

PsittaScene



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fromthedirector



onourcovers

FRONT As with other white cockatoos, the Yellow-crested (in this case *Cacatua sulphurea parvula*) is boisterous and their bright white plumage makes them relatively easy to detect and follow, even without binoculars. Surveys of these rare birds on several Indonesian islands begins to answer basic questions about their conservation needs. See "Few and Far Between", page 8. © Mehd Halaouate

BACK A Red-crowned Parakeet (*Cyanoramphus novaezelandiae*) on Tiritiri Matangi Island, New Zealand. Parakeets come down relatively low to the ground when feeding on native flax flowers like this. That behaviour presents researchers with a great opportunity to catch and sample individuals for Beak and Feather Disease Virus (BFDV). See "Tale of Two PsittaScenes", page 14 © Steve Murphy



© Jamie Gillardi

blue-throated macaw

10 years

ANSWERING THE QUESTION of “How many Blue-throated Macaws are there?” is not an easy one. Their habitat, the seasonally flooded savannah in northern Bolivia, is difficult to access and birds can be spread out over relatively large areas despite their limited distribution. Still, attempts have been made to assess their numbers based on surveys of known birds. In the early 80’s information from local people yielded population estimates ranging from 500 to 1,000 individuals.

However, by the late 1980’s the birds had all but disappeared. In 1992 ?? Jordan and Charlie Munn discovered a small population which provided the starting point for hopes to expand the species range. Since then, independent surveys have revealed consistently low numbers of observed birds and population estimates between 120-200 individuals. While it is difficult to use limited census data to determine population size across years and between different sites, there is sufficient evidence to show the critically low density of the Blue-throated Macaw, thus confirming the Critically Endangered status of this species, and making it certainly one of the rarest of all parrots.

Since 2002, preserving the remaining wild population of *A. glaucogularis* has been the focus of an intense ongoing World Parrot Trust project. This project has developed into a complex conservation program, comprised not only of population surveys and searches for additional Blue-throated Macaw sites, but also components of habitat investigation, direct protection of wild nests and outreach with local and national groups.

The World Parrot Trust has had a team in the field in Bolivia since 2002 - working to preserve the Blue-throated Macaw, a critically endangered species. Above, project leader Igor Berkunsky checks the health of a nestling.



© Igor Berkunsky

© Sarah Faegre



© Toa Kyle



© Benoit Gangloff



Threats and Actions

Our existing Blue-throated Macaw conservation project focuses on direct conservation action aimed at providing long-term solutions. But first we had to identify the threats facing the Blue-throats and devise plans to address each of those limiting factors.

Wild bird trade | Trafficking is a threat to many parrot species, which are particularly vulnerable to over-harvesting due to their low reproductive rates. The potential of the wild-bird trade to quickly destroy the last remaining wild population of Blue-throated Macaws is a serious issue warranting immediate attention.

The intensity of trade in Blue-throated Macaws during the late 1970s and early 1980s is likely to be the main factor responsible for the current low population numbers. Thankfully, recorded incidents of active trade during our time in the field have been minimal, likely due to the species' low numbers, its protected status in Bolivia, and our presence throughout their nesting territories.

A shortage of cavities | Quality natural cavities proved to be a very basic limiting factor identified early for the Blue-throats. Over time we have experimented with a variety of nest-boxes to determine what the birds would accept and use successfully. We have tried an assortment of materials, orientations, shapes, sizes and opening dimensions. Macaws curiously investigated all models and in the end they laid eggs mostly in wooden, vertical boxes with large entrance holes. We now have nest-boxes in all the areas we know Blue-throats are breeding.

Since 2007, 4 pairs have used nest-boxes in eleven different attempts. Not only do nest-boxes fill a necessary void for the wild birds, they are also safer than most natural cavities. Boxes don't flood, a major problem with many natural nests, and they are less prone to predation. Bees are also less of a problem with artificial boxes, especially those made of PVC, because bees tend to abandon the boxes after a few months. Nest boxes are also easier and safer for scientists to protect and access, minimizing disturbance around the nest.

Nest failure | Nests fail for a variety of reasons. Predation has historically been our #1 problem. The quest for solutions is challenging, as it can be difficult to identify the predators. Anti-predator defenses are now installed at all nest sites. These can be as simple as metal flashing wrapped around tree trunks and branches pruned back from cavities to abate climbing predators. Maintaining a high level of daily monitoring by volunteers is also a great defense against predation. We have also installed surveillance and trap cameras inside nests to identify visitors. We catch a surprising number of visitors around nests – the most frequent being enormous cockroaches, along with frogs and bats.

In order to help the parents defend their nests we also sought to reduce the time they needed to be foraging far away. We did this by offering bunches of motacú palm nuts near some of the active nests. Because of this, 2010 was the first year in the history of Blue-throat nest monitoring with zero predated nests.

Flooding | The rains can at times be relentless – with some seasons being plagued by days of downpours. In the past, some cavities have filled with water at the expense of either chicks or eggs. Fortunately we have identified all those nests prone to flooding and created drainage holes or roofs to protect the birds from this significant natural hazard. To our delight, no nests have flooded since 2008.

