

Releasing New World Parrots into the Wild: Conservation Considerations

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Introduction

It is common knowledge that a number of New World (Mexico, Central and South American) parrots are at risk for extinction (Parrot action plan www.worldparrot-trust.org/publications/Pap/paphome.htm). The reasons for such endangerment include landscape alteration, internal and external trade for pets, hunting for meat and feathers, as well as destroying parrots when they become agricultural pest (both on a small and large scale). Restoring parrot populations to healthy sustaining levels, it stands to reason, often requires a multifaceted approach. A comprehensive conservation plan must address all the factors limiting population growth. If such factors are not dealt with satisfactorily they will continue to hinder population growth and stability will not be achieved. Under some circumstances it has been desirable to incorporate projects involving captive propagation and release of the resulting progeny into the strategy. In this article I review five conservation efforts involving releasing parrots from captivity into the wild. They include the Puerto Rican Amazon, Hispaniolan Amazon, Yellow-shouldered Amazon, Thick-billed Parrot, and two species of Mexican Amazons; the Green-cheeked and the Yellow-headed.

These projects were chosen because the author was familiar with the details surrounding the efforts (see Literature Consulted). Additional projects involving the release of parrots into the wild, all not captive bred, include: Military Macaws (Guatemala), Blue and Gold Macaws (Trinidad), Various Amazon parrot rehabilitation center releases (Guatemala, Belize, Mexico), Scarlet Macaws (Costa Rica), and Scarlet Macaws (Peru). Undoubtedly other similar efforts are ongoing or planned for the near future.

In order to establish a foundation for this paper I have summarized some of the high points of the five projects. References are included so that the reader can obtain additional details should he/she desire them.

Puerto Rican Amazon (*Amazona vittata*) in Puerto Rico

Captive breeding was initiated in 1973, with the establishment of the Luquillo Aviary. The effort was expanded in 1993 with establishment of a second 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 release into the wild.

- 2000 — ten captive-reared birds were released after a training period that addressed 1) developing and improving flight ability, 2) wild food manipulation, and 3) predator avoidance and recognition. They were released into the heart of their rainforest territory with radio transmitters attached. Half did not survive the first year mainly due to Red-tailed Hawk (*Buteo jamaicensis*) predation. The remaining parrots settled in a valley already inhabited by wild parrots
- 2001 — sixteen captive-reared parrots were released with intensified predator avoidance training. All had radios. About half survived the first year but first three month survival was improved over year 2000.
- 2002 — nine all captive-reared parrots were again released. About half survived first year.

Yellow-shouldered Amazon (*Amazona barbadensis*) on Margarita Island, Venezuela

Fourteen hand-reared parrots were involved in the project. Four had radios attached and were monitored for eleven months. All survived. Ten of additional twelve birds survived twelve months. The project attributed its success to environmental education, public awareness, studies on parrot biology, and releasing of parrots in an area that maintained a resident parrot population. Estimated cost at \$2,800.00 per bird.

Hispaniolan Amazon (*Amazona ventralis*) releases in Dominican Republic

Forty-nine captive-reared parrots were released in Parque Nacional del Este, Dominican Republic. The object was to test if survival was related to movements and whether modifying pre-release protocols influenced survival rates. Twenty-four birds (two w/radios) were released in 1997. Twenty-five additional birds were released in 1998. First year survival in 1997 was 30%, 29% in 1998. Increased exercise and reduced blood sampling contribute to a lower early post release mortality in 1998.

**Green-cheeked (*Amazona viridigenalis*) &
Yellow-headed Amazon (*Amazona oratrix*)
released in northeast Mexico**

Seven captive-hatched Yellow-headed Amazons and a group of 14 confiscated Yellow-headed and 16 Green-cheeked Amazons. One out of every four was radio-collared (4 Green-cheeked and 6 Yellow-headed) for 12 months after release. After six months of training, all the birds were successfully converted to a natural diet consisting of wild seeds and native fruits. During the eight months of acclimation, the birds were held away from people and domestic animals. Primary motivation to release the birds was their endangered status. Considerations included: disease contamination, 2. Unintended ecological effects, and 3. cultural/genetic pollution of wild populations. After 12 months of release, 14 parrots were still observed in the area.

