

MODEL HOMES

Blue-throated Macaws are native to only one place on Earth. Nido Adoptivo, along with Armonía/Loro Parque Fundación, are working to provide nest boxes for one of the most threatened bird species in the world.



WITH AN EYE ON EXPANDING its Saving the Blues™ domestic conservation efforts in situ, Bird Endowment developed and initiated in 2007 an original annual funding project in collaboration with the Armonía/Loro Parque Fundación Blue-throated Macaw (*Ara glaucogularis*) Conservation Program in Bolivia.

Named Nido Adoptivo™, the exclusive nest site supplementation project enables domestic aviculturists and bird lovers to participate in in situ conservation. In recognition, each donor is honored as an El Beni-Factor™ during the period of their participation.

Introduction

The critically endangered Blue-throated Macaw is native to only one place on Earth: the Beni Savannas of Bolivia. This complex ecosystem of grasslands, marshes, forest islands and gallery forest was, until recently, almost entirely in the hands of cattle ranchers. As a result, untold habitat is degraded every year through intentional burning for pastureland.

It is one of the most threatened bird species in the world (*BirdLife International* 2007). Armonía's Blue-throated Program coordinator Mauricio Herrera reports that more than 30 separate nesting sites have now been located, with an estimated population of 300–350 Blue-throated Macaws.

It is believed that one of the principal factors affecting the population size of this species is the lack of available nest sites and the inter-species competition with the more common and abundant Blue and Gold Macaw (*Ara ararauna*) that shares the same ecological niche.

In 2005 the Asociación Armonía/Loro Parque Fundación Blue-throated Macaw Conservation Program experimented and placed 20 artificial nests in the southern zone of the species distribution. These studies demonstrated a lack of cavities in trees and palms in the Llanos de Moxos habitat could be a limiting factor in the reproduction of many species of birds including the Blue-throated Macaw.

The following year, Bird Endowment introduced the “Nido Adoptivo” project for adoption of artificial nests. Armonía agreed to provide certain services to Nido Adoptivo for each \$250 donation from Bird Endowment. This includes construction and placement of a nest box with donor initials on it, regular visits by field biologists, along with two reports per season (this legalese makes the donation to the 501(c)3 Bird Endowment tax-deductible with IRS in the United States).

Design of the nests

The design of the model for the nests was taken from information obtained in the field of a successful natural nest, found in a hollow of a palm where two chicks were hatched and raised. Several aspects were taken into consideration such as latitudinal

location, suitable depth—both vertical and horizontal—entrance shape and diameter, etc.

The artificial nest consists of a rectangular box 1 m x 30 cm, with an entrance hole 12 cm in diameter, or 12 x 25 cm in other cases. On one side of the box there is a small inspection door to facilitate the monitoring of the reproductive process.

The nests are constructed with the wood of Palo Maria (*Calophyllum brasiliense*) and Ochoó (*Hura crepitans*) and are placed at a height of 5 m above ground. The majority of them have been situated in Totái palm trees (*Acrocomia aculeata*) in areas where Blue-throated Macaws have been seen frequently. The Palo Maria wood is more difficult for them to destroy and for that reason we have chosen to use this material.

Monitoring the artificial nests occurs along with that of natural nests. Nest box inspections occur every 15 days. Data is collected in a predetermined schedule.

Results of first year

In the 2007–08 breeding season 34 “Nidos Adoptivos” were funded by people who want to help the conservation of the Blue-throated Macaw. All the nests were placed in trees on cattle ranches in the southern range of distribution.

Four were occupied by Blue-throated Macaws (*Ara glaucogularis*) and 24 by Blue and Gold Macaws (*Ara ararauna*); the nest boxes were also used by White-eyed Conures (*Aratinga leucophthalmus*), Black-bellied Whistling Ducks (*Dendrocygna autumnalis*), bees, etc. Some nest boxes were occupied by two species during the breeding year.

