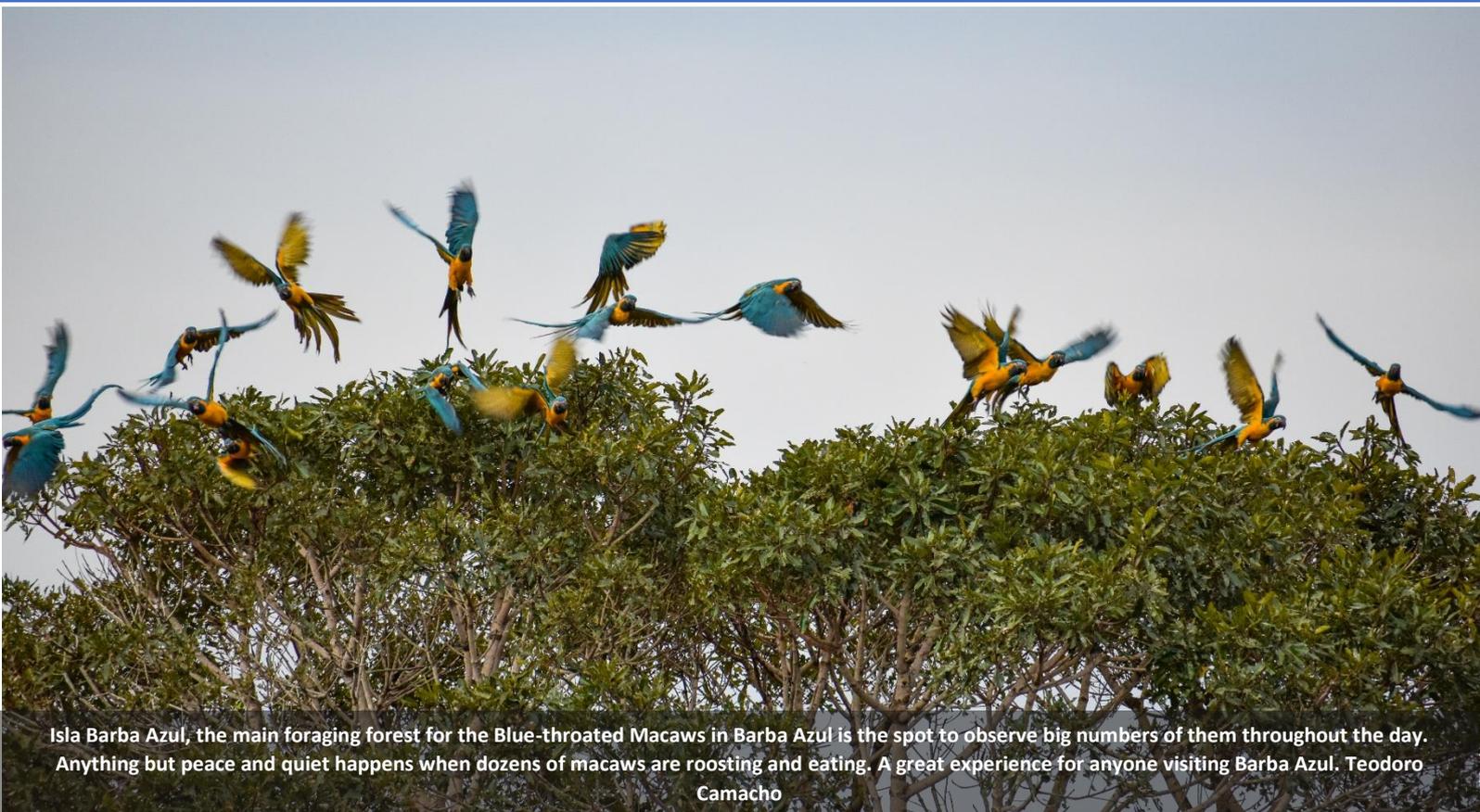


Barba Azul Nature Reserve August 2023 Update Report



Isla Barba Azul, the main foraging forest for the Blue-throated Macaws in Barba Azul is the spot to observe big numbers of them throughout the day. Anything but peace and quiet happens when dozens of macaws are roosting and eating. A great experience for anyone visiting Barba Azul. Teodoro Camacho

