

Laney Rickman Reserve

Blue-throated Macaw Nest Box Report – August 2024



A Blue-throated Macaw perches atop an artificial nest box in the Laney Rickman Reserve. In the background, a *Copernicia alba* palm, a typical feature of the Beni landscape, is visible—one of the species where we commonly install nest boxes. Teodoro Camacho.

The Laney Rickman Reserve Blue-throated Macaw nest box program has achieved a significant milestone, with a total of 145 chicks fledging since its beginning in 2006. The 2024 nesting season recorded 12 breeding attempts, resulting in 33 eggs laid and an unprecedented 17 chicks successfully fledging, setting a new record! Out of 128 nest boxes installed, 11 were occupied by Blue-throated Macaws, including three used for the first time and one continuously occupied for five years. The expansion of nest boxes to new areas of the reserve has shown promise, with other species beginning to use them, potentially benefiting Blue-throated Macaws in the future. While interspecies conflicts decreased this year, intense competition among Blue-throated Macaw pairs defending nests was notable. Camera trap monitoring provided crucial insight into nesting behaviors and predator interactions, highlighting the program's continued success and challenges in protecting the species.

Laney Rickman Reserve 2024 conservation program was supported by:



**Pat Palmer
Foundation**



A grant from the
Neotropical
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Project photos can be downloaded from:

<https://www.flickr.com/photos/128583429@N05/sets/72157691397221540>

Laney Rickman Blue-throated Macaw Reserve

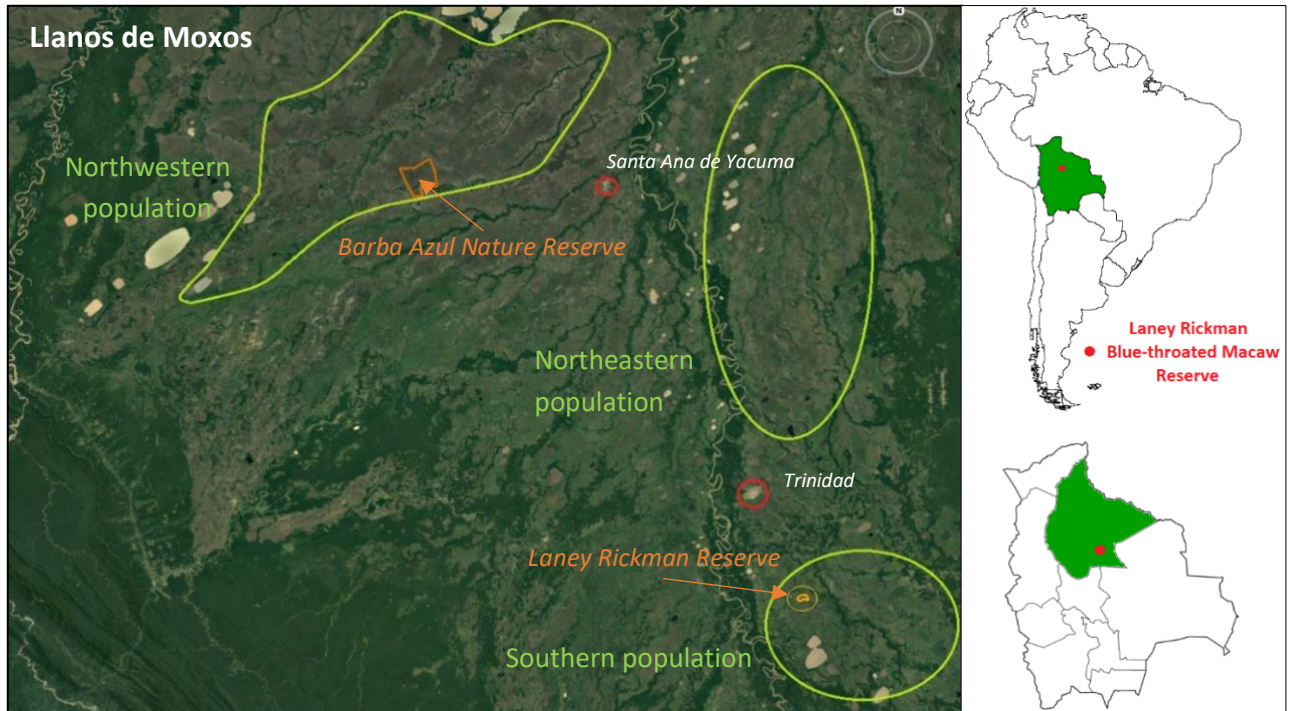
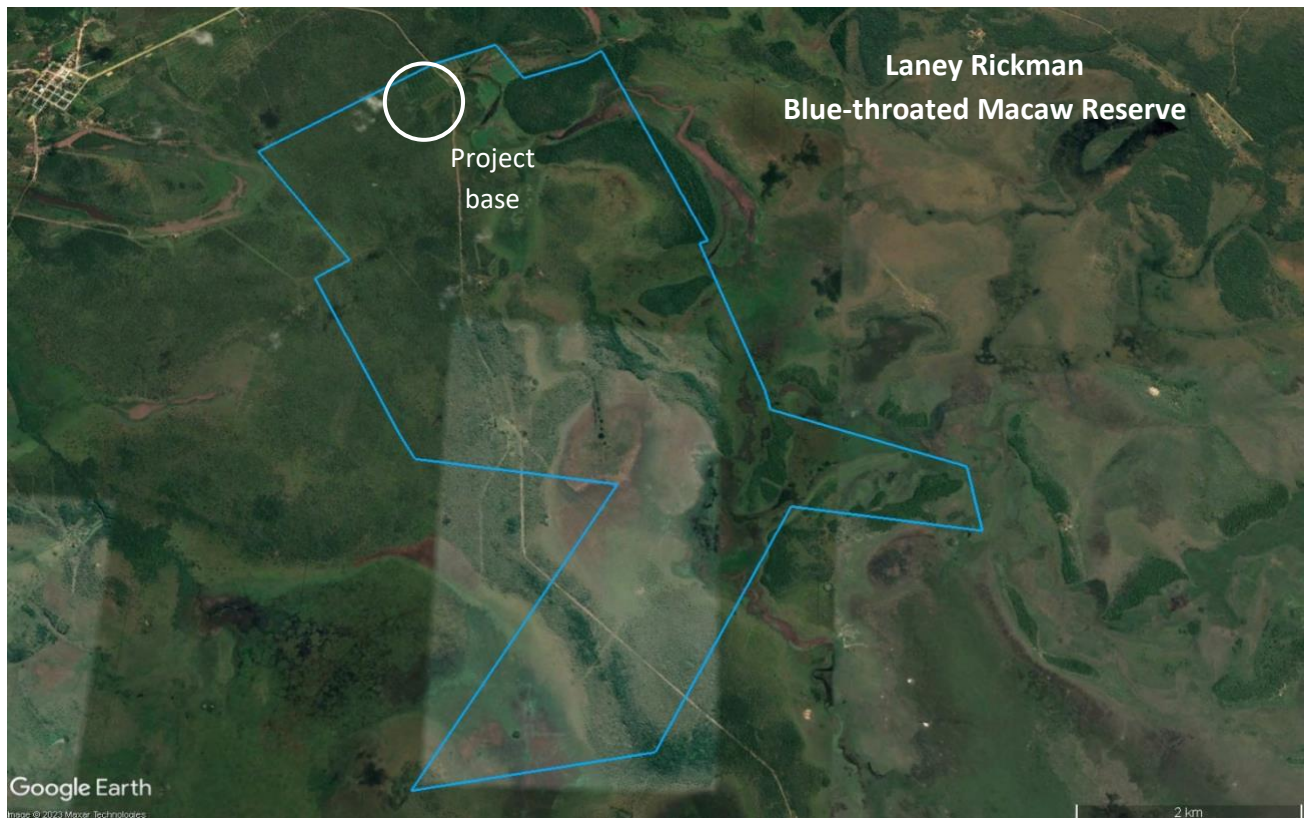