Number of artificial nests occupied, 2007–2008 season		
Species	Common name	Number of nest boxes occupied
<i>Ara ararauna</i>	Blue and Gold Macaw	24
<i>Aratinga leucophthalmus</i>	White-eyed Conure	6
<i>Ara glaucogularis</i>	Blue-throated Macaw	4
<i>Apis mellifera</i>	Honey Bee	4
<i>Dendrocygna autumnalis</i>	Black-bellied Whistling Duck	3
<i>Polistes dominulus</i>	European Paper Wasp	2
<i>Polistes sp.</i>	Paper Wasp	2
<i>Polistes fuscatus</i>	Black Paper Wasp	1
<i>Machetornis rixosus</i>	Cattle Tyrant	1
<i>Cairina moschata</i>	Muscovy Duck	1
	No activity	11
		Total: 59

Of the four nests occupied by Blue-throated Macaws, two were successful. One was predated with three eggs. Another was abandoned without eggs laid. The most successful nest produced three chicks that fledged on 10 March and were seen on 14 April

Table 1. Initials, sponsor and species that used the nests in the 2008-2009 breeding year

Nest	Name	Location	Activity
1#	Katy Secor	S 15° 19' 22" / W 064° 37' 40"	Blue-and-Yellow Macaw, laid two eggs, hatched one chick that fledged in good health
WJ	Jennifer White	S 15° 19' 11" / W 064° 37' 05"	Blue-and-Yellow Macaw, laid two eggs, hatched one chick that fledged in good health
WR	Wayne Rankin	S 15° 18' 43" / W 064° 37' 06"	Blue-and-Yellow Macaw, laid three eggs, hatched one chick that fledged in good health
RW	Wayne Rankin	S 15° 18' 00" / W 064° 37' 55"	Blue-and-Yellow Macaw, laid two eggs, hatched two chicks that were predated by unknown animal
FC	France Archambault, Calvin Embry	S 15° 18' 0" / W 064° 37' 57"	Blue-and-Yellow Macaw, laid three eggs, hatched two chicks that fledged in good health
BA	Blue-throated Macaw Yahoo Group/Jim P	S 15° 18' 02" / W 064° 37' 58"	Blue-and-Yellow Macaw, laid three eggs, hatched one chick that fledged in good health
NF	Noelle Fontaine	S 15° 17' 19" / W 064° 38' 46"	Blue-and-Yellow Macaw, laid three eggs, hatched two chicks, one died and the other fledged in good health
SC	Susanne Cochran	S 15° 18' 16" / W 064° 38' 09"	Blue-and-Yellow Macaw, laid three eggs, hatched three chicks that fledged in good health
VB	Vicki Baiamonte	S 15° 17' 49" / W 064° 38' 47"	Blue-and-Yellow Macaw, laid four eggs, hatched two chicks that fledged in good health
DE	Eva Dicker	S 15° 17' 45" / W 064° 38' 55"	Black-bellied Whistling Duck laid four eggs
DC	Claire Dicker	S 15° 17' 24" / W 064° 38' 52"	Black-bellied Whistling Duck laid nine eggs
SR	Dr. and Mrs. Robert Stonebreaker	S 15° 17' 20" / W 064° 38' 46"	Blue-and-Yellow Macaw, laid three eggs that were predated. Later Black-bellied Whistling Duck laid one egg that was predated.
JL	Lisa Johnson	S 15° 17' 18" / W 064° 39' 49"	No activity
JE	Jennifer White	S 15° 17' 19" / W 064° 38' 44"	Blue-and-Yellow Macaw, laid two eggs that were predated. Later Black-bellied Whistling Duck occupied the nest and laid 17 eggs that all hatched.
PU	Parrot University	S 15° 15' 07" / W 064° 44' 28"	Blue-and-Yellow Macaw, laid three eggs, hatched three chicks that fledged in good health.
TO	Uselton Family Foundation	S 15° 15' 08" / W 064° 41' 31"	Blue-and-Yellow Macaw, laid three eggs, hatched three chicks that fledged in good health
NS	Uselton Family Foundation	S 15° 14' 57" / W 064° 42' 10"	Streaked Flycatcher laid three eggs, hatched three chicks
US	Uselton Family Foundation	S 15° 14' 53" / W 064° 42' 06"	Blue-and-Yellow Macaw, laid three eggs, hatched two chicks, one died and the other fledged in good health
EL	Uselton Family Foundation	S 15° 14' 54" / W 064° 42' 09"	Blue-and-Yellow Macaw, laid three eggs, hatched two chicks that were predated when they were very young
DM	Daina Mahone	S 15° 12' 50" / W 064° 43' 18"	Blue-and-Yellow Macaw, laid three eggs that were predated. Later Black-bellied Whistling Duck with six eggs and also White-eyed Parakeet with two eggs. Ducks hatched.
RR	Margo and Randy Rose	S 15° 12' 34" / W 064° 43' 37"	Blue-and-Yellow Macaw, laid two eggs, hatched two chicks that fledged in good health.
KR	Kathryne Thorpe	S 15° 15' 16" / W 064° 43' 48"	Blue-and-Yellow Macaw, laid three eggs, hatched three chicks but all died from unknown cause.
LS	Bolivar the BTM	S 15° 12' 15" / W 064° 41' 01"	Blue-and-Yellow Macaw, laid three eggs, hatched two chicks that were predated.
CP	PEAC-Cleveland	S 15° 11' 56" / W 064° 43' 41"	No activity
KS	Katy Secor	S 15° 11' 43" / W 064° 43' 22"	Blue-and-Yellow Macaw, laid three eggs, hatched two chicks that were predated, Later Blue-throated Macaw laid three eggs, hatched three chicks, but one week before fledging they were stolen by poachers/ bird traffickers.
BJ	Janice Boyd	S 15° 11' 31" / W 064° 43' 10"	Black-bellied Whistling Duck laid 21 eggs, all hatched.
WP	Wendy's Parrots	S 15° 11' 29" / W 064° 43' 08"	Blue-and-Yellow Macaw, laid three eggs, hatched one chick that died after one week.
HF	Gamini and Lisa Ratnavira	S 15° 11' 25" / W 064° 43' 11"	Blue-and-Yellow Macaw, laid two eggs, hatched two chicks that fledged in good health. Later nest was occupied by Barn Owl, which laid six eggs, hatched four that fledged successfully.
MM	Mark and Daina Mahone	S 15° 11' 25" / W 064° 43' 13"	White-eyed Parakeet laid four eggs, hatched one chick that fledged successfully
ASC	Arizona Seed Cracker Society	S 15° 16' 30" / W 064° 46' 01"	Blue-and-Yellow Macaw, laid three eggs, hatched two chicks that fledged in good health
AST	Avicultural Society of Tucson	S 15° 16' 30" / W 064° 46' 00"	No activity