A very busy dry season is coming to Barba Azul Nature Reserve and our team. First, we are happy to announce that we have received support to construct the 1,870-foot (570 m) boardwalk and pontoon to provide easy river crossing access to our team in case of any fire emergency. This infrastructure will be also vital to our fire management plans which this year includes a patch burning impact study and for our visitors to observe marsh wildlife closely. We will continue our long-term monitoring programs of Blue-throated Macaws and Buff-breasted Sandpipers with our new park guard and the biologists' team in September. Barba Azul has also reaffirmed his place as birdwatching hotspot in Bolivia during the last global big day in May, with 170 species recorded in only one day!

Conservation and development of the Barba Azul Nature Reserve in 2023 is supported by:



ARTIS



Pat Palmer
Foundation

A grant from the
Neotropical
Migratory Bird
Conservation
Act



Project photos can be downloaded from:

www.flickr.com/photos/128583429@N05/albums/72157657123371838

Barba Azul Nature Reserve

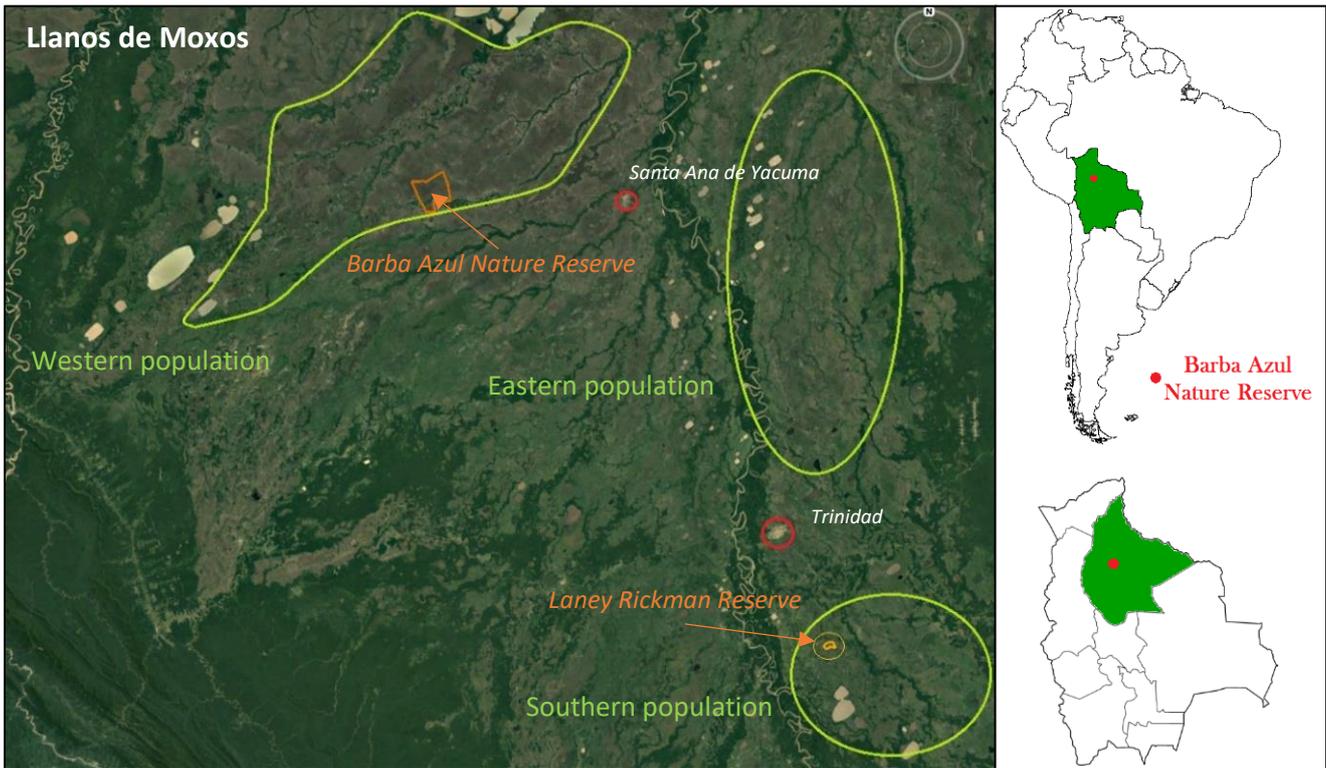


Figure 1. Light green lines indicate Blue-throated Macaw subpopulation ranges. The Barba Azul Nature Reserve is located in the western population, 75 kilometers west of Santa Ana de Yacuma and 213 kilometers northwest of the Laney Rickman Blue-throated Macaw Reserve. Armonía protects vital Blue-throated Macaw habitat in 2 isolated subpopulations.



Figure 2. The Barba Azul Nature Reserve is divided into two main land-use zones: Barba Azul (5,000 ha; 12,350 ac) designated for pure conservation and declared Private Natural Heritage Reserve (RPPN); Barba Azul East (6,000 ha; 14,820 ac) where 40% is designated for sustainable cattle ranching for species and habitat conservation.

Barba Azul Nature Reserve 2023 goals

In 2023 we set the following goals to ensure we continue with protection, research, monitoring and sustainability activities at Barba Azul Nature Reserve.

1. Implement annual savanna management and protection activities.
 - Carry out patch burn activities to increase grass diversity.
 - Conduct a fire environmental impact study on grasslands.
 - Continue rotational grazing in sub-paddock through electric fencing.
2. Improve the firebreak system established in conservation priority sites.
 - Maintain the current firebreak lines.
 - Create new firebreak lines in Barba Azul southern area.
 - Seek funds to construct a fire observation tower.
3. Complete cattle ranching infrastructure
 - Seek funds to construct worker house, deposit area and roofed tractor parking
