



Phone 863.465.2571
123 MAIN DRIVE ★ VENUS, FLORIDA 33960

To: Highlands News-Sun

From: Archbold Biological Station

Date Published: January 5, 2018

Author: Archbold Biological Station

Local woodpeckers adapt to hurricanes

If you live in the south, hurricanes are a part of life. As humans, in 2017 we prepared by tracking the radar, stocking up on supplies, boarding up our windows, and if necessary, evacuating entirely. However, what about the local wildlife? What if you're a woodpecker that lives in a tree – a tree that can be knocked over or even snapped in hurricane-force winds?

Red-cockaded Woodpeckers are a threatened species that live in “cooperatively breeding” groups and create cavities exclusively in living pine trees. Cooperative breeding is a social system where offspring from previous years remain in their home territory and help their parents raise future young. Archbold Biological Station Research Assistant Emily Angell spends her time studying and helping manage a population of these birds at the Avon Park Air Force Range. According to Angell, “Red-cockaded Woodpeckers roost in their cavities every night, nesting each year in the male’s cavity. However, it takes a long time, sometimes years, to excavate a cavity in the tough wood. Therefore, the cavities are highly valuable, but scarce.” Biologists like Angell help the woodpeckers by installing artificial cavities when there is shortage of suitable natural cavities. “Birds without a cavity to roost in at night are more vulnerable to nighttime predators like owls, as well as extreme weather events. By putting in an artificial cavity for a Red-cockaded Woodpecker who has none, we may be helping that bird survive for longer.”

Florida residents may well remember the hurricane season of 2004, when Hurricanes Charley, Frances, and Jeanne hit in quick succession during August and September. Red-cockaded Woodpecker populations were devastated across the state. At Avon Park Air Force Range, at least 100 cavity trees were destroyed, 72% of which snapped in the high winds. The

number of woodpecker breeding groups dropped by over 25%. Biologists at the Range and in other locations went into immediate action, rushing to install artificial cavities to replace the ones that were gone. Red-cockaded Woodpecker cavities may make trees more vulnerable to hurricanes: “The birds often build their cavity homes in older trees infected with a fungus that makes the heartwood rotten and soft. Not only are those trees already more susceptible to wind damage, but the excavation creates a weak point where the tree can snap more easily,” explains Angell. It took four years for the population at Avon Park to recover to pre-2004 hurricane numbers.

When Hurricane Irma hit central Florida this past September, Archbold biologists were concerned about a repeat of the 2004 devastation. Luckily, although the towns of Florida’s heartland were hit hard, this time the Red-cockaded Woodpeckers seemed to fare better. “This year, we only lost eight cavity trees. Wind gusts and hydrology seem to play a big part in the damage done to trees; circumstances must have been different during Irma than they were during the previous 2004 hurricanes.” When Angell discovered one of the downed cavity trees this year, she decided to make a cross-section of it to use as a learning tool. “In this picture, you can clearly see the difference between the dark outer sapwood, and the light inner heartwood. Drilling through the resinous sapwood is what takes the woodpeckers so long to complete these excavations. The cavity chamber must be built in the heartwood to keep it from filling with resin. Because old-aged trees are rare at the Range, this cavity was excavated in a tree only around 70 years old and therefore didn’t show the heart rot typical of older trees. That was one determined bird!”

Red-cockaded Woodpeckers evolved in a region that routinely experiences extreme weather events such as hurricanes. Historically, their populations were much larger, thus providing much greater resiliency to devastating storms. One area would be impacted but other regions unaffected. Their habitat, southern pine forests, largely composed of Longleaf Pines, was once much more extensive and covered most of the southeast. These forests haven’t burned as frequently as they once naturally did under frequent lightning strikes, so remaining patches of forest are of poorer quality, with fewer older trees suitable for cavities. Today, Red-cockaded Woodpeckers exist in relatively small patches of forest, more isolated from other populations, and with fewer options for selecting high quality trees for their cavities. This is why the birds sometimes need extra help from biologists to recover from natural events. Angell ends on a positive note: “public and military lands in Florida are doing a great job of managing their ecological resources. By providing more cavities on these military lands, which is largely compatible with the military mission, we increase the woodpeckers’ resilience to natural disturbance. Due to the hard work of many, Red-cockaded Woodpeckers are becoming a success story. With any luck they’ll still be here, surviving hurricanes, for generations to come.”

Photo 1: Archbold Biological Station Research Assistant Emily Angell sits on a tree that uprooted during Hurricane Irma.



Photo 2: A cross-section of a Red-cockaded Woodpecker cavity in a Longleaf Pine that was downed during Hurricane Irma.