Botflies | These insects lay their eggs on a host such as a macaw and their parasitic larvae burrow under the skin. In general, they are a true parasite and don't harm their host. However, we have lost very young chicks (~5 days) to botflies. We have also had older chicks (~45 days) infested and in this case, it is possible for us to remove the larva without harming the chicks.

Brood reduction | A natural phenomenon limiting the Blue-throat's recovery is known as brood reduction. It is a common result of the normal hatching asynchrony in parrots. It

From the top:

Chicks nearly ready for fledging; the day of fledging from a natural nest; a plump, healthy chick at 2 months; success with nest-boxes; installing a PVC box takes teamwork.

happens when those chicks that hatch first and are larger and stronger, outcompete the smaller, later-hatching chicks (see photos pages 4 & 6). While fledging only one chick might work for other species, it is not sufficient for recovery in this case! As a response, we monitor nests daily, identify any chick(s) that need a boost, and help them by hand-feeding. Thanks to our manipulation, since 2007, no chicks have died because of brood reduction and we have increased the average number of fledglings per nest from one to two.

Plans for the Future

The reality is that the Blue-throated Macaw is now a “conservation dependant species.” That is, we believe the population cannot recover without significant proactive conservation action. Actions include, but are not limited to, all the tactics we have employed over the last decade to increase nest site availability, protect active nests against predators, increase nestlings’ survival, and establish protected areas.

In addition we will focus attention on some new efforts in the coming years.

a) To ensure long-term genetic variation of *Ara glaucogularis* in Bolivia we have been setting the stage for a captive breeding and release program. Birds will be raised at an in-situ breeding and release center and released on protected government land with approval of the Bolivian government.

b) To determine priority release sites and candidate birds for each site we will be analyzing genetic variability in wild and captive individuals and identifying potential release sites based on the quality of available habitat and current threats.

c) To better understand how this species is using the habitat we will use telemetry and satellite tracking. The Beni savannahs remain flooded for six months every year, making it impossible to follow the flocks during the non-breeding season. As a result, we have no information about bird movements. To know where the birds are during the



(*Ara glaucogularis*)

© Steve Milpacher

rest of the year will help us to propose protected areas for Blue-throats.

d) To increase awareness and advocacy for the species within Bolivia and internationally, we will develop and distribute print and online materials, articles in popular press, and survey the materials’ effectiveness.

Through this decade-long sustained and collective effort, many important discoveries have been made about the Blue-throated Macaw’s habitat, its unique nesting ecology, and the issues limiting its recovery. Key factors include the protection and management of wild nests, the restoration of select habitat areas that have been affected by cattle ranching, and the education of local stakeholders in determining long-term land management strategies.

The future of this species will be determined by the actions we undertake within the next few years. Timing is urgent and the need is great. We appreciate and welcome your support in helping to save this critically endangered species.



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Edited by Joanna Eckles

Status: Critically Endangered; Found only in the savannahs in northern Bolivia.

Wild Population: 150-250 individuals

Reproductive Activity: 10-15 breeding pairs per year

Project Focus: The species was rediscovered in the wild in 1992. Since 2002 intensive conservation work has been conducted by World Parrot Trust biologists in order to identify and solve the critical parameters delaying the population’s recovery.



blue-throated macaw

stories



© Jamie Gilardi

In late 2005, we were closely watching one of the few successful pairs of Blue-throats. They nested in a unique cavity with an unusual gap in the side and multiple entrances, and their chick was in superb condition, a week or two from fledging. Normally after parrots feed their chicks mid-morning, most will fly a long way off to feed, preen, rest, etc. But on this one day, the adults stuck close to the nest. It was fascinating to watch them relax and preen one another and evidently just enjoy each other's company. At one point, the female leaned into her mate and rested her head on his shoulder and they both perched motionless. To complete this captivating scene, the parents could actually see their chick in the nest ... and the chick could see them.

We may never know what motivates parrots to form these powerful pair bonds – and to sometimes stick with them for decades. And while it's generally unwise to project human emotions onto any animal, I was just thrilled to have had this brief and enchanting peek into the intimate world of a wild parrot family. I came away thinking that there was something about the adults' calm satisfaction with their relationship, their nest site, and their chick which gave me hope that these critically threatened birds may yet make it back from the brink of extinction. (Jamie Gilardi, WPT Director)

It wasn't a normal day. A technician of the National Natural Resources Agency was supervising our work in order to approve our Rescue Center. We decided to visit the Estancia Esperancita, the site where ???. We approached on foot, walking behind the palm trees when we heard a group of Blue-throats behind the pens.

The first thing we noticed was the voice of juveniles in the flock. Sure enough, the first group we spotted was a family of five – the parents and three juveniles! Through the scope the birds were so beautiful in the sunrise light! We looked closer and YES! all three juveniles were leg banded, their bands shining in the sunlight.

We were excited. There can't be a better scene to show, especially for the visiting technician's first sighting of Blue-throated Macaws!