Figure 1 & 2. The Laney Rickman Blue-throated Macaw Reserve (2,421 ha/5,982 acre) was established in 2018 and is located in the Southern Llanos de Moxos ecoregion, 42 kilometers south of Trinidad and 213 kilometers south of the Barba Azul Nature Reserve (11,000 ha, established in 2008). Armonía protects vital Blue-throated Macaw habitat in two isolated subpopulations (estimated Blue-throated Macaw subpopulation range indicated in light green circles).



Laney Rickman Reserve Program Summary

To ensure the continuing development and improvement of the Blue-throated Macaw Nest Box Program and the Laney Rickman Reserve for the upcoming 2025 season, we will focus our efforts on the following activities:

1. Continue the Laney Rickman Reserve Nest Box program.
 - Conduct weekly monitoring of nest boxes and chick development during the breeding season.
 - Set up camera traps to record nest box use and behavior during the breeding season.
 - Train young professionals on nest box monitoring techniques
2. Restore native habitat for the Blue-throated Macaw.
 - Construct a nursery for native tree and palm species for the Blue-throated Macaw
 - Develop a long-term restoration strategy for the reserve and the region.
3. Reduce wildfire risks.
 - Maintain and increase impenetrable firebreaks.
 - Continue training rangers in fire combat techniques.
 - Quickly respond to any fire threat around the reserve.
4. Improve the infrastructure for staff and visitors.
 - Establish the visitor/research center.
 - Establish the Laney Rickman Staff house.
 - Install a solar panel system to provide electricity to the reserve.
5. Develop the Blue-throated Macaw education program for the region.
6. Sustainably manage tallgrass palm savanna through ecofriendly ranching.



Three successful nests from the 2024 breeding season, each featuring Blue-throated Macaw chicks at different stages of development. 24 1

Cesar Flores Ohara

Laney Rickman Reserve Nest Box Program (2024 breeding season)

Results 2024 Breeding Season

The 2024 breeding season for the Blue-throated Macaw artificial nest box program has yielded remarkable results. Of the 128 nest boxes placed in the field, 11 were occupied by Blue-throated Macaws, indicating an encouraging trend in the acceptance of these artificial nesting sites. Notably, 3 of these boxes were used for the first time, and one has now been continuously occupied for five years.