 - Increase number of rotational paddocks through fencing
4. Establish livestock herd of 1,200 head of cattle
 - Manage livestock according to best practices techniques
 - Seek funds to buy 450 head of cattle
5. Improve infrastructure for management and tourism.
 - Construct a 570-meter boardwalk and pontoon.
 - Purchase a 4WD truck for the program
 - Enable a camping area with restroom facilities.
 - Seek funds to construct the staff house.
6. Provide high-quality tourism services.
 - Train new staff on tourism customer services techniques.
 - Train local bird watching guides to support guiding services in Barba Azul.
7. Continue long term monitoring and research.
 - Continue monitoring the Blue-throated Macaw population numbers.
 - Continue monitoring Buff-breasted Sandpiper presence during September.
 - Record mammal diversity and presence with camera traps.
 - Monitor fenced exclusion zones for restoration.
 - Support international master students on ecology studies.

Introduction

For more than two decades of cattle exclusion and fire suppression, natural regeneration is visible in all the types of vegetation at Barba Azul Nature Reserve. Every year, we have the task to protect all that has been restored, particularly the foraging forest of Blue-throated Macaws, from fire risk happening in the region. Our management during the dry season includes the construction of firebreaks and implementation of patch burning in strategic areas with extreme accumulation of dry matter. Both activities will be complemented by a fire impact study that will help us develop guidelines for cattle ranchers planning to burn grass without seasonality or droughts consideration, causing irreparable soil damage and uncontrolled wildfires. Intertwined with the fire management, this year we will construct the 570-meter wooden boardwalk that will help our staff to cross the Omi River to the northern side of the reserve quicker in case of fire emergencies.

As reserve guard Miguel Martinez decided to return to his home country Venezuela, he has been dedicating his last weeks at Barba Azul training our new park ranger, Jhulian Machuca. Jhulian has just finished his studies in Forestry and his experience as a voluntary forest firefighter will be of great importance for us during the upcoming fire season. He will continue the Blue-throated Macaw monitoring, patrolling and overall management work happening in Barba Azul. Although it is sad for us to say goodbye to Miguel, we wish him all the best for his career in conservation in Venezuela.

