

Belize Harpy Eagle Restoration Program

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Brief Ecology Review

The Harpy Eagle, *Harpia harpyja*, is considered to be the world's most powerful raptor (Brown 1968), and their range formerly extended from southern Mexico to northern Argentina (Wetmore 1965). However, due to the destruction and fragmentation of rainforest and heavy hunting pressure by humans, the Harpy Eagle is presently rare or extinct in much of Central America. Throughout its range, it is considered near-threatened (Collar 1994).

The Harpy Eagle is said to indicate an intact ecosystem (Albuquerque, 1995), as top predators are often among the first species to disappear when pristine habitat undergoes human alteration or fragmentation (Noss 1994, Terborgh 1997). However, recent findings show that Harpy Eagles sometimes occur in forest near recently disturbed areas (Alvarez 1996).

It has been argued that top predators such as Jaguars, Pumas and Harpy Eagles are keystone predators and that their removal from an ecosystem can cause profound changes in neotropical forest communities (Wright 1994, Terborgh 1992).

The Harpy Eagle Restoration Program, just approaching its first year in Belize, is highly experimental. The data collected about the ecology of these Peregrine Fund Panama captive-bred and released Harpy Eagles will strengthen natural history records of the species and assist in efforts to conserve this dynamic bird-of-prey. We also maintain that this important conservation work may stand as a role model for restoration programs involving captive-bred raptors in other countries.

Released Harpy Eagles at Las Cuevas Research Station (LCRS)

All four birds, captive-bred at The Peregrine Fund's Neotropical Raptor Center in Panama, and brought to Belize in March/April 2003 for initial release, are currently within the area of LCRS, Chiquibul Forest Reserve. All four birds have stayed within 1-5 km of their initial release site. The females have moved further away, consistently, than have the males.

Monitoring the movements of the four Harpy Eagles are Hau Truong, Jen Struthers, and Eric Hallingstad. Shelly Johnson recently left the program, having spent over four months assisting this work.

The biologists monitoring the Harpy Eagles have established "feeding trees" for the birds. These trees are



Photos courtesy of author.

Handing a morsel of favorite food to a Harpy is not for the faint-hearted or uneducated. This bird is one of the world's most powerful raptors. Here, Pnanma, looks forward to his keeper's attention and food gifts. His Belize Zoo exhibit is important to the Belize communi-



Covering a kill is typical raptor behavior.

located away from their initial release site. At night, and ideally out of sight of the Harpy Eagles, rats are placed in these trees for the birds to consume. The only predator noted to interfere in this feeding strategy is the occasional possum. Otherwise, this regime has proven a successful method of feeding the Harpy Eagles.

Hunting Progress

One pair of the eagles has been observed attempting to hunt. In December 2003, less than 9 months after their being released, one bird, a male, was seen flying into a group of Crested Guans. This same bird was also seen to make an attempt to take "Cheetah" the LCRS resident cat. Interestingly, this small cat is similarly colored like the rats, which are provided for the birds by the Harpy Eagle monitoring team.

One male was seen chasing either an Ani or a Great-tailed grackle. However, the bird escaped into thick vegetation.

On 25 December 2003, one of the Harpy Eagles successfully captured and killed a Kinkajou. This arboreal mammal was eaten by a male and female Harpy, over a period of two days.

It appears that the hunting instinct in the Harpy Eagle is imperative, innate, and strong. The behavior noted up to this point mirrors that of reintroduced captive-bred subadult Harpy Eagles on Barro Colorado Island, Panama (Touchton 2002). These birds captured prey and are assumed to exhibit the same behavioral aspects as wild Harpy Eagles.

All of the above indicates that the Harpy Eagle Restoration Program is developing in a positive and successful direction.

The program will be relocating in 2004 from LCRS to Rio Bravo Conservation Management Area (RBCMA) in northwestern Belize. This change of venue for the program is viewed as a logical project development for the following reasons:

The RBCMA (managed by Programme for Belize, Pfb), is the largest protected area in Belize, encompassing well over 100,000 hectares of tropical forest. The recent data collected on foraging and hunting behavior of the Harpy Eagle has occurred in Panama, Barro Colorado Island, a reserve of 1500 hectares, and in northeastern Brazil, on a reserve of 2000 hectares.

