

## *As more wildlife species vanish worldwide, here are 6 in Arizona that face extinction*

[Lindsey Botts](#), Arizona Republic, October 18, 2021



The U.S. Fish and Wildlife Service in September [declared 23 species](#) officially extinct, the largest single extinction declaration in the agency's history.

Most of the species on the list are birds and freshwater mussels, animals that were particularly vulnerable to habitat loss, human development and invasive species — all major threats to biodiversity.

Many of them, such as the ivory-billed woodpecker, have not been seen for decades and in some cases in over half a century. There will likely be more species added to that list if people don't do more to thwart extinction, advocates and scientists say.

A United Nations report in 2019 estimated that there were over 1 million species throughout the world that face extinction. Scientists say the extinction rate has accelerated up to 100 times

faster than its natural rate within the last 100 years due to human activity.

The significance of the loss is so great that scientists are calling it the sixth mass extinction. It is the first mass extinction caused by a single species — humans — and it affects every other living organism.

In Arizona, one of the most biodiverse states in the country, several species could be wiped out if nothing is done to help them.

In all, there are just over 70 species in Arizona listed as endangered and threatened under the Endangered Species Act. The changing nature of listing petitions and the limited capacity of state and federal wildlife managers mean a larger number of species may not be officially recognized as endangered or threatened.

Over the past two decades, petitions and lawsuits by the Center for Biological Diversity, an

endangered species advocacy group based in Tucson, have resulted in the listing of 26 species in Arizona, among them jaguars, Sonora tiger salamanders, and the Sonoyta mud turtle.

Here are six more listed species in Arizona that could go extinct:

## Sonoran pronghorn

The Sonoran pronghorn was first listed in 1967 under the Endangered Species Preservation Act, a precursor to the Endangered Species Act. The uniquely adapted desert dweller is a distinct subspecies of pronghorn that once roamed throughout the Southwest, but ever-encroaching human development has fractured its habitat or erased it completely.



The goat-sized antelope has often had to compete with livestock for food and water, and the crisscrossing assemblage of highways that cuts through their traditional migration routes means they face a gantlet of traffic as they move across the landscape.

The threats to this species are so great that it has disappeared in California. It hangs on by a thread in small pockets of Arizona, New Mexico and Mexico, but prolonged drought continues to push the species to the brink of extinction.

In 2002, a particularly dry period left only 21 Sonoran pronghorns remaining in the wild. The species was in precipitous decline due to lack of

access to water, with traditional sources being diverted for human use or drying up altogether.

**Sonoran pronghorn:** [Back from the brink, the animals now roam an increasingly political landscape](#)

Since then, captive breeding efforts have boosted the population slightly. There are currently 160 in the wild in the U.S., according to the U.S. Fish and Wildlife Service, but continued threats remain for the elusive creature.

According to Defenders of Wildlife, the major threats to the Sonoran pronghorn include roadways, fencing and over-hunting. The continued lack of water means this species may require human intervention well into the future if it is to persist, according to the U.S. Fish and Wildlife Service.

## Narrow-headed garter snake

As one of the most aquatic garter snakes, the narrow-headed garter snake is facing a bleak future in Arizona and throughout its Southwestern home range.

Biologists estimate the snakes are now gone from at least 60% of their historic range. Their reliance on healthy watersheds makes them particularly vulnerable to habitat disturbances and climate change, say scientists who study the snake.



Today, they are marooned on isolated mountaintops where cool streams and creeks



remain, but those too are dwindling as climate change forces cold-adapted species further up in elevation. Soon they will have nowhere else to go.

In a multiyear survey conducted by researchers, the snakes were observed in only five of the previous 16 sites where they were seen originally. Invasive species also pose a danger to the water-loving snakes. Biologists say crayfish have a significant impact on local garter snake populations since they tend to eat the snakes. Additionally, introduced predatory fish have been observed preying on the native fish species that the snakes prefer to eat. And bullfrogs are believed to prey on young snakes and also compete with adults for food.

The decline of narrow-headed garter snakes is so great that the U.S. Fish and Wildlife Service listed them as endangered in 2014.

Erika Nowak, assistant research professor from the Center for Adaptable Western Landscapes at Northern Arizona University, said the snakes are at great risk of extinction.

"There are only a handful of locations left in Arizona and New Mexico where this species can still be reliably found, and most of those areas are threatened by the possibility of habitat and prey species loss due to large-scale wildfires that may result in catastrophic flooding," Nowak said. "Those threats will likely be made worse by climate change."

[Here are 6 in Arizona that face extinction](#)

## Yellow-billed cuckoo

Listed in 2014 as threatened, the yellow-billed cuckoo has already begun to disappear from some areas. The medium- to large-sized songbird, ranging in size on average between a robin and a crow, lives throughout North America, but its range in the West is disappearing fast.

