

Marsh Deer Project 2005

Final Report



Asociación para la Conservación
y Estudio de la Naturaleza



PROYECTO
**CIERVO DE LOS
PANTANOS**
DELTA DEL PARANÁ - ARGENTINA



Conservation Leadership Programme



Marsh Deer Project 2005 Final Report

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y el Estudio de la Naturaleza**

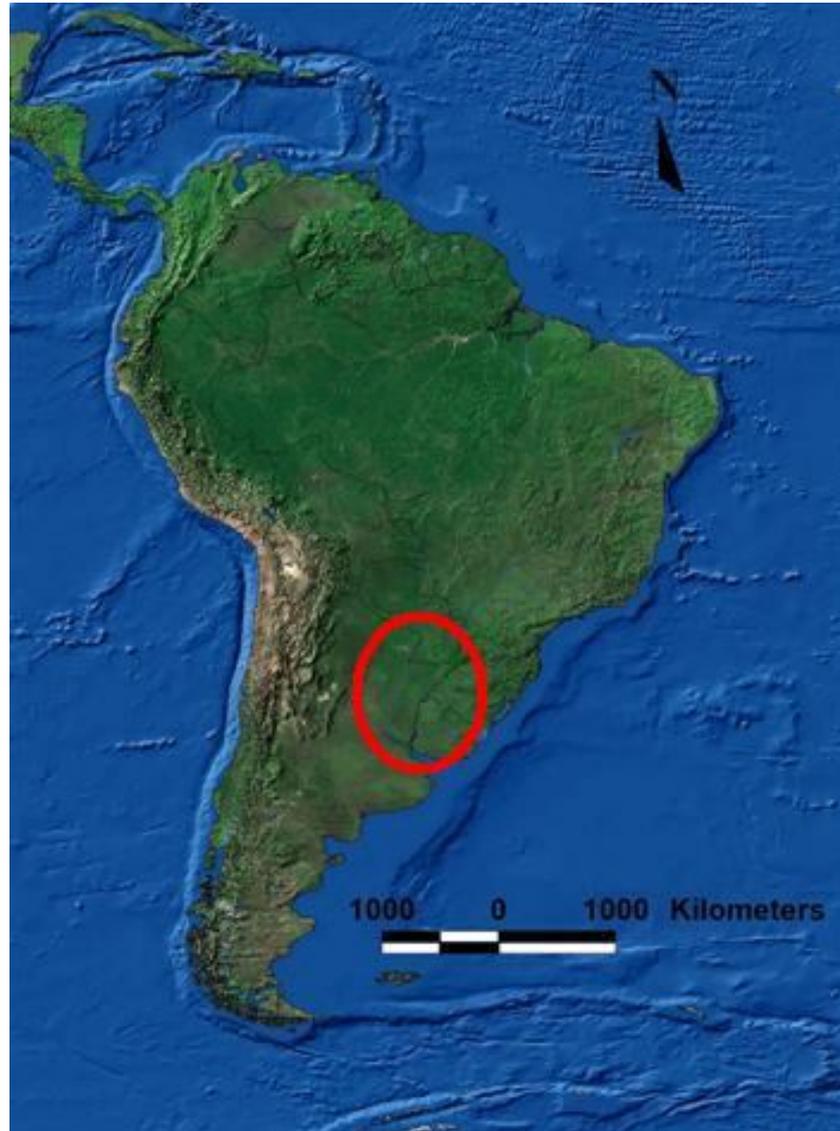
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Study area



The project was carried out on Parana-Paraguay River basin, in Argentina, South America. In particular we worked on Formosa, Chaco, Corrientes and Santa Fe Provinces, and in the Parana River Delta, in Buenos Aires and Entre Rios Provinces.



Project team

Technical team

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Corrientes Province

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Carlos Figueredo (48 years old). Local naturalist and ornithologist .Experience in Iberá marshlands field work. Iberá Natural Reserve Foundation

Analía Fernandez (21 years old). Biological student and teacher. Working in a local school

Yanina Lezcano (23 years old). Student teacher. Experience in education activities and environmental public awareness.

Santa Fe Province

Leandro Antoniazzi (34 years old). Degree in agricultural science. Litoral National University. Experience in education programmes.

Ayelén Eberhardt (29 years old). Biology, Litoral National University. CONICET national scientific researcher. BioS NGO member.

Andrés Kees (43 years old). Santa Fe Provincial Park Ranger. Experience in education activities, surveys and field work.

Chaco Province

Natalia Meyer (29 years old) Advance veterinary student. Member of a local environmentalist NGO (Asociación Rescate Silvestre)

Gabriela Ramirez (31 years old) 31Veterinary doctor, Wildlife researcher at National University of Nordeste, Corrientes Province. Member of Asociación Rescate Silvestre NGO.

Patricio Cowper Coles (25 years old) Veterinary student. Experience on mammals surveys in Chaco Provincie. Member of Asociación Rescate Silvestre



Myrtha M Sosa (31 years old) Advance veterinary student and teacher. Experience on education activities and field work. Member of Asociación Rescate Silvestre

Nicolás Cowper Coles (23 years old) Degree in Environmental and Natural Resources Salta National University of Salta province.

Formosa Province

Alejandro D´Giacomo (44 years old) working at Aves Argentinas / BirdLife International Conservation department, El Bagual Natural Reserve, Formosa Province

Education activities

Cynthia Dabul (29) Education Campaign co-ordinator

Hernán Laita (31) Naturalist and island school teacher

Carolina Daiana Cuk (23) Volunteer

Daniela Falcón (25) Volunteer



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Bases for National Conservation Plan for Marsh Deer

Chapter 2

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Chapter 3

Discovery of new floating marsh areas in Parana River Delta

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Chapter 1

Bases for National Conservation Plan for Marsh Deer



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1. Summary

The work done between July 2007 and August 2009 included the development of a proper and uniform methodology to be implemented in the different zones where some evidence of the presence of marsh deer had been reported or where there was potential habitat for the species. The methodology focused on determining distribution, conservation status and identifying the major threats to the species and its habitat.

The main objective of this work is to map the distribution of remnant populations of the species in the country, and assess its current conservation status. We believe this information is essential to start laying the groundwork for developing a National Plan for Conservation of marsh deer in Argentina.

Before the fieldwork was conducted, a workshop to analyze the situation and state of knowledge of the species in each region was done and a working methodology feasible to be applied by all the working groups was developed and standardized.



2. Background and justification

The marsh deer presents currently isolated populations and an increasing retraction of its distribution, due mainly to the alteration of its natural habitats and to poaching. Most studies were focused on the Matto Grosso region, Parana River basins in Brazil, the Iberá marshes, and –since the beginning of our studies- in the Delta del Parana region. In Argentina the two main concentrations are located in Esteros del Iberá (Corrientes province) and in Delta del Paraná (Buenos Aires and Entre Ríos provinces).

Before this work there is no precise existence and up to date information related to the distribution and conservation status of the other population cores in Argentina. The lack of a general knowledge regarding the real situation of the species could explain the almost complete absence of any kind of concrete conservation actions put into practice in the areas already mentioned.

However, during the previous stage of our project (Marsh Deer Project 2003) we could gather reliable data that suggests the existence of other remnant populations of the species in our country along the Paraná-Paraguay fluvial axis (Provinces of Formosa, Chaco, Corrientes, Santa Fe and Entre Ríos). Before the present work hardly anything was known about these remaining nucleuses.

Along the same lines, the Eco-regional Evaluation of the “Gran Chaco Americano” developed by The Nature Conservancy, with local support from the Fundación Vida Silvestre Argentina (WWF Local Partner), has established that the marsh deer is one of the priority species for conservation efforts within the Gran Chaco eco-region, particularly the populations within the province of Formosa.



On the other hand, the locations of some identified remnant populations are in wetlands that have recently been declared “of international importance” by the RAMSAR committee (RAMSAR sites “Chaco Wetlands”, in Chaco province, and “Jaaukanigas”, in Santa Fe province). These declarations came out of an initiative from a Santa Fe’s NGO called PROTEGER (member of the International Union for Nature (UICN), Friends of the Earth International (FoEI) and the Living Rivers Coalition), which aims to create a corridor of RAMSAR sites on the Paraguay-Paraná fluvial axis. During the second stage of the MDP, PROTEGER Foundation has shown great interest in the information generated by us, since it represents an important asset for defending their proposal. Therefore, we are given the opportunity to encourage the use of the image of the marsh deer as a flag for the conservation of these areas.

These facts show, first of all, the need to carry out evaluations on the state of these remnant populations, and to analyze the connectivity or geographical continuity existing between them as well as with the populations of the Delta. Secondly, they generate the opportunity to broaden our scale of work, and to get involved with different local groups interested in the species and the wetlands that sustain it.

For these reasons it was decided, within the Marsh Deer Project (MDP), to promote a line of action to search potential areas of occurrence of deer in the rest of its range along the Parana-Paraguay river axis, where there was little or no information.

The development of this work has been carried out through a coordinated action with groups, organizations and local researchers, so that information could generate consistent and common criteria.



3. Objectives

AIM

- To secure the conservation of remnant and unknown populations of marsh deer that still survive in Argentina, together with the natural ecosystems that provide them with shelter.

This goal was attained through the formation of local groups and the carrying out of agreed actions. Owing to this fact, we have tried to generate experiences similar to ours in the Paraná River Delta, where the Marsh Deer was successfully used as a flagship species. In this way, we achieved the consolidation of local groups who still work on new activities connected to the present project.

SPECIFIC OBJECTIVES

- To generate and consolidate a network of new work groups interested in the conservation of the marsh deer and its habitats, in the interior of the country.
- To develop a suitable methodology for determining the current distribution and threats of the species at a regional/national scale, in consensus with the new local work groups.
- To determine the current distribution and the main threats and factors of pressure to the species in the remnant populations located in the Paraguay-Paraná basin.



- To establish the best strategies for the protection of the marsh deer in the Paraguay and Paraná river basin wetlands and to identify the actors who may be best qualified to develop them as well as their possible sources of funding.
- To communicate the achieved results to the main local stakeholders (provincial governments, private land owners, local NGOs, etc.)



4. Methods

4.1. Formation and consolidation of a network of local work groups

Wider work team

Several NGOs and groups from the north of our country have stated their interest in working for the study and conservation of the species from their own regions, which is why we think it would be important to unify the criteria beforehand and establish the basis for the gathering of information and the design of a national conservation plan for the species and its habitats through some sort of consensus. We believe that this would be of fundamental importance in two ways: on the one hand, it would allow the creation of a homogenous information base with which to design conservation strategies on a national level, and on the other, it would increase the critical mass of actors involved, with the resulting repercussion on national public opinion and on the authorities responsible for the decision making. But even more important would be the fact that once the conservation work is begun, and within the framework of a national strategy, the new organized groups are checking the possibility of continuing their tasks autonomously, which would facilitate long-term results.

4.1.1. Open invitation to out the work

In March 2007 an open call is sent to all organizations potentially interested in obtaining basic information about the marsh deer in hardly or non-prospected areas in the interior of the country.

Call to organizations and individuals interested in preserving the Marsh deer and their habitat



Background

The marsh deer is a species considered "vulnerable" by the International Union for Conservation of Nature (IUCN, 2000) and "endangered" by the National Wildlife Argentina (DNFyFS, Art . Reg 666/97 Nat Law No. 22, 421) and the Argentina Society for the Study of Mammals (Diaz and Ojeda, 2000). It was declared a Natural Monument in the provinces of Buenos Aires, Chaco and Corrientes.

The country's two main population centers of the species are located in the Esteros del Ibera (Corrientes province) and in the Paraná Delta (provinces of Buenos Aires and Entre Rios).

However, there is current and accurate information about the distribution and conservation status of several other population centers of the species in the Paraguay-Parana river axis, thus preventing development of conservation strategies at the local level, and limited integral knowledge of the status of the species nationally.

After several years of work focusing its research and conservation activities on the populations of the Paraná Delta, the MDP of ACEN (Association for the Conservation and Study of Nature) has decided to promote a line of action to search the situation of population centers, of which there is currently little or no information.

The development of this task has been proposed through the coordinated action with groups, organizations or local researchers, so as to generate consistent information and common criteria.

