

## MONITORING RESULTS OF THE ILLEGAL PARROT TRADE IN THE LOS POZOS MARKET, SANTA CRUZ DE LA SIERRA, BOLIVIA

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### INTRODUCTION

Wild bird illegal trade continues to be a serious problem in Bolivia, and is one of the main threats for many species of parrots which are particularly vulnerable to over-exploitation. This threat, combined with agricultural expansion and cattle-ranching in natural areas, is leading toward the extinction of many species of birds. According to Hesse (2003), the Blue-throated Macaw is a clear example of how these three anthropogenic factors have directly contributed to the progressive reduction of this species in the wild. Although there are no exact figures of the quantity of individuals and the species that were harvested before the Bolivian government banned the export of live birds in 1985, the wild population of many species continues to decrease considerably.

Of the 50 species of parrots recorded to date in Bolivia (Hennessey et al. 2003), three of them are endemic: Blue-throated Macaw, Red-fronted Macaw, and Cliff Parakeet (*Myiopsitta luchi*). Eight species are threatened with extinction and classified by BirdLife International (2008) as: Critically Endangered: Blue-throated Macaw, Endangered: Red-fronted Macaw, Hyacinth Macaw and Blue-headed Macaw (*Primolius couloni*), Vulnerable Military Macaw and Near threatened Amazonian Parrotlet (*Nannopsittaca dachilleae*), Yellow-faced Parrot and Tucuman Parrot.

Hyacinth Macaw is the largest of the species and the parakeets of the genus *Forpus* are the smallest ones. Apparently all these species are undergoing illegal trade pressure in different regions within their ranges, as it is common in the markets of Bolivia to find these birds in cages for sale as pets.

As part of the Asociacion Armonia/Loro Parque Fundacion Blue-throated Macaw conservation program, we established a monitoring

program as an indicator of the illegal pet area in the city of Santa Cruz. This paper describes the continued study of this market, including the first year of data previously described by Herrera and Hennessey (2007). Information from this market is important in helping us understand the level of illegal trade, the extent of the market, and to monitor our own conservation measures for the Blue-throated Macaw.

### METHODS

An anonymous trader of wild animals from Los Pozos market, Santa Cruz, Bolivia, with a good species knowledge took notes daily of the species and quantity of individuals that were offered to the traders devoted to this illegal activity from July 2004 to December 2007. Los Pozos is only one of the four existing sales points for wild birds in the city. No surveys of traders or retailers (people that purchase the animals in the market for selling them later at a higher price) were conducted. Instead, information was taken from those bringing the animals from the field to be sold to retailers. Data collected included: number of individuals, location where birds were obtained, date, species, age, tame/wild, origin, destination, and price. Data were recorded on every day in which parrots were offered.

It is important to note that this was not a survey of all illegal trade activity because often rare or expensive parrots are offered through the telephone or are sent to other illegal trade points in Bolivia, e.g., (Cochabamba), as well as Peru and Brazil.

### RESULTS

From July 2004 to December 2007, a total of 27 535 individuals from 36 species were recorded (Table 1). The most frequently sold

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TABLE 1. SPECIES AND NUMBER OF INDIVIDUALS OF PARROTS RECORDED PER YEAR FROM JULY 2004 TO DECEMBER 2007 IN THE LOS POZOS MARKET, SANTA CRUZ DE LA SIERRA, BOLIVIA.

Species	Species	2004	2005	2006	2007
Turquoise-fronted Parrot	<i>Amazona aestiva</i>	621	1296	1181	1319
Orange-winged Parrot	<i>Amazona amazonica</i>	40	8	9	4
Yellow-crowned Parrot	<i>Amazona ochrocephala</i>	11	3	1	3
Mealy Parrot	<i>Amazona farinosa</i>	8	17	21	13
Tucuman Parrot	<i>Amazona tucumana</i>		42		2
Yellow-faced Parrot	<i>Alipiopsitta xanthops</i>	1	1		1
Parrot sp.	<i>Amazona</i> sp.	2			
Lear's Macaw	<i>Anodorhynchus leari</i>	2			
Hyacinth Macaw	<i>Anodorhynchus hyacinthinus</i>	10		1	
Blue- and-Yellow Macaw	<i>Ara ararauna</i>	37	88	53	50
Red-and- Green Macaw	<i>Ara chloroptera</i>	9	35	26	43
Blue-throated Macaw	<i>Ara glaucogularis</i>			2	
Military macaw	<i>Ara militaris</i>	2			2
Scarlet Macaw	<i>Ara macao</i>	1	4	12	33
Red-fronted Macaw	<i>Ara rubrogenys</i>		32	13	2
Chestnut-fronted Macaw	<i>Ara severa</i>	35	54	54	47
Golden-collared Macaw	<i>Ara auricollis</i>	9	74	2	2
Red-shouldered Macaw	<i>Diopsittaca nobilis</i>	29	9		2
Black-hooded Parakeet	<i>Nandayus nenday</i>			11	
White-eyed Parakeet	<i>Aratinga leucophthalmus</i>	23	93	83	68
Mitred Parakeet	<i>Aratinga mitrata</i>	320	288	60	2
Dusky-headed Parakeet	<i>Aratinga weddelli</i>		59	36	121
Blue-crowned Parakeet	<i>Aratinga acuticaudata</i>	386	754	275	404
Peach-fronted Parakeet	<i>Aratinga aurea</i>	2	109	42	127
Yellow-chevroned Parakeet	<i>Brotogeris chiriri</i>	96	2437	2221	1939
Cobalt-winged Parakeet	<i>Brotogeris cyanopectera</i>		17		9
Grey-cheeked Parakeet	<i>Brotogeris pyrrhopterus</i>			8	
Yellow-faced Parrotlet	<i>Forpus xanthops</i>			8	
Blue-winged Parrotlet	<i>Forpus xanthopterygius</i>	10	1435	1322	1047
Monk Parakeet	<i>Myiopsitta monachus</i>	565	1772	1336	3261
Scaly-headed Parrot	<i>Pionus maximiliani</i>	87	42	8	6
Bronze-winged Parrot	<i>Pionus chalcopterus</i>		2		
Blue-headed Parrot	<i>Pionus mentruus</i>	184	160	17	90
White-bellied Parrot	<i>Pionites leucogaster</i>	6	5	3	
Black-headed Parrot	<i>Pionites melanocephala</i>	1			
Green-cheeked Parakeet	<i>Pyrrhura molinae</i>	11	175	211	403
Total		2508	9011	7016	9000

