-legged frog.

Beaver dams are good at helping drain ground water. Because of that, they can help streams flow during the summer months. Otherwise, the streams could dry up in the heat.

**Fish Like Beaver Ponds**

Besides California, other Western states are suffering drought. It is not surprising that they also are turning to the beavers for help.

Michael M. Pollock is with the National Oceanic and Atmospheric Administration. Scientists are becoming interested in using beavers to bring back wetlands, he said. “They create good wetland habitat much more cheaply" than other ways.

Beaver ponds are good for the environment, Pollock said. "They also create a lot of wetland that provides a lot of food for fish."

Beaver dams create deep pools that have warmer water at the top and cooler water at the bottom. High temperatures can hurt fish. In the beaver pools, "fish are able to find the temperature that is ideal for them,” Pollock said.

The California Department of Fish and Wildlife is starting to welcome the beaver. Beaver experts support the change.

Kevin Shaffer works for the department. He said it is looking into how beavers improve wildlife habitats and water flow.

**Cute Beavers Also Cause Trouble**

This is not the first time people are using beavers to help the environment. Beavers once lived in most of California. In the 1800s, fur traders nearly wiped them out. From the 1920s to 1940s, California used beavers to prevent river banks from wearing away. During that time, the number of beavers grew from fewer than 1,000 to 20,000 by 1950. No one knows how many beavers now live in California.

A beaver family can improve damaged streams more cheaply than humans. Fixing streams, though, is more complicated than just moving in a family of beavers. Beavers can cause serious damage to underground pipes and farmland. Beaver dams can also flood homes.

That is why California allows beavers to be hunted. They can also be moved or killed if they cause trouble.

The Fish and Wildlife Department is trying out man-made beaver dams in streams. The department hopes they will work as well as the real thing. Using man-made dams will mean the department will not have to move beavers to new areas. These dams will also help avoid the damage beavers can cause.

# **Man-made wetlands to help birds flying south during bad drought**

By Associated Press, adapted by Newsela staff

09.22.14

YUBA CITY, Calif. — Here in California's Central Valley, birds flying high in the sky have spotted water. They are coming in for a landing.

Migrating birds — birds heading south for the winter — need wetlands. These areas are places for birds to rest and eat during their long journeys. Without them, birds might not have the strength to continue.

These wetlands are man-made. They are flooded rice fields. Birds need spots like this these days. The drought in California has dried out many natural wetlands in the state.

Each year, about 350 kinds of migrating birds fly through central California. Millions of birds are currently heading south.

## "They See Water And Come Down"

Conservationists — people who protect, or conserve, wildlife — are creating temporary wetlands to give the migrating birds places to rest and recover.

They are renting 14,000 acres from rice farmers to create wetlands.

The field here is part of the 5,000-acre Montna Farms. Birds began to appear just hours after the field was flooded.

"It was incredible," says conservationist Simon Avery. "The birds are flying high over our heads, and they see water and come down."

Things are looking bad for birds in California this year. The new man-made wetlands are one good thing.

## State Hit Hard By Drought

Almost all of California is in a bad drought. Wetlands have dried up. When birds crowd into smaller spaces, it is easy for diseases to spread.

Canada and Alaska had a wet winter last year. More birds than usual were born. Now, more birds are coming to California.

Even before the drought, most of the state's natural wetlands had disappeared. Fortunately, rice farmers flood their fields in winter. Rice fields have taken the place of natural wetlands.

The drought has hit rice farmers hard, however.

Normally, the state's rice farmers flood 250,000 to 300,000 acres of land in winter. This winter, only about 50,000 acres will be flooded.

## Looking At Bird Flight Paths

Millions of birds migrate in September to October and in February to March. That is when the conservationists are trying to create temporary wetlands.

Bird flight paths have been carefully studied. The information is used to put wetlands where they will do the most good.

Montna Farms was picked after careful study. This week, farmer Jon Munger is hard at work. He is getting the fields ready for another flooding.

As he works, various birds stand around, waiting for the fields to fill up with water. In two weeks, there will be thousands of birds. They will be busy swimming, resting and hunting bugs.

Without these temporary wetlands, birds would be in even more trouble, Munger said. They might die before they can complete their journeys.

# **Californians get "crazy" over water after dry winter**

By Fresno Bee, adapted by Newsela staff 04.30.14

FRESNO, Calif. — It's been the driest winter in many years in California.

And there are a lot of strong feelings about water in the state. It's up the state water board to decide what to do with the state's scarce water. No one sounds very happy about its decisions.

“This year is a whole new level of crazy,” said Ara Azhderian. He is with a farming group. The farmers probably won't get water for farming this year.

The Sacramento and the San Joaquin are the state’s two longest rivers. The two rivers are the main water supply for 3 million acres of farmland. They also supply water to 25 million people.

## Balancing Act

But it's a balance. The fresh water from the rivers must flow out into the Pacific Ocean. Otherwise, saltwater from the ocean will flow into the area. It would make the water salty. Salty water would spoil the water for people, farms and wildlife.

The question is this: How much water should flow to the ocean and how much should be used for farms and drinking water? No one agrees.

Farmers say too much water has been allowed to escape to the ocean. They say they do not have enough water to grow their crops.

Wildlife groups, though, say farmers are getting too much water. They worry the rivers will salt up. Then the fish and wildlife will suffer.

## Rain, Then The Fight

In February and March, it finally rained. This was after two months of sunny, dry weather.

The storms caused the river levels to rise. And the fight over the extra water was on.

“This is a big one,” said Les Grober. He is with the Water Resources Control Board. The board decides what to do about the water. “We get many issues before us. But this is a very dry year. People are very worried.”

People are very concerned about their communities, said Janet McCleery. She lives in Discovery Bay.

“We’re just trying to protect our home and life,” she wrote. She'd like to save both the fish and the farms.