Open Call

MDP, will select NGOs and / or young researchers interested in working together to obtain basic information about the distribution of marsh deer in the Paraguay-Parana River basin.

The work to be done includes the development of a proper and uniform methodology for implementation in the different areas in which information is available about the presence of marsh deer. The methodology to be applied will aim to determine distribution, conservation status and to identify the major threats to the species and its habitat. As a final step in each area, we will work to develop viable conservation strategies.

The ultimate goal is to obtain a complete map of the remaining populations of the species in the country, and their conservation status. We believe this information is essential to start laying the groundwork for developing a National Plan for Conservation of Marsh Deer in Argentina.

To achieve this goal, we will work to strengthen local conservation groups interested in the subject and capable, in turn, to generate new projects to bring that future conservation plan into practice.

Each working group will be provided with funds to cover operating costs of labour.

In May 2007 a workshop to work on the development of the methodology of work which each group will apply in the field will take place

Selection

Priority will be given to local groups or organizations located, or currently working in wetlands connected to the Paraguay-Parana river axis

Since the surveys are for little-known settlements areas where there is currently enough information will not be included

For each area a group / researcher / NGOs will be selected so as to avoid overlapping of efforts.



A form is attached (see form). Interested parties must fill it up by 23 April.

Form

<ul style="list-style-type: none"> • NAME OF INSTITUTION, GROUP OR INDIVIDUAL APPLICANT:
<ul style="list-style-type: none"> • ADDRESS: STREET / PCODE - CITY / PROVINCE
<ul style="list-style-type: none"> • PHONE / FAX
<ul style="list-style-type: none"> • E-MAIL:
<ul style="list-style-type: none"> • Web site:
<ul style="list-style-type: none"> • LEGAL Number
<ul style="list-style-type: none"> • ID or CUIT number:
<ul style="list-style-type: none"> • Brief resume of the applicant (background, especially conservation work conducted in the area and main mission of the entity)
<ul style="list-style-type: none"> • HUMAN RESOURCES * Curriculum of the representative of the team or the person in charge * Curriculum of the project executing staff
<ul style="list-style-type: none"> • AREA / S OF INTEREST (areas with presence of marsh deer on which you are interested to work)
<ul style="list-style-type: none"> • COMMITMENT TO FUTURE (ability to give continuity to the local conservation strategies)
<ul style="list-style-type: none"> • INFRASTRUCTURE (own infrastructure to offer as partners: logistics capabilities)
<ul style="list-style-type: none"> • OTHER INSTITUTIONS <p>Refer to other institutions that can potentially participate in the project, without being applicants, but willing to provide technical assistance or other resources of any type. Detailing the institutions that apply:</p> <p>Provincial / Municipal Government</p> <p>Business or National Foundations</p> <p>Universities / Colleges / technical or research institutes</p> <p>Individual donors</p>



- ENDORSEMENTS (NGOs, state, scientific authorities etc.).

Selection Criteria

We prioritized groups or local organizations that were established or developing its activities in wetlands connected to the Fluvial axis Paraguay-Parana.

We attempted to select an NGO or working group for each province to be researched, although in some cases such as in the province of Corrientes and Santa Fe several groups that formed teams consisting of members of different NGOs or foundations were selected.

4.1.2. Results

We selected 7 groups of researchers; members of NGOs and Foundations of the interior of the country who work in areas of interest for the project. They were invited to participate in a workshop for the development of appropriate methodology to be applied in the field by each group.

Province	Agency / s involved	Responsible and groups leaders
Santa Fe	Bios (Asociación Biológica Santa Fe)	Ayelén Eberhardt, Wanda Polla Patricia Amavet
		Antoniazzi Leandro (ACEN and Capibara Group) Andres Kees (provincial ranger)



	Dirección general de manejo sustentable de fauna y flora de la Secretaría de Medio ambiente de Santa Fe	Alejandro Larriera, Eduardo Mosso, Alba Imhof, Liliana Moggia
Chaco	Asociación Rescate Silvestre	Natalia Meyer, Gabriela Ramirez, Patricio Cow per Coles, Myrtha Sosa
Formosa	Aves Argentinas / Asociación Onitológica Argentina	Alejandro Di Giacomo
Corrientes	Fundación Reserva del Ibera	Horacio Cardozo, Aníbal Parera, Pablo Preliasco, Carlos Figueredo
		Daniela Cano (ACEN), Hector Ball (National Parks Administration), Susana A. Fernández

4.2. Development of a methodology to determine the distribution of the Marsh Deer and the threats affecting it on a national level.



4.2.1. 1st workshop - Luján, Provincia de Buenos Aires

There took place a workshop in Luján, Buenos Aires province, where all the selected participants met. It included the exposition of the results of previous stages of our work and the recollection of information gathered by the participants on the situation of the marsh deer in their own locations. We did a first analysis of the necessary resources to survey each particular area and we designed the appropriate methodology to determine the current distribution and threats of the species at a regional/national scale

A recognized researcher with experience in South American deer was invited to coordinate and chair the workshop

Agenda

www.acen.org.ar
<u>Conservation of marsh deer workshop</u>
<u>Laying the bases for the development of a National Conservation Plan</u>
Saturday June 9 and Sunday 10
Luján, Provincia de Buenos Aires
AGENDA
Saturday
10:00 to 10:30 Arrival and registration of participants



10:30 to 11:45 Introduction of the MDP Team
Objectives of the meeting
Presentation of the Agenda
Speech by Representative of Wildlife, the Ministry of Environment and Sustainable Development of the Nation
Speech by Mariano Merino, representative of the Deer Specialist Group / IUCN
Introduction of participants
11:45 to 12:00 Coffee-break
12:00 to 12:30 Talk about the background and accomplishments of the project
Current objectives
12:30 to 13:00 Current status of knowledge about national Marsh Deer
Basis for a National Conservation Plan
Objectives and definition of the scope of work to do, what data is sought from the surveys
13:00 to 14:30 Lunch
14:30 to 15:30 Delimitation of the area to research
Distribution of the areas to be researched among the groups
15:30 to 17:00 Discussion about the survey methodology to be applied
17:00 to 17:15 Coffee break
17:15 to 19:30 Operational Issues of the surveys



19:30 to 20:00 Break
20:00 to 21:00 Dinner and Presentation of the MD Paraná Delta documentary film
Sunday
08:00 - 08:30 Breakfast
08:30 - 11:00 Development of logistics group work
Preparation of operating budgets for each group
Schedule of group work
11:00 to 12:30 Talk by each group and overall adjustment
12:30 to 14:00 Lunch
14:00 to 15:30 Reports about the work
Financial reports
15:30 to 16:30 Draft agreements signed between ACEN and participants
16:30 to 17:00 Workshop Closing

Participants

Participant	Institution	Participation
Mariano Merino	Museo de la Plata Deer Specialist Group/ UICN	Disertante (speaker)
Diego Meier	Museo de la Plata	Disertante (speaker)
Gustavo Porini	Secretaría de Ambiente y Desarrollo Sustentable de la Nación	Nacional Government agent
Ana Susy Gutierrez	Dirección de Fauna, Parques y Ecología	Government agent - Chaco Province



Guillermo H. Cardozo	Fundación Reserva del Iberá	Frente Mercedes-local group representative-Corrientes province
Pablo Preliasco	Fundación Reserva del Iberá	Frente Mercedes- local group representative-Corrientes province
Alejandro Di Giacomo	Aves Argentinas- Departamento de conservación	local group representative- Formosa province
María Ayelén Eberhardt	Bios (Asociación Biológica Santa Fe)	local group representative- Santa Fe province
Leandro R. Antoniazzi	Grupo Capibara / ACEN	local group representative- Santa Fe province
Natalia Cristina Meyer	Asociación Rescate Silvestre	local group representative- Chaco province
Gabriela Ramirez	Asociación Rescate Silvestre	local groups representative- Chaco province
Paula Cano	National Parks Administration	Frente Mburucuyá-local group representative- Corrientes province
Vanina Raimondi	Programa Gran Chaco, Depto de Conservación, Fundación Vida Silvestre	Partner-speaker
Santiago D'Alessio	ACEN	Marsh Deer Project leader
Pablo Herrera	ACEN	Marsh Deer Project- Local groups coordinator
Gustavo Aprile	ACEN	Marsh Deer Project
Bernardo Lartigau	ACEN	Marsh Deer Project- Local groups coordinator
Natalia Fracassi	ACEN	Contributor
Javier Pereira	ACEN	Contributor
José Pereiro	Huellas de la Naturaleza	Contributor
Rubén Lartigau	ACEN	Contributor



Speech by Mariano Merino, Deer Specialist Group / IUCN. (Photo: Santiago D'Alessio)

2.1 Workshop Results

We have expanded the information regarding the identified new potential areas of distribution of marsh deer. Some of this information was previously gathered by the workshop participants. It was agreed to do surveys (interviews) to local residents, which was considered the most accurate tool to work on the proposed scale. Work on the development and standardization of a methodology based on surveys was done, and different strategies for data to confirm presence of the species were analyzed. These strategies should be feasible to be implemented evenly by all the working groups in different areas (See survey in appendix).



Members of the NGO Wildlife Rescue agent working with Government - Wildlife Division, Parks and Ecology of Chaco Prov Photo: Santiago D'Alessio



Members of ACEN and Alejandro Di Giacomo, Conservation agent, Department of Conservation, Aves Argentinas /Asociación Ornitológica del Plata. El Bagual protected area, Formosa. Photo: Santiago D'Alessio



Closing of the workshop, Photo: Santiago D'Alessio

4.3. Refinement of the methodology

The different groups were accompanied by MD members on their sampling surveys and their first campaigns to assure homogeneity in the gathering of information. We had opportunity to adjust and refine the sampling methodology.



Walk with locals looking for signs of the presence of marsh deer, Corrientes province. Photo: Carlos Figueredo



Interviewing local residents, Corrientes. Photo: Hector Ball



Using GPS and mapping in the field. Photo: Nicolas Cowper Coles



Surveying marshlands and palm woods in the province of Chaco. Photo: Natalia Meyer.



4.4. Field Survey

Obtaining basic information for understanding the current status of marsh deer in the Paraguay-Parana river corridor and other areas of influence in Argentina.

4.4.1. Methodology and study area.

The different study areas were divided into grids of 30km sides (900km²). We used the survey method to determine occurrence and to identify conservation problems. In parallel, we attempted to verify the positive data by recognizing the presence of traces, antlers, skulls, pictures of locals or other evidence. The consensus was to obtain at least four surveys per grid.