Miguel Martinez (right) training Jhulian Machuca (new park guard) in Blue-throated Macaw monitoring Luz Natalia Mercado.



Barba Azul 2023 Development and Conservation Plans

1. Savanna management and protection: Our grassland management in Barba Azul has three main objectives, 1) increase the diversity of habitats and bird species, 2) reduce risk of intense fires reaching forest areas and 3) become the example of efficient grazing under reduced fire use systems. The array of activities we have been carry out for the past years are showing great results as we have observed several new records of hummingbirds, which are increasing and breeding in Cerrado vegetation (See BANR [Ebird list](#)), tall grass species never registered before in the area as the Endangered **Ibera Seedeater (*Sporophila iberensis*)** and even a radical increase in abundance of the small mammals like the **Brazilian guinea pig (*Cavia aperea*)** and recent records of rare small predators like the **Pampas Cat (*Leopardus colocola*)** and **Bush Dog (*Speothos venaticus*)**.



The Vulnerable Sharp-tailed Tyrant is one of many grassland species that benefit for our management actions that protect tall grasslands and they are now easily found thriving in Barba Azul. Teodoro Camacho

2. Fire management: With wildfires increasing every year in the Beni Savanna, Barba Azul is at high risk of wildfires reaching and spreading. For almost two decades we have been protecting Blue-throated Macaw habitat, allowing native grassland and forest vegetation to regenerate throughout the years. One of our most effective strategies to protect these habitats is the construction and maintenance of our 40 km firebreak grid which we implement every year. Our tractor is ready to begin its work as soon as the soil is dry enough. This year, we are planning to create more defense lines and complement with patch burned areas.



Drone footage of firebreaks in Barba Azul Nature Reserve protecting from fire in a neighboring ranch in 2021. Miguel Martinez.

3 & 4. Barba Azul Model Ranch: Armonía's conservation ranching program in Barba Azul East is growing. With 43 newborn calves (and counting), the Barba Azul herd is now 750 cattle. Our livestock management on natural grasslands is crucial to increase grass diversity and age-structure for a wide range of species that require different needs. To ensure our grassland management is ecofriendly, we will invest this year in 4.6 miles (7.5 km) of fixed electric fencing thanks to the US Forest Service to create 4 new paddocks to rotate our livestock according to our best practices ranching model. More livestock is needed to manage these grasslands and meet our ultimate sustainability goal (1,200 cattle). Therefore, we still seek support to buy 450 Brahman reproductive cattle at 600 USD/cattle to reach the ideal herd size.



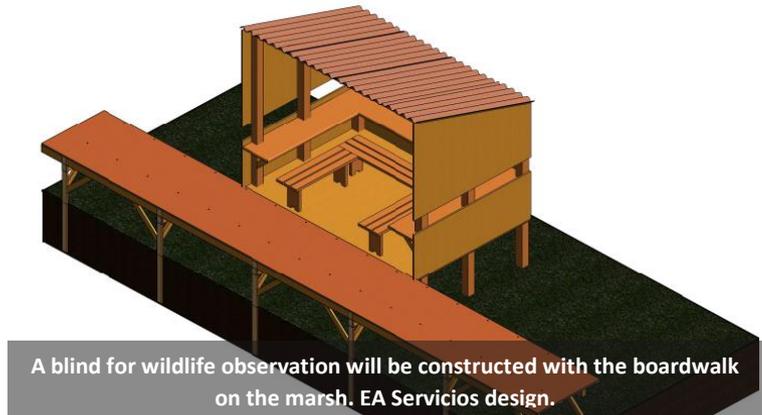
Extensive shortergrass habitat used by Buff-breasted Sandpipers managed with cattle in Barba Azul East: Tialle Boorsma

