

**ANDEAN CONSERVATION PLAN FOR BAUDO GUAN  
(PENELOPE ORTONI), IN COLOMBIA**



**WOMEN FOR BIODIVERSITY ORG**

## RESUMEN

The Guaidó guan (*Penelope ortoni*) is an endemic bird of Colombia, whose habitats are the humid Andean forests, in the province of Chocó, Colombia. This bird is classified as Endangered (EN) by the IUCN Global Redlist due to the systematic elimination of its populations due to 3 threats: (i) Poaching; (ii) Destruction of habitats; (iii) Climate change. In the last 5 years, the WOMEN FOR BIODIVERSITY ORG, in agreement with the Embera indigenous community, has made conservation efforts to protect this turkey from extinction.

Through this program we propose conservation, education, communication and sustainability strategies to guarantee the survival of this bird and the surrounding biodiversity; attack identified threats, create protected natural areas and restrict poaching in prioritized habitats of this species. At the end of the implementation of this program, we expect that the population of our turkey will have increased from <250 to> 1,000 mature individuals, in the Emberá indigenous territory.

**Keywords:** Pava de guaidó; Embera indigenous community; conservation; extinction; threatened birds.



## **1. BIO-ECOLOGICAL INFORMATION ON THE SPECIES**

### **1.1. Ecology**

The Pava del Baudo is endemic to the biogeographic Chocó (Delacour and Amadon 1973; del Hoyo 1994; Stattersfield et al. 1998; Salaman et al. 2001, Franco-Maya 2002). It inhabits mainly humid and rainy forests from the north of the department of Chocó to Nariño (Delacour and Amadon 1973, Hilty and Brown 1986, Ridgely and Greenfield 2001). It is distributed altitudinally between 100 and 1500 m and can be found on mountain tops in areas of difficult access, abrupt and steep.

These latter places, in general, conserve mature forests and have had little intervention (Hilty and Brown 1986; del Hoyo 1994; Salaman et al. 2001; Idrobo-Medina et al. 2006). The distribution is apparently discontinuous (Hilty and Brown 1986; Idrobo-Medina et al. 2006) as it has been recorded in the upper Anchicayá, in the Valle del Cauca and in the El Pangán reserve in Nariño. In the latter place it seems to be common while in Anchicayá the species is rare (Idrobo-Medina et al. 2006).

The Pava del Baudo is sedentary and uses all the strata of the forest. The diet is based on fruits (del Hoyo 1994) such as chanul (*Humiriastrum procerum*; Idrobo-Medina et al. 2006). Unidentified seeds have been found in stomach contents (Salaman 1994). It is monogamous and lives in family groups of 4 to 8 individuals, except in the reproductive season in which they are established couples in independent territories. The breeding seasons occur during the months of July and September and generally have a laying of two eggs (Salaman 1994; Salaman et al. 2000).

66 cm. Shy, drab, medium-sized, long-tailed cracid. All rich brown with greyish-brown tinge to neck and head and fine whitish edging to foreneck and breast. Bare blue ocular area, prominent red dewlap, and dull red legs. Similar spp. Smaller and duller than other sympatric *Penelope* spp.. Similar-sized Sickle-winged Guan *Chamaepetes goudotii* lacks red dewlap and whitish breast streaks. Voice Call at dawn a far-carrying guttural bawling waou (Jahn et al. 2002). Mates and family members warn each other of an approaching human with low, soft, and prolonged rising whistles. Rarely heard alarm call is a repeated and agitated konh-konh-konh-konh (resembling other *Penelope* species) (Jahn et al. 2002).