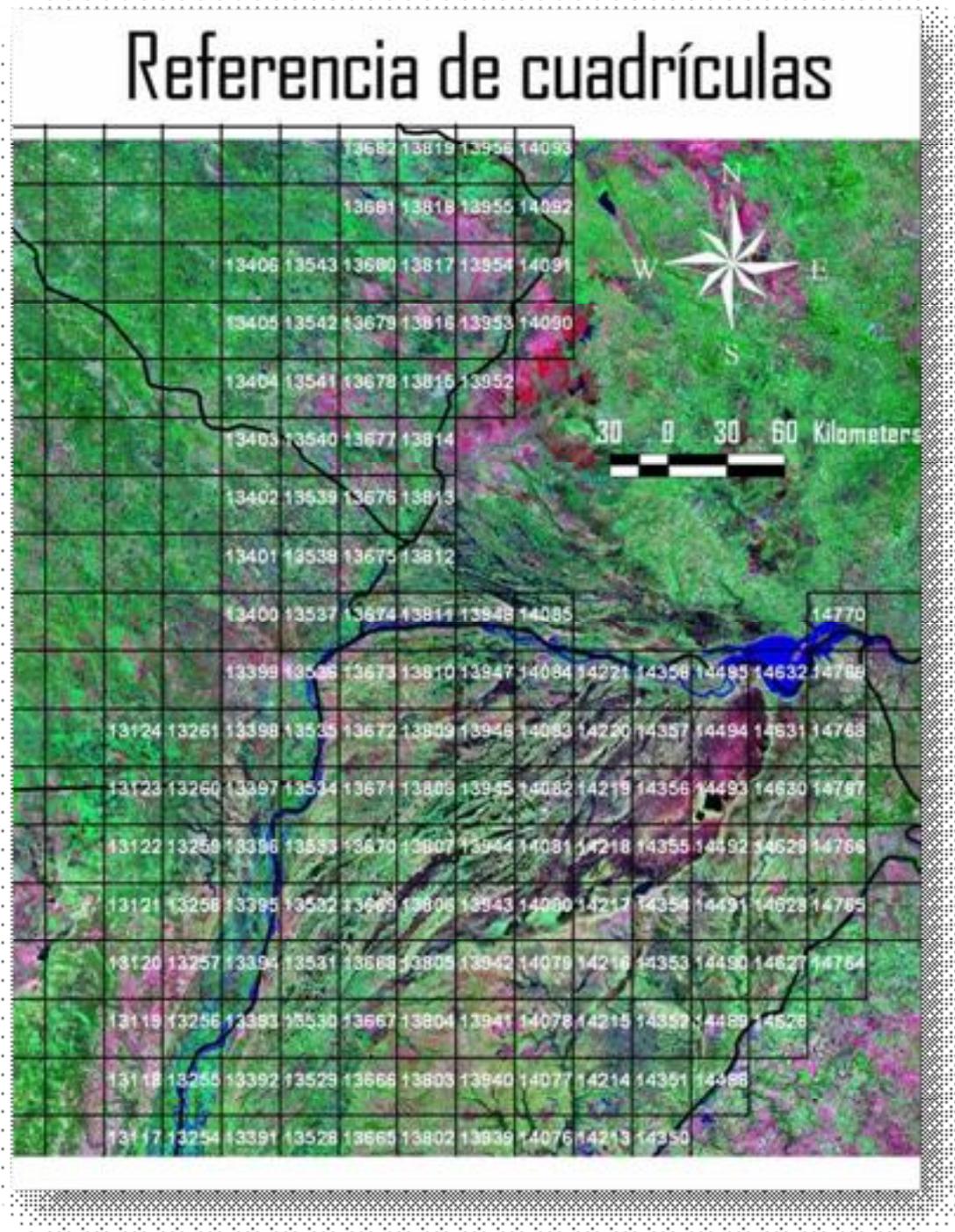
Most of the times the sites to be surveyed were accessed by vehicle and on other occasions they were accessed by boat.

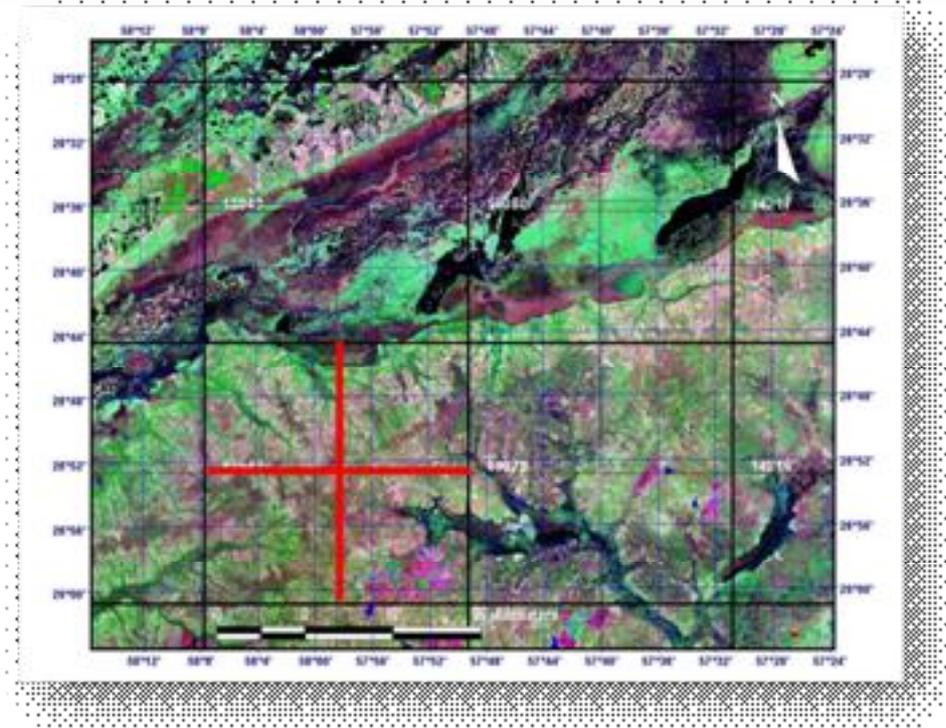
These surveys excluded the two main population centers of the species known in Argentina, located in the Esteros del Ibera (Corrientes province) and in the Paraná Delta (provinces of Buenos Aires and Entre Rios).





Prior to this work, no current and accurate information about the distribution and conservation status of the other population centers of the species in Argentina existed







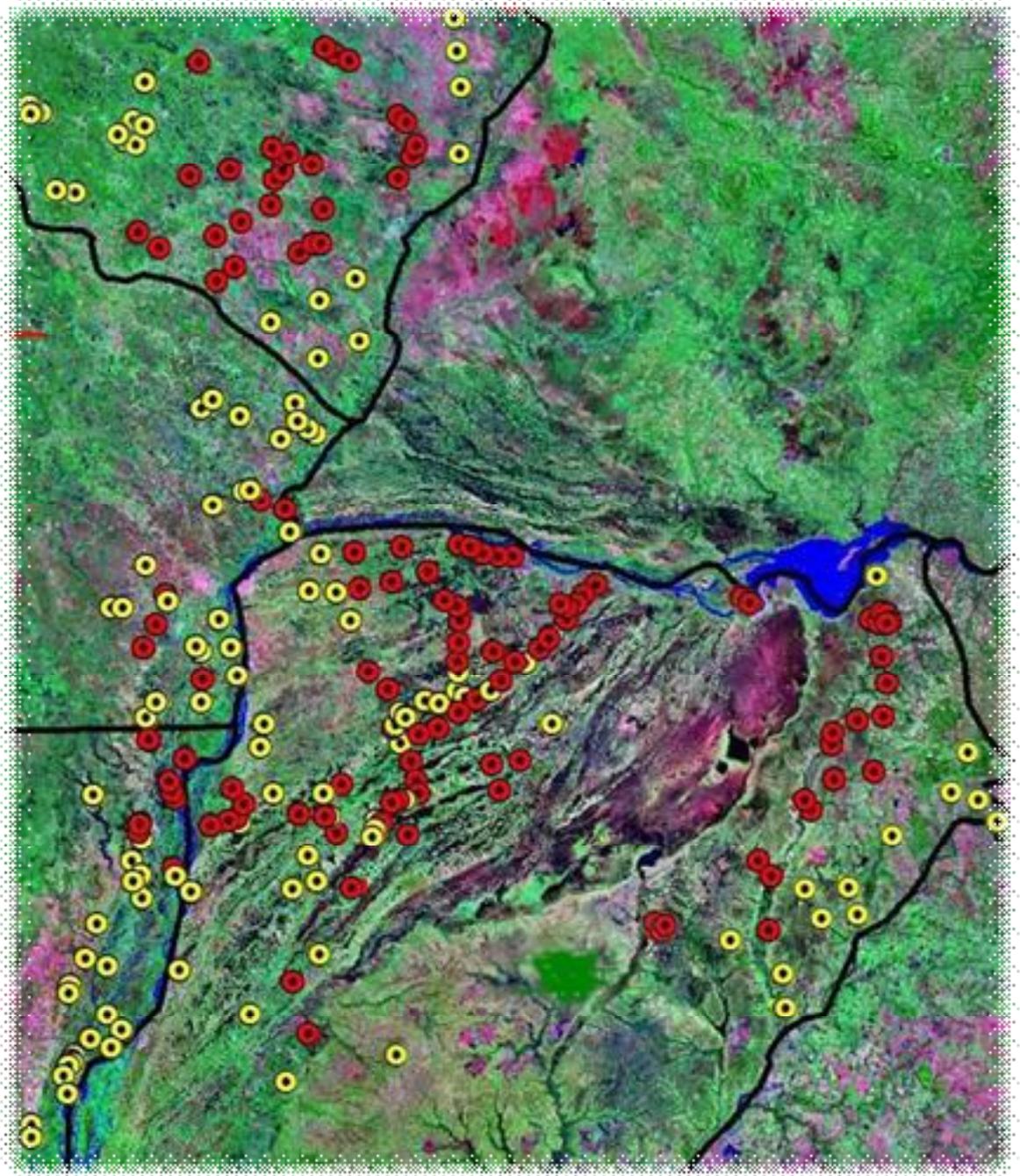
5. Overall results

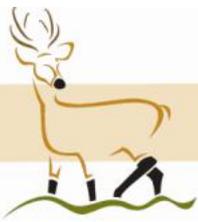
About 280 surveys were conducted in 80 grids. The whole researched area was about 72000 km². It confirmed the presence of 14 population nucleus of the species outside the known populations of Ibera and Delta del Parana, 6 of whom have no background in the scientific literature.

The last remaining population in the province of Santa Fe was spotted, the known distribution for the province of Corrientes and Formosa was expanded and two population nucleus in eastern Chaco were registered.

We identified the main factors of threat to each nucleus and the current conservation status of each was registered. (See Table threats)

Major factors of recurrent threats throughout the area highlight the poaching and the replacement and modification of natural environments. The boom in the massive expansion of crops such as rice and soybeans would be a key factor explaining the increasing impoverishment and loss of habitat.





Work by province

5.1. Santa Fe

Historical records of marsh deer in the province of Santa Fe refer to their past abundance on the islands of the Parana and neighboring areas (Beck-Bernard, 2001; Pautasso, 2008; Furlong, 1938), although at present it seems to have disappeared in most of the Parana River Valley (Pautasso, 2008). The latest record of the species, corresponded to General Obligado Department, for the decade 1980-1989 (Pautasso 2008). Giraudo and Moggi (2006) mentioned it in the Ramsar site Jaaukanigás without much precision, the current size and population status of the population remaining unknown.

The status of the species in the province was still uncertain because only recently their presence and accurate data based on records obtained from this work have been confirmed. This achievement was carried out in conjunction with Bios (Biological Association of Santa Fe) and with the support of the Department of Sustainable Management of Wildlife, Ministry of Environment of the Province of Santa Fe

The study area, General Obligado Department and the Northeast San Javier Department, was divided into 10 grids. Locals, rangers, fishermen and shepherds in rural settlements were interviewed.

Considerations on the method applied

- Each grid was subdivided into 4 quadrants. A minimum of 4 interviews per grid was established
- Each survey was associated with a grid.



- The interviews were fairly informal (Dietrich, 1995). They were made regarding locals, rangers, fishermen and shepherds in rural establishments operating in the area.
- Those grids having large urban areas inside, were sampled only in places not much affected by them

For each sample unit the rate of presence was determined according to the following formula:

$$IAR_{enc} = nEP/NE$$

Where:

nEP is the total number of positive interviews in the quadrat

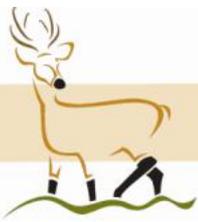
NE is the total number of interviews in the quadrat

In addition, information connected with the status of populations of marsh deer and other species of conservation concern for the area was gathered.



Study area in the province of Santa Fe.

42 interviews were conducted throughout the

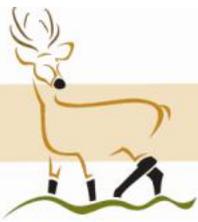


study area

The area where the presence of the species was recorded (direct observations by local people or individuals killed in the last 10 years) corresponds to the north of the Ramsar site "Jaaukanigás". This Ramsar site is located in the flood valley of the Paraná River, Departamento General Obligado, Santa Fe province. Its boundaries are formed by the parallel 28 ° north, which borders Chaco, Roads 1 and 11 to the west, Malabrigo brook to the south and the navigation channel of the Parana River to the east.

Presence rate per grid.

