

Conservation of the Thick-billed Parrot

Mexico's *Rhynchopsitta pachyrhyncha*

by Jennifer Picker, Cape Girardeau, Missouri

The Thick-billed Parrot, known as the guacas in Mexico, is now facing extinction. The forests required by these birds to survive are under assault. The needs of the birds have collided with the interests of logging and land use in Mexico, specifically on government owned land set aside for peasant communities called ejidos.

Interestingly, the Thick-billed Parrot is the only remaining parrot originally native to the United States. This beautiful bird was once a common nester in the Southwest. Due to sport hunting, illegal pet trade, and habitat loss, it is now considered extirpated from the United States. (Extirpated means extinct in a certain area, but extant, or living, elsewhere.)

Physiologically, this is a very pretty parrot. It is about the size of a pigeon, dark green in color, with red patches on the top of the wings and with yellow on the underside. Where the bird gets its name is from the thick black beak that is found in adults. The Thick-billed Parrot is a cavity-nesting temperate-adapted species. They breed late in the year, July to October. This late breeding timing is probably to take advantage of timing of the fruiting conifers. Thick-billed Parrots most typically nest in old flicker holes, woodpecker holes, or in natural cavities in conifer snags.

Guacas are usually found in pairs or small groups. As a flock, they generally travel in V-formations or line formations. There are many natural threats to them in the wild. Several raptors pose a threat to the Thick-billed Parrot, including, the Red-tailed Hawk, Northern Goshawk, and the Peregrine Falcon. They also suffer predation at roosts and nest sites from ring-tailed

cats.

Thick-billeds roost and nest at high elevations above 2,000 m. They are dependent on mature high-elevation conifer forests for both food and nest sites. Thick-billed Parrots use their beaks to remodel the tree cavities in which they nest. They usually begin with an old woodpecker hole or knot-hole and excavate a deep chamber. Once this is done, they lay 2-3 eggs, usually in July which are hatched in August.

Their diet is based primarily on the conifer trees. Southwestern white pine, Arizona pine, and Durango pine, all of which are high elevation species. The parrots eat pine nuts, and the buds

of the conifers. The seeds of the Durango pine are a favorite. They also eat Douglas Fir seeds, Agave flowers and fruits, and acorns.

The Thick-billed Parrots once were native to the United States. They occurred historically as far north as southeastern Arizona and southwestern New Mexico. Thick-billeds appear to have stopped migrating to the U.S. in the late 1930s. The last historic records for a United States population was in 1938 in the Chiricahua National Monument, in southeastern Arizona.

In 1964 there was an isolated population in the Animas Mountains of New Mexico. At the beginning of the 1900s, the species was apparently an



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annual (summer) resident of the Chiricuaha Mountains, and may have bred there. However, breeding parrots can still be found just 50 miles from the United States border.

These birds now live only in the forests of western Mexico, which include a wide diversity of pine species. Their primary range is in the pine oak forests of the Sierra Madre Oriental and Sierra Madre Occidental mountain ranges. They are currently known to frequent forested ridges above the narrow Bisaloachic Valley of Chihuahua. Thick-billeds have been recorded as far south as the Michoacan. Their breeding range is in the Western Chihuahua and western Sonora south into central Durango. In the winter they head south to central Mexico's highlands, normally ranging from Durango southward.

Due to loss of habitat, the parrots have become isolated to the above listed Sierra Madre region. They are now considered endangered in Mexico.

They were added to Mexico's endangered species list in 1995. At the time of endangered listing, an estimated 2,000 pairs of Thick-billed Parrots were remaining. As of 2001, there were about 1,500 breeding pairs believed to be extant.

Species monitoring has been established. Each summer researchers scour the area and watch parrot behavior. They look for fresh-looking cavities in trees. Once a cavity is found, the tree is climbed (usually 50-60 ft) and inspected. If there are babies, they are removed and lowered to the ground. Each baby is then measured, banded, and dusted for parasites. The parasites have become a large problem to the health of these babies. The birds are being forced to re-use the cavities, never allowing any parasite population to diminish between uses. The babies are then monitored twice a week for growth and health.