At the Tiniji river in the northern section of Barba Azul East, we have 1,810 hectares of shortgrass habitat which is annually visited by Buff-breasted Sandpipers. This shortgrass area will be managed with livestock to create the ideal foraging habitat. However, within the Tiniji river we have 13 small forest islands that are crucial for wildlife and roosting Blue-throated Macaws, but they are also a key refuge for cattle. In order to protect these forest islands and promote natural regeneration of trees, we will fence 6 forest islands with fine-mesh fencing which has proven to be highly successful thanks to ARTIS Royal Zoo. We will only fence 50% of the island to make sure the other half is used by livestock during cold fronts and high floods. We will rotate the fence after trees have grown beyond trampling size. See more about motacú forest island restoration: [HERE](#)

To know more about the role of cows for conservation you can watch [this video](#).

6. Infrastructure development for management and tourism

- **Boardwalk and pontoon** We have finally gotten support to construct the 570-meter boardwalk and pontoon to enable easier and quicker access for our staff to cross the Omi River. This wooden construction will be a game changer for the protection of the Blue-throated Macaw foraging forest in case of any fire emergency. As well, the boardwalk with an incorporated blind will give our visitors the opportunity to better observe the marsh fauna by foot. Thanks to the support of International Conservation Fund of Canada (ICFC) we expect to have constructed this important infrastructure by the end of the dry season.



- **Camping area/restrooms** Before the high tourism season arrives, we have been working hard to carry out lots of maintenance work and the construction of a camping area with shared restroom facilities (two showers and two toilets). This area will allow us to provide a space for students, researchers, and temporary workers to accommodate during their stay in Barba Azul.



- **Staff house.** As our program and team are growing, we need a comfortable housing place for them and their families. We count with the final design and calculated cost. The Barba Azul staff house will have room to accommodate two small families and three to six workers.

- **4WD Truck.** After years of struggling with limited transport options to implement all our projects and with the support of the Pat Palmer Foundation, since this year our program will count with its own truck to help our team transport to both Barba Azul and Laney Rickman Reserve. This acquisition is going to facilitate the field work logistics and decrease costs considerably.

7. High quality tourism services

One of the new faces in Barba Azul this year is Alex Gimenez, he has taken the place of Geraldine who decided to continue different professional paths after spending some time helping us. As the new tourism manager, Alex is bringing new ideas to improve the services Barba Azul offers, as well as training local staff on the field. His is an avid bird watcher and has helped us during the shorebird monitoring last year.

