

# Monitoring of Artificial Nests 2013-2014

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3 chicks of the Blue-throated Macaw in the artificial nest

## **Introduction**

The Blue-throated Macaw (*Ara glaucogularis*) an endemic species to Bolivia that only lives in the Llanos de Moxos of Beni. Considered by Birdlife International 2009 as one of the most endangered species in the world. It is believed that one of the main factors affecting the population size of this species is the lack of potential nesting sites and interspecific competition with the most common and abundant Blue and Yellow Macaw (*Ara ararauna*) that share the same ecological niche.

Since 2005, the Conservation of the Blue-throated Macaw was supported by Loro Parque Fundación and Asociacion Civil Armonia, in the placing artificial nests in the southern of part of the distribution of this species. The 2005 we experimented with 20 artificial nests and today for this 2014 has a total of 60 artificial nests in the south, specifically the Loreto area.

All nest box has an internal code for the project of artificial nests, but some of these are part of a nest adoption program supported by Bird Endowment. This began many years ago, which consists in finding donors for the purchase of an artificial nest. And for these sponsored artificial nests we used special codes.

## **Design of artificial Nests**

The design of the nest has been taken with data obtained in the field of a successful nests found in palm trees, where usually flew two chicks. Several aspects were taken into account: as the latitudinal location; proper depth; both vertical and horizontal. The artificial nest was created initially as a rectangular box 1m long x 30 cm wide. With an input of 12 x 25 cm. (ovoid) and with small door that allows easy monitoring of the reproductive processes. But since 2012 we produced nests with an entrance (holes) 12 x 12 cm in diameter and in this monitoring (2013-2014) we are experimenting with reduced nest entries 10 x 10 cm in diameter (Photo 1).



**Photo 1. Artificial Nests occupied for the Blue-throated Macaw 2013-2014**

The artificial nests are made of wood called "Ochoo" (*Hura crepitans*) and "Palo Maria" (*Calophyllum brasiliense*), placed at a height of 5 m above the ground, generally We placed in palms: "Totai" (*Acrocomia aculeata*), "Motacú" (*Attalea phalerata*) In areas where they have been frequently seen the Blue-throated Macaw. Almost all of the nest is made of Ochoo just for the principal part of the nest (with the hole) We used Palo Maria, because is harder to undo by the macaws (being that They like work the nest).

The monitoring of the artificial nests usually was performed every 15 days, because we needed 7 days to review the nests placed in the south. The data are taken into template; each monitoring involves different records (Photos, observations, etc). For this year between February-May 2014 the monitoring was hard to be performed normally owing the unusual rising waters the region of the Beni.

## Results

We monitored **60** artificial nests in the south of the department of Beni. **27** of these were part of the Adoption Program of the Artificial Nest Boxes which only **22** were occupied by some species of bird (**4** of these were Blue-throated Macaw but only **3** nests were successful); **5** these recorded without movement and the remaining **33** also no showed some activity.

Below is a brief summary of the activities in artificial nests used by some species including the Blue-throated Macaw, Table 1.

**Table 1 Armonia Code, Donor Code, location and Species Nest 2013-2014**

<b>Código Armonia</b>	<b>Código Donante</b>	<b>Estancia ganadera</b>	<b>Ubicación</b>	<b>Especies que ocuparon los nidos</b>
PBA19	<b>NW</b>  Northwest Exotic Bird Society	Santa Rosa	S 15°17'49,6`` W 064°38'47,8``	Blue-throated Macaw placed 2 eggs, but unfortunately were broken. Apparently caused by Blue-and-Yellow Macaw.
PBA24	<b>JW</b>  Jennifer White	Santa Rosa	S 15°17'17,7`` W 064°38'42,7``	Blue-and-Yellow Macaw, placed 2 eggs and 2 chicks flew successfully
PBA25	<b>SL</b>  Bolivar the BTM	Santa Rosa	S 15°18'01,1`` W 064°38'07,7``	Blue-and-Yellow Macaw placed 2 eggs and 1 flew successfully.
PBA26	<b>SB</b>  South Bay Bird Society	Santa Rosa	S 15°18'14,7`` W 064°38'07,6``	Blue-and-Yellow Macaw, placed 2 eggs but unfortunately these have been lost
PBA28	<b>KR</b>  Alan and Karen Rossi	Santa Rosa	S 15°18'12,5`` W 064°38'15,4``	Blue-and-Yellow Macaw placed 2 eggs and 2 flew successfully.