### **1.2. Threats**

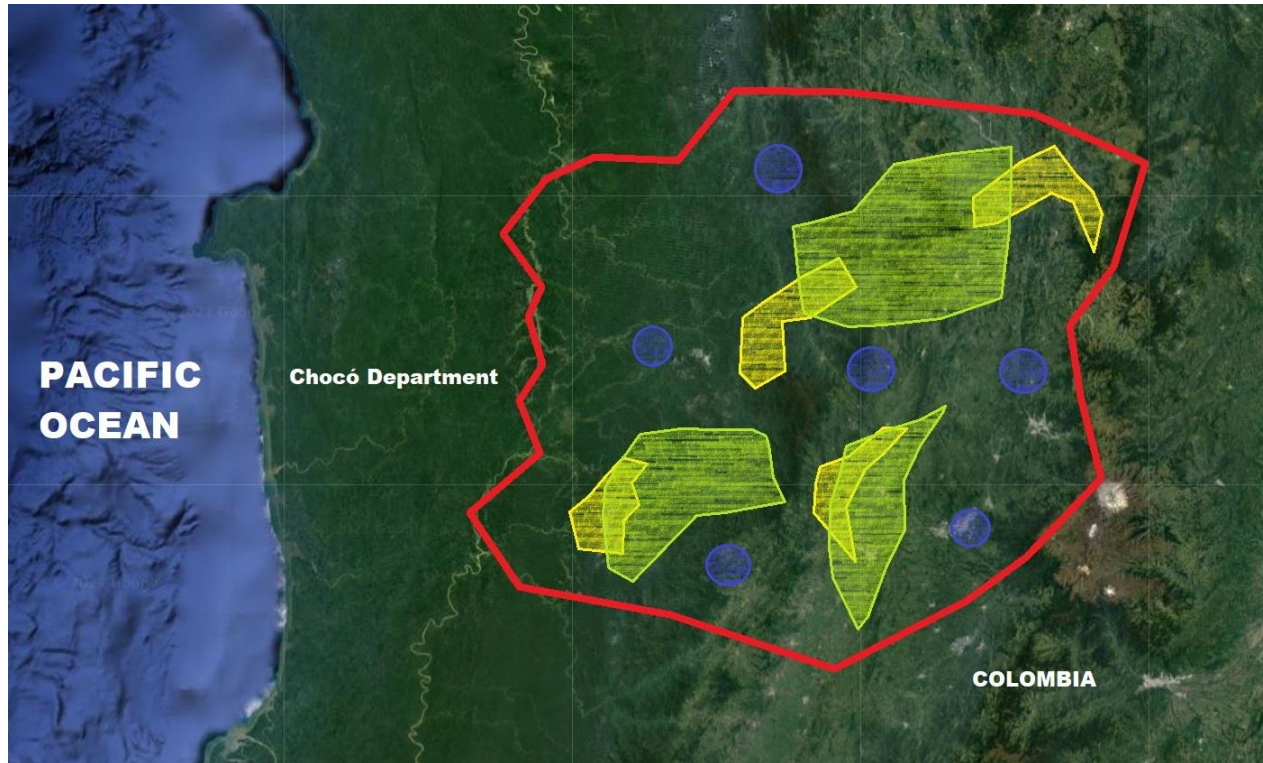
The main threats that the Pava del Baudo faces are deforestation and fragmentation of habitat and hunting, which affect even the protected areas or buffer zones where the species usually lives (Franco-Maya 2002; Jahn and Mena 2002; BirdLife International 2011). In the Pacific region of Colombia, coca cultivation can affect it (Uribe-Ramírez 1997). In some regions of the Río Ñambí (R. Strewe pers. Com.) And Valle del Cauca, as in the old Cali-Buenaventura road (Danubio-Zabaleta; C. M. Wagner com. pers.), this kettle is part of the diet of local people. In Nariño there is a report of hunting by indigenous

people awá (Salaman 1994). Hunting pressure extends to Ecuador, where such activity is prohibited (Ridgely and Greenfield 2001; Jahn and Mena 2002). This species is staying restricted to areas with difficult access, where hunters do not reach (Delacour and Amadon 1973; Idrobo-Medina et al. 2006). Other places that present forests in a good state of conservation and where this guan seems to be common, are the upper Anchicayá, Valle del Cauca (K. Fierro pers. Comm.) And the El Pangán reserve in Nariño. But nevertheless, in those forests with the greatest number of human settlements, the populations of this turkey are small (H. Álvarez pers. comm.). In general, the species is extirpated from the surroundings of human populations in a radius of 2 to 5 km (Idrobo-Medina et al. 2006).