Guacas have shared their habitat with people for a long time. Large-scale change did not come to the Sierra Madre until the early 20th century. In the 1930s the government started to grant large land tracts (Ejidos) to previously landless peasants.

Ejidos are communally owned land holdings that now cover nearly 50% of Mexico, and are located in about 80% of the country's forests. Ejido Tutuaca, in the Bisaloachic Valley, is where a young husband and wife team, Venegas and Cruz-Nieto are conducting the bulk of the parrot research. This area includes 40,000 acres, which are steep hills and forested. About 74 people (referred to as Ejidatarios) live in this area.

In Ejido Tutuaca, there is little arable land, and economic activities are few. Cattle and corn are local farming products, however most of the ejidatarios work in faraway cities or in agricultural areas for cash. The most reliable income is from cutting timber. Working through local middlemen, ejidatarios sell logging rights to outside companies. Ejido men earn extra cash by working as loggers or truck drivers for these companies.

The forest is logged via selective cutting. This form of cutting selects trees and groups of trees meeting certain size criteria. The trees are then cut with the hope that it would have the same environmental impact as a natural tree loss occurrence in the forest. Though the logging is done selectively, the larger trees in an area are cut and the smaller ones are left standing. Each part of the forest is harvested in a 15-year cycle.

Each time they harvest, thinner trees are getting cut. Trees large enough for parrot nest cavities are diminishing. It has been estimated that only 2% of the old-growth conifer forests remain intact. Thick-billed Parrots have declined by an estimated 80-90% in the last century as a result.

Other forest creatures are also imperiled because of this. The endemic Imperial Woodpecker, once the largest in the world, has already become extinct. Part of that 2% is the forest of Bisaloachic. About 6,000 acres were off limits for decades, primarily due to a boundary dispute with two ejidos. In this area huge pines, firs, and rare Chihuahua spruces grow.

Until 1994, when research began, the parrots were found only periodically in the forest. Since studies began in 1994, almost 100 nests a year are found.

"It is the only large nesting concentration of Thick-billed Parrots left" (researcher Ernesto Enkerlin-Hoeflich). In 1998, the ejidatarios told researchers that the dispute with the neighboring ejidos had been resolved. Logging of the Bisaloachic's timber was to begin in 2001. This is where education becomes an excellent tool. The researchers had established good relations with the people in the community and the people had become interested in changing the cycle of the cutting. A good part of the population was interested in conservation because they had seen other land become less productive.

Researcher Dr. Ernesto Enkerlin-Hoeflich enlisted the support of Pronatura, a Mexican conservation group and the Wildlands Project, based out of Tucson, Arizona. In a series of meetings with the ejidatarios, the conservationists started refining details of a proposal they had devised. The researchers developed a groundbreaking but controversial conservation plan which proposed to pay local people a fee to leave the forests intact, instead of harvesting them. The plan stated, "Spare the trees for 15 years, and you'll be compensated." The negotiations were delicate. On February 15, 2000, the nesting sites of half the remaining Thick-billed Parrots in the world were protected by a landmark conservation agreement – the first conservation agreement ever to be made by an ejido.

At one meeting, the possibility of the success of this plan was in doubt. An influential local leader opposed the deal saying he didn't expect to be around in 15 years, he wanted the money up front. The words of one elderly woman turned heads with her wisdom. The 81-year-old grandmother, Gregoria Perez Gonzalez, in favor of the con-

servation plan spoke up. She said, "I won't be around in 15 years, but my children and grandchildren will be. They will be the ones who benefit from this conservation... and we want to see it happen." The cooperatives then voted 73-1 in favor of protecting the forest.

The agreement was passed. In exchange for preserving the trees, the ejidatarios would get a total of \$240,000.00. This amount is roughly half of what they would have gotten from logging. Half of this \$240,000.00 would be paid up front by money raised from foundations and private individuals in Mexico, the U.S., and Canada. This was granted in December of 2000. The rest of the payments would be dispersed over 15 years split evenly among the 74 ejidatarios. Additional parts of the agreement included that alternative sources for money would be developed. Encouraging tourism, especially for ecotourists interested in seeing the parrots, has looked very promising. Tour operations have expressed an interest in guiding visitors there. The Mexican Federal government reinforced the conservation agreement. They have declared the forest of Bisaloachic a sanctuary, therefore forbidding logging.