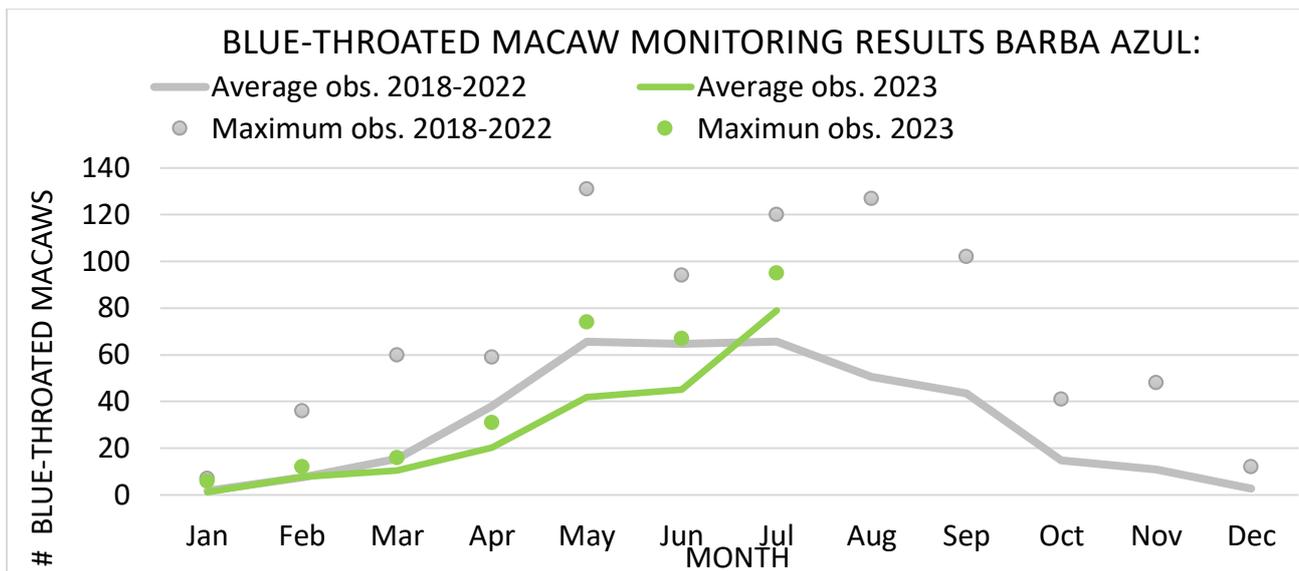


8. Long term monitoring and research

A snapshot of a second before this group of Blue-throated Macaws fly to escape the lens of Teodoro Camacho.



- Blue-throated Macaw monitoring:** Blue-throated Macaws are arriving to Barba Azul slowly but steadily from their breeding grounds as we are counting increasing numbers every week. We are hoping to record similar numbers as last year's when we counted our highest record of 228 individuals at one night roost island during the monthly count and 178 individuals during the weekly counts. After years of observations, Miguel has noticed the different movement patterns macaws show along the year and how they might be changing. We still don't understand completely why they decide to roost in different islands, but we hypothesize that Motacú phenology, food availability and even safety concerns can be related to their night roost preferences. So far this year, our highest count was of 55 macaws at the weekly monitoring spot.



Graph 1. Blue-throated Macaw monitoring results systematically collected at the weekly observation point near Isla Barba Azul in the Barba Azul Nature Reserve. The gray line represents average Blue-throated Macaw numbers per month based on weekly Blue-throated Macaw data gathered between 2018 and 2022. The green line represents average Blue-throated Macaw numbers per month for 2023. Dots represent the highest single count observations per month between 2018 and 2022 (gray), 2023 (green).

- Buff-breasted Sandpiper monitoring:** Thanks to the long-term support from the US Fish and Wildlife Service’s Neotropical Migratory Bird Conservation Act (NMBCA) program and support from we will continue the monitoring and habitat management for the Buff-breasted Sandpiper. This will be the tenth year of studying this species’ stopover population in Barba Azul. Throughout the years we have improved our understanding of their habitat preferences, to the point we are now actively managing our cattle enabling more foraging habitat for them. Five biologists will be in Barba Azul during all September counting this important migratory bird species.

Buff-breasted Sandpipers at a previously grazed short-grass habitat in Barba Azul. Teodoro Camacho



- **Camera trap monitoring:** We have been learning a lot about the fauna around Barba Azul thanks to the camera traps monitoring Miguel has been conducting since 2021. As he is transferring Jhulian such an important task, he has been training him to use the cameras and about the monitoring spots in different vegetations. With our records we have learned about the preferred areas some species use in different times of the year and even the ecology of some others. During the first months of the year, we have been hearing female pumas during their mating calls and have been recording them roaming around certain parts of the reserve more frequently.

Pumas have been heard calling to potential mates during the first months of this year at different locations in Barba Azul.



- **Restoration monitoring and master research.** Barba Azul Nature Reserve has a mosaic of habitats and management forms that are being implemented. This makes it a perfect place to conduct a wide range of ecology studies. Four students from Wageningen University will be visit us to gather data on mammals, birds and fish considering fire and cattle management, as well as level of protection and restoration. For us, it will be a great opportunity to deepen our understanding on how our management affects the ecology and biodiversity of grasslands and forest.





It has become a tradition for our team to participate every year in the Global Big Day. During this event, which took place on May 13, more than 170 species were recorded placing Barba Azul second in the number of bird species observed that day in Bolivia. This time, Teodoro Camacho (Armonia's ornithologist) came third in the Top eBirders with 187 species, followed by Miguel Martinez with 162. An impressive achievement for our team!

These are some of the species Teo photographed that day.