This species is extremely sensitive to habitat modification and hunting (Jahn 2001, P. Salaman in litt. 2003, O. Cortes in litt. 2012). It usually does not flee if approached by humans, making it an easy bag for hunters (Jahn and Mena 2002). Large parts of its range have long since been deforested and plans to colonise and develop more remote regions are progressing through the rapid expansion of the road network (Dodson and Gentry 1991, Salaman 1994, Salaman and Stiles 1996, WWF and IUCN 1994-1997). Colonisation is in turn increasing the impact of small-scale agriculture, illegal coca plantations, selective logging, hunting for food and gold mining (Salaman 1994, Salaman and Giles 1995, Salaman and Stiles 1996, WWF and IUCN 1994-1997, P. G. W. Salaman in litt. 1999, 2000, Idrobo-Medina et al. 2006), which is already affecting some key protected areas (Jahn and Mena 2002, Idrobo-Medina et al. 2006).

Industrial-scale logging and intensive agriculture, especially oil palm and banana plantations and cattle-farming are major threats (Salaman 1994, Salaman and Stiles 1996, P. Coopmans in litt. 1998, P. G. W. Salaman in litt. 1999, Sharpe 1999, P. G. W. Salaman in litt. 2000), and have already transformed over 90% of the Ecuadorian landscape below 900 m (Dodson and Gentry 1991). Large tracts of its western Ecuadorian range are being purchased from local communities, denuded of forest and converted to industrial oil palm plantations (Sharpe 1999). New legislation and the transfer of land-rights to local communities has been exploited by large businesses, for whom it has become cheap and easy to buy land (P. G. W. Salaman in litt. 1999, 2000). The construction of pipelines and hydroelectric dams is also a potential threat (E. Gallo-Cajiao in litt. 2007).

Despite the existence of protected areas within its range, some threats may operate even inside of such areas and their buffer zones (Jahn and Mena 2002).



**S.O.S. ANDEAN TO SAVE THE TURKEY GAUDÓ (*Penelope ortoni*) FROM EXTINCTION, IN COLOMBIA**

**Conventions**

	<b>Project area</b>		<b>Poaching Spotlights</b>
	<b>Baudo turkey populations</b>		<b>Embera indigenous cities</b>

**Scale**



1cm = 75Km<sup>2</sup>

**Geographic location**

-Country: **COLOMBIA**

-Departments: **CHOCÓ (18,800ha of the Embera indigenous territory)**

-Geographic coordinates: From 5 ° 36'45.6 "N 76 ° 38'41.9" W to 4 ° 57'18.3 "N 76 ° 36'20.9" W

**Source:**

-Colombia Biodiversity Map

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### 1.3. Life story

It has been calculated that in a time of 24 years there are three generations of the Baudo Pava (Jahn and Mena 2002). However, Idrobo-Medina et al. (2006) propose a time of 12 to 18 years longevity if it is taken into account that the maturation period of medium cracids

is two to three years (del Hoyo 1994). *Penelope ortonii* has been recorded locally along the west Andean foothills and slopes throughout west **Colombia** and in **Ecuador**, south to Naranjal, Guayas (Vaurie 1968, Hilty and Brown 1986), and possibly to Buenaventura, El Oro (P. Coopmans in litt. 1998). In Colombia, recent reports are from Chocó (B. López-Lanús in litt. 2000), Valle del Cauca (N. Gómez in litt. 1999, A. Cortés per E. Fierro in litt. 2012) and Nariño (Hellmayr and Conover 1942, Salaman and Giles 1995). In Ecuador, there are no confirmed recent records south of Pichincha, where it occurs in the Mindo-Nambillo area, and the majority of modern records are from Esmeraldas (Best et al. 1996, Velasco-Abad 1997, Sharpe 1999, Jahn and Mena 2002, Jahn et al. 2002, Idrobo-Medina et al. 2006). Its range and population have undoubtedly contracted greatly.

