

Scientists concerned about beetles' effect on rare bird

September 7 2016, by Susan Montoya Bryan

It was a good plan: Bring in hungry beetles that feed only on nonnative salt cedar trees to get a handle on a hardy, invasive species that was crowding riverbanks across the West and leaching precious water from the drought-stricken region.

The beetles have been so successful in recent years that scientists are now concerned about the fate of an endangered songbird that lives along rivers and streams in several states.

A recent U.S. Geological Survey report provides more detail about [habitat](#) across the entire range of the Southwestern willow flycatcher. Using satellite modeling for the first time, the agency partnered with other federal scientists to predict new threats that could hamper the bird's recovery over the next decade.

By predicting the effects of tamarisk leaf beetles on the bird's habitat, the scientists hope satellite modeling can be used by land, water and wildlife managers as they try to balance protecting the bird with controlling the trees.

"Using this technology to evaluate how leaf beetle may affect flycatchers and its habitat across its range is a tremendous step forward in our understanding," said Greg Beatty, a biologist with the U.S. Fish and Wildlife Service.

Research shows the bird has become accustomed to building nests in salt

cedar trees during breeding season; flycatchers are known to be picky about where they set up residence. Depending on the timing, beetles feasting on the foliage can leave baby birds exposed to higher temperatures and predators.

Beetles were released along the Pecos River in New Mexico in 2002 as a biological control for salt cedar. They're now found from Utah to Texas.

The USGS study shows they chewed through 94 percent of the flycatcher's habitat along the lower Virgin River between 2010 and 2015.

The modeling predicts about one-third of the bird's habitat along the lower Colorado River and more than half on the upper Gila River will be destroyed by beetles in the next decade.

Scientists also used the modeling to examine how the quantity of flycatcher habitat is affected annually by drought.

As a result of dry conditions, report author and USGS research biogeographer James Hatten said habitat declined in California from 2013 to 2015. New Mexico and Texas, which have rebounded from severe drought in recent years, showed increased habitat.

Government agencies and private organizations have been trying to remove tamarisk and plant native vegetation to counter the effects of beetles on flycatcher habitat. Officials say they're unsure how effective the actions will be but that the satellite model will provide a head start by identifying habitat most at risk from the beetle.

Dave Thompson, an associate dean and director of the Agriculture Experiment Station at New Mexico State University, said beetle movement around New Mexico has been significant in just the last two

years as the insects have left behind dying stands of [salt cedar](#).

Thompson, an entomologist who worked on the initial beetle releases 15 years ago, said he'll be interested in how the flycatcher—an insect eater—adapts to the growing beetle population.

"The majority of our discussion about the flycatcher, as it is with other endangered species, is 'what if?' We do not want to impact them at all, but now there's a massive field experiment going on that will give us some very good data," he said.

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