

FARMING ON GRASSLANDS POSES EXTIRPATION RISK TO APLOMADO FALCONS IN CHIHUAHUA, MEXICO

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The last known desert-dwelling Aplomado Falcon population (*Falco femoralis septentrionalis*) in North America may be extirpated within the near future. We have studied and worked to conserve this relict population in Chihuahua for the last fifteen years, and we feel a responsibility to inform the international community of the recent and ongoing destruction of the falcon's breeding habitat through the plowing of native grasslands.



Adult Aplomado Falcon

The Aplomado Falcon is a strikingly beautiful, endangered species that once occurred throughout the grasslands of the Chihuahuan Desert. In the 1800s, the population extended northward into the southwestern United States, but it disappeared there entirely by the 1950s and has since been reintroduced in Texas. This is one of only two areas in Mexico where this endangered species is known to breed, one along the eastern coastal savannas from southern Tamaulipas southward and the other in the desert grasslands of Chihuahua. The distance between those populations is about one thousand kilometers.

When we began studying the Chihuahua population in 1992, there were thirty-five known pairs, but the long drought of the 1990s and early 2000s reduced the population to about twenty-five pairs. At that time, we identified grassland desertification as the major threat to the long-term survival of the species (Macias-Duarte et al. 2004. *The Auk* 121:1081-1093). We could not foresee, however, that in the next few years, the species would face the destruction of its breeding habitat by the sudden conversion of desert grassland into croplands.



Native grasslands in Tarabillas valley

Just as the remnant falcon population in Chihuahua began to respond to the recent increase in rainfall, Mennonite farmers began buying the grassland portions of the ranches inhabited by falcons within Tarabillas valley, north and east of Sierra El Gallego, in the municipality of Ahumada. At a recent meeting with government authorities, we discussed the loss of seven Aplomado Falcon breeding territories to plowing. Officials informed us that farmers are buying "...every available hectare of native grassland in the area," including additional known Aplomado Falcon territories. The farmers continue negotiations with landowners to buy all the grasslands within that valley including communal lands (ejidos), and if left unchecked they will eventually own and farm the entire Tarabillas valley. These purchases are facilitated by the fact that most grasslands are in poor condition following the drought and its consequences on livestock production, tempting many landowners to sell their land to farmers.

The Mexican Institute of Water Technology measured aquifer recharge rates at 37 million m³/year from which CONAGUA (the agency responsible for monitoring/controlling water utilization) determined that ground water pumping could support 5,300 hectares of crop production in the Tarabillas Valley on a sustainable basis. About 10,200 ha are already under ground-water irrigated crop production, and 20,400 hectares have been ploughed in preparation for crop production. In all, 59,900 hectares of grassland have been sold for conversion to crop production in just the last four years. Ground water pumping at current and projected rates is clearly not sustainable. Meanwhile, a substantial portion of the last remnants of desert grasslands known to support Aplomado Falcons in Chihuahua are being destroyed for short-term profit from unsustainable agriculture.



Farmers plowing native grasslands

Today we know of only 18 Aplomado Falcon pairs remaining in Chihuahua, a trend that suggests the possibility of extirpation within a few years unless immediate action is taken to stop the rapid conversion of native grassland to cropland. In the last year alone, the breeding territories of seven pairs have been lost to the plow. We have found no evidence of Aplomado Falcons in other regions of Chihuahua, and surveys in Durango and Coahuilla have also been unsuccessful.

The Aplomado Falcon is not the only species risking extirpation from this portion of Mexico. The endangered Mexican pronghorn (*Antilocapra americana mexicana*) lives only in native

Chihuahuan grasslands and will share the same fate as the Aplomado Falcon if farmland conversion continues in Tarabillas valley during the coming months. Both Aplomado Falcons and Mexican pronghorns are closely associated with open grassland. Pronghorns move along grassland corridors, and the farming of these grasslands will further fragment their already diminished populations. Tarabillas valley is an internationally important wintering ground for migratory grassland birds from the northern United States and Canada; the density of grassland birds during the winter far exceeds that observed in other grasslands in Chihuahua (Mendez-Gonzalez 2000, Master's Thesis, Universidad Autonoma de Chihuahua).



Farms in the northern half of Tarabillas Valley have thus far destroyed seven Aplomado Falcon breeding territories.



Pronghorn antelope in native Chihuahua grassland

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