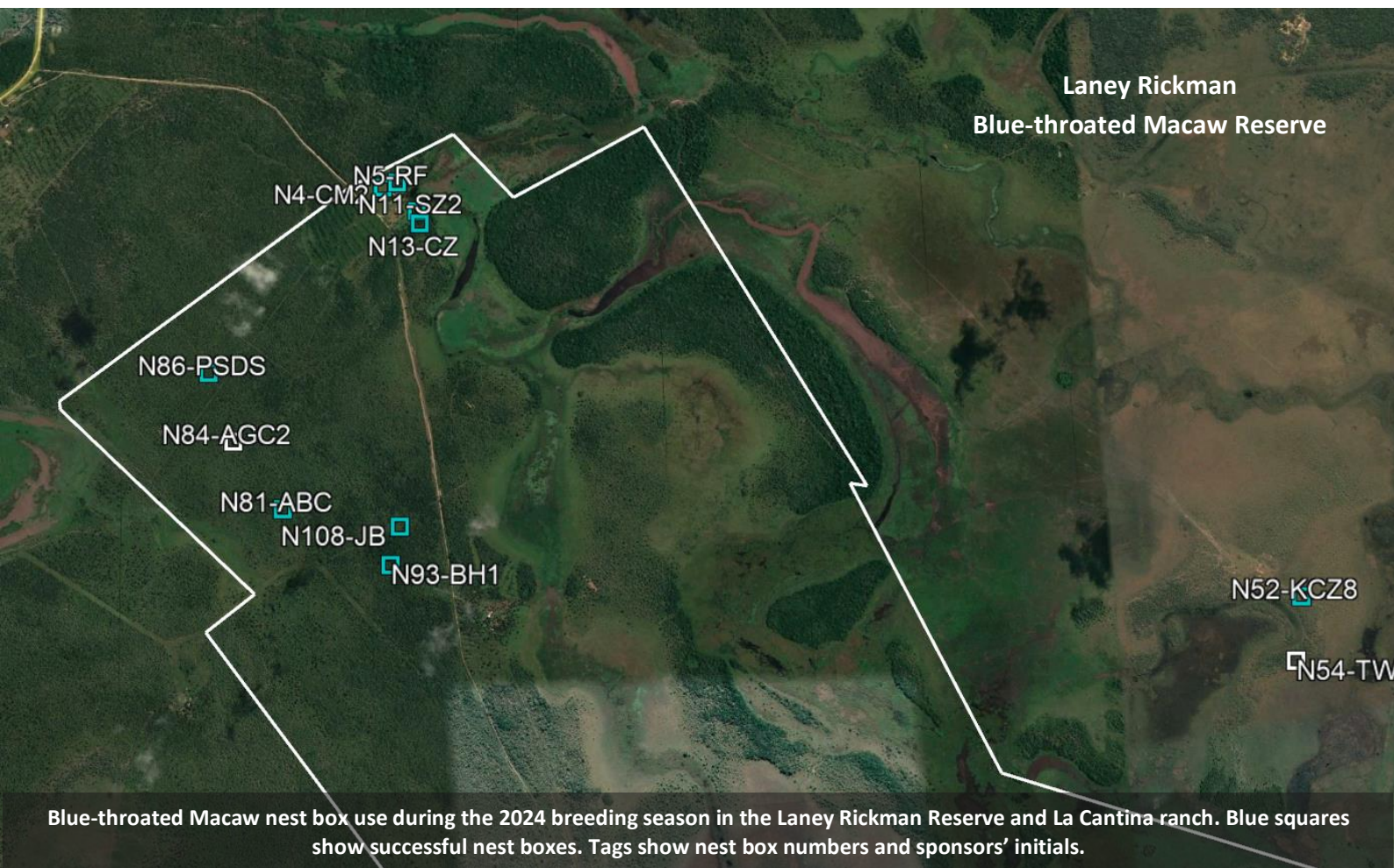
This breeding season saw 12 breeding attempts, with a total of 33 eggs laid. Out of these, 21 eggs successfully hatched, and an unprecedented 17 chicks fledged, surpassing the previous record of 15 fledglings from last year. This significant achievement highlights the effectiveness of the nest box program in providing a safe and suitable breeding environment for the Blue-throated Macaws.



A pair of Blue-throated Macaws at Laney Rickman Reserve by the end of the breeding season. Bennett Hennessey.

Table 1. Summary of nest boxes used by the Blue-throated Macaw during the 2024 breeding season. A total of 11 nest boxes were occupied, 33 eggs laid, 21 chicks hatched, and 17 chicks fledged. LR stands for Laney Rickman Reserve; LC stands for La Cantina. For more detailed information see annex 1 & 2.