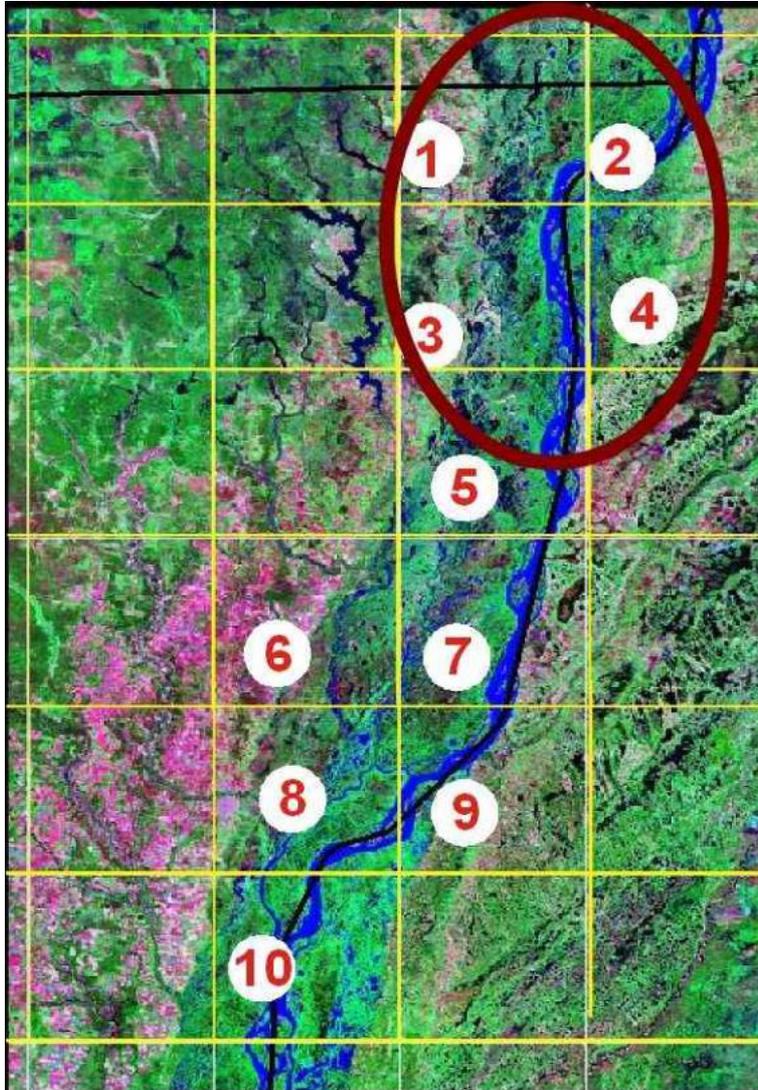
Grid	n° TI	Positive	<i>I.A.R. end</i>
01	2	2	1,00
02	2	2	1,00
03	9	8	0,89
05	8	2	0,17
06	3	0	0,00
07	3	0	0,00
08	9	0	0,00
09	1	0	0,00
10	10	0	0,00



The positive data show that specific locations of the species are found between Puerto Ocampo and the 28th Parallel. These are: San Antonio, Las Toscas, Puerto Piracuacito, A. ° Melenie confluence with the Parana River in Florencia: Puerto Piracuá. In the remaining area, historical data (between 70 and 100 years ago) of its presence were obtained.

Date	Location	Observations
21/05/2008	Florencia	2003 Direct observation
22/05/2008	Guadalupe Norte, near Paraná Mini	Two males, after 98/99 flood
21/06/2008	Parana-Puerto Ocampo	Direct observation in Corrientes side.
01/08/2008	Parana River, Las Toscas - A ° Melendi	Direct observation on the island.
02/08/2008	The Parana River La s Toscas - A ° Melendi	Direct observation- adult male, adult female and juvenile . 2007
02/08/2008	Puerto Piracuacito	Adult female- direct observation. 2008
03/08/2008	Camino Pto Piracuacito	Two specimens hunted by settlers
03/08/2008	way to the Piracuá port, Florencia	Direct observation- adult male 2004
03/08/2008	Florencia	Direct observation -male.2007
06/09/2008	Las Toscas.	Observation of traces and individuals on El Garzal island, 2003-2008. Observation of various individuals, 2009.
07/09/2008	La Paloma Island, Florencia	Direct observation and footprints .2008 adult male.
07/09/2008	La Paloma Island, Florencia	Footprint. 07/09/2008
Box number ...: specific presence of Blastocerus dichotomus registers		

This sector is located in the Paranaense province, also called island ecoregion and Parana Delta (Burkart et al. 1999). The landscape shows the characteristics of the habitat of the species. (D'Alessio et al 2001), being determined by gallery forest and wooded islands and inland grasslands are shaped by the constant rise and fall of the river, forming a complex mosaic of habitats.



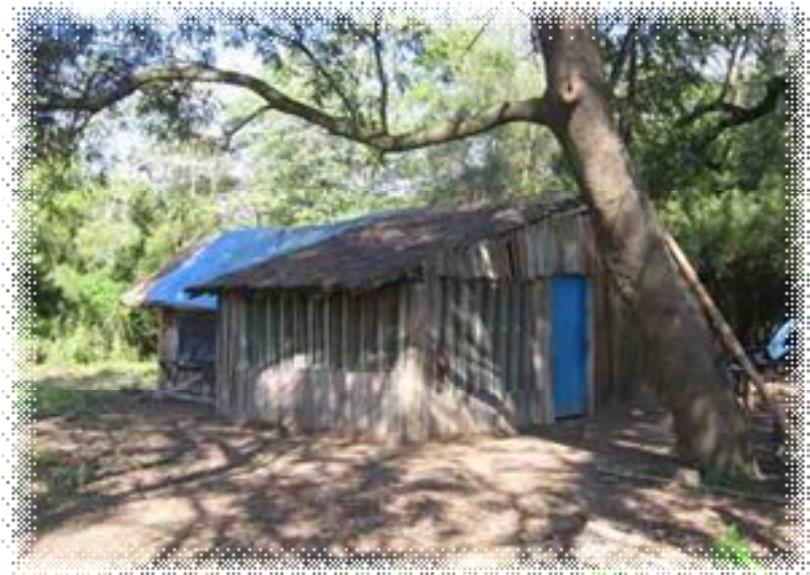
Six poaching events were recorded in the last seven years : two deer were killed in 2007 and three on islands which lie between the Parana and the coast of Corrientes provinces. In most cases the deer were observed or hunted in a time of flooding in grasslands or marshes within the islands.



Members of the team interviewing islanders. Photo: Antoniazzi Leandro

There is also a direct registration (footprints) done by the authors, on an island near the port Piracúa, Florencia.

Hides and antlers of the deer killed were, in general, given away or sold by locals to foreigners. In one case, they were thrown into the river. It was found that ropes were made out of the leather and that the meat was consumed by locals.

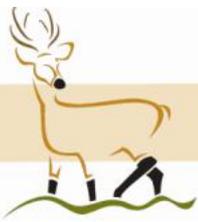


Typical Island housing , Islas del Paraná, Santa Fe. Photo: Eberhardt Ayelén.

In addition to the information concerning the deer, data of great interest about other endangered species could be obtained.



Crab-eating racoon (*Procyon cancrivorus*) footprints. Photo: Leandro Antoniazzi



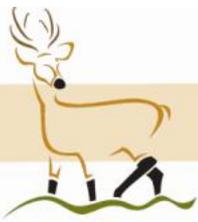
Preliminary results obtained so far by the project, confirm the presence of marsh deer in the northeastern province of Santa Fe

From these results and those in the provinces of Chaco and Corrientes, it could be estimated that individuals of northern Santa Fe could represent a subpopulation that would cover areas adjoining the coastal province of Chaco and Corrientes. It is possible that, given the abundant hunting events registered, this local population can be considered today as a sink of the populations of those provinces.

5.2. Formosa Province

The distribution and population status of deer in the province of Formosa are not well known and have been poorly documented. The aim of this contribution is to present updated information on the distribution and current conservation status of the species in the province.

The sample site is contained in the Humid Chaco ecoregion, where the landscape shows an environmental mosaic of gallery forest and Chaco forests arranged on an array of large areas occupied by savannas, grasslands and wetlands. This combination of features, trees and grasslands, with different patterns of aggregation, is directly related to the amplitude of the topography and the availability of water in the soil during the year, and remains in dynamic balance by two main natural pulses: fire and flooding.



View from airplane overflights above the Formosa wetlands. Photo: Alejandro Di Giacomo

A notable feature of the area is the presence of numerous streams that originate in the western borders of the ecoregion, and following the regional slope (WNW-ESE) ending in the Paraguay River. Locally known as "riachos" (streams) they have a discontinuous water flow and are conditioned by the rains, low sediment load and low flow. There are about 30 of these streams, the most important being Porteño, Negro, He He, Monte Lindo, Ingles, Pilagá, San Hilario, Salado, Lindo and Mbigua. The long and wide interfluvial areas located among those streams are occupied by marshes and swamps. The marshlands are flood-prone areas, geographically located in the lowest places of the gradient, and thus the water remains stagnant much of the year. They are covered by dense vegetation, dominated by Pajales (*Panicum prionites*) pirizales (*Cyperus giganteus*) and huajozales (*Thalia geniculata*). The marshlands have blurred boundaries and overlying water during periods of less than six months.



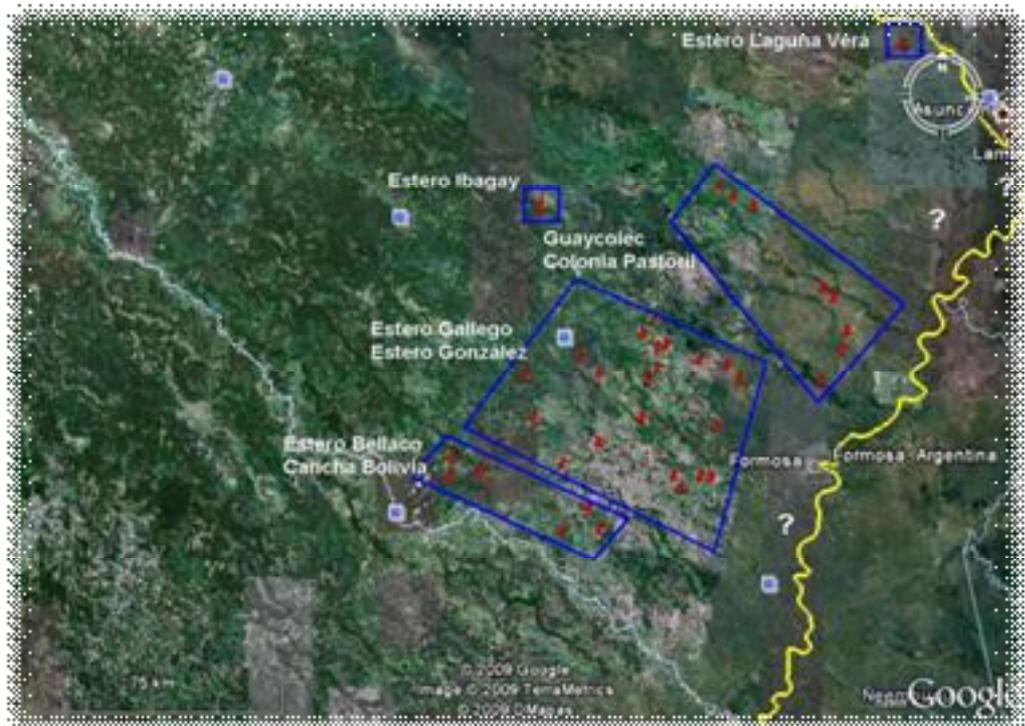
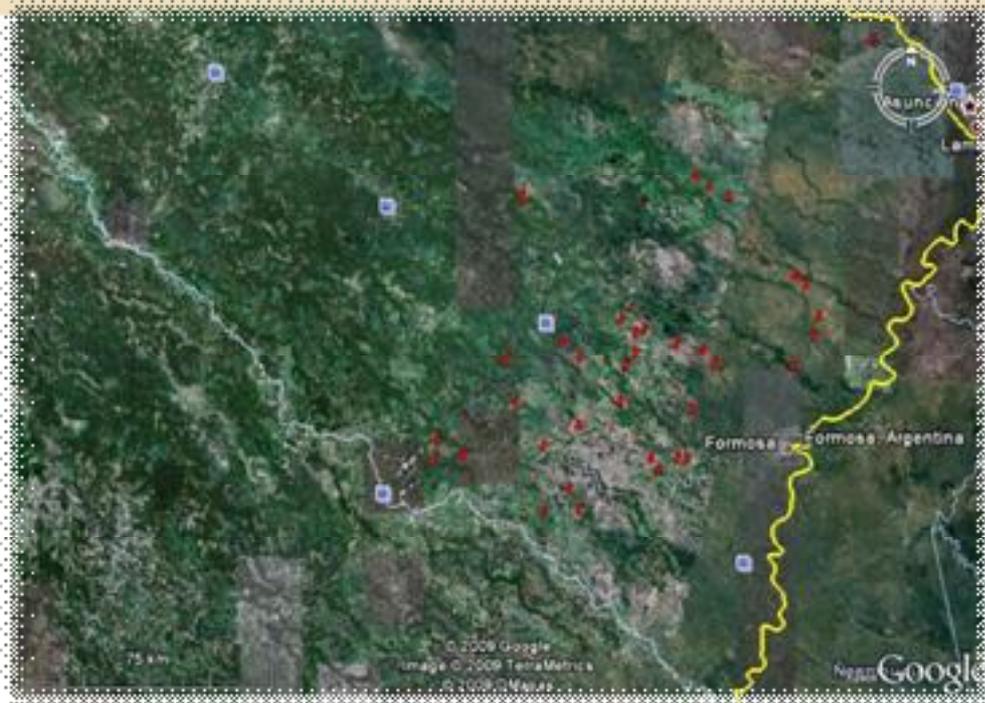
In the northern half of the area the landscape is dominated by extensive savannah caranday palm (*Copernicia alba*)



El Bellaco marshes border. Photo: Alejandro Di Giacomo

Fifteen grids were surveyed in the east of the province, making a total of 50 surveys.

