



## Ears for Lear's THE LEAR'S CORN REPORT

Photo by Mark Stafford of Parrots International.

The following is a synopsis report of the Lear's macaw corn subsidy program in Brazil. As a conservation partner for 2014, the AFA launched its "Ears for Lear's" fund raiser to assist in purchasing sacks of corn for the farmers affected by crop damage attributed to Lear's macaws in the area.

### FINAL REPORT for 2013

**PROJECT:** To identify damage to corn plantings by Lear's macaws in 2013

**SUB-PROJECT:** The evaluation of damages to affected corn fields, and estimates of replacement value for the local farmers.

#### 1. PROJECT

The objective of the Project is to compensate for the damages caused by Lear's macaws to corn fields in Brazil. The project aims to lessen, to the minimum extent possible, the negative effects of systematic attacks by Lear's macaws in diverse rural communities located in the municipalities of the Ecoregion of the Raso da Catarina, Bahia State, Brazil. At the same time it is also the objective to reduce the formation of a negative image of these birds among the rural population in light of the increased incidence of damages to the farmers, which has contributed to the negative image of the birds as pests due to damages to their corn fields.

The Sub-project: The Evaluation of Damages and Estimates of Harm Done to the Fields, developed in partnership with Parrots International, Lymington Foundation,

Nutrópica, The Parrot Society UK, Phoenix Landing, The American Federation of Aviculture, Inc., The Parrot Fund/Amigos de las Aves USA, and ECO, carried out hands-on measurement of damages and consequent estimates of harm to the damaged fields and at the same time hosted activities destined to promote environmental awareness of the farmers in the rural communities affected by the attacks.

Unfortunately, the high level of human pressure on the natural resources in the region has heavily contributed to conflicts between the local populations and native fauna, especially the Lear's macaw. Thus, in spite of efforts to mitigate the serious problem, it has worsened. The situation has become more critical because of the high growth rate of the Lear's macaw population in recent years, and their growing reliance on the supply of cultivated vegetables and other resources which have become more and more desired due to the destruction of the native Caatinga vegetation.

This bad situation points out the importance and urgency of the development of effective actions to increase the supply of food resources for the native fauna of the region. Instead, what is happening is a definite increasing trend in conflicts each year. Moreover, it is necessary that the inhabitants of these areas become more aware of the importance of sustainable use of the native vegetation and development of a life style living in harmony with the environment in this semi-arid climate, a lifestyle that contributes to the conservation of the Caatinga Biome.



## INSTITUTIONS INVOLVED

Funding Organizations - **Parrots International, Lymington Foundation, Nutrópica, The Parrot Society UK, Phoenix Landing, The American Federation of Aviculture, Inc., The Parrot Fund/Amigos de las Aves USA**

Implementation of field activities - **ECO – Environmental Conservation Organization**

## METHODS

The surveys of the rural properties victimized by attacks of Lear's macaws were made through visits to rural communities where a history of attacks on corn fields existed. These surveys were made during the months of June to December 2013 and January to March 2014 and included villages of the municipalities of Canudos, Euclides da Cunha, Glória, Jeremoabo, Paulo Afonso and Santa Brígida.

The properties where corn plantings were victimized by macaw attacks during the 2013 season were measured and

geo-referenced using GPS navigation model GPSmap 60 CSx - Garmin, where the planted areas were determined through use of AutoCad software. In addition, information pertaining to the property owner of the area or the person responsible for the planting was gathered for the purpose of forming a specific database for the Project.

The damages caused by the attacks were estimated by evaluating the potential production and the observed intensity of the attacks in each planted area. In accordance with the calculated damages, a conversion was made to arrive at the number of sacks of grain corn to replace lost crops.

In addition, meetings were held with farmers and neighbors in the rural communities victimized by the attacks. They were instructed as to the activities of the Project. An attempt was made to attract the largest number of community members and invite them to participate actively in the conservation of the species in their habitat as well as the Caatinga itself.

**Map of the area encompassed by the Project**



**Figure 1** – Distribution of the Nesting/Roosting Sites (yellow circles) and Farms Victimized (red marks) by Lear's Macaws' Attacks (Image: Google Earth).

Thus, in this year, the total area included in the project totaled **5,759** square kilometers, however, considering only the area covered by the properties victimized by Lear's macaw attacks, this area totaled **3,045** square kilometers (**Figure 1**).

## 2. TECHNICAL TEAM

General Co-ordination	<b>Kilma Manso</b>	<b>ECO</b>
Support Team	<b>Alison Andrade</b>	<b>ECO</b>
	<b>Dorivaldo Alves</b>	<b>ECO</b>
	<b>José Carlos Ribeiro</b>	<b>ECO</b>

## 3. BENEFICIARIES

Evaluation of damages and quantification of damages by Lear's macaws benefitted a total of **136 rural properties (total amount of estimated damages: 1,440 corn sacks)**, located in twenty rural villages in the municipalities of Canudos, Euclides da Cunha, Glória, Jeremoabo, Paulo Afonso and Santa Brígida; as described below.