The population in Ecuador was estimated at 2,500-7,500 mature individuals in 2002. On the basis of extensive visual and auditory transect-mapping carried out in 1997-2006 in Esmeraldas (Ecuador), the global population was extrapolated at 7,000-21,000 mature individuals, roughly equivalent to 10,000-32,000 individuals in total. In remote premontane forest, about 0.5-1.5 territories were counted per transect kilometre. However, the species is usually extirpated within about 2-5 km around human settlements (O. Jahn in litt. 2007, P. Mena in litt. 2007). Transects in Ensenada de Utría in 2010 estimated a total density of 0.56 individuals/km<sup>2</sup> (O. Cortes in litt. 2012).

**Trend Justification:** A very rapid population decline is suspected to have occurred over the last three generations on the basis of rates of habitat loss and hunting pressure. An analysis of deforestation from 2000 to 2012 found that forest within the species's range was lost at a rate equivalent to 2.5% over three generation lengths (Tracewski et al. 2016).

#### **1.4. Conservation measures taken**

The main conservation effort for this species is the development of the Chocó-Manabí corridor between Ecuador and Colombia, which covers the entire range of the guan. This effort Thanks have been given to public sector organizations, NGOs, and academic and social institutions in both countries. This project seeks to generate a network of protected areas that ensure, through of a sustainable management, the maintenance of the diversity and richness of the species and their biological processes throughout the Chocó region. In Colombia and Ecuador, strategies have been proposed to guarantee the protection of the species (Idrobo-Medina et al. 2006). In Colombia, the priority is to ensure protection and evaluate the current status of the country's reserves since the species is found in different protected areas such as the PNN Farallones in Valle del Cauca (C. M. Wagner and K. Fierro pers. comm.) and the PNN Ensenada of Utría, in the department of Chocó. In these places, and others such as the Baudo mountain range, it is important to establish monitoring programs.

The condition of the population in the Pangán private reserve in Nariño should be evaluated, where there is no hunting pressure. Another important measure is to apply the

laws against hunting, because like many species of the Cracidae family, this species is part of the diet of the inhabitants of the areas where it is found, which threatens the capacity of the populations. to stay stable.

Between November 2011 and June 2012, the Calidris Association carried out a project to estimate the population density of this species in the Farallones de Cali NPN, but due to the low encounter rate with this turkey, it was not possible to meet the objective. However, activities were carried out in the Danube town educational programs and informative material was distributed on the Pava del Baudo and the main threats that affect the species in the area near Anchicaya (E. Fierro-Calderón pers. comm.). The National Parks unit has set as a long-term goal the monitoring of the population of this turkey in the Farallones NPN with the technical help of the Calidris Association (E. Fierro-Calderón pers. Comm.).

It inhabits early to late successional stage humid and wet forest from the tropical to the temperate zone, mostly between 70-1,500m (Hellmayr and Conover 1942, Delacour and Amadon 1973, Hilty and Brown 1986), with wanderers recorded up to 3,100 m (Idrobo-Medina et al. 2006, O. Jahn in litt. 2007). In Esmeraldas and Azuay, it has been recorded on the coastal plain and in rolling lowland hills, but only near the base of the Andes (Hellmayr and Conover 1942, Delacour and Amadon 1973, Paynter 1993, Jahn 2001). However, due to hunting pressure it is now usually restricted to steep slopes adjacent to level ground and mountain ridges (Idrobo-Medina et al. 2006, O. Jahn in litt. 2007, P. Mena in litt. 2007). The species's daily activities include all forest strata (Idrobo-Medina et al. 2006, O. Jahn in litt. 2007, P. Mena in litt. 2007): at dawn it vocalizes and performs courtship displays from the canopy; around noon it tends to stay at medium levels, hiding from predators such as eagles, and it feeds on fruits and seeds from the ground level up to the canopy. Breeding pairs are territorial, and post-breeding birds live in family groups, usually numbering around four individuals, exceptionally more (Idrobo-Medina et al. 2006). Available data suggest this species breeds between July and September, with the clutch numbering two eggs (Haffer 1968, Salaman 1994, Salaman et al. 2000, Jahn and Mena 2002, Jahn et al. 2002, Idrobo-Medina et al. 2006).