The results of field work on a basis of 28 positive surveys which confirmed the presence of the species, indicate that significant populations exist in eastern Formosa and that they are directly linked to these large areas occupied by marshes and swamps (best known locally as "canchas").



Three major populations can thus be defined, according to location north-south.

Guaycolec-Cañada Doce-Pastoral Colony nucleous (departments and Pilcomayo Formosa), with an area of influence of Monte Lindo Pilagá and streams, including



streams and Apazu, Hú-zu, between National Route No. 81 south national road No. 11 to the east and the Provincial Road No. 2 and 14 north from the town of Virasol in the west to the village of Cañada Doce and Estancia Guaycolec in the east.

Estero, Estero Gonzalez-Gallego nucleous (departments Pirané, Laishi and Formosa), with an area between the national road No. 81 north and Provincial Route 1 south from the villages of the Gran Guardia and Colonia El Olvido on the west end nears the towns of Mariano Boedo and The Esterito in the far east.

Estero Bellaco- Estero el Alazán-Cañada Pozo de la Suerte-Cancha Bolivia nucleous (Pirané departments and Laishi) with an enclosed area south of the provincial route No. 1, from about 20 km west of the town as far as Mayor Villafañe, Km 100, Potrero de los Caballos and Riacho Lindo.

In addition, two minor relicts were located: Estero Ibagay, east of the town of Laguna Pilagás III and Vera sites north of El Paraiso and San Juan.

The information gathered suggests that the species remains on the three main stable populations and probably interconnected. It should be noted that most records occur within the premises of the area cattle establishments (estancias), covering more than 5,000-7,000 ha and where cattle breeding is still developing. This location within the large estancias, with restricted access and a ban on hunting, including by the staff at the establishment itself, seems to be an important factor in the local conservation of the marsh deer and poaching events appear to be infrequent. These populations in Formosa, would be the most numerous after the ones in Corrientes'.



Two males and one female of marsh deer in Bellaco marshes. Photo: Alejandro di Giacomo.

The only site with effective protection is The Bagual, a private protected area, created in 1985. It is located in the department Laishi, integrating the -Estero Estero Bellaco The Alazanl- Cañada Pozo de la Suerte-Cancha Bolivia nucleus. Its 3,500 ha represent 18% of the total area of a cattle ranch. The documented records of the species since 1989, and through the years show an increase of the population. In an overflight of the area and its surroundings 16 individuals were spotted in 1 hour in October 2006.



Marsh Deer female with juvenile, El Bagual Reservation Photos: Alejandro di Giacomo



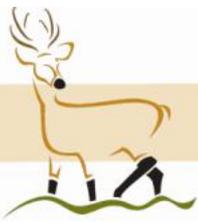
Moreover, it is very interesting to mention the spotting of three individuals in the winters of 2006 and 2007, in a swamp located south of Laguna Vera, near the southeast corner of the Pilcomayo River National Park, which opens the possibility that the species could re-colonize the protected area, where the species became extinct decades ago.

In the absence of a provincial protected area system, it is necessary to implement through the state authorities, through an NGO, or both, some advance management involving agricultural enterprises managing large areas to achieve some form of effective protection for at least one appropriate percentage of these lands, still in good state of conservation. Moreover, the statement of the species as Provincial Natural Monument, accompanied by appropriate legislation, would



also be an important measure that would effectively contribute to their protection, and would complement the status that the species has in neighboring provinces.

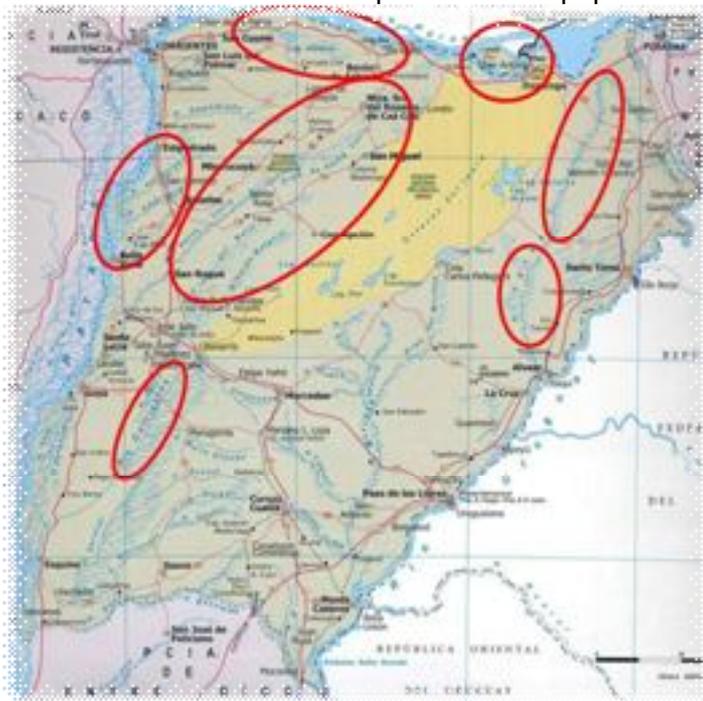
Young adult male near observatory, Bagual reservation. Photo: Alejandro di Giacomo.



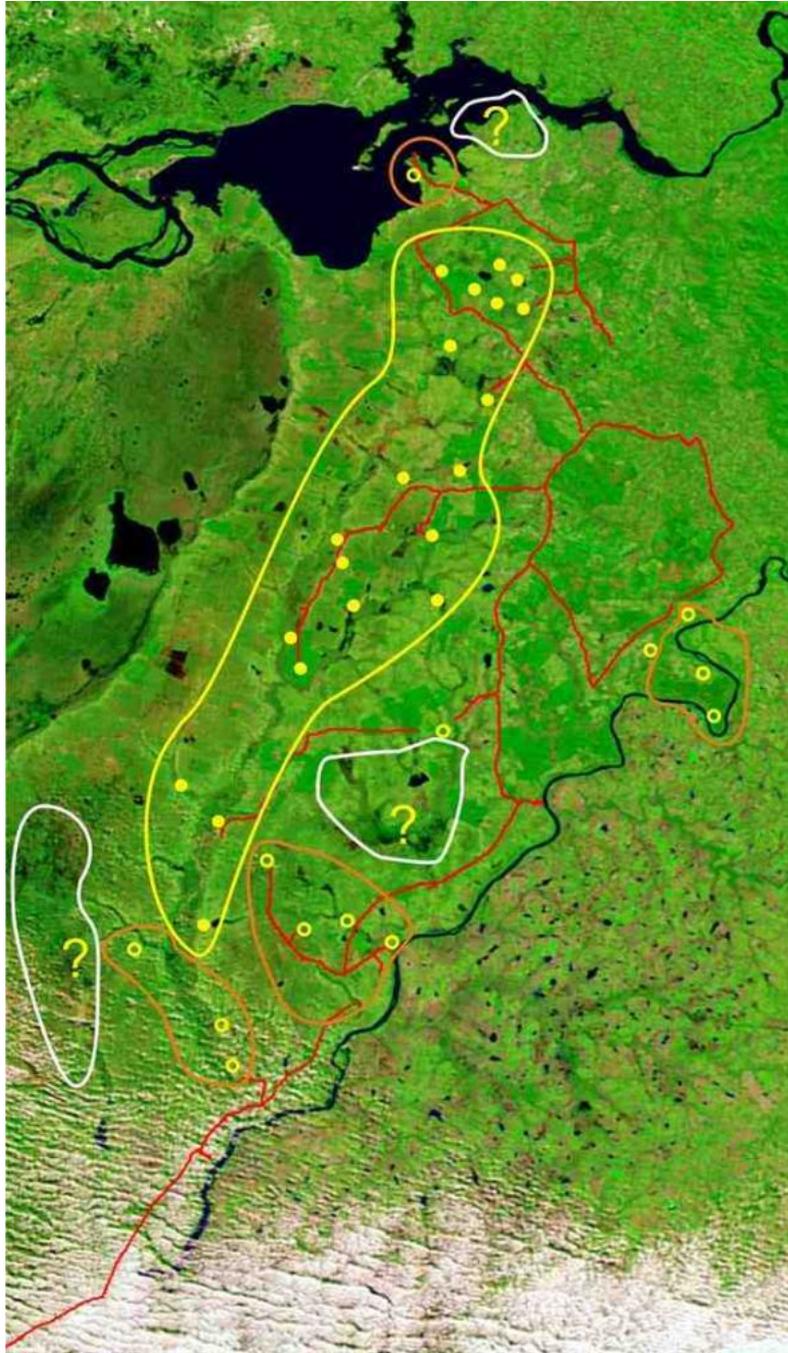
5.3. Corrientes Province

One of the best known populations of marsh deer in Argentina is located in the Ibera Provincial Reserve in Corrientes. However, outside that area in the province there were no accurate data on the status of the populations. We have interviewed a total of 148 rural residents, surveying a total of 45 squares distributed in marshes and wet grasslands in the rest of the province. In addition to the known population in the Esteros del Ibera, it was found that the species is now widely distributed in the marshes: Santa Lucia, Batel, Batelito, Riachuelo, Vallejos, Maloya, Longaniza, Miriñay and Guazú. The same as in the swamps and marshes of the upper and middle stream Aguapey (even near the border with the province of Misiones). There are some records for swamps and marshes in the basin of river Ayuí Grande.

In the northwest of the province two populations of importance were detected, while a third population was found east of Ibera system, both of which are hardly represented in the recent literature.



The population in the Ibera Marshes was not prospected, since it has been a previously studied population with a high degree of effective protection.



New records (yellow) of marsh deer in the northeastern province of Corrientes River Aguapey Basin



The first population, recorded near the town of Ambrosio, in swamps and marshes in the floodplain of the Parana River between the towns of Bella Vista, Colonia Tres de Abril, Rincon de Ambrosio, San Lorenzo and Empedrado.

The second major population was detected in northern Corrientes province, along the south coast of the Parana River and Riachuelo marshland between the towns of Ramada Paso to Ita-Ibaté, is likely to be a source population. Possibly this population extends from there eastward along the coast of river Paraná, and continues with the populations mentioned for Apipé Grande island. In turn, to the south of Riachuelo, there exist groups closer to each other but smaller. They are among the towns of Costa Grande, Herlitzka, Loma Vallejos, Cerrudo Cue and Loma Villa Nueva y Beron de Astrada. Among these places is Laguna Vallejos and other small wetlands and marshes: Santa Elena, El Gajo, Mangrullo and Garabata. These nuclei could be acting as sinks populations.

