

From Cage to Rainforest

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The Puerto Rican parrot and its tropical rainforest habitat.

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The Puerto Rican parrot (*Amazona vittata*), endemic to the island of Puerto Rico, is one of the 10 most endangered birds in the world. This emerald-green parrot is one of nine native species of Amazon parrots found in the West Indies, and the only extant native parrot in the United States. Historically abundant throughout Puerto Rico and its offshore islands, the parrot is now only found deep within the montane rainforest of the Caribbean National Forest (also known as El Yunque), the only tropical rainforest in the U.S. National Forest System.

When Columbus arrived in Puerto Rico in 1493, the parrot was well known to the native Taino Indians, who called it “Iguaca,” after the sound of its distinctive flight call. However, the subsequent European colonization of Puerto Rico eventually resulted in a major increase in the island’s human population. This increase led to widespread agricultural deforestation, shooting of parrots for food or crop depredation, and the taking of wild nestlings for household pets. By 1959, only an isolated population of around 200 Puerto Rican parrots remained in the Caribbean National Forest, the last tract of essentially virgin forest left in Puerto Rico (Rodríguez-Vidal 1959). By the time the parrot was officially listed as endangered in 1967, the population had declined to 70 individuals (Snyder et al. 1987).

Intensive recovery efforts began in 1968. Captive breeding was initiated in 1973, with the establishment of the Luquillo Aviary in the Caribbean National Forest. The captive breeding effort was expanded in 1993, with establishment of a second captive flock at the

Jose L. Vivaldi Aviary in the Rio Abajo Commonwealth Forest. These two captive flocks now ensure against loss of the entire population to a single catastrophic event, such as a hurricane or disease. The aviaries also are invaluable as a safe haven for parrot chicks suffering from mishaps in the wild, a genetic reservoir for the species, and a source of parrots for eventual release into the wild.

Over the years, the combined production of these two successful aviaries has resulted in a steady accumulation of Puerto Rican parrots in captivity. In fact, there currently are more Puerto Rican parrots in captivity (156) than in the wild (30-35). This, combined with the dangerously small size of the sole wild population, led to plans for releasing free-flying captive-reared parrots to bolster the wild population.

A pilot project, supported in part by the U.S. Fish and Wildlife Service, was first conducted in the Dominican Republic using native non-endangered Hispaniolan parrots to test methods and develop a safe protocol for releasing the Puerto Rican parrots (Collazo et al.

2003). Following the success of the pilot project, 10 captive-reared Puerto Rican parrots were carefully selected from the aviary flocks for the crucial initial release in the Caribbean National Forest. These parrots were subjected to an intensive pre-release training and acclimation period to develop and improve their flying ability, wild food manipulation, and predator recognition and avoidance skills. To maximize the probability that released parrots would integrate into the wild population, a release site was chosen in the heart of the wild parrots' rainforest territory.

Finally, at dawn on June 27, 2000, we released the first group of 10 Puerto Rican parrots. Because each parrot was equipped with a radio transmitter, we could determine post-release movements and survival of this group. After months of tracking the parrots across the rugged, inhospitable terrain of El Yunque, we were rewarded by finding that half of the parrots had not only survived their critical first year in the wild, but also had

settled into the same valleys used by the wild parrots. Of those Puerto Rican parrots that did not survive, most fell prey to red-tailed hawks (*Buteo jamaicensis*) (White et al. 2002).

Building on this positive experience, we released a larger group of 16 captive-reared parrots in May 2001. We subjected it to similar pre-release training as the first group. However, predator aversion training was intensified because of the previous incidents of raptor predation. Once again, each parrot was equipped with a radio transmitter and tracked following release. First-year survival of the second group (44 percent) was similar to that of the first group. However, in 2000, 30 percent of released parrots fell prey to hawks within three months of release, whereas only one parrot (6.3 percent) did so within the same period in 2001 (White et al. 2002).

A third release of nine captive-reared Puerto Rican parrots was conducted in May 2002, with a first-year survival

trajectory nearly identical to that of the year 2001 release. In an unprecedented event, a pair of the year 2002 released parrots appeared back at the Luquillo Aviary more than 11 months after their release. Although it was too late in the year to begin breeding, the pair quickly began investigating an artificial nest cavity that we placed near the aviary soon after their arrival. Given this encouraging sign, we hope to observe successful nesting by released parrots—the true indicator of success—during the upcoming 2004 nesting season.

We have frequently observed survivors from releases not only flying and foraging together with the wild parrots, but also apparently paired with them. These survivors can now be considered wild parrots. We believe that with our continued support, the call of "Iguaca" will continue to resound throughout the rainforest of El Yunque.

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