#### Conservation Actions Underway

It occurs in Cotacachi-Cayapas Ecological Reserve (Esmeraldas) (Jahn and Mena 2002, O. Jahn in litt. 2007), Awacachi Corridor (Esmeraldas) (P. Mena in litt. 2007), Canandé Reserve (Esmeraldas) (Idrobo-Medina et al. 2006), Mindo-Nambillo Protection Forest (Pichincha) (Idrobo-Medina et al. 2006), Farallones de Cali (Valle de Cauca) and Ensenada de Utría (Chocó) National Parks (Velasco-Abad 1997, B. López-Lanús in litt. 2000), and in the small El Pangán Nature Reserve (Nariño) (P. G. W. Salaman in litt. 1999, R. Strewe in litt. 1999, P. G. W. Salaman in litt. 2000). Historical specimens from the vicinity of Munchique National Park, Colombia, suggest that fieldwork at appropriate altitudes would probably find the species (P. G. W. Salaman in litt. 1999, R. Strewe in litt.

1999, P. G. W. Salaman in litt. 2000). In Ecuador the species is protected by law (Jahn and Mena 2002).

### Conservation Actions Proposed

Implement population monitoring programmes (Jahn and Mena 2002). Survey appropriate habitats, especially in poorly-known areas. Extend and improve the network of protected areas in Nariño and Esmeraldas (Salaman 1994, P. G. W. Salaman in litt. 1999, Sharpe 1999, P. G. W. Salaman in litt. 2000, Jahn and Mena 2002, Idrobo-Medina et al. 2006). Designate the Awá reserve, Cotacachi-Cayapas Ecological Reserve, Awacachi corridor, Gran Reserva Chachi, and Canandé Reserve, including the Río Santiago, Cayapas, Ónzole, and Hoja Blanca drainages, as a biosphere reserve (Jahn and Mena 2002). Sustainably manage the buffer zones of the Awá Ethnic Reserve and Cotacachi-Cayapas Ecological Reserve (Jahn and Mena 2002).

**EOO:** 61,728 km<sup>2</sup>

**Remaining habitat area:** 20,185.3 km<sup>2</sup>

**Remaining area weighted by habitat suitability (estimated aoo):** 13,816 km<sup>2</sup>

**Percentage of habitat change (2000-2010):** 0.77%

**Total percentage of habitat loss:** 82.97%

**An unknown generation for the genus *Ortalis*:** 5.7 years

**3 generations:** 17.1 years

## 2. CONSERVATION AND MANAGEMENT PROGRAM

### 2.1. Habitat Conservation and Management

The actions indicated here must be carried out in accordance with the schedule of activities that defines them in the short, medium or long term. The deadlines in which they are carried out must allow the tasks to be scheduled, prioritize them and evaluate the results obtained. In specific cases, the UMAs should propose additional measures in accordance with the conditions and problems identified, and at all times, at the request of the Secretariat, they should participate in regional actions focused on the conservation and management of wildlife and its habitat.