The third largest population was found associated with marshes and swamps of the upper and middle stream Aguapey (even near the border with the province of Misiones) (Department of Santo Tome, San Martin and east end of Department of Ituzaingó)

In addition to the nucleus of Santa Lucia marshlands, documented prior to this study, we realized that the species is found in other wetlands that follow the same path. To the south of St. Lucia, there is Batel swamps and to the north Longaniza, San Lorenzo, Loma, Maloyas and Guazú swamps. These are located between the towns Pago de los Deseos, Mburucuyá, Palmar Grande, El Tacuaral, Caa Cati, Colonia Romero, Ramones, and Rincón de Vences and Galarcita. The area has mainly marsh environment, lagoons fringed by grasslands and wood patches. In some places near Ramones and Rincón de Vences, these environments are highly modified due to the ditching of the fields to gain land for cattle or agriculture, resulting in the disruption of natural water flow. Besides the previously mentioned populations other little-known population nuclei have been were detected:



One in the middle basin of the River Corriente: marshlands which flow to the Corriente River and Estancia Salinas and Guazú swamp in Estancia El Oscuro.

The main threats identified were hunting, the systematic replacement of the marshes, swamps and forests for rice crops, and probably diseases transmitted by livestock. The latter, referred to by some locals and a veterinarian in the area, has not been properly documented. Mburucuyá National Park is the only national protected area in the province of Corrientes with recent records of the species. According to personal observations and comments from park rangers and local scouts there was an increase in sightings and the docility of these animals in the past 5 years, after removing first partially and then totally the cattle in the protected area.



Specimen photographed in the National Park Mburucuyá. The species is currently re-colonizing the protected area. Photo: Hector Ball.



Mburucuyá National Park could play an important role in the conservation of the species. Not so much because of the area under protection, as it shows a relatively small area, but because of the impact and scope that the implementation of an environmental education plan could generate. This aspect would be enhanced by the strategic location of the park with regards to the distribution of the species in northern Corrientes. It would be advisable to generate a plan of action that involves working together with institutions like Gendarmeria, the Police, Wildlife Management, Municipalities, Coast Guard and National Parks Administration.



Interviewing Rito Rodriguez. Getting to Rincón de Vences. Gral Paz Department. Photo: Analia Fernandez



Survey to local "gaucho" from river Aguapey Basin. Photo: Carlos Figueredo.



Interviewing a field veterinarian in the area of San Luis del Pamar. Photo: Analia Rodriguez.



Interview and leaflets distribution in the vicinity of Batel swamp. Photo: Carlos Figueredo.



Daniela Cano surveying Mr. Transito Gomez (survey N0 91). Campo Grande, San Luis del Palmar. Photo: Hector Ball.



Team Surveying to Mr. Gonzalez. El Pago, Mburucuyá, Corrientes. Photo: Yanina Lezcano.



Team surveying to Mr. Omar, Manantiales Sur, Mburucuyá,. Photo: Yanina Lezcano.



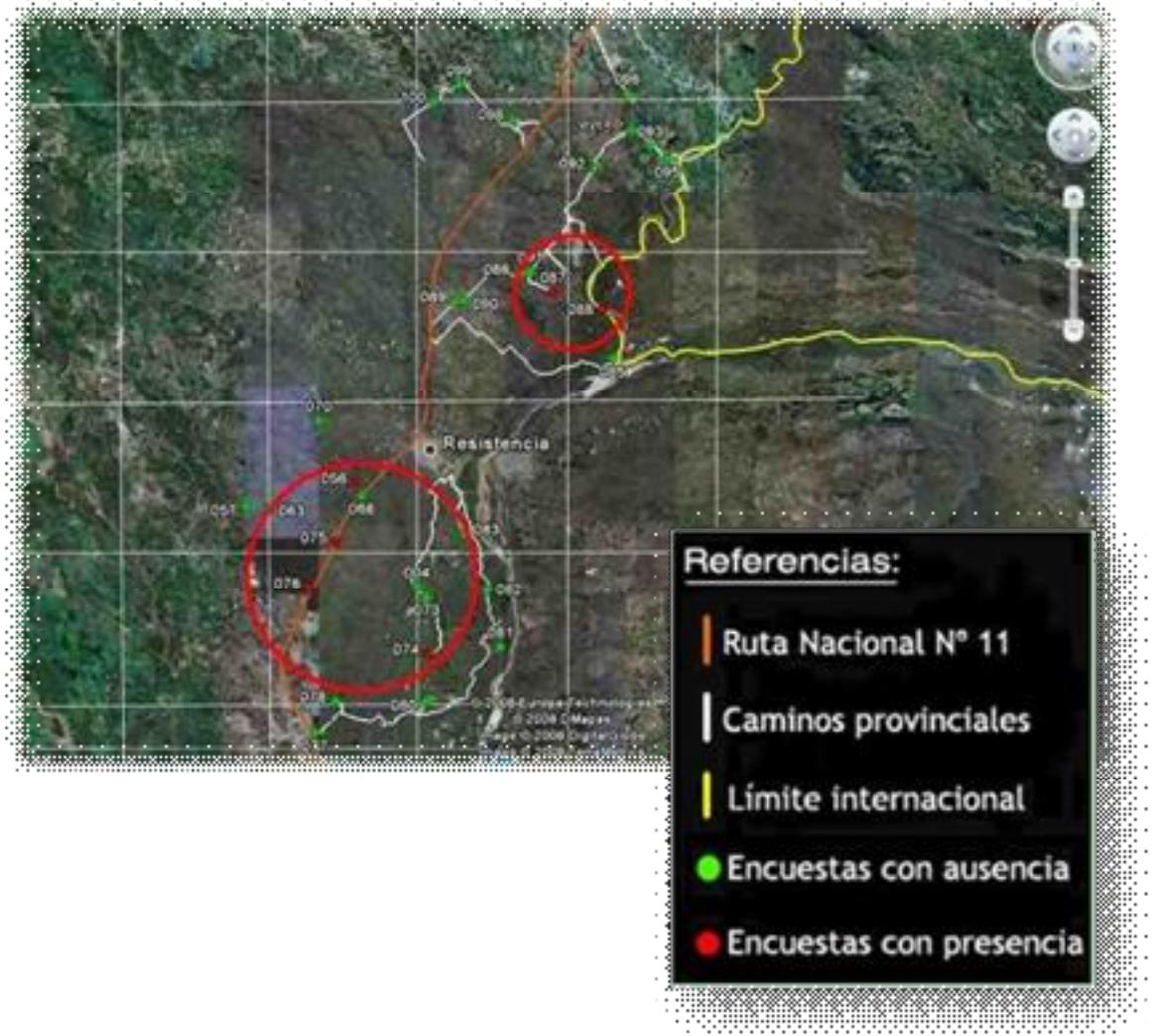
Team members leading environmental education activities in the project influence area. Photo: Daniela Cano.

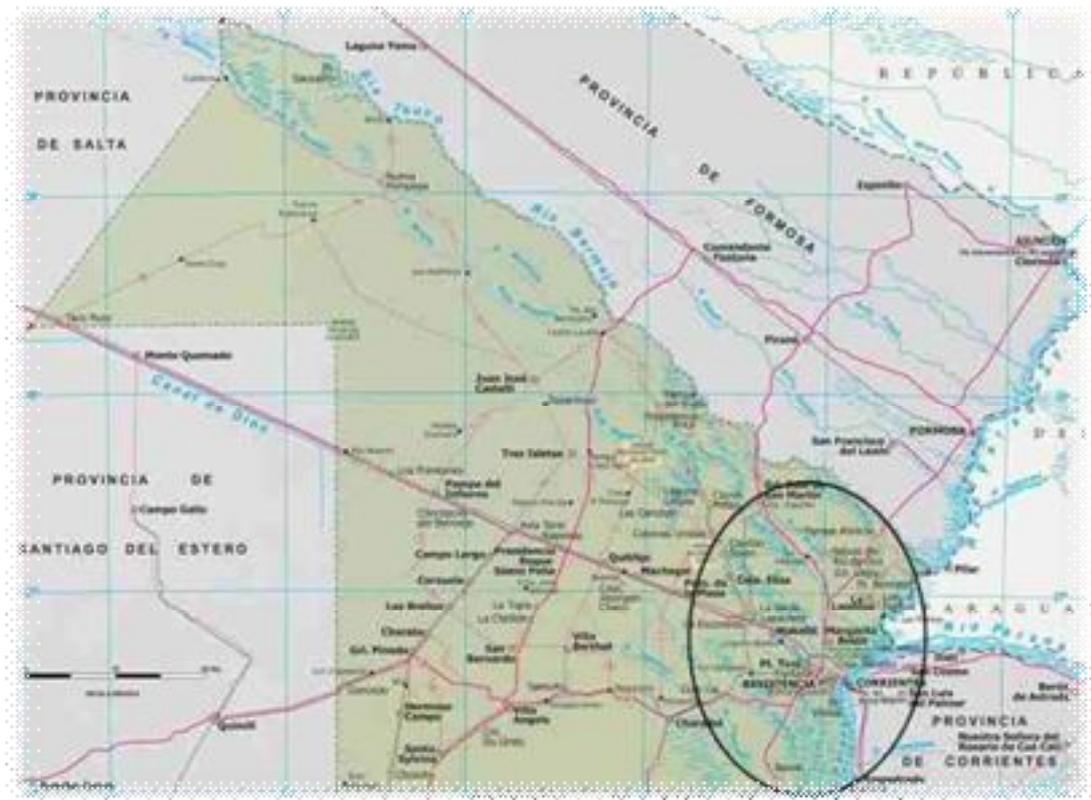
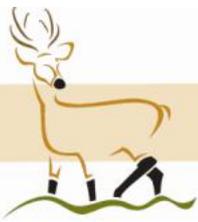
5.4. Chaco Province

The area sampled is in the area of wetlands (RAMSAR Wetlands Site Chaco), bounded on the north by the Bermejo River, on the east by the Paraguay and



Parana rivers, on the west by National Route No. 11 and on the south by 28th Parallel.

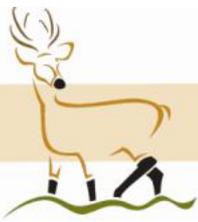




We made a total of 40 interviews distributed in 10 grids.

The work results allowed us to determine the existence of two remaining populations of the species in eastern Chaco. One is located at Department San Fernando, near the town of Basail, while the other is in Department Bermejo, near the town of Las Palmas.

These areas are part of the floodplain of the axis of rivers Paraguay - Paraná. The southernmost population is found occupying plant communities, specially the flooded savannah and palm woods (almost pure plots of *Copernicia alba*), while in the area of Las Palmas there is a greater abundance of gallery forest or gallery



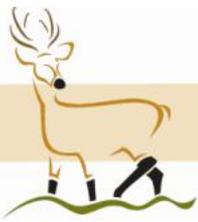
forest and forest patches of quebracho woods, interspersed with marshes and swamps.



Gallery forest, palm woods and swamps make up the floodplain wetlands, typical humid Chaco.
Photo: Natalia Meyer

The status of marsh deer in the Chaco province like other species of the region is precarious. Threats include hunting, habitat fragmentation and replacement (cattle conversion to agricultural production). This is made worse by the opening of new roads in the area, lack of control and lack of properly protected areas.

It would be appropriate to encourage production activities compatible with environmental preservation such as livestock feeding on natural grassland, as well as to strengthen the control of hunting, to promote the creation of reserve areas and to prompt a more active political participation, with more responsibility and genuine interest in conservation of natural resources in the region.



It is essential to create a wider awareness in the whole population and especially among the inhabitants of Chaco rural areas a greater appreciation of local wildlife.

Thus, not only are we aiming at the conservation of the remaining population of marsh deer in the area, but also promoting the preservation of wetlands in the region and the biodiversity that they contain.



Patricio and local guide familiar with marshes . Photo: Natalia Meyer.



Sharing a "tereré" ("cold mate" in Guarani language) after the fieldwork. Photo: Gabriela Ramirez.



Interviewing field worker (gaucho). Photo Patricio Cowper Coles



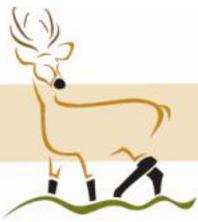
5.5. General conclusions of the surveys

While the situation of populations of the marsh deer is currently very weak, significant populations in eastern Formosa and Corrientes can still be found. In the latter province, nuclei are interconnected and include the population of Ibera, the largest one with a high degree of protection in Argentina. This allows to view the conservation state of the deer with some optimism.