Sponsor (code)	Location	Eggs	Chicks	Fledglings
Andrew Maguire (CM2)	LR	6	1	1
Meryl and Roy Friedman (RF)	LR	4	3	3
EARTH Ltd @Southwick's Zoo (SZ2)	LR	4	3	3
Cincinnati Zoo and Botanical Garden (CZ)	LR	3	1	1
Kansas City Zoo and Aquarium (KCZ8)	LC	2	1	1
Anaya Crawford (TW)	LC	1	0	0
ABC Birds Store (ABC)	LR	3	3	2
Alabama Gulf Coast Zoo (AGC2)	LR	3	2	0
Andy Sanford in memory of Peggy Sanford and Dot Slator (PSDS)	LR	1	1	1
Brenton Head (BH1)	LR	3	3	2
Dorothy Paterson in memory of Dr. Janice Boyd (JB)	LR	3	3	3
Total		33	21	17



The 2024 breeding season has also seen a notable increase in nest box use by various species, particularly in the newly acquired Las Trancas ranch. Since 2023, we have installed 25 nest boxes in this area, and we are optimistic that the Blue-throated Macaws will soon start to utilize these new nest boxes. This follows the example set by parakeets and other macaws, which have already begun to breed in these boxes (Table 2).

Table 2. Summary of nest box usage by different species in the reproductive period of 2024. A total of 24 nest boxes were used (19 in Laney Rickman Reserve and 5 in neighboring La Cantina ranch).

Nest box usage 2024		
Species	Scientific name	# Occupied nest boxes
Blue-throated Macaw	<i>Ara glaucogularis</i>	11
Parakeets	<i>Psittacidae</i>	5
Blackbirds	<i>Icteridae</i>	4
Blue-and-Yellow Macaw	<i>Ara ararauna</i>	3
Woodpecker	<i>Picidae</i>	1
Black-bellied Whistling Duck	<i>Dendrocygna autumnalis</i>	1

The occupancy trend between Blue-throated Macaws and Blue and Yellow Macaws remains consistent, with the latter continuing to show significantly lower rates. As a result, Blue-and-Yellow Macaws are no longer the primary competitors for nesting sites, providing more nesting opportunities for the Blue-throated Macaws (Fig. 1).

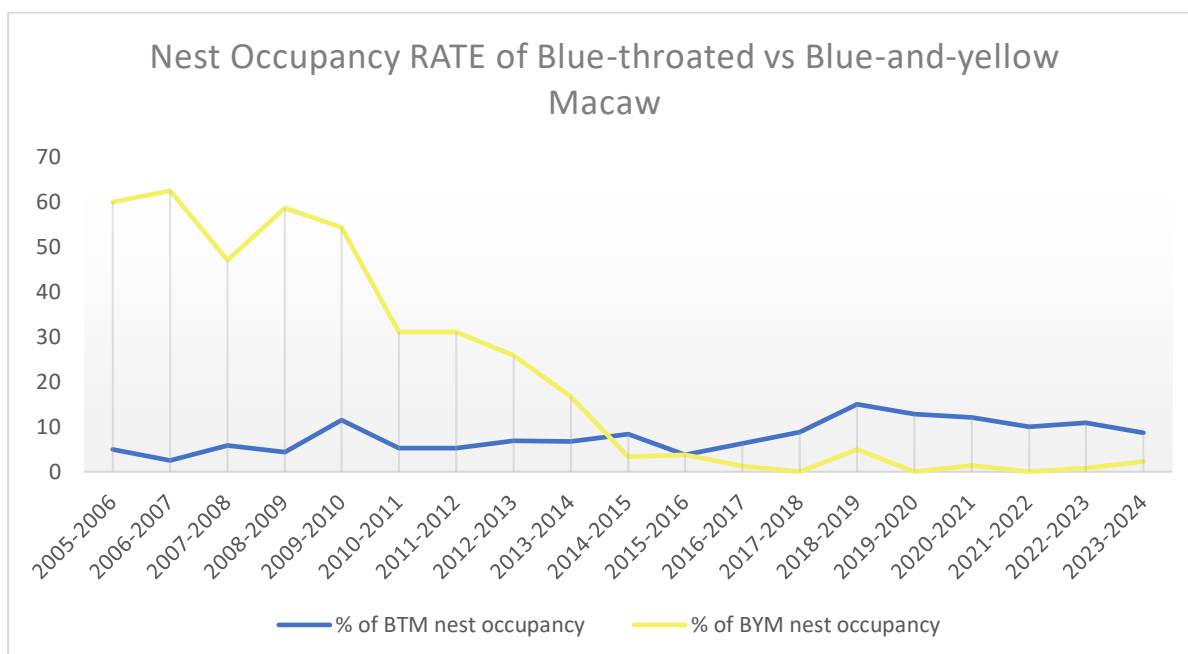


Figure 1. Nest box occupancy rate of Blue-throated Macaw vs Blue-and-yellow Macaw presented over the 19 years of Armonía’s nest box program. Changes in entrance size between 2013 and 2015, favorably impacted the competition between these large macaws.