Things are looking promising on a lot of levels due to this agreement.

This plan is probably going to have broad implications throughout Mexico and elsewhere. Similar situations have developed across Mexico. This agreement can serve as a precedent for others. "Protected lands will serve as a means to show...that income can equal or surpass that from logging...In the long run, the forest will pay for itself in a

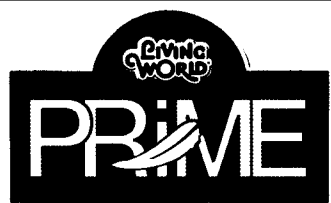
conserved state through alternative economic development and ecological services. It will mean more money for the local people. The deal is good for 15 years, but I think the forest will be preserved in perpetuity." (Researcher Enkerlin-Hoeflich). Many think the agreement will be renewed when the 15 years are up.

Another aspect when considering this situation is that along with conservation comes management responsibilities. The agreement addresses the Thick-billed Parrot's threatened status due to cutting old growth forests. A second concern is for illegal harvest for the pet trade and aviculture, which is minimal in comparison to the habitat loss issue.

Protection of the crucial forest areas from cutting in Mexico is now underway. Under proper management, they need to establish a sustainable forestry program on the rest of the ejido's holdings. Any wood harvesting has got to be done in an ecologically friendly manner, and allow stands to grow older with larger trees. All of this will help Mexico boost the parrot populations and protect existing habitat.

Not only the Thick-billed Parrots will benefit from this conservation agreement and proper management practice. Other species that associate with the Thick-billed Parrot will benefit also. Some of these species include: Cooper's Hawk, Mexican Chickadee, Apache Goshawk, Pygmy Nuthatch, Northern Pygmy-Owl, Grace's Warbler, Steller's Jay, and the Olive Warbler.

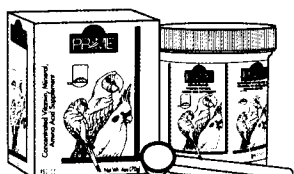
There were several objectives included in the agreement. The primary focus was to maintain mature pine oak forests with pines older than 75 years or of mature cone-



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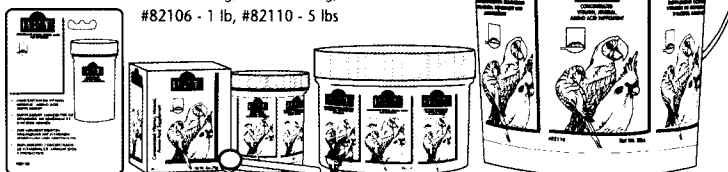


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producing age within the historical range. Another was to coordinate with Mexico on increasing the Thick-billed Parrot's population to provide birds for reintroduction into Arizona. Once this is accomplished, the objective would be to have a stable population in Arizona by 2010.

There have been numerous attempts to do this through the 1990s but most of them have been unsuccessful. One release project functioning from 1986 to 1993 has resulted in some breeding and reasonably good survival, though the population is not considered self-sustaining.

Knowledge of animal behavior and habitat interactions will greatly facilitate any management decisions and practices. Determining the migratory habits of wild populations will greatly enhance habitat use knowledge. Determining the predators of the Thick-billed Parrot in Mexico will greatly help in managing and assisting the Thick-billed Parrot. Further Arizona re-introductions would be greatly facilitated in the study of the possibility of brood manipulations, along with developing methods of translocation of wild-caught birds that will not put the source population at risk. Determining if a migrant or resident population is more likely to survive a reintroduction to Arizona

is another research prospective.

The last census of the Thick-billed Parrot was taken in 2001. Breeding success has been observed since then, but there are no numbers to report due to the lack of a more recent census. However, it looks as though the Mexican Thick-billed Parrot population is doing well.

Let us all remember the words of wisdom from Gregoria Perez Gonzalez. "Conservation is good for the trees, for the animals, for the people. What would we do if they cut the trees down – eat the money?" ♦

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