PBA31	<b>RO</b>  Roger O'Connell	Santa Rosa	S 15°17'58,3`` W 064°37'54,5``	Blue-throated Macaw Placed 3 eggs, hatch all, but only flew 2 chicks, 1 chick die because the Totaí Palm fell with the nest boxes caused by wind and rain. Only 1 chick has a ring. # Ring 11 AFA-513
PBA33	<b>CZ</b>  Cincinnati Zoo & Botanical Garden	Getafe	S 15°19'21,6`` W 064°37'01,5``	Blue-and-Yellow Macaw placed 2 eggs unfortunately this disappeared.
PBA34	<b>AS</b>  Arizona Seed Cracker Society	Getafe	S 15°19'10,3`` W 064°37'03,9``	Blue-and-Yellow Macaw, placed 2 eggs, only 1 hatched and 1 disappeared (unknown causes).
PBA12	<b>BH</b>  Brenton Head	La Esperancita	S 15°11'23,1`` W 064°43'08,8``	Blue-throated Macaw placed 3 eggs, hatched and flew successfully all chicks. But 2 chicks have a ring. #Ring 1) 11-AFA-511 2)11-AFA-512
PBA8	<b>KJ</b>  In Memory of Cheeko, by Karen C. Justice	La Esperancita	S 15°11'30,7`` W 064°43'07,2``	Blue-and-Yellow Macaw, placed 2 eggs unfortunately just 1 hatch.
PBA4	<b>JB</b>  Janice Boyd	La Esperancita	S 15°11'41,9`` W 064°43'21,4``	Blue-throated Macaw placed 2 eggs, hatched and flew 2 chicks successfully. 2 chicks have rings. #Ring 1) 11- AFA-514 2)11-AFA-515
PBA51	<b>ED</b>  Eva Dicker	La Asunta	S 15°15'31,3`` W 064°45'27,3``	Blue-and-Yellow Macaw, placed 2 eggs, unfortunately disappeared.

PBA56	<b>CD</b>  Claire Dicker	La Asunta	S 15°16'03,0`` W 064°46'04,5``	Muscovy Duck, placed 15 eggs, hatch and flew all successfully.
PBA16	<b>PU</b>  Parrot University	La Tranca	S 15°15'06,2`` W 064°41'26,6``	Black-bellied Whistling-Duck placed 20 eggs and no hatched yet.
PBA14	<b>PH</b>  Parrots of the Hills Bird Club	La Tranca	S 15°15'08,1`` W 064°41'30,1``	Black-bellied Whistling-Duck placed 15 eggs but unfortunately no hatched.
PBA13	<b>AV</b>  Adele Vessey	La Tranca	S 15°15'07,2`` W 064°41'29,6``	Black-bellied Whistling-Duck placed 30 eggs and no hatched yet.
PBA11	<b>LR</b>  Laurel Rohrer	La Esperancita	S 15°11'24,2`` W 064°43'09,8``	Black-bellied Whistling-Duck placed 20 eggs but unfortunately no hatched.
PBA10	<b>GA</b>  Gabriele Alexander and Leland & Zyanna Simmons	La Esperancita	S 15°11'29,7`` W 064°43'06,1``	Black-bellied Whistling-Duck placed 30 eggs but the mother still there.
PBA2	<b>CP</b>  Covenant Parrot Place/John Fisher & Kelle Baley	La Esperancita	S 15°11'48,3`` W 064°43'36,8``	Black-bellied Whistling-Duck placed 10 eggs unfortunately no hatched.
PBA35	<b>BL</b>  In Honor of Blu Lu, by Good Bird Inc. / Barbara Heidenreich	La Cantina	S 15°12'46,8`` W 064°40'40,8``	Blue-and-Yellow Macaw 2 chicks very healthy they are soon to fly.
PBA38	<b>JG</b>  In Honor of Mille, by Jim and Ginger Payant	La Cantina	S 15°12'51,9`` W 064°40'47,4``	Black-bellied Whistling-Duck, placed 7 eggs but no hatched yet.