Long-term results of the Armonía Nest Box Program

Over the last 19 years, the Armonía Blue-throated Macaw Nest Box Program has shown considerable success in conserving this Critically Endangered bird. During this time, 145 chicks have fledged from 116 breeding attempts. Interestingly, the most recent breeding season saw a slight drop in nest occupancy, yet the fledging rates were higher. This success could be attributed to the fact that three nest boxes each produced three chicks, and both egg and chick mortality rates have decreased compared to previous years. For the first time, no egg predation was recorded, but unfortunately, we documented the predation of two chicks by a pair of tayras (*Eira Barbara*).

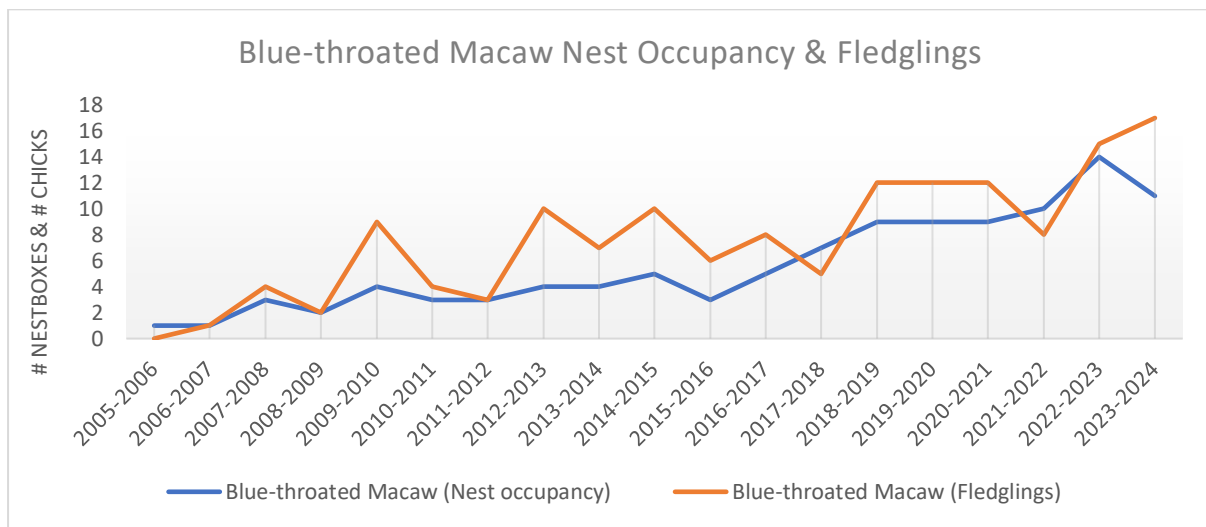


Figure 2. Blue-throated Macaw nest occupancy vs. number of fledglings presented over the 19 years of Armonía’s nest box program. The cumulative number of successful Blue-throated Macaw fledglings from Armonía’s Nest box Program reached 145 during the 2024 breeding season.



One of the three nest boxes in which very successful parents were able to nest three chicks each! Bennett Hennessey

Camera trap insights

Our 24/7 camera trap monitoring has proven invaluable, providing us with extensive information on nesting conflicts, predators, and species breeding behavior. In previous years, we observed conflicts between Blue-throated Macaws and other macaw species, as well as with other birds like Black-bellied Whistling Ducks. This year, however, the rivalry with other species decreased with fewer recorded altercations. Nevertheless, we did capture some intense, hour-long fights between different Blue-throated Macaw nesting pairs competing for occupied nests. The protective parents, whether guarding eggs or chicks, showed remarkable bravery, defending their nests until the intruders gave up and left.

One notable incident involved a particularly defensive White-throated Piping Guan (*Pipile grayi*), which displayed aggression towards a nesting Blue-throated Macaw, although no serious fight arose. Contrary to their reputation as a docile species, we have witnessed how fiercely Blue-throated Macaws can be while defending their nests and offspring.



Camera Trap footage of three different nests with very protective Blue-throated Macaw parents.



HELP SAVE BLUE-THROATED MACAWS FROM EXTINCTION

Become a "Friend of Laney Rickman Blue-throated Macaw Reserve"!

Blue-throated Macaw Conservation at Work

The Laney Rickman Blue-throated Macaw Reserve is a very important place for the conservation of the endemic and critically endangered Blue-throated Macaw and many of Bolivia's Beni Savanna species. But ensuring the area is well protected requires support from people like you who understand the value of nature and wild places.

Centuries of human disturbance in the area had removed the large trees that historically would have offered safe nest cavities. In 2005 Armonía started a Blue-throated Macaw nest box program. As of 2024, 145 Blue-throated Macaws have successfully fledged from Armonía nest boxes. In 2018, Armonía was able to purchase the most crucial breeding site now called the Laney Rickman Blue-throated Macaw Reserve, in recognition of Laney's dedication to saving the Blue-throated Macaws. Today, over 5,982 ac (2,421 ha) of savanna and tropical forest in northern Bolivia are now protected.

Your impact as a "Friend of Laney Rickman Blue-throated Macaw Reserve"

The most important breeding site for the southern subpopulation is now protected forever. But conservation goals are not met by just buying land, as this emblematic species can suffer from threats like poaching, uncontrolled fires, and invading cattle negatively affecting the habitat. Your support will go directly to protecting this species and its crucial habitat by restoring this endangered ecosystem through the nest box program, fire prevention, park guard patrols, and habitat restoration.