species were the Monk Parakeet with 6934 individuals, Yellow-chevroned Parakeet with 6693, and the Turquoise-fronted Parrot with 4417.

From the total number of birds, 17 609 (64%) were adults captured in the field. Ninety percent (24 707) of the birds traded come from the Department of Santa Cruz, followed by 2604 individuals from the Department of Tarija, 176 from Beni, 20 from Peru and 12 from Brazil.

Most parrots are locally sold with 23 306 traded in the city of Santa Cruz and 4156 sent to Cochabamba as final destination. The large and more expensive species (i.e. Hyacinth, Red-and-green and Blue-and-yellow Macaws) are frequently sold for transport outside of the country, mostly to Peru, Chile and Brazil.

The Los Pozos market indicates the potential level of trade in threatened species in Bolivia. Threatened species recorded were the Critically Endangered Lear's Macaw – (2) individuals

and Blue-throated Macaw – (2); the Endangered Hyacinth Macaw – (10) and Red-fronted Macaw – (47); and the Vulnerable Military Macaw (4). The Near Threatened Yellow-faced Parrot – (3) and Tucuman Parrot – (44) were also recorded.

The illegal pet trade monitoring in the Los Pozos market also counted the trade of seven CITES I species, including Scarlet Macaw (50), Red-fronted Macaw (47), Alder (Tucuman) Parrot (44), Hyacinth Macaw (11), Military Macaw (4), Lear's Macaw (2) and Blue-throated Macaw (2). Bolivia is part of the CITES program but does not enforce the laws to stop the illegal trade of CITES I restricted species.

## DISCUSSION

Given we only sampled a small part of the pet trade markets in Bolivia, the numbers we have recorded are most likely only a quarter of

all illegal trade that continues in Bolivia. Bolivia has laws against this illegal trade, but they are not enforced and there are no serious penalties for involvement in this activity. Currently there are no controls, no inspectors designated to this work, and no confiscations.

Monk Parakeet and Yellow-chevrons Parakeet were the most traded species, followed by Turquoise-fronted Parrot. At present, the former species are considered plague species in sunflower and sorghum cultivation areas in the eastern lowlands and are captured with mist-netting by local people or rural workers.

However, the Turquoise-fronted Parrot is no longer an abundant species throughout its distribution, suggesting that the capture rate is beyond a sustainable level. Most birds come from the province of Charagua, which is a Guarani community within the protected area of Kaa-Iya. If we consider that 4417 individuals were harvested during the monitoring period and that this does not represent even 25% of the true number, it is most likely that this rate is not sustainable. We expect the species to start disappearing from many areas where it is found at present.

Species like the Hyacinth Macaw, Lear's Macaw, Blue-throated Macaw, Red-fronted Macaw and Military Macaw receive such a high price within the illegal trade that they drive local people to search for these species. The situation with the Red-fronted Macaw is serious. It is an endemic and endangered species with a small range. Figures show that the pressure of trade is high with 47 individuals recorded, especially considering that Santa Cruz is not the core for traffic in this species. One could estimate a yearly trade of 100 individuals per year, which is an unsustainable number considering population estimates for the species are around

750 individuals (A. Rojas pers. com.). The lack of law enforcement and alternatives for sustainable use of these resources in the Bolivia, results in the increase of this illegal activity.

We also see that the effectiveness of National Parks and frontier police to protect native fauna is very low. For example, most of the Scarlet Macaws were brought from the lowland forest around the borders of Noel Kempff Mercado National Park.

#### ACKNOWLEDGEMENTS

We would like to thank Loro Parque Fundacion for their support of the Blue-throated Macaw conservation program as well as Asociacion Armonia and staff for their support. We appreciate the translation from Spanish by Liliana Cuenca.

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