## CANUDOS

Among the villages that had properties victimized by attacks, Rasinho showed the largest quantity of attacks on areas of cornfields (**Table 1**).

### *Rural villages evaluated:*

Barriguda  
Novo Riso  
Rasinho  
Rio do Sturno  
Rosário  
Vassouras

### *Rural villages attacked:*

Rasinho  
Rosário

### *Rural properties attacked:*

24

*Number of sacks to be replaced:* 155 sacks (60 kg).

**Table 1 – Rural Properties  
Victimized by Attacks of Lear's  
Macaws – Canudos/Bahia**

Village	Number of Properties	Area Attacked		Sacks (damage)	
		ha	%	Quant.	%
Rasinho	13	11.97	41.1	77	49.7
Rosário	11	17.18	58.9	78	50.3
<b>Total</b>	<b>24</b>	<b>29.15</b>	<b>100</b>	<b>155</b>	<b>100</b>

**Average Damage / Area = 5.3 sacks / ha**

## EUCLIDES DA CUNHA

Among the villages that had properties victimized by Lear's macaw attacks, Assentamento Veneza showed the largest quantity of attacks on cornfields (**Table 2**).

### *Rural villages evaluated:*

Assentamento Varzinha  
Assentamento Veneza  
Serra Branca

### *Rural properties attacked:*

36

*Number of sacks to be replaced:* 891 sacks (60 kg).

### *Rural villages attacked:*

Assentamento Varzinha  
Assentamento Veneza  
Serra Branca

**Table 2 – Rural Properties  
Victimized by Attacks of  
Lear's Macaws – Euclides da  
Cunha/Bahia**

Village	Number of Properties	Area Attacked		Sacks (damage)	
		ha	%	Quant.	%
Ass. Varzinha	03	2.12	1.8	27	3.0
Ass. Veneza	18	84.01	70.9	595	66.8
Serra Branca	15	32.40	27.3	269	30.2
<b>Total</b>	<b>36</b>	<b>118.53</b>	<b>100</b>	<b>891</b>	<b>100</b>

**Average Damage / Area = 7.5 sacks / ha**





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## GLÓRIA

This municipality just has one property which was victimized by attacks, probably due to the large distance from the main Lear's nesting/roosting sites (**Table 3**).

**Rural village evaluated:** Brejo do Burgo

**Rural properties attacked:** 1

**Rural village attacked:** Brejo do Burgo

**Number of sacks to be replaced:** 5 sacks (60 kg).

**Table 3 – Rural Properties**  
Victimized by Attacks of Lear's  
Macaws – Glória/Bahia

Village	Number of Properties	Area Attacked		Sacks (damage)	
		ha	%	Quant.	%
Brejo do Burgo	01	0.61	100.0	05	100.0
<b>Total</b>	<b>01</b>	<b>0.61</b>	<b>100</b>	<b>05</b>	<b>100</b>

**Average Damage / Area = 8.2 sacks / ha**

## JEREMOABO

Among the villages that had rural properties victimized by attacks, Água Branca showed the largest quantity of attacks on areas of cornfields (**Table 4**).

**Rural villages evaluated:**

Água Branca  
Assentamento Matinha  
Bananeira - Barreirinha  
Barriguda - Bom Jardim  
Brejinho - Brejo Grande  
Calaço - Coelhos  
Lages - Logradouro  
Malhada Vermelha  
Pau D'água  
Rompe Gibão

**Rural villages attacked:**

Água Branca  
Assentamento Matinha  
Bananeira  
Barreirinha  
Barriguda  
Brejinho  
Brejo Grande  
Pau D'água

**Rural properties attacked:** 56

**Number of sacks to be replaced:** 272 sacks (60 kg).

**Table 4 – Rural Properties**  
Victimized by Attacks of Lear's  
Macaws – Jeremoabo/Bahia

Village	Number of Properties	Area Attacked		Sacks (damage)	
		ha	%	Quant.	%
Água Branca	18	19.97	36.4	74	27.1
Ass. Matinha	03	2.47	4.5	23	8.5
Bananeira	01	3.54	6.4	10	3.7
Barreirinha	04	1.59	2.9	09	3.3
Barriguda	07	7.74	14.1	37	13.6
Brejinho	02	1.40	2.5	06	2.2
Brejo Grande	10	13.09	23.8	75	27.6
Pau D'água	11	5.18	9.4	38	14.0
<b>Total</b>	<b>56</b>	<b>54.98</b>	<b>100</b>	<b>272</b>	<b>100</b>

**Average Damage / Area = 4.9 sacks / ha**

Lear's eating Brazilian corn crops. Photo by Mark Stafford of Parrots International.



## PAULO AFONSO

This municipality just has one property which was victimized by attacks, probably due to the large distance from the main Lear's nesting/roosting sites (**Table 5**).