How to become a "Friend of Laney Rickman Blue-throated Macaw Reserve"

The "Friend of Laney Rickman Blue-throated Macaw Reserve" is a group of individuals committed to assisting our protection efforts. Each member receives two reports a year, including our financial report and next year's management budget. Friends will be informed of the conservation details and encouraged to help with ideas, suggestions, contacts, and references.

To become a Friend of Laney Rickman Blue-throated Macaw Reserve, we request a yearly donation of US\$ 2,000. Please contact Bennett Hennessey, Director of Development (abhennessey@armonia-bo.org) for previous reports, questions, and if you are interested in becoming a Friend of Laney Rickman Blue-throated Macaw Reserve. Your donation can be made through the Bird Endowment website: www.birdendowment.org

Annex 1: Summary of nest boxes occupancy

Table 3. Summary of the 24 occupied nest boxes out of 128 set this breeding season in the Laney Rickman Reserve (Esperancita, Nuevo Berlin, Las Trancas) and La Cantina ranch. The sponsor code column contains the initials of the person and organization that sponsored the nest during this breeding season. The nest code column is a fixed code that identifies each nest and remains permanent across the breeding seasons. The column “historic BTM use” indicates the number of times the nest was occupied by Blue-throated Macaws (BTM) in the past, and tree species indicated to which type of tree the nest box was located. A total of 14 nest boxes were used by Blue-throated Macaws. BTM results: 33 eggs, 21 hatched and 17 chicks fledged.

#	Nest code	Sponsor	Historic BTM use	Species	Tree species	# (egg, chick)	Dates (first egg, chick and fledging)
1	PBA4	CM2	-	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs:3	Eggs: DEC 29 2023
2	PBA4	CM2	-	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs: 3 Chicks: 1 Fledged: 1	Eggs: FEB 14 2024 Chick: MAR 12 2024 Fledged: JUN 10 2024
3	PBA5	RF	-	Blackbird ((Icteridae)	<i>Acrocomia aculeata</i> (Totai palm)	Eggs:4 Chicks: 2	Eggs: DEC 14 2023 Chicks: DEC 14 2023
4	PBA 5	RF	(2021-2022) (2022-2023)	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs:4 Chicks:3 Fledged: 3	Eggs: JAN 29 2024 Chicks: FEB 22 2024 Fledged: MAY 20 2024
5	PBA11	SZ2	(2018-2019) (2020-2021) 2(2021-2022)	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs:4 Chicks:3 Fledged: 3	Eggs: JAN 1 2024 Chicks: FEB 13 2024 Fledged: MAY 15 2024
6	PBA13	BH2	(2012-2013)	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs:3 Chicks:1 Fledged: 1	Eggs: DEC 29 2023 Chick: FEB 2 2024 Fledged: APR 29 2024
7	PBA 50	RV	-	Black-bellied whistling duck	<i>Attalea princeps</i> (Motacu palm)	Eggs: 9	Egg: FEB 1 2024
8	PBA 52	KCZ8	(2010-2011) 2 (2022-2023)	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs:2 Chicks:1 Fledged: 1	Eggs: JAN 19 2024 Chick: FEB 17 2024 Fledged: MAY 2 2024
9	PBA 53	ML1	(2016-2017)	Blue and Yellow Macaw	<i>Copernicia alba</i> (Palma blanca palm)	Eggs: 2	Eggs: JAN 2 2024
10	PBA54	TW	-	Blue-throated Macaw	<i>Copernicia alba</i> (Palma blanca palm)	Egg: 1	Egg: DEC 30 2023
11	PBA55	PCH	(2018-2019)	White-eyed Parakeet	<i>Attalea princeps</i> (Motacu palm)	Eggs: 4 Chick: 1	Eggs: JAN 19 2024 Chick: FEB 28 2024