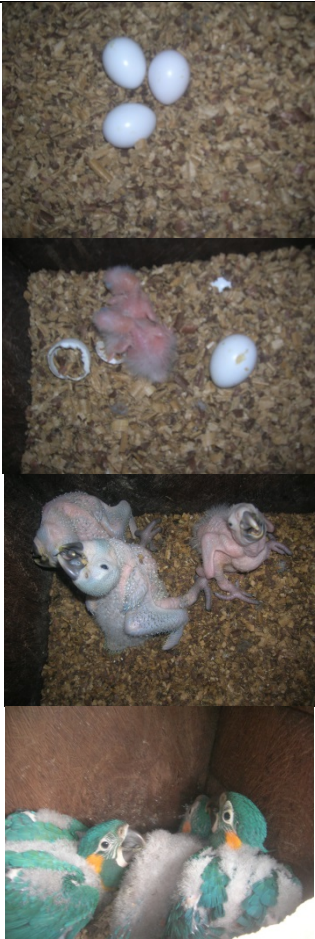
PBA44	<b>II</b> In Memory of Icarus, by Randy Collins and Barbara Citko	La Cantina	S 15°12'50,7" W 064°40'25,3"	Blue-and-Yellow Macaw 1 chick healthy and soon to fly.
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All nests boxes were placed on cattle ranches of the southern area of the distribution (Loreto). These are: Villa Lupita, La Esperancita, Las trancas, Santa Rosa Justiniano, Getafe, La Asunta and Cantina.






The monitored of the 60 nests boxes, 4 were occupied by the Blue-throated Macaw (*Ara glaucogularis*) but unfortunately only 3 were successful (Table 2), 10 occupied for the Blue-and-Yellow Macaw (*Ara ararauna*); 7 Black-bellied- Whistling Duck (*Dendrocygna autumnalis*), and 1 by Muscovy Duck (*Cairina moschata*) etc. (Table 3).

**Tabla 2. Seguimiento de los nidos ocupados por Blue-throated Macaw en la gestión 2013-2014**

Code nest (Armonia)	Description	Picture
<b>PBA19</b>	2 eggs (Blue-throated Macaw) destroyed possibly caused by Blue-and-yellow Macaw.	
<b>PBA31</b>	Blue-throated Macaw Placed 3 eggs, hatch all, but only flew 2 chicks, 1 chick die because the Totalí Palm fell with the nest boxes caused by wind and rain. Only 1 chick has a ring. # Ring 11 AFA-513	 

		
<b>PBA12</b>	<p>Blue-throated Macaw placed 3 eggs, hatched and flew successfully all chicks. But 2 chicks have a ring. #Ring 1) 11-AFA-511 2)11-AFA-512</p>	



		
<b>PBA4</b>	Blue-throated Macaw placed 2 eggs, hatched and flew 2 chicks successfully. 2 chicks have rings. #Ring 1) 11-AFA-514 2)11-AFA-515	   

**Table 3 Number of artificial nests occupied by different species of birds In the monitoring nest season 2013-2014**

Species	Common Name	No. Artificial nests occupied
<i>Ara ararauna</i>	Blue-and-yellow Macaw	10

<b><i>Dendrocygna autumnalis</i></b>	<b>Black-bellied Whistling-Duck</b>	<b>7</b>
<b><i>Ara glaucogularis</i></b>	<b>Blue-throated Macaw</b>	<b>4</b>
<b><i>Cairina moschata</i></b>	<b>Muscovy Duck</b>	<b>1</b>

### **Activities for 2014-2015**

We increase nest boxes especially where the artificial nests were successful in recent years (Estancia La Esperanza, La Cantina and Santa Rosa), also we'll change the front of the nest and also the hole diameter 12 x 25 cm for 10 x 10 cm.

But we will also try to experiment with some nests, removing some nests that never had movement expecting better results and increased activity in these. Either by Blue-throated Macaw or other species.