Prey species are abundant. In December 2002, two days were spent assessing the lands at RBCMA. Species noted were Crested Guans, Chachalacas, and other possible bird species which Harpy Eagles would prey upon; also, White-tailed Deer, Collared Peccary, and numerous Iguana were observed. Howler Monkeys were heard and Spider Monkeys seen on another occasion. The little data collected on prey species for the Harpy Eagle shows a preference for solitary arboreal prey species (i.e., sloths) as opposed to social arboreal species (monkeys). Terrestrial species, in

particular, juvenile deer and peccary, have been recorded as Harpy Eagle captured prey. In 1968, one ornithologist (Russell), observed a Harpy Eagle successfully capture an Iguana in the forests near Gallon Jug, northwestern Belize.

The UNDP/GSFGF Belize Zoo Environmental Education Program is focused on the villages which are within the immediate area of the RBCMA lands. In total, eleven villages will be receiving the program about the Harpy Eagle in Belize.

The eventual presence of the Harpy Eagle in the RBCMA will enhance the ecotourist value of this area. Given the extremely rare status of the Harpy Eagle, the opportunity to view one of these birds, arguably the most majestic bird-of-prey in the world, is beneficial, not just to RBCMA, but to the nation of Belize.

UNDP GSF/SGF

Environmental Education Program

At this time, a brochure explaining the natural history of the Harpy Eagle, as well as the Harpy Eagle Restoration Program, has been produced. A poster showing a young Harpy Eagle in a forest setting has also been produced for distribution. A short film piece about the species and the Restoration Program is currently being finalized by award-winning cinematographers, Richard and Carol Foster. All of these resources will be distributed nation-wide. In January, this UNDP funded Environmental Education program will visit the village of Rancho Dolores. The program will be presented to the schoolchildren there, as well as community members. After this presentation, students and community members will visit The Belize Zoo and observe the Zoo's resident Harpy Eagle, "Panama." Because "Panama" is hand-fed daily, he has formed a strong bond to humans and appears to enjoy the presence of visitors at his exhibit. The education value of the Harpy Eagle exhibit at The Belize Zoo is high.

Birds Without Borders Harpy Eagle Partnership

Field researchers from Birds Without Borders (BWB) are training six community members from Rancho Dolores on bird identification techniques. This training will result in their being qualified as tour guides specialized in bird identification. The training spans over a six week time period and includes lectures at the Tropical Education Center (TEC) about resident and migratory species, visits to various areas of Belize to practice bird-identification, and detailed natural history about the Harpy Eagle.

"PANAMA" the Harpy Eagle at the Belize Zoo

In December, "Panama" was observed stalking a large male Iguana. The reptile was just outside the bird's exhibit. "Panama" showed keen interest in its movements, and flew as close as he could to the Iguana while it remained in the area. "Panama" has been vaccinated against West Nile

Virus disease and has shown no side-effects.

Appreciation for Support

The current successful profile of The Harpy Eagle Restoration Program is due to support from the following:

- Las Cuevas Research Station
- Government of Belize/Ministry of Natural Resources
- The Peregrine Fund
- Belize Defense Force
- Programme for Belize
- Manager and staff: Tropical Education Center
- Operations Manager, Front Desk Personnel, and Animal Management: The Belize Zoo

Future Activities

Angel Muela, from The Peregrine Fund Panama, having spent a week in Belize during mid-January, will return in February to assess the program's progress, spend time at RBCMA, and join Belize Project Coordinator Sharon Matola for overflights of the RBCMA forests.

The above-mentioned overflights will be provided by the conservation organization, Lighthawk.

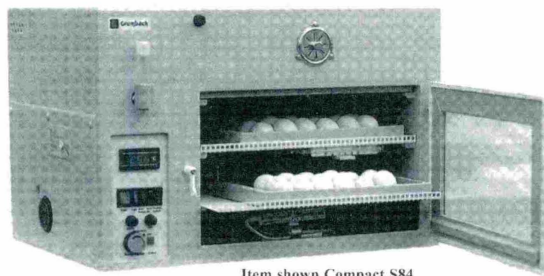
Grants are still being pursued to provide the necessary financial support for the continuation of the Harpy Eagle Restoration Program in Belize.

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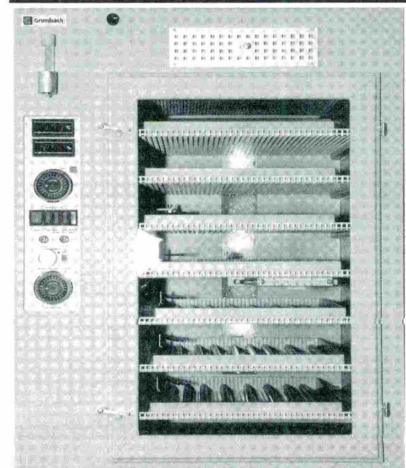
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