12	PBA81	ABC	(2019-2020) (2020-2021) (2021-2022) (2022-2023)	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs:3 Chicks:3 Fledged: 2	Eggs: DEC 15 2023 Chicks: JAN 9 2024 Fledged: MAR 27 2024
13	PBA 82	GC2	-	Woodpecker (<i>Picidae</i>)	<i>Acrocomia aculeata</i> (Totai palm)	Eggs: 2	Eggs: DEC 15 2023
14	PBA 83	KCZ2	-	Parakeet (<i>Psittacidae</i>)	<i>Acrocomia aculeata (Totai palm)</i>	Egg: 1	Egg: DEC 30 2023
15	PBA 84	AGC2	(2022-2023)	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs:3 Chicks:2	Eggs: JAN 15 2024 Chicks: FEB 9 2024
16	PBA 86	PSDS	(2022-2023)	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm))	Egg: 1 Chick: 1 Fledged: 1	Eggs: JAN 19 2024 Chicks: FEB 26 2024 Fledged: MAY 15 2024
17	PBA 93	BH1	(2022-2023)	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs: 3 Chicks: 3 Fledged: 2	Eggs: DEC 31 2023 Chicks: JAN 20 2024 Fledged: APR 16 2024
18	PBA 108	JB	-	Blue-throated Macaw	<i>Acrocomia aculeata</i> (Totai palm)	Eggs: 3 Chicks: 3 Fledged: 3	Eggs: JAN 5 2024 Chicks: JAN 18 2024 Fledged: APR 16 2024
19	PBA 115	LA8	-	White-eyed Parakeet	<i>Acrocomia aculeata</i> (Totai palm)	Egg: 1	Egg: JAN 30 2024
20	PBA 129	SC2	-	White-eyed Parakeet	<i>Copernicia alba</i> (Palma blanca palm)	Eggs: 3 Chick: 1	Eggs: JAN 17 2024 Chick: MAR 1 2024
21	PBA 130	AB	-	Blackbird (<i>Icteridae</i>)	<i>Copernicia alba</i> (Palma blanca palm)	Chicks: 3	Chicks: JAN 2 2024
22	PBA 134	DC	-	Blue and Yellow Macaw	<i>Copernicia alba</i> (Palma blanca palm)	Eggs: 2 Chicks: 2	Eggs: JAN 2 2024 Chicks: JAN 31 2024
23	PBA 136	KCZ1	-	Blackbird (<i>Icteridae</i>)	<i>Copernicia alba</i> (Palma blanca palm)	Eggs: 3	Eggs: DEC 16 2023
24	PBA 138	JR	-	Parakeet (<i>Psittacidae</i>)	<i>Copernicia alba</i> (Palma blanca palm)	Eggs: 2	Eggs: JAN 2 2024
25	PBA 143	AGC5	-	Blue and Yellow Macaw	<i>Copernicia alba</i> (Palma blanca palm)	Eggs: 3	Eggs: JAN 17 2024
26	PBA 145	AW2	-	Blackbird (<i>Icteridae</i>)	<i>Copernicia alba</i> (Palma blanca palm)	Eggs: 3	Eggs: DEC 16 2023

Annex 2: Description of nest boxes used by Blue-throated Macaws

Sponsor (code): Andrew Maguire (CM2)
Nest code: PBA 4
Location: Laney Rickman Blue-throated Macaw Reserve

Nest with two breeding attempts. First breeding attempt with 3 eggs that were broken and gone bad. The second breeding attempt was successful with three eggs laid resulting in one chick that developed normally and was banded with number BO 19 2024.



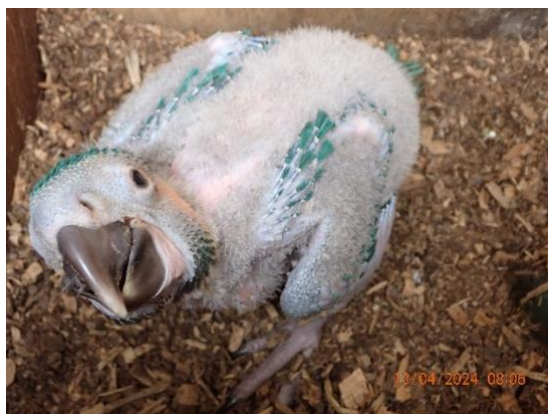
1st attempt. January 5



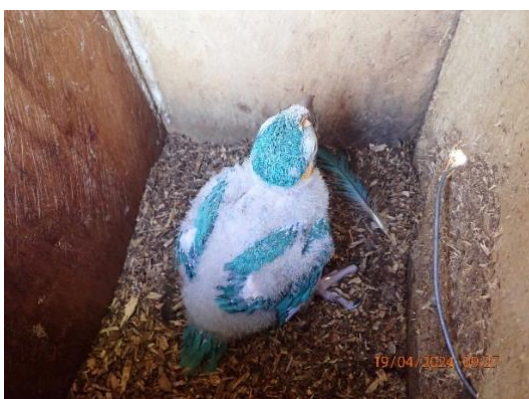
2nd attempt. February 19



March 14



April 13



April 19



June 6

Sponsor code: Meryl and Roy Friedman (RF)
Nest code: PBA 5
Location: Laney Rickman Blue-throated Macaw Reserve

This nest started with a Blackbird breeding two chicks. Two Blue-throated Macaw eggs were found a month later, on January 29. A total four eggs were laid (the fourth one laid when chicks were hatching). Three chicks developed successfully until fledging. The three chicks were banded with codes BO 13 2024, BO 15 2024, and BO 17 2024.