Likewise, the systematic replacement of the marshes and swamps for rice, the deterioration and alteration of these wetlands by grazing, canals, dams and reservoirs could soon dramatically reduce populations of Corrientes and even lead in the short or medium term to numerous local extinctions.

The Riachuelo wetlands, the flood plain of the river Parana between the towns of Bella Vista and Empedrado, as well as the Aguapey basin are areas that still harbor high biodiversity and are key sites for conservation of marsh deer and other threatened species outside the Ibera system. In this case, the role of the provincial government should be essential in the process of achieving land organizing including the conservation of ecological and cultural values of the region. These wetlands provide multiple services to local economies and human settlements nearby, as well as been considered of great touristic potential.

A similar fate of those populations in Corrientes would have those in Chaco, which suffer from the systematic replacement of the marshes and swamps for rice crops, the deterioration and alteration of wetlands by grazing, canals and dams creation. To counter this, it would be appropriate to encourage production activities compatible with the preservation of the environment such as breeding livestock in natural grasslands with responsible management (adjustment of



cattle density, strict health control). Moreover, hunting controls should be strengthened, the creation of new reserve areas should be promoted and a more active political participation, responsible and genuine, in the conservation of the natural resources in the region should be implemented.

It is essential to create a wider awareness in the whole population and especially among the inhabitants of Chaco rural areas of a greater appreciation of local wildlife.

Thus, not only are we aiming at the conservation of the remaining population of marsh deer in the area, but also promoting the preservation of wetlands in the region and the biodiversity that they contain.

In the case of the Formosa Province, the information gathered suggests that the species keeps in the three main nuclei, stable populations, probably interconnected. These populations in Formosa are probably the most numerous after the Corrientes ones, although no statistics exist to support this information. In the absence of a provincial protected area system, it is necessary to make efforts involving both the effective protection of private lands and the creation of protected areas at a provincial level, given that most of the lands are still in a good state of preservation.

The status of the species in Santa Fe Province would apparently be the most endangered. Poaching made worse by the lack of controls and the lack of implementation of protected areas is threatening the survival of the species in the province.



5.5.1. THE IMPORTANCE OF WETLANDS IN THE REGION

The so-called Plata Basin is one of the largest water systems in South America. It forms along with the "Pantana" of Matto Grosso (Brazil, Paraguay and Bolivia), the largest wetland corridor on the planet. It is one of the world's freshwater reserves with high biodiversity. In Argentina, it includes the largest inland fishery in the country.

The wetlands of the region, represented by flooded islands, lagoons, floodplains and marshes are systems that historically have been less modified or replaced in relation to the rest of the surrounding environments. This has allowed them to still harbor a representative sample of their original biodiversity. In many cases, they constitute a critical habitat for threatened species like the marshdeer, river otters (*Lontra longicaudis*) and maned wolf (*Chrysocyon brachyurus*) among others.

These systems not only have a high value for biodiversity conservation but also for attributes related to the services they provide, to productive activities, coastal communities and human settlements nearby. These wetlands provide irreplaceable ecological services to purify water and as gigantic natural fish hatcheries. They also play an important role in mitigating floods and droughts, allowing the expansion of water in the growing and a slow drying in the downspouts. In turn, they develop many human activities: fishing, wildlife harvesting, grazing, transportation, recreation and tourism. The wetlands of the region are the mainstay of the culture of some indigenous or traditional peoples who live from its resources, with roots embedded in these systems.

At present, there are important changes that affect system integrity and populations. The draining of swamps, the uncontrolled expansion of the agricultural frontier in the vicinity and even within the same system, deforestation, pollution, overgrazing, piping, construction of dams, lead to a deterioration or replacement of these ecosystems.



Work teams of Chaco and Corrientes could verify the damage. There were many replacements of the various wetlands of the region in pursuit of improvements for farming or livestock.

The declaration of large sites "Ramsar" in this river corridor is a great opportunity to achieve conservation of biological diversity and maintain the ecological and hydrological functions that wetlands play in the region, enabling both the development of sustainable productive activities. It was highlighted on the Parana River Ramsar site: "Jaaukanigás, with 490,000 hectares, located north of Santa Fe, where we record the latest current population of swamp deer and" Wetlands of Chaco, with 508,000 hectares containing the two known populations of this species for the province of Chaco".

There are initiatives to increase the number of Ramsar sites in the basin. For example, Fundación Proteger with support from WWF International, seeks to cover an area of 1,500,000 hectares of wetland basins. If they are put into practice, corridors of preserved wetlands under this form of conservation could be managed, and would benefit the deer and their environment beyond the protected natural areas.

It is remarkable the number of records of species with conservation interest provided by the surveys carried out within the framework of Marsh Deer Project by different teams working on the wetlands in the region. Records include Maned Wolf (Maned Wolf), peccaries (*Tayassu sp*), capybara (*Hydrochaeris Hydrochaeris*), Brocket deer (*Mazama sp*), Tapir (*Tapirus terrestris*) Ocelot (*Leopardus pardalis*), Neotropical otter (*Lontra longicaudis*) Owl monkey (*Aotus azarai*), black howler monkey (*Alouatta carayá*), coati (*Nasua Nasua*), Crab-eating raccoon (Crab-eating Raccoon), puma (*Puma concolor*) and Giant anteater (*Myrmecophaga tridactyla*) among mammals and Black alligator (*Caiman crocodylus*), Short head caiman (*Caiman latirostris*) and curiyú anaconda (*Eunectes notaeus*) among big reptiles.



Jacanas (Jacana Jacana), Bared-faced ibis (Whispering Ibis) and South American stilts (*Himantopus melanurus*), Reserva Provincial Esteros del Ibera, Corrientes. Ruben Lartigau (ACEN)



Capibara (*Hydrochaeris hydrochaeris*) and Southern screamer (*Chauna torcuata*). Iberá marshes, Corrientes. Rubén Lartigau (ACEN)



Tiger heron (*Tigrisoma lineatum*), Delta del Paraná. Rubén Lartigau (ACEN)



Howler monkey (*Alouatta caraya*) in Santa Fe island forest. Leandro Antoniazzi (ACEN)



Crab- eating raccoon (*Procyon cancrivorus*), atropellado en camino. Cuenca del Aguapey, Corrientes. Photo: Bernardo Lartigau (ACEN)



Black alligator (*Caiman crocodylus*), Iberá marshes, Corrientes. Rubén Lartigau (ACEN)



6. Bases for a National Conservation Plan for Marsh Deer

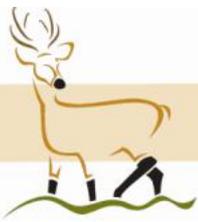
On November 2008 and August 2009, we carried out two workshops to discuss the most viable strategies for working on the Conservation of deer within each area, and to outline a national conservation strategy. In these workshops, we invited all the regional actors with capacity to contribute to the identification and implementation of conservation strategies.

The first workshop was an internal workday with all the groups that worked on each province on the country, done during the XXIII Argentine Society for the Study of Mammalian Annual Meeting. The second one was a wider workshop of two days, made on Santa Fe city, where all the main researchers who work on marsh deer on our country and the main authorities of the government were invited.

6.1. XXII Jornadas Argentinas de Mastozoología (Mammalian Annual Meeting), Córdoba.

The technical team of Project Marsh deer decided to present results of the work that had been running under the National Conservation Plan in the XXIInd Conference of SAREM (Cordoba-November 10-13-2008). (See info meeting)

Other groups were invited to present the preliminary results, which had been obtained so far. We thus managed to inform the local scientific community about



the preliminary results and progress of each group in the 4 provinces involved. In total, a paper in poster mode was presented by each group.

The various working groups were awarded grants to cover travel costs, accommodation, meals and registration fees for participation in the named event in the province of Cordoba.

In turn, there was a workshop meeting on the 2nd part of the conference with the participation of technical team and the various working groups. In the first instance, through oral presentations with public access, they were able to assess results and share experiences. Various experts and members of the Environment and Sustainable Development National secretary also attended. We worked on outlining the strategies that will allow a short-term lay of the groundwork for the development of the National Plan.

The organizing committee of the conference granted a meeting room, a computer and a projector to be used during the workshop.

In the first instance of the workshop each group presented through oral presentations, the status and advances of the field surveys conducted. In this way they could share information, pictures and distribution maps of the different areas surveyed.

They then worked in the prioritization of actions to follow in the short and medium term and in the identification of threats the species and its habitat face.

Both, the experience of this workshop and the information generated in this instance, allowed us to go on to outline the nationwide strategies for implementing the conservation workshop of the marsh deer. (3rd workshop).

General Overview of the meeting

The XXII Jornadas Argentinas de Mastozoología (XXII JAM) took place between

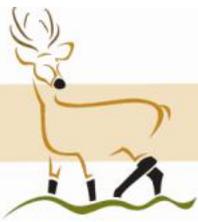


the 10th and 13th, November 2008, in the city of Villa Giardino, Córdoba province. They were organized by the Universities of Río Cuarto and Córdoba, together with the SAREM (Argentina Society for the Study of Mammals).

More than 300 people signed up and they were attended by participants from different provinces of Argentina and several South American countries (Brazil, Uruguay, Paraguay, Chile), and even the United States and Norway. 235 papers were presented on topics such as behavior, ecology, biogeography, evolution, genetics, conservation, management and control, epidemiology, paleontology, systems, and others. 159 papers were presented in the form of posters and 63 orally. Thus, the meeting was a moment of encounter between students and professionals from various countries, enabling the promotion of research work and the sharing of views and experiences.



Some representatives of various groups that make up the Project team marsh deer presenting their works. Photo Santiago D'Alessio



6.1.1. Papers presented at the XXII Argentinas days of Mammalogy

- **DISTRIBUCIÓN DEL CIERVO DE LOS PANTANOS (*Blastocerus dichotomus*) EN LA PROVINCIA DE CORRIENTES, ARGENTINA**
- **AVANCES EN EL CONOCIMIENTO DEL ESTADO DE CONSERVACIÓN DEL CIERVO DE LOS PANTANOS (*Blastocerus dichotomus*) EN LA PROVINCIA DEL CHACO**
- **DISTRIBUCIÓN DEL CIERVO DE LOS PANTANOS (*Blastocerus dichotomus*) EN LA PROVINCIA DE SANTA FE, ARGENTINA Resultados Preliminares**



- **SITUACIÓN ACTUAL DEL CIERVO DE LOS PANTANOS (*Blastocerus dichotomus*) EN LA PROVINCIA DE FORMOSA, ARGENTINA Resultados Preliminares**

For more details see Communication and public awareness chapter.



Representatives of the groups of Chaco, Santa Fe and Corrientes. Photo Santiago D'Alessio.



Members of the technical team in the conference. Photo Horacio Cardozo.



6.1.2. Marsh deer status on each province

At the end of the congress all the teams met to work all together to describe the Threats / dangers, Actions / Recommendations, Weaknesses and Opportunities in each province.

These are the results of this internal workshop:

Santa Fe

Threats / dangers	Actions / Recommendations	Weaknesses	Opportunities
Poaching (locals)	Increase knowledge about the distribution of existing populations, evaluating the connectivity with other populations of Chaco and Corrientes.	Frequent flooding of the range increases exposure to poachers	The distribution is identified within the Ramsar site Jaaukanigás.
Lack of knowledge of the species as belonging to the province	Increase awareness through environmental education	A large percentage of the range is located on islands, marshes and creeks, where they hamper control measures and research	Interest from the authorities of the province (Ministry of Environment) to advance conservation actions related to the preservation of the species



<p>Very strong increase in farming activities in areas inhabited by the marsh deer (most contact with livestock, increased human presence)</p>	<p>Control of poaching</p>		<p>Tourism industry linked to fishing opportunities include wildlife as an attraction</p>
	<p>Increase knowledge of the biology of marsh deer</p>		



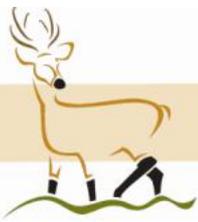
Chaco

Threats / dangers	Actions / Recommendations	Weaknesses	Opportunities
Replacement livestock production to crop production.	Survey to confirm the presence and status of existing populations.	Lack of participation in conservation policy .	Possibilities for funding and incentives for being a Ramsar site.
Creating new paths.	Encourage livestock production in rangelands and responsible management in the areas with the presence of deer.		Senior legal tools to protect the species, being a provincial natural monument
Division of fields by a greater number of owners.	Strengthen the watchdog hunting.		
Poaching.	Propose the creation of reserve areas in places with presence of deer.		
Low proportion of land to protect wetlands in the area, presented in the proposed land use in the province.			