**Rural village evaluated:** Várzea

**Rural properties attacked:** 1

**Rural village attacked:** Várzea

**Number of sacks to be replaced:** 6 sacks (60 kg).

**Table 5 – Rural Properties  
Victimized by Attacks of Lear's  
Macaws – Glória/Bahia**

Village	Number of Properties	Area Attacked		Sacks (damage)	
		ha	%	Quant.	%
Várzea	01	2.11	100.0	06	100.0
<b>Total</b>	<b>01</b>	<b>2.11</b>	<b>100</b>	<b>06</b>	<b>100</b>

**Average Damage / Area = 2.8 sacks / ha**

## SANTA BRÍGIDA

Among the villages that had rural properties victimized by attacks, Bandeira showed the largest quantity of attacks on areas of cornfields (**Table 6**).

**Rural villages evaluated:**

Algodões  
Angico  
Baixa do Mocó  
Baixa Funda  
Baixa Verde  
Bandeira  
Barriguda

Bugi  
Curituba  
Macambira  
Pacheco  
Povoado Km 42  
Serra das Drenhas

**Rural villages attacked:**

Angico  
Baixa Verde  
Bandeira  
Macambira  
Serra das Drenhas

**Rural properties attacked:** 18

**Number of sacks to be replaced:** 111 sacks (60 kg).

**Table 6 – Rural Properties  
Victimized by Attacks of  
Lear's Macaws – Santa  
Brígida/Bahia**

Village	Number of Properties	Area Attacked		Sacks (damage)	
		ha	%	Quant.	%
Angico	05	3.93	19.8	23	20.7
Baixa Verde	01	0.48	2.4	04	3.6
Bandeira	09	11.93	60.2	40	36.0
Macambira	02	2.44	12.3	31	27.9
Serra Drenhas	01	1.04	5.3	13	11.8
<b>Total</b>	<b>18</b>	<b>19.82</b>	<b>100</b>	<b>111</b>	<b>100</b>

**Average Damage / Area = 5.6 sacks / ha**

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Carring out a survey of corn damage with a local subsistence farmer in Brazil.



Using GIS Software to Geo-reference the location of a field targeted by the Lear's macaws.

**Observation 1:** At Santa Brígida seven incidents were reported in the year 2013 involving Lear's macaws, in which the macaws were shot, resulting in the death of two birds and serious injuries to another. This demonstrates the importance of the increased need to compensate for the harm done to the cornfields at that municipality, and increase of environmental education to avoid new conflicts and deaths of macaws.

**Observation 2:** The very small general index of average damage / area (**5.7 sacks/ha**) is the result of the extremely low productivity experienced in a majority of the properties surveyed in the region, mainly due to the low rainfall.

#### 4. GOALS REACHED

- Corn plantations subject to attacks were identified, quantified, geo-referenced and measured.
- Damages suffered to the plantings were evaluated and quantified.
- Losses suffered by the farmers were estimated.
- The rural populations in the areas of largest incidence of attacks are more sensitized to the critical survival situation of the Lear's macaw and will have a higher involvement in conservation of the species and the Caatinga itself.

#### 5. FINAL COMMENTS

- On various properties it was reported by the farmers that the only effective means to scare away the birds was the continuous presence of humans in the fields, including shouting and gesticulating at the approach of the birds. This human intervention greatly reduces the damages realized to the cornfields by the Lear's macaw attacks.
- The surveys for damages must be done at specific times of the year relevant to the occurrence of rain in each area. Surveys accomplished after the fact become very imprecise. After the attacks, the farmers must use the fields to replant or use what is left behind (leaves, stalks, cobs) for other purposes such as cattle feed. It is mandatory that survey activity be performed in harmony with the cultivation cycles in each region, which is directly related to occurrence of rain, and is different for each municipality. Additionally, it is important that the evaluation of damages be carried out during the time period when the attacks are taking place (generally during production and growth of cobs).
- Leaves of Licuri palms are often used as food for cattle. This fact denotes the very high importance of this palm in the Brazilian semi-arid region. In addition to being a





Collected remnants of the damage caused by Lear's macaws in the corn fields.

Team ECO, with Kilma Manso, talking to local subsistence farmer and evaluating crop damages of his fields.



primary food supply for many wildlife species, especially for the Lear's macaw, Licuri palms are also used as a forage reserve for domestic livestock in the severe dry periods, depending on the situation currently taking place in that region. This is a further indication of the importance of replanting Licuri palm seedlings across the region, especially due to the chaotic situation since drought hit the region.

Licuri is practically the only alternative food for native and domestic fauna - cattle and goats - because all the other plant species, whether native or cultivated, have died or lost their leaves as a survival strategy to face hard droughts.

- As agreed among the project's first partners, the corn replacement will be made through vouchers corresponding in value to the total sacks due to each farmer. These vouchers will be issued in agreement with the local retailers in the municipality where the sacks of corn will be acquired. The beneficiaries will then only have to go to the local retailer in their municipality and present their vouchers to receive their corn or exchange the vouchers for other agriculture products;
- The current price of the sack of corn (60 kg) is **R\$ 38.00 (US\$ 17.00 – Rate: 1: 2.24)**.

*Prepared by*  
**KILMA MANSO**  
*General Co-ordinator*

**In Partnership with:**