Table 1 (cont'd.)

Nest	Name	Location	Activity
JJ	Jana Julleis	S 15° 16' 27" / W 064° 45' 58"	Black-bellied Whistling Duck laid 40 eggs
LSR	Bird Endowment	S 15° 16' 15" / W 064° 46' 02"	Blue-and-Yellow Macaw, laid three eggs, hatched three chicks that fledged in good health.
RG	Rigoletto Kayla Grasso, BTM	S 15° 16' 09" / W 064° 46' 04"	Blue-and-Yellow Macaw, laid three eggs, hatched three chicks that fledged in good health.
LIN	Blue-throated Macaw Yahoo Group/ Rick G	S 15° 16' 03" / W 064° 45' 05"	Blue-and-Yellow Macaw, laid three eggs, hatched two chicks that fledged in good health.
GB	Good Bird Inc.	S 15° 15' 32" / W 064° 45' 28"	Dormitory of Barn Owl
CJ	Karen C. Justice	S 15° 15' 32" / W 064° 45' 28"	Black-bellied Whistling Duck laid 40 eggs
BT	Blue-throated Macaw Yahoo Group/Steve K	S 15° 15' 31" / W 064° 45' 26"	No activity
BH	Brenton Head	S 15° 15' 29" / W 064° 45' 26"	No activity
MW	Westech Mechanical	S 15° 15' 19" / W 064° 45' 20"	Blue-and-Yellow Macaw, laid three eggs, hatched three chicks that fledged in good health
AS	Rocky Mountain Society of Aviculture	S 15° 15' 02" / W 064° 45' 05"	No activity
IC	Mark and Daina Mahone	S 15° 15' 17" / W 064° 46' 00"	No activity
C2	Daisy and May	S 15° 13' 02" / W 064° 40' 47"	Blue-throated Macaw laid two eggs, hatched two chicks that fledged in good health.

08 flying overhead near the town of Loreto. The second successful nest yielded one chick which fledged on 31 March 08. All of the chicks were closed banded.

Results of second year

There were 41 El Beni-Factors sponsoring “Nidos Adoptivos” for the 2008–09 breeding season. Nest boxes were modified for this season. A plastic lining covering the top of the interior was added to prevent bees from taking possession of the nests.

Two were occupied by Blue-throated Macaw (*Ara glaucogularis*) and 27 by Blue and Gold Macaw (*Ara ararauna*); the nest boxes were also used by White-eyed Conure (*Aratinga leucophthalmus*), Black-bellied Whistling Duck (*Dendrocygna autumnalis*), Barn Owl (*Polistes dominulus*) and Streaked Flycatcher (*Myiodynastes maculatus*), etc. Some nest boxes were occupied by three species of birds during the breeding year.