Arizona lies within the migratory route of this guttural songbird, and its arrival often signals the

start of the monsoon, which has earned it the colloquial nickname of "rain crow."



While they are discreet in movement and hard to see, they can usually be heard before they are seen. Where present, they can sometimes be seen clinging to treetops and hidden in canopies along waterways, a biome in and of itself in critical decline throughout Arizona. As a result, suitable habitat is disappearing throughout the area.

The Arizona Game and Fish Department listed the bird as threatened in the 1980s, but it is believed to already be gone from parts of the West, including Idaho, Washington and Oregon. A study authored by the U.S. Fish and Wildlife Service found that numbers have decreased by over 80% since the 1970s. Today, grazing and ranching, dams, and water withdrawal for development pose the greatest threats to the cuckoo.

To help the species recovery, wildlife managers have worked to protect vital riparian habitats. Last April, the federal wildlife agency published a rule that designated 298,845 acres throughout the West, including in Arizona, as critical habitat.

## Chiricahua leopard frog

Like the narrow-headed garter snake, Chiricahua leopard frogs need perennial water to survive. In Arizona, these precious ecosystems are disappearing due to climate change, agriculture, and water diversion.

As a result of vanishing permanent natural water sources, many frog populations are turning to stock ponds, where invasive species like bullfrogs and non-native fish compete with and prey on native species.



The U.S. Fish and Wildlife Service listed the frog as endangered in 2002 after years of advocacy from conservation organizations that wanted to see federal protections granted to the fragile amphibian species. The Phoenix Zoo has worked in partnership with Arizona Game and Fish for over 25 years to capture tadpoles and release adults back into the wild.

**Leopard frogs:** [Phoenix Zoo conservation work gives imperiled species a path to survival](#)

Some argue that those releases may be futile if the frog's habitat is declining or being degraded. Earlier this year, the Center for Biological Diversity authored a report that noted extensive damage to areas that were designated as critical habitat for the frogs. Feral cattle have trampled riparian areas and clogged waterways with fecal matter, leaving once pristine water ecosystems in a state of degradation.

According to the report, "the Chiricahua has declined more than any other leopard frog and can no longer be found in its namesake locality, the Chiricahua Mountains."

A fungus is also weakening the viability of populations.

## Mount Graham red squirrel

This Arizona native is found nowhere else on Earth. Its only home is the Pinaleno Mountains in southeastern Arizona, in the higher elevations of Mount Graham, one of the Sky Islands.

Like many creatures in the state, this endemic species is threatened by a warming, changing planet.

Its biggest threat is the loss of habitat due to forest fires. In 2017, the Frye Fire almost wiped out the entire population, leaving only 39 on the mountaintop. Since then, their numbers have swung, with an uptick in 2020, when a team of researchers found just over 100 on their mountaintop home.

**Native species:** [Mount Graham red squirrel continues its slow recovery. Now it faces a new foe](#)

The squirrel's only source of food, nuts from conifers like spruce trees, is also threatened. Spruce trees are famous for their cold-weather adaptations. As the climate warms, these cold-adapted species will run out of suitable habitat, even at higher altitudes.

As a result of dwindling habitat and unstable numbers, the U.S. Fish and Wildlife

Service listed the red squirrel subspecies in 1987, but conservation efforts have been patchy and inconsistent. The decision by the agency not to expand critical habitat for the species has resulted in a lawsuit by conservation organizations that hope to force the government into expanding protected areas for the rodent.

Last month, the Center for Biological Diversity issued a statement lamenting the slow pace of the habitat expansion process.

## Gila chub

The Gila chub, native to the Southwest, has been in decline for over half a century, according to the Center for Biological Diversity, as its watery home has been pumped, diverted and dammed to death. But it wasn't until 2005 that the freshwater species was listed as endangered by the U.S. Fish and Wildlife Service.

By then, many of the present waterways were so degraded by cattle and ranching that they were either no longer suitable or severely diminished in quality.

And where suitable habitat existed, the Gila chub was often outcompeted or eaten by introduced, non-native fish, like trout and sunfish. As a result of such limited habitat, fish populations are often isolated from each other and unable to boost genetic flow.



The U.S. Fish and Wildlife Service is working on a translocation program to combat the negative impacts of isolation and some habitat is being restored, according to Rob Peters, senior Southwest representative for Defenders of Wildlife.

"Some Gila chub habitat is being restored, as at New Mexico's Red Rock Wildlife Area, where the New Mexico Department of Game and Fish, with other groups in the Desert Fish Habitat Partnership, have secured water, restored vegetation and introduced the chubs and another endangered native fish, the Gila topminnow," Peters wrote in a blog post.

Areas in Arizona haven't been as fortunate. There is current litigation in areas of the Gila Box, San Pedro, and Verde River watersheds to protect these areas so that species like the Gila can thrive.

### Imperiled fish: [Scientists issue rare call to action on climate change](#)

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