**Arizona Thick-billed Parrot
(*Rhynchopsitta pachyrhyncha*) releases**

Experimental releases of the species in Arizona since 1986 have yielded mixed results. Birds obtained as wild-caught adults have exhibited good survival and some reproduction in the wild. Captive-reared birds have had poor survival rates due mainly to deficits in foraging and socialization, and to heavy losses to predators. The only birds showing good potentials for establishment have been translocated wild-caught adults. Thick-billed Parrots appear to be highly dependent on flocking for security from predation, so their successful reestablishment may depend directly on the numbers of birds released.

In discussion based on the studies previously mentioned, it would appear that some common threads exist. The need for radio telemetry seems evident. Either a representative sample or all of the released birds need to be tracked to insure their survival (e.g. rescue them in the event they have unsurmountable difficulties) as well as to monitor the success of the project. Additionally, the probability that the released birds will survive and reproduce appears to be enhanced if they are released into suitable habitat that contains at least a remnant parrot population. The issues of genetic contamination and disease transmission are of greater relevance in this situation versus releases in proven habitat but without the species being present. The choice of release sites may also depend on the level of endangerment of the parrot. These are tough issues that need to be fully discussed at the planning stage of the project. As previously mentioned the factor(s) that resulted in the extirpation/decline of the species in an area need correcting before one can reasonably expect released birds to have a reasonable chance of survival. As a precursor to releases this issue needs to be dealt with. In some situations it will involve a public education campaign. In others perhaps some habitat enrichment efforts are required.

All successful projects included a conditioning phase where birds were allowed to feed on native food items and were conditioned to fear predators. Given the low position that parrots hold on the food chain, predation, especially by birds of prey, is the single most significant factor limiting project success. Birds must have sufficient muscle mass to fly strongly and a well developed vigilance that stimulates them to react quickly to the presence of all predators.

Release projects are costly. The Yellow-shouldered Amazon project derived a unit cost of \$2,800.00 per bird for the release. This expands to \$28,000.00 for only 10 birds. This estimate may or may not be accurate depending on the given situation. Radio transmitters cost several hundred dollars and require hundreds of man-hours to monitor. If the birds are not locatable a small aircraft must be secured. Medical testing and education programs are not inexpensive.

The impetus to initiate a release program generally starts with a surplus of birds (rehab birds, unwanted pets, overproduction) and/or the need to react to the endangerment of the species. Unfortunately rehab and unwanted pets seldom possess strong survival skills. If they were maintained in a large collection the possibility of their harboring a cryptic disease is also of concern. In this situation the risk-benefit analysis is not in their favor. If these birds are to be released, consideration should be made to releasing them in a predator-depleted environment that does not support a parrot population. Perhaps establishing a free flying population on a zoo grounds or in a park would be an option. While it may be convenient to propose euthanasia for this group of birds, emotions often preclude such actions. Prudent judgment should, however, not be set aside as not only may the released parrots quickly be consumed by a

Photo by Aldo Brandio



*This Black-and-white Hawk-eagle (*Spizastur melanoleucas*) is also called a "Parrot Hawk" because it preys on parrots as well as other birds and reptiles.*



A radio transmitter is attached to a Green-cheeked Amazon. The transmitter emits signals that can be picked up by field researchers to determine the bird's location.

predator but they may introduced some foreign disease into the wild parrot population.

While the jury is still out as to the benefit of captive propagation and release efforts as components of comprehensive conservation strategies involving parrots, some positive contributions seem to be surfacing. Certainly in situations where the entire population of a species exists in a single area, where the risk of total extinction is high, maintaining a captive population (as a hedge against some catastrophic act that could wipe out the total population) must be weighted against the translocation of birds to another area.

In addition, as with the case of hunters whose protection and management of habitat benefits a host of species in

addition to their hunted species, so too in countries where conservation monies are limited the involvement of aviculturists in parrot conservation projects will benefit a whole suite of species in addition to the parrots.

While certainly decades ago one would question the effectiveness of releasing parrots into the wild the studies mentioned prove that under certain conditions such actions can be effective and should be supported. Aviculturists interested in supporting such efforts are encouraged to read the literature-consulted material and either establishes projects that are consistent with the success protocols of past projects or to support existing projects. If not you, then who? If not now, when?

Literature Consulted

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This is a large conditioning flight in Mexico. Birds scheduled for release into the wild are kept here while they learn how to eat the local fruits and nuts and, hopefully, how to avoid the natural predators of the area.

