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Red-cockaded Woodpeckers at Avon Park Air Force Range

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A Red-cockaded Woodpecker takes a quick break from pecking at the hole it started in a pine tree that may someday become its new roost cavity.

GREG THOMPSON PHOTO

Archbold Biological Station's Avian Ecology Program is best known for its long-term study of the Florida Scrub-Jay, the gregarious, brilliantly blue birds of the oak scrubs of the Lake Wales Ridge. However, the program also has a long history of working with the Red-cockaded Woodpecker, a bird iconic to the Longleaf Pine forest like the scrub-jay is iconic to the Florida scrub — the conservation of each bird and its habitat is inextricably intertwined. Archbold staff, working with the U.S. Air Force and the U.S. Fish and Wildlife Service, have been deeply involved with the monitoring and management of the Red-cockaded Woodpecker at the Avon Park Air Force Range (the Range) for more than 25 years.

The Longleaf Pine ecosystem of the Southeast, on which the Red-cockaded Woodpecker depends, has been reduced to less than 3% of its historical range due to habitat loss for timber, agriculture and development. As a result, Red-cockaded Woodpecker populations have declined dramatically, leading to the species being federally listed as Endangered in 1970.

In 1992, the Air Force enlisted the expertise of Dr. Reed Bowman, Director of the Avian Ecology Program at Archbold, to assess the status of the Red-cockaded Woodpecker population at the Range. Bowman recounted "Historical records from the Range between 1977 and the late 1980s suggested as many as 45 Red-cockaded families may have occurred there over that period. However, after our systematic survey was completed in 1992, only 21 groups of these Endangered birds were still present." With a baseline established, Archbold and Air Force personnel set out to develop and implement a management plan to increase the population.



First, Avon Park Air Force Range Natural Resources staff reintroduced frequent prescribed fires to maintain the habitat in the condition the birds prefer. Archbold researcher Greg Thompson noted, "Fire is necessary to maintain plant and animal diversity in the Longleaf Pine ecosystem. Without fire, the Longleaf Pine forest transforms into a different habitat, one with more shrubs and mid-story trees, which is far less attractive to the woodpeckers."

Avon Park Air Force Range has a dedicated, highly trained prescribed fire team that burns the Longleaf Pine forests on the Range once every two to three years. This is beneficial for the woodpeckers, but also protects the military's ability to safely complete their training exercises. Thompson added, "Long unburned pine forests pose a significant threat if they do ignite during a lightning storm or a military exercise because the resulting fires are more intense and harder to contain."

Another key component of the Management Plan was to ensure the woodpeckers have plenty of cavities in which to nest and roost at night. Cavities are sometimes in short supply because of the scarcity of mature pine trees and the length of time it takes the birds to create a cavity. Thompson explained, "Unlike most woodpecker species which excavate their cavities in dead trees, Red-cockaded Woodpeckers excavate their cavities in living trees. The wood of living trees is very hard and produces lots of sticky resin, slowing the excavation process. It usually takes several years for a Red-cockaded Woodpecker to complete a cavity. For these reasons, we install artificial cavities."

Artificial cavities are wooden nest boxes embedded within the tree to simulate a natural cavity. A rectangular excavation is made in a suitable tree using a chainsaw while secured standing at the top of a tall ladder — not an activity for folks with a fear of heights. The boxes are installed so that the front of the box and the entrance hole are flush with the trunk of the tree. U.S. Fish and Wildlife Service biologist and former Archbold researcher, Emily Angell, added, "Red-cockaded Woodpeckers without a cavity are vulnerable at night, so an artificial cavity can mean the difference between life and death. To build a new home for one of these amazing little birds, and watch it move right in, is so satisfying."

When forests were larger and contiguous, birds were able to move easily among populations. However, today's pine forests throughout the Southeast are smaller, scattered, and more isolated from each another — thus immigration among populations is very rare. Translocation, the process of moving woodpeckers from large, stable populations to small, recovering populations such as Avon Park Air Force Range is another key element of the management plans. Since the 1990s, the researchers have translocated 54 woodpeckers into the Avon Park population, and 63% ultimately became breeders. These efforts, coordinated by the U.S. Fish and Wildlife Service, have helped increase the woodpecker population at the Range and added new genetic lines, thereby reducing the chances of inbreeding.

Dr. Rob Aldredge, U.S. Fish and Wildlife Service Liaison to Avon Park Air Force Range commented that, "Thanks to the hard work and dedication of Archbold Biological Station and the Air Force (and its partners) over decades, Avon Park Air Force Range has reached the recovery goal of 40 groups and has joined a long list of Department of Defense installations that have worked tirelessly toward the recovery of this iconic species." Dr. Bowman added "At 40-plus groups, the population is much more stable and less vulnerable than in the 1990s. We have perfected management techniques, and population growth has accelerated in the last few years. It can grow more, but we've rescued this population from extirpation."



A Moody