We started to scan the tree and found more birds! To our surprise they were also leg banded! In a single tree we had seven leg banded birds plus another adult pair! Then we



favouirites

The 2007-2008 breeding season was the best on record with the unprecedented survival of 2 and 3 chicks per nest. Below is the first family of five wild Blue-throated Macaws ever recorded (January 2008).



© Steve Seibel



Photos © Toa Kyle, Sarah Faegre and Igor Berkunsky



© José Diaz

heard another call and 100 m away. There was another pair perched in one of the artificial nest boxes.

I can't imagine a better situation that could summarize all our conservation efforts with the Blue-throated Macaws. All those leg banded birds we had taken such care of - some we have fed, some were infected by botflies which we removed. And those adult pairs using the nest box... it was so beautiful. (Igor Berkunsky - Project Leader since 2007)



© José Diaz



© Steve Milpacher

I remember the first time we flew a Blue-throated Macaw outside! They are magnificent flyers and wonderful additions to our educational shows. They truly eat up the sky as they soar high over the theater.

They are also the most destructive of all the parrots in our collection! They chew anything and everything. The browse, wooden perches, and toys we provide are modified or destroyed in minutes! The nest boxes for the breeding birds have to be replaced each year. But, the most amazing thing to me is how fast a Blue-throat can take apart its cage. For the Blue-throats, the special screws holding their cages together are little more than a mildly challenging enrichment item. Almost all the pairs in our shows know how to remove the screws. One pair removed over 20 screws in less than an hour! We now modify their cages so the screws are all on the outside. Still, that doesn't stop them from getting their beaks through the wire to work on the screws or to unlock a clip and open the door.

Blue-throats also have a tendency toward aggression after a few years. They are difficult parrots, that's for sure. But, they are incredibly beautiful and intelligent. I so look forward to the day our birds can go eat up the sky in their native homeland of Bolivia. (Steve Martin, Natural Encounters, Inc.)

During my first season on the Blue throated macaw project, in 2008, all I had in mind was an incredible passion for the parrots. I was really excited to be involved as a volunteer with the team in Bolivia and my expectations about the field work were so high.

We found a nest on the second day of checking cavities! There were three eggs in a motacú snag, near a cavity where a pair raised one chick the year before.

Automatically we started the process of protecting the cavity from predators and building a blind where we would monitor the nest each day. A roof? was installed at the motacú snag and branches from the closer palms were removed to prevent climbing predators access to the cavity.

All was going well. The parrots' behavior was normal - the male was feeding the female and she spent most of the day incubated the

eggs. Finally the first egg hatched! It was the first chick of the season and we were really excited. When we took him out the nest to check his health we found that his weight was great for his age. All was well.

There were still two eggs in the nest and we were hopeful as we hiked 45 minutes to the nest for our next visit. When we arrived all was quiet, extremely quiet, and it was not normal at all. A strange feeling came up my body and I offered to check the cavity. We took the ladder and I climbed up. I could not describe to my colleagues what I saw but they all knew that something was wrong.

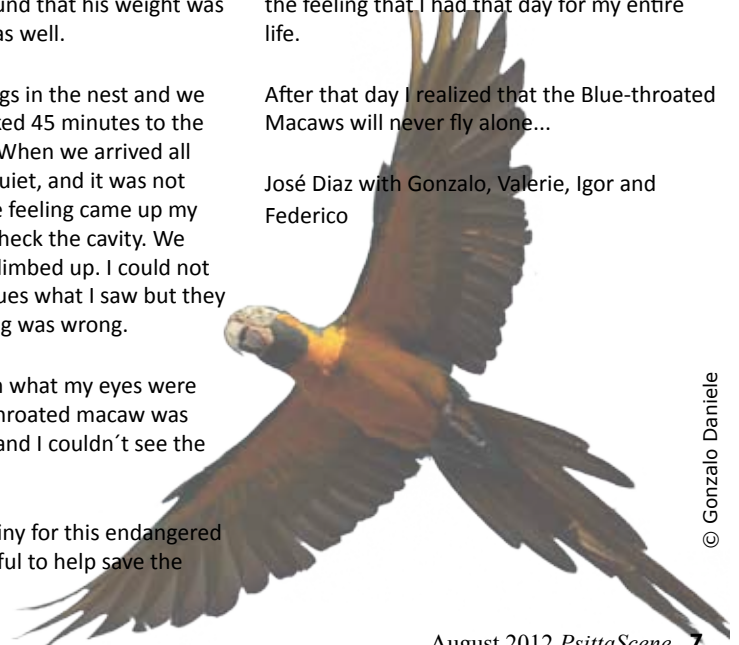
Finally I could tell them what my eyes were seeing: an adult Blue throated macaw was dead inside the cavity and I couldn't see the chick and even an egg.

Why? Why such a destiny for this endangered species? I was so hopeful to help save the

species and I could feel how important those birds were to me. I decided to write down the story in my notebook; I wanted to preserve the feeling that I had that day for my entire life.

After that day I realized that the Blue-throated Macaws will never fly alone...

José Diaz with Gonzalo, Valerie, Igor and Federico



© Gonzalo Daniele