Puerto Rican broad-winged hawk Buteo platypterus brunnescens

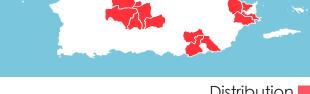




Family: Accipitridae Order: Falconiformes

<u>Description</u>

The Puerto Rican broad-winged hawk is dark brown and has rufous-barred white ventral area. It is a medium-sized forest hawk that measures approximately 39 centimeters (15.5 inches), and is endemic to Puerto Rico. It is smaller than the Buteo plalypterus platypterus, but larger than the Lesser Antillean subspecies. This is the darkest subspecies of the broad-winged hawks. In adults, the tail is broadly banded with black and white, and the rufous (rust color) breast is characteristic. Adult male and female are similar in appearance, but females are slightly larger. Immature birds have dark bars on the breast and lack the distinctive tail bands of the adult. The Puerto Rican broad-winged hawk population is estimated at about 125 individuals island-wide.



Distribution **I**

Biological Information

Reproduction

The species nest on mature secondary forest and old plantations. In Río Abajo Commonwealth Forest (RACF) nesting sites are characterized by the dominance of tree species such as palo maria (Calophyllum antillanum), teak (Tectona grandis), Honduran mahogany (Swietenia macrophylla) and blue mahoe (Hibiscus elatus). Nests are built in the upper reaches of large trees emerging from the canopy. New information on the abundance and demographic features of the population of Puerto Rican broadwinged hawks at the RACF indicates high pair fidelity; a nest survival rate of 0.67 across breeding seasons; and an average annual productivity of 1.1 young per nest. Between 2001 and 2003, Puerto Rican broad-wing hawks were radio-tagged and legbanded as hatchlings in RACF and were documented alive in 2013 using the same areas where they were marked (Llerandi-Román and Rios-Cruz pers. comm.). One female hatchling marked between 2001 and 2003 in RACF has been documented nesting successfully in the years 2007 to 2009. (Rios-Cruz pers. comm.)

Habitat

This species occurs in elfin woodland, sierra palm, caimitillo-granadillo, and tabonuco forest types of the Carite Commonwealth Forest, Toro Negro Forest, Los Tres Picachos Forest and El Yunque National Forest, as well as within mature hardwood plantations, shade coffee plantations, and mature secondary forest of the north-central karst region of Puerto Rico within and adjacent to the Río Abajo Commonwealth Forest, and in the Río Encantado area (Florida - Ciales). The topography of the moist karst forest may provide broad-wings alternative nesting sites within the karst

region. Recent studies have documented the use of limestone cliff walls for nesting by a similar *Buteo* species (i.e., Red-tailed Hawks) in lands adjacent to the RACF.

Distribution

The Puerto Rican broad-winged hawk is an uncommon and extremely local endemic island raptor of upland montane forests of Puerto Rico. Extant populations are restricted to montane habitats primarily within five forests: RACF, Carite Commonwealth Forest, Toro Negro Commonwealth Forest, Los Tres Picachos Commonwealth Forest and El Yunque National Forest. Llerandi-Román (2006) found thirteen Puerto Rican broad-winged hawk territories just outside the boundaries of the RACF, at six different locations with suitable broad-winged hawk habitat. The territories were along the Tanamá River valley in the northwestern region of the RACF.

Threats

Broad-winged hawk abundance and distribution is very limited. Any threat against the existing population and its habitat can be detrimental to the species. Hurricanes are a natural threat, since the high-velocity winds and heavy rains damage the habitat. Nonetheless, there is a large variety of human activities that also threaten this species. Construction of recreational facilities, construction of power and communication structures and road construction largely contribute to habitat destruction and fragmentation. In a similar manner, illegal hunting, bad management practices and the lack of comprehensive management plans for the public forests further threaten the species. Lastly, the low population numbers can also hurt the broad-winged hawks, since there could be a possible loss of genetic variation.

Conservation Measures

The Broad-winged Hawk was included in the federal list of endangered species since 1994. The Endangered Species Act of 1973, as amended, prohibits the killing, harming, harassing, trapping, purchasing or selling any species, as well as parts and products derived from the species. Recognition through listing encourages and results in conservation actions by Federal, Commonwealth, and private

agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the Commonwealth, and requires that recovery actions be carried out for all listed species. Protection of nest and foraging sites within public and private lands, habitat enhancement, open areas reforestation, updates to distribution information, identification or establishment of biological corridors between nearby populations such as RACF, Los Tres Picachos Commonwealth Forest and Toro Negro Commonwealth Forest to facilitate broad-winged hawk movement between these forests and increase outreach are essential measures to protect the habitat and the populations of this species.

References

Delannoy, C.A. 1992. Status surveys of the Puerto Rican sharp-shinned hawk (*Accipiter striatus venator*) and Puerto Rican broad-winged hawk (*Buteo platypterus brunnescens*). Final report submitted to the U.S. Fish and Wildlife Service as specified in work contract no. 14-16-0004-91-031.

Hengstenberg D.W., and F.J. Vilella. 2004. Nesting Ecology and Behavior of Broad-winged Hawks in Moist Karst Forests of Puerto Rico. Journal of Raptor Research. 39(4): 404-416.

Hernández, E. 1980. Estudio de aves, reptiles y anfibios en la reserva forestal de Carite. Informe presentado como requisito del curso Ciencias Naturales 306, Programa de Mantenimiento Ambiental. Facultad de Ciencias Naturales, Universidad de Puerto Rico, Recinto de Rio Piedras, Rio Piedras, Puerto Rico.

Llerandi –Roman, I.C. 2006. Red-tailed Hawk Home range, habitat use, and activity patterns in north-central Puerto Rico. Thesis. Mississippi State University. Mississippi State, MS.

Llerandi-Román, I.C., Rios-Cruz, J.M. and F.J. Vilella. 2009. Cliff-nesting by the Red-tailed Hawk in Moist Karst Forests of Northen Puerto Rico.

Miranda-Castro, L.,A.R. Puente, and S. Vega-Castillo. 2000. First list of the vertebrates os Los Tres Picachos State Forest, Puerto Rico, with data on relative abundance and altitudinal distribution. Caribbean Journal of Science 36(1-2):117-126.

Raffaele, H.A. 1989. A guide of the Birds of Puerto Rico and the Virgin Islands. Princeton University Press, New Jersey.

Snyder, N.F., J.W. Wiley and C.B. Kepler. 1987. The parrots of Luquillo: Natural history and conservation of the Puerto Rican parrot. Western Foundation of Vertebrate Zoology, Los Angeles, California.



U.S. Fish and Wildlife Service. 2010. Puerto Rican broad-winged hawk or guaraguao de bosque (*Buteo platypterus brunnescens*) 5-Year Review. Caribbean Ecological Services Field Office, Boquerón, Puerto Rico.

U.S. Fish and Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Puerto Rican broad-winged hawk and the Puerto Rican sharpshinned hawk. Federal Register 59:46710-46715.

Wiley, J.W. and G.P. Bauer. 1985. Caribbean National Forest, Puerto Rico. American Birds 39:12-18.

Vilella F.J. & D.W. Hengstenberg. 2006. Broad-Winged Hawk (*Buteo platypterus brunnecsens*) movement and habitat use in a moist limestone forest of Puerto Rico. Ornitología Neotropical. 17: 563–579

Información adicional

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