

Tiny songbird won't be silenced

July 14 2017, by Joann Adkins



Credit: Florida International University

On a quiet, 30-acre property near West Palm Beach, Fla., 19 Florida grasshopper sparrows are starting to sing.

These tiny songbirds bask in the breezes that flow through their custom enclosure. They know the nesting season is near. Named for their song, which resembles the sounds of grasshoppers, the sparrows are blissfully



unaware that they are among the last of their kind. These birds share the property with a motley crew of endangered wildlife. There are the east African bongo antelopes, living far from the poachers and habitat destruction that have pushed their species to the brink of extinction. Golden lion tamarins can be seen across the way, part of a 40-year breeding program that has helped restore the species in the forests of Brazil. Large birds and tiny primates make up the rest of the residents of the property. They are part of a broad initiative in the Tropical Conservation Institute (TCI), a collaboration between FIU and the Rare Species Conservatory Foundation (RSCF).

The Florida grasshopper sparrows are the newest addition to the RSCF property. Less than 60 breeding pairs remain in the wild today, according to Karl Miller with the Florida Fish and Wildlife Conservation Commission. Some say it could be fewer than 25. At about an ounce, the bird's tiny size makes it difficult to find. Their cryptic coloring of brown feathers with flecks of gray works like camouflage. They're also very elusive, so keeping tabs on them is difficult. Yet, scientists know it is one of the most imperiled birds on the planet. FIU conservationist Paul Reillo is more blunt.

"This bird is going to go extinct in the wild. There's no question about that."

Reillo is the director of TCI and founder of RSCF. For 35 years, the biologist has fought to save species through field-based conservation and, when necessary, <u>captive-breeding</u> programs. The team of researchers that make up TCI is working across the world to protect and restore populations of birds, land animals and marine species. The institute has received core funding support from the Batchelor Foundation to help sustain its programs. Nearly every species the researchers are working with are fighting for survival. Many are winning.



In the 1980s, populations of the red-browed Amazon parrot were falling to desperately low numbers. The species, with its distinctive green feathers and striking red crown, appeared to be headed for extinction, nothing more than a footnote in the history of the planet's biodiversity. Reillo and the RSCF team gave captive breeding a try.

They started with 11 birds. Today, nearly 30 years later, the red-brow's numbers have grown to nearly 100 in captivity, and are making a comeback in the wild. Reillo thinks the same could happen for the Florida grasshopper <u>sparrow</u>.



A Florida grasshopper sparrow guards her new hatchlings. Credit: Florida International University



"It's a species on life support," he said. "We need to pull out all the stops this year. There is definitely optimism around here, but this bird is facing its end. It's scary."

The Florida grasshopper sparrow has been listed as an endangered species since 1986. It is not a migratory bird and historically was only known to nest in the dry prairie grasses of central and southern Florida. As much as 90 percent of the sparrow's natural habitat has been developed, and today there is only one area left in the wild where the sparrows are known to reside—a swath of land not far from Walt Disney World. The sparrow population in that area has experienced a brutal decline in the past five years.

In 2015, seven young hatchlings, some abandoned and the rest from nests expected to fail, were put into the care of Reillo and his team—the first time the species was brought into captivity. Reillo was expecting a slow start, but the captive clutch shocked everyone when two birds mated and produced four hatchlings in the first year. The team had little time to celebrate because, soon after, heavy rains flooded the prairie. State and federal wildlife officials recovered as many eggs as they could and brought those to Reillo for incubation and rearing.

"This little bird is doing everything to stay on planet Earth, but the odds are against it," Reillo said. "We have problems on every front. Financial. Disease. Habitat."

When asked if the Florida grasshopper sparrow can elude extinction, Reillo doesn't have an answer. But with so few left on the planet, he says captive breeding is the difference between this bird being here and not.

Sandra Sneckenberger, an endangered species recovery biologist with the U.S. Fish and Wildlife Service, says the Florida grasshopper sparrow is a tough species to take on. Few were willing to be involved in a captive



breeding program, she said, but federal officials knew Reillo and his team could give the sparrow a fighting chance.

The species presents unique challenges for scientists. The bird's size makes it difficult to handle and nearly impossible to examine. No longterm captive-breeding program exists for similar sparrow species, so the team has no template to follow. Little is known about their immunity or to what diseases they are susceptible. Scientists often recover remains of animals to investigate cause of death and determine if populations suffer from parasitic diseases, bacterial infections or other illnesses. But just as their size and secretive nature make them difficult to locate while alive, it's nearly impossible to find the bodies of Florida grasshopper sparrows when they die. Since first being placed into captivity, a few were discovered to be carriers of a disease from the wild population.





RSCF staff member Stephanie Howard is part of the team that provides comprehensive monitoring of the birds.

Reillo says it is now fair to presume that, along with habitat loss, disease has played a part in the species' decline. The team is investigating this and other health issues while the breeding program continues.

"We don't have enough time to resolve all the disease questions right now," he said. "It would take us more time to investigate the diseases than this bird has left. Everything has to happen concurrently."

The team includes a handful of avian keepers and husbandry specialists. This summer, two FIU undergraduate students will also join the program for internships. This team will enjoy little rest now that the nesting season has begun. They will watch over any eggs, help rear hatchlings and conduct round-the-clock feedings. Because the 19 captive sparrows all arrived as young birds or eggs, they didn't learn from their parents how to nurture their young or live in the wild. The team hopes to discourage domestication of the captive sparrows, keeping them as wild as possible, so their descendants might someday be able to return to the wild.

Sneckenberger said U.S. Fish and Wildlife anticipates more sparrows will be taken into captivity this year through emergency interventions due to flooding, fire ants or other threats. There may also be some collections of family groups to introduce wild birds into captivity that exhibit natural behaviors, helping to teach those reared in captivity.

The RSCF facilities are an ideal fit for the 19 sparrows currently residing at the property. But if the <u>breeding program</u> continues its



success and more wild sparrows are introduced into the captive setting as planned, TCI will need to expand the facilities and deal with the rising costs of sustaining the delicate species.

The project is currently supported by U.S. Fish and Wildlife Service, dedicated funds from RSCF and donations. The annual cost to maintain the current <u>birds</u> exceeds \$65,000, a figure that is expected to increase as the number of sparrows increases. Of all the challenges faced by the Florida grasshopper sparrow, this may be the most welcomed.

For many <u>species</u>, the FIU Tropical Conservation Institute is the final hope. This is especially true for Florida's tiny grasshopper sparrow where the fight for survival will be difficult, and the odds long. But because of TCI, there is hope—hope for survival and hope for many songs to come.

Provided by Florida International University

Citation: Tiny songbird won't be silenced (2017, July 14) retrieved 26 April 2024 from <u>https://phys.org/news/2017-07-tiny-songbird-wont-silenced.html</u>

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