<b>PROJECT METHODOLOGY BY OBJECTIVES</b>		<b>CALENDAR (B: Bimester)</b>					
<b>Start date:</b> June 6/2022; <b>Finish date:</b> June 5, 2032. <b>Project duration:</b> 10 months		<b>B1</b>	<b>B2</b>	<b>B3</b>	<b>B4</b>	<b>B5</b>	<b>B6</b>
<b>Specific objective 1:</b> Create a 2,800ha protected natural area (plus 1,200 of buffer zones) and inscription as an Important Bird Area(IBA), in prioritized habitats.							
<b>A1.1.</b> Creation of a 2,800ha protected natural area (1,200ha of buffer zones) in Emberá indigenous territory. <b>Methodology:</b> Issuance of administrative decree by the Emberá indigenous tribal council, with delimitation of protected area, in prioritized habitats with ecological corridors of the Baud turkey. This activity will have no cost. The Emberá administration has the political will and legal capacity to make this decision; therefore, the rights of autonomy or free development of the peoples are not violated. -Registration of a new protected area in IUCN and the Ministry of the Environment of Colombia.		X	X				
<b>A1.2.</b> Implementation of a natural area management plan with 80 restrictions on poaching, consumption and illegal bird trafficking, in a natural area. <b>Methodology:</b> Issuance of an administrative decree by the Emberá administration council with restrictions on Deforestation, dumping of garbage, hunting, trafficking and focus of captivity, in the new protected natural area.			X	X			
<b>A1.3.</b> Monitoring of 2,800ha of forest area with unmanned equipment (1 drone) <b>Methodology:</b> Use of 1 drone to locate areas with poaching, deforestation for illicit crops and record of evidence. -Through agreements with environmental authorities; 24/7 retroactive communication, warning of facilities of focus of illegal traffic and deforestation.			X	X	X	X	X
<b>A1.4.</b> Formation of 4 groups of 4 forest rangers to carry out weekly sessions to monitor and search for poaching sources. <b>Methodology:</b> Formation of a volunteer plan with indigenous people between 18-35 years of age for supervision and surveillance, in areas threatened by illegal trafficking of species. Delivery of equipment (uniform, boots and hat; snack). The financing of this activity will be obtained through small donations on the website and social networks.			X	X			
<b>A1.5.</b> Signing of a cooperation agreement and joint work with the environmental police. <b>Methodology:</b> Tracking of poaching, illegal trafficking and illicit crops; notice to the environmental police for the eventual dismantling.		X	X				
<b>A1.6.</b> Installation of 100 information billboards to mark objective forests. <b>Methodology:</b> Marking of forests, names of trees, firebreaks, information on restrictions and prohibitions on poaching and illegal bird trafficking.				X	X		
<b>A1.7.</b> Registry of protected natural area as Important Bird Areas (IBA). <b>Methodology:</b> Registration of the natural area in BirdLife International, as IBA. Delivery of studies for subscription and registration.							X
<b>Specific objective 2:</b> Train 250 young Emberá indigenous people in bird conservation and sensitize 5,000 people about the importance of conserving the Baudó turkey.		<b>B1</b>	<b>B2</b>	<b>B3</b>	<b>B4</b>	<b>B5</b>	<b>B6</b>
<b>A2.1.</b> 50 trainings for 250 young Emberá indigenous people, in bird management and conservation. <b>Methodology:</b> Creation of a personalized curriculum for the Emberá culture, inclusive and with a gender perspective. Socio-constructivist learning method. The participation of at least 125 women is mandatory. 50 days of 3-hour training; A snack, school kit and certificate of		X	X				

attendance will be offered, validated by the University of Chocó. - Drafting of a protected area management manual. Training topics: bird conservation and management of protected natural areas with an emphasis on bird conservation.						
<b>A2.2.</b> Choice of 10 outstanding young people from volunteer training. <b>Methodology:</b> Strengthening the network of volunteers with trained young people and with last semester students from the Faculty of Life Sciences of the University of Chocó.		X				
<b>Specific objective 3:</b> Create a regional indigenous conservation office, led by young people trained during the project.	B1	B2	B3	B4	B5	B6
<b>A3.1.</b> Creation of an indigenous environmental corporation. <b>Methodology:</b> Legalization of an indigenous environmental corporation whose social purpose is the conservation of birds in the Emberá indigenous territory, led by 10 outstanding young people from the training sessions carried out. We will enable a donation button in networks, accompanied by digital promotional campaigns, to finance the continuation of conservation actions. With this strategy, we guarantee the sustainability of the project with the continuity of conservation activities.			X			
<b>Specific objective 4:</b> Inform 10,000 people about the activities and results of the project, through digital media.	B1	B2	B3	B4	B5	B6
<b>A4.1.</b> Opening of social networks and website. <b>Methodology:</b> Publications (photographs and videos) of activities and results of the project, as a digital strategy to promote the project.	X	X	X	X	X	X
<b>A4.2.</b> Photography contest. <b>Methodology:</b> Awarding of the 3 best photographs of endemic birds in the Embera indigenous territory. This strategy aims to summon the young population and / or bird watchers, to generate media impact of the project.					X	X
<b>A4.3.</b> Portray in a scientific article the activities and results of the project (case study), to stimulate research and bird conservation actions in the region. <b>Methodology:</b> Implement a case study of the project, where we will evaluate the influence of the conservation actions implemented versus the fight against poaching and illegal bird trafficking in the Andes Mountain range. Credits to Neotropical Bird Club.	X	X	X	X	X	X

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