

The Birds of Fort Hood

by Ben Ikenson



The black-capped vireo, one of Fort Hood's endangered birds

Photo by The Nature Conservancy

Krishna Costello of the Fish and Wildlife Service thanks Lieutenant Ilian, a tank commander at Fort Hood, for his help in conserving the rare birds living at the base.

Photo by Ben Ikenson/USFWS

If Steven Spielberg ever needs a set location for another epic war picture, Fort Hood, Texas would likely serve well. As one of the largest heavy artillery training sites in the country, Fort Hood conducts live weapons fire and aviation training and houses 544 armored tanks. Built to destroy and engineered to withstand severe combat, tanks like the M1-A2 Abrams boast such features as guided missile launchers and Global Positioning Systems (GPS). They also weigh between 50 and 80 tons. Paved roads can buckle and crumble apart like tea cookies beneath the treads of these mechanical behemoths. It's not surprising then that a substantial portion of the 220,000-acre (89,000-hectare) Army base resembles barren, scorched battlefields with ruts as deep as trenches.

But there is another side to Fort Hood, a softer and gentler side where, instead of the deafening roar of artillery fire, birdsong fills the air. Fort Hood contains essential nesting habitat for two endangered neotropical migratory songbirds, the golden-cheeked warbler (*Dendroica chrysoparia*) and the black-capped vireo (*Vireo atricapillus*). As part of its responsibility under the Endangered Species Act (ESA), the Army manages 66,000 acres (26,700 ha), more than 25 percent of the land on base, for the recovery of these two endangered species. The base also provides a haven to wintering bald eagles (*Haliaeetus leucocephalus*), occasional visiting whooping cranes (*Grus americana*) and peregrine falcons (*Falco peregrinus*), and a variety of other rare and endemic plant and animal species.

To ensure that base activities would not jeopardize endangered species, the Army entered into interagency consultation with the Fish and Wildlife Service under section 7 of the ESA. In 1993, the Service issued a "no jeopardy" Biological Opinion (BO). Following the issuance of the BO, Fort Hood contracted with The Nature Conservancy of Texas for further research and monitoring of the birds. In conjunction with Service and Army biologists, Conservancy researchers are compiling the most comprehensive body of information on the birds to date.

Every March, black-capped vireos and golden-cheeked warblers migrate from their wintering grounds in Mexico and Central America to the protected habitat primarily along the east side of Fort Hood. Some birds even use the same



nest sites they occupied in previous years. The vireos prefer nesting in patchy or clumped scrubby vegetation that has a leaf cover extending to the ground; warblers build nests in mature oak-juniper woodlands, stripping the bark of Ashe junipers for building materials.

Unfortunately, populations of both birds have been in decline for decades. Black-capped vireos, which once ranged as far north as central Kansas during the

breeding season, are now confined to central and west Texas and northern Mexico, with only a few tiny, scattered, remnant populations in southern Oklahoma and north Texas. Warblers breed only in the fast-disappearing habitat of central Texas. The vireo made its way onto the endangered species list in 1987; the golden-cheeked warbler followed suit in 1990.

"The major threats these birds are facing," says Service biologist Krishna Costello, "include habitat loss due to urban and agricultural development in both their wintering grounds and their breeding grounds. And nest parasitism by brown-headed cowbirds."

Brown-headed cowbirds (*Molothrus ater*) are so named because of their association with cattle, which keep grasses cropped to lengths that make it easy for the birds to snatch insects. Originally, cowbirds evolved with the presence of bison. When bison were nearly exterminated, cowbirds adapted to survival around cattle. One of the cowbird's peculiarities is that it lays eggs in the nests of other birds, which then expend parental care on cowbird young at the expense of their own. Ultimately, the nesting success of many species of native songbirds has been reduced.

"Historically, the impact of parasitism was limited," said Fort Hood Endangered Species Program Manager John Cornelius. "The cowbird effect on other birds were localized so long as they were associated with wandering herds of bison. But now, cowbirds are adapted to livestock. The livestock are extremely widespread across the landscape. The ecological niche for the cowbird vastly expanded with this land-use change so that cowbird numbers have increased, and they began to impact bird species across their entire range, not just locally. This has led to significant declines in a number of songbird species. Cowbirds have been documented parasitizing more than 220 species of other birds."

Without active brown-headed cowbird population management, Fort Hood is no sanctuary from nest parasitism. In

fact, cowbirds are common on base due to a 200,000-acre (81,000-ha) long-term grazing lease with the Central Texas Cattleman's Association.

"We began monitoring the black-capped vireo in 1987," said Cornelius.

"After 2 years of observing parasitism above 90 percent, and extremely poor productivity, we calculated statistically that the bird would become locally extinct within 10 years without immediate intervention."

Fortunately, this has not been the case. In 1989, after intensive research on the ecology and management of cowbirds, the team at Fort Hood began installing cowbird traps at locations throughout the base where cows tend to concentrate. About the size of a single-car garage, the mesh-covered traps lure cowbirds in—using food, water, and decoys—through a narrow slit in the top of a wood frame. Once in, the birds cannot get out. Female cowbirds are euthanized, while males and the few non-target birds are released unharmed.

The cowbird trapping has yielded solid results. In 2000, studies revealed that nest parasitism had been reduced to less than 10 percent basewide. "Now," said Cornelius, "parasitism is low, productivity is high, and Fort Hood is very likely serving as a source population for vireo production."

Currently, 33 traps on base and 27 traps on adjoining private properties continue to thwart the cowbird threat. The successful trapping effort is also being expanded into other portions of the vireo's range.

As far as the threat of habitat loss, Costello emphasized that essential habitat must be protected. Recovery plans for both species identify goals of attaining viable populations throughout the birds' ranges. The habitat on Fort Hood is critical to achieve these goals. Other critical areas in central Texas include the Balcones Canyonlands



Cowbirds are lured into this trap through an opening in the top.

Photo by Ben Ikenson/USFWS

National Wildlife Refuge, the Balcones Canyonlands Preserve (managed by the City of Austin), and the Government Canyon State Natural Area.

"So far," said Costello, "Fort Hood has followed the guidelines and requirements of the 1993 Biological Opinion and an updated 2000 BO to a tee, and in the process has produced extraordinary research and management strategies that can be applied to warbler and vireo issues range-wide. The birds are benefiting from a very good working relationship we have with the Garrison Commander and the Natural Resource staff."

Balancing its military mission with environmental stewardship, Fort Hood has set its sights on safeguarding and defending even more than the lives of our nation's human inhabitants.

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