Number of artificial nests occupied, 2008–2009		
Species	Common name	Number of nest boxes occupied
<i>Ara ararauna</i>	Blue and Gold Macaw	27
<i>Dendrocygna autumnalis</i>	Black-bellied Whistling Duck	7
<i>Ara glaucogularis</i>	Blue-throated Macaw	2
<i>Aratinga leucophthalmus</i>	White-eyed Conure	2
<i>Polistes dominulus</i>	Barn Owl	2
<i>Myiodynastes maculatus</i>	Streaked Flycatcher	1
		Total: 41

Two nest boxes were occupied by Blue-throated Macaws. One successfully hatched three chicks. Two males and one female

were close-banded. Tragically, they were stolen one week before fledging by unknown people. In the second nest box occupied by Blue-throated Macaws two chicks were raised successfully. One male and one female were banded. The chicks fledged on 20 August 2009.

First protected area established

In 2008 World Land Trust-U.S. and the American Bird Conservancy teamed up to purchase and protect 8,785 acres of savannas—the world’s first protected area for the Blue-throated Macaw. The Barba Azul Nature Reserve is managed by Asociación Armonía. “Barba azul” means “blue beard” in Spanish, and is the colloquial name for this beautiful Bolivian bird.

Additional information

The Armonia/Loro Parque Fundación Blue-throated Macaw Conservation Program has been striving to protect the critically endangered Blue-throated Macaw since 1995. In 2003 they wrote a Species Action Plan, which specified a need for more field research. Through the years, various searches carried out during the short dry season between May and October turned up several clusters of birds, usually pairs, nearly 60 miles from previous known sites. But all records were of small groups, consisting of two to three pairs, often nesting on massive ranches. But this data was incomplete.

With support from American Bird Conservancy, efforts were made to survey the most difficult-to-access areas of the Beni Savannas. Here a vital discovery was made: a thriving colony of at least 80 Blue-throated Macaws. This remote region had been overlooked by those poachers involved in the illegal trafficking of this rare species. This isolated area, spanning nine private ranches, held



PHOTO BY MAURICIO HERRERA / A fledgling at Nido Adoptivo.

the world's greatest abundance of wild Blue-throated Macaws.

By coincidence one of these ranches was for sale. Within months, World Land Trust-U.S. and American Bird Conservancy had raised the funds necessary for acquiring the first parcel of land for the Barba Azul Nature Reserve. Five other ranches are for sale that are at risk of being developed and that are essential for the expansion of the new private reserve, to protect 41% of the of the known Blue-throated Macaw population.

"This work builds on the Armonía/Loro Parque Fundación Blue-throated Macaw Conservation Program which has supported both research on the Macaw and public outreach, including a pride campaign to build awareness of the Macaw and support its conservation," said Bennett Hennessey, executive director of Armonía. "Raising public awareness to build local support for the Macaw is our most potent tool to halt the illegal taking of these rare birds for the pet trade."

"This private reserve will permit us to more actively research conservation techniques for the Macaw and the grassland habitat," Hennessey said. "We will be able to place and monitor more nest boxes, actively protect reproducing Macaws, conduct habitat recuperation studies with and without cattle, research habitat requirements of the Macaw, and test a theory that historical indigenous

corn crops were an important food resource for the Blue-throated Macaw before 95 percent of the indigenous people of Beni died from European diseases."

Third year of Nido Adoptivo

2009-2010 breeding season is under way.

Loro Parque Fundación supported the purchase of three infrared cameras to put in nest boxes. U.S. Fish and Wildlife Service biologist Thomas White helped by sending one of his trained technicians to Bolivia. The cameras are now installed in three active nests in the southern range. A thesis student is collecting data at these locations. This will be a first from the wild.

So far the nest boxes on the reserve have not been utilized by Blue-throated Macaws, as they appear to breed in what the locals call Royal Palms near the lakes north of the reserve. Additional research in this northern range could further expand the need for nest box supplementation, or Nido Adoptivo.

If Saving the Blues is important to you, there's a place for you in the nonprofit 501(c)3 Bird Endowment program. You can become a vital part of Bird Endowment's mission by signing on as a supporter of our project in Bolivia. For more information: www.birdendowment.org/inBolivia/nidoAdoptivo.shtml