February 19



February 25



February 28



March 14



April 11



May 20

Sponsor code: EARTH Ltd @Southwick's Zoo (SZ2)
Nest code: PBA 11
Location: Laney Rickman Blue-throated Macaw Reserve

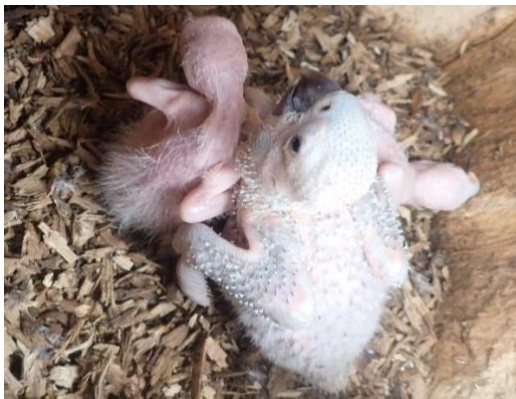
One of the three nests with three successful chicks fledging. The first egg was found early on in the year on January 10. A total of four eggs were laid by January 25. By February 22, three healthy chicks had hatched. Chicks were banded with numbers BO 12 2024, BO 16 2024, and BO 18 2024.



February 5



February 25



March 4



March 27



April 10



May 15

Sponsor code: Cincinnati Zoo and Botanical Garden (CZ)
Nest code: PBA 13
Location: Laney Rickman Blue-throated Macaw Reserve

Out of three eggs, one chick successfully hatched and developed until fledging. All eggs were laid by January 8 and the only chick hatched by February 2. The chick was banded with number BO 08 2024.



January 29



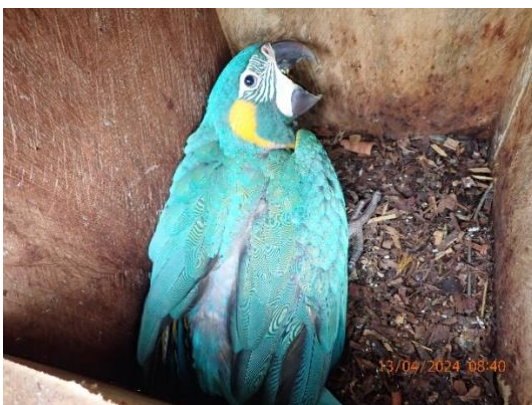
February 7



February 17



March 4



April 13



April 30

Sponsor code: Kansas City Zoo and Aquarium (KCZ8)
Nest code: PBA 52
Location: La Cantina ranch

Successful nest with one chick fledging after May 2. Two eggs were laid by January 19. One chick hatched and developed normally. Band number BO 11 2024 was used.



January 19



February 17



March 5



March 16



April 1st



May 2

Sponsor code: Anaya Crawford (TW)

Nest code: PBA 54

Location: La Cantina ranch

Unsuccessful nest with only one egg laid by December 30. Sadly, the nest was abandoned by parents due to an unexpected termite infestation.



December 23, 2023

Sponsor code: ABC Birds Store (ABC)
Nest code: PBA 81
Location: Laney Rickman Blue-throated Macaw Reserve

This nest has been used by Blue-throated Macaws for five years in a row. Three eggs were registered by December 20, 2023. All eggs hatched and but sadly, one chick did not develop. Two chicks fledged after May 27. Chicks were banded with numbers BO 1 2024 and BO 2 2024.



December 30, 2023



January 18



January 26



February 9



February 19



March 27

Sponsor code: Alabama Gulf Coast Zoo (AGC2)
Nest code: PBA 84
Location: Laney Rickman Blue-throated Macaw Reserve

Out of the three eggs laid by January 15, two chicks successfully hatched. Both chicks were developing normally until a tragic incident occurred this year. A Tayra (*Eira barbara*) managed to jump to the nest box tree from another tree, while another Tayra watched. We put baffles around the trunks of nesting trees to stop Tayras from climbing up the tree, but we did not know they could jump from one tree to another. Camera traps captured footage of one Tayra on top of a nest box and another perched on a nearby tree, unable to make the jump. So, in the future we need to make sure nest boxes are in isolated trees that neither Tayras nor Monkeys can jump to.



February 5



February 9



March 5



March 20

Sponsor code: Andy Sanford in memory of Peggy Sanford and Dot Slator (PSDS)

Nest code: PBA 86

Location: Laney Rickman Blue-throated Macaw Reserve

Successful nest with one chick fledging after a normal development. One egg was found on January 29. The single chick hatched by February 26. The chick fledged after May 15. The band number used was BO 14 2024.



January 29



February 26



March 5



March 26



April 11



May 15

Sponsor code: Brenton Head (BH1)
Nest code: PBA 93
Location: Laney Rickman Blue-throated Macaw Reserve -Nuevo Berlin

This is the second year this nest has been used by Blue-throated Macaws. While, unfortunately, no chicks fledged last year, this year saw success with two chicks successfully fledging. Three eggs were laid by December 31, all of which hatched. Out of the three hatchlings, only two developed to the fledging stage. The chicks were banded with the numbers BO 6 2024 and BO 7 2024.



December 31, 2023



January 24



February 5



February 19



March 15



April 16

Sponsor code: Dorothy Paterson in memory of Dr. Janice Boyd (JB)
Nest code: PBA 108
Location: Laney Rickman Blue-throated Macaw Reserve – Nuevo Berlin

Nest used for the first time since installed in 2022. One of the three successful nests with three chicks fledging after April 10. Chicks were banded with numbers BO 3 2024, BO 4 2024, and BO 5 2024.



January 5



January 21



February 7



February 19



March 15



April 10