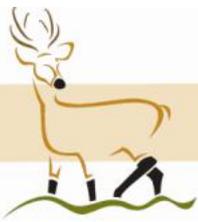
Formosa

Threats / dangers	Actions / Recommendations	Weaknesses	Opportunities
- Projects provincial rice increased activity (potential)	- Implement protected areas within large private ranches.	Absence of a provincial system of protected areas	There is a figure of Provincial Natural Monument. Today the deer is not. Aves Argentinas are managing this topic.
- Area border with Paraguay, where there were frequent outbreaks of disease. (potential)		Low activity of researchers and organizations working on this issue	The populations are in very large rooms where extensive livestock rearing (fortress). It's low pressure drying of marshes and swamps.



Corrientes

Threats / dangers	Actions / Recommendations	Weaknesses	Opportunities
Habitat modification (trenching and conduits, rice, commercial deforestations, embankments, dams)	Increase awareness through environmental education	-Lack of awareness among the public about the status of marsh deer	Work is progressing on a land management plan (TBC).
Hunting (locals for food, pseudo-sporting)	- Land use planning in the province	- Lack of awareness about the impact of works on the environment and deer populations	The existence of protected areas from which it is easier to develop conservation actions
Diseases transmitted by cattle (mentioned disease, to study)	- Increase hunting control by the government.	- Little involvement of the provincial state authorities on the safeguarding of the environment and endangered species	The provincial monument status.
Runovers in routes (minor impact)	- Increase knowledge about the biology of marsh deer (reproduction, distribution, health issues.)		Potential use of the species for ecotourism.



6.2. National workshop for marsh deer conservation

As result to the information gathered from the survey carried out on the interior of the country, Marsh Deer Project and the National Fauna Agency decided to organize a meeting gathering all the groups that participated in the national survey and also all the main scientific, naturalists and government authorities related to marsh deer at local and national level. The meeting was organized in two workshops, one at national level and the second one to focus the discuss some regional threats.

The "First national workshop for the diagnosis of the situation of marsh deer" and the "First regional workshop on the conservation of the marsh deer in the middle course of the Paraná River" were developed at the National University of the Litoral in the province of Santa Fe between 26 and 27 August 2009.

This workshop was co-organized by the Dirección de Fauna Silvestre de la Secretaria de Ambiente y Desarrollo Sustentable de la Nación, la Dirección de Flora y Fauna y Manejo Sustentable de la Secretaria de Medio Ambiente de Santa Fe, la Universidad Nacional del Litoral, y ACEN, with the colaboration of BioS (Asociación Biológica de Santa Fe).

The workshop aim was to establish an updated diagnosis of the status of the marsh deer (*Blastocerus dichotomus*) and to outline actions for the conservation of the species at national and regional level in a meeting among authorities of application, provincial and national technicians, specialists and technicians from other governmental and non-governmental agencies focused in relevant topics of the species.

From the results, both at national and regional level, we began to generate the basic guidelines for the development of al strategic national plan for marsh deer



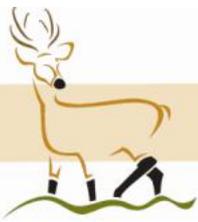
conservation and a regional plan that includes the commitment of the provinces that share population nuclei of the species.

The workshop had an introductory stage and was open to the public, where the actors involved in the theme covered different aspects related to biology, legal status and examples on the conservation of the species. It paid special attention to the results of projects aimed to gather information about the species in the provinces where the species is currently distributed.

In a second stage of the workshop, provincial and national technicians, NGO's representatives and other agencies related to manage and study fauna, discussed and established a shared vision for the conservation of marsh deer in different provinces. The activities of this stage focused on the definition of perceived threats to date, also establishing the roles the stakeholders will play and the commitments they will make.

6.2.1. General objectives of the workshop

- To show the current status of marsh deer in Argentina.
- To form a launch team to develop a national strategic plan for conservation of the marsh deer.
- Generate basic guidelines for the development of regional strategic programs that include the commitment of the provinces that share population centers of the species



6.2.2. Structure of the meeting

<i>Wednesday 26 /08</i>		
14:30	Wellcome	
DIAGNOSTIC PHASE		
14:45	First round of work - Distribution and risk of the populations known for Argentina (based on available information).	
16:15	Second round of work - Identifying conservation issues (threats and associated factors), weighting the priority of action on threats	
17:30	<i>Cofee break</i>	
17:45	Third round of work - Legal Aspects of Laws of the species in the different provinces in the control problem, control and response to complaints; action protocols	
19:00	Cierre	
<i>Thursday 27 / 08</i>		
08:00	Wellcome	
PLANNING STAGE		
08:15	Fourth round of work - Consensus on the conservation objectives. Set objectives and targets at regional level.	
09:15	Fifth round of labor - Research: identifying stakeholders; lines and addressed gaps in knowledge	
10:35	<i>Cofee break</i>	
10:50	Sixth round of work - Conservation on private lands	
11:45	Seventh round of work - Identification of priority actions in situ conservation. Develop criteria and priorities for action	
13:00	Break for lunch	
14:30	Eighth round of work - Ex situ conservation	
15:00	Ninth round of work - Communication and awareness	
15:40	Tenth round of work - Identification of cross-conservation projects	
16:30	<i>Cofee break</i>	
PHASE OF AGREEMENTS		
16:45	Next actions and commitments by the parties	
18:00	Closing Ceremony of the workshops	



6.2.3. Objective of Diagnosis phase

- Get a map per province to report known populations for the species.
- Determine the population risk according to pre-defined criteria
- Identify geographical areas of priority concern for conservation of the species.



Ayelen Eberhardt, member of Marsh deer Project team showing the results of surveys in Santa Fe Province. Photo Leandro Antoniazzi.



Santiago D'Alessio giving a presentation about the conservation experience of marsh deer in Parana River Delta. Photo: Bernardo Lartigau



Sharing information between experts of Corrientes province. Photo: Santiago D'Alessio

Sharing



Working in groups, one for each province. Photo: Santiago D'Alessio

6.2.4. Objectives of Planning phase

- Establish a goal and conservation objectives for the population centers of marsh deer in the middle stretch of the Parana River



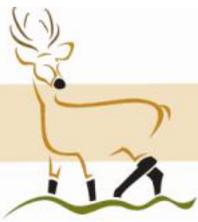
Work in groups. Photo: Santiago D'Alessio

6.2.5. Objectives of Phase of agreements

- From the base document obtained, begin to delineate the basic guidelines for the further development of a National Strategic Plan for the conservation of marsh deer
- Create an ad hoc group formed in scheduled times and patterned actions in this instance



- Define a committee drafting the document for the "Conservation Program for marsh deer in the middle stretch of the Parana River.
- Establish the next steps in the conservation program
- Reaffirm the commitment of the actors present



6.2.6. Participants of the workshop

PARTICIPANT	ORGANIZATION	PROVINCE
Pautasso, Andres A.	Museo Cs. Naturales Munic. Florentino Ameghino	Santa Fe
Kees, Andres	Proyecto Ciervo de los Pantanos - Comuna de Romang /BioS/ACEN	Santa Fe
Antoniuzzi, Leandro R.	Proyecto Ciervo de los Pantanos - BIOS/ ACEN	Santa Fe
Arzamendia, Vanesa	INALI- FHyC-Universidad Nacional del Litoral	Santa Fe
Giraud, Alejandro	INALI-FHyC- Universidad Nacional del Litoral	Santa Fe
Eberhardt, Ayelen	Proyecto Ciervo de los Pantanos- BIOS/ACEN	Santa Fe
Larriera, Alejandro	Dir. Gral. de Manejo Sustentable de Fauna y Flora	Santa Fe
Bay, Hugo	Minist. de Produccion y Ambiente	Formosa
Di Giacomo, Alejandro	Proyecto Ciervo de los Pantanos –Aves Argentinas/ ACEN	Formosa
Osinalde, Jose	ANP-Direccion Gral. De Recursos Naturales	Entre Rios
Marcuzzi, Carolina	ANP-Direccion Gral. De Recursos Naturales	Entre Rios
Cano, P. Daniela	Proyecto Ciervo de los Pantanos - ACEN	Corrientes
Fernandez, Alejandro	Proyecto Ciervo de los Pantanos - ACEN	Corrientes
Zajarevich, Sergio	Dirección de Recursos Naturales	Corrientes
Ecclesia, Ovidio	Dirección de Recursos Naturales	Corrientes
Ignacio Perez Jiménez	Conservation Land Trust	Corrientes
Cardozo, G. Horacio	Proyecto Ciervo de los Pantanos- Fundación Reserva Ibera/ACEN	Corrientes



Gutierrez, Ana Susy	Dirección Provincial de Fauna, Parques y Ecología	Chaco
Sosa, Mirtha M.	Proyecto Ciervo de los Pantanos -Rescate Silvestre/ ACEN	Chaco
Meyer, Natalia, C.	Proyecto Ciervo de los Pantanos -Rescate Silvestre/ ACEN	Chaco
Zagel, Mauro	ANP - Org. Provincial para el Desarrollo Sostenible	Buenos Aires
Novoa, Daniel	ANP - Org. Provincial para el Desarrollo Sostenible	Buenos Aires
D'Alessio, Santiago	Proyecto Ciervo de los Pantanos - ACEN	Buenos Aires
Lartigau, Bernardo	Proyecto Ciervo de los Pantanos - ACEN	Buenos Aires
Bonetto, Camen	Res. de Biosfera del Paraná – Municipio de San Fernando	Buenos Aires
Paszco, Lorena	DNEA - Administración de Parques Nacionales	Nación
Lepera, Gabriela	DCyM - Administración de Parques Nacionales	Nación
Li Puma, M. Cecilia	Dirección de Fauna Silvestre - SAyDS	Nación
Aued, M. Bettina	Dirección de Fauna Silvestre - SAyDS	Nación



Closing of the workshop. Photo: Leandro Antoniazzi

6.2.7. Workshops results and conclusions

As a result of this meeting a consolidated document has being elaborated by the National Agency of Fauna, and has been circulated among the participants of the workshop. This document is the first step towards the elaboration of the National Conservation Plan for Marsh Deer. National Director of Fauna has committed to start in 2010 the elaboration of this Plan, which bases have been build on this workshop.



This workshop has been an excellent experience that permitted to share and to consolidate the knowledge about this endangered species in our country. Also allowed the group to create a consensus on the perceptions of the threatens and priorities of actions to perform in the future for the conservation of this species and the wetlands where it lives.

We also believe that the wide-ranging appeal and the high level of assistance have made the meeting a plural and inclusive event, where virtually all the main specialists and actors were very well represented.

At the end of this activity we had the certainty that the objective we proposed on 2005 was achieved, as the bases for the National Conservation Plan for Marsh Deer had been generated.



Participants of the first national workshop for marsh deer conservation in Argentina.
Photo Leandro Antoniazzi.



Chapter 2

Initial surveys on floating marsh areas of Parana River Delta



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7. Summary

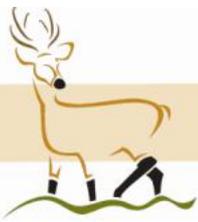
Introduction

Since research work about the existence and location of marsh deer populations in the swamps of Bajo Delta del Paraná was started by ACEN's Marsh Deer Project in early 1996, local pathfinders and hunters have mentioned the existence of floating areas inside certain islands on the Bajo Delta. Especially the islanders who were interviewed in the area referred to a "floating marsh" located in the surroundings of the stream Las Bogas, in the third section of the islands. According to the islanders, this area plays a key role in the survival of the marsh deer during flooding periods. However, neither the most remarkable researchers devoted to the study of the Bajo Delta del Paraná nor specialists in this type of floating habitats, knew about the existence of floating marsh in the region. After the islands were declared Biosphere Reserve under the jurisdiction of San Fernando Council, survey of this area was considered as one of the investigation priorities of the region. For several years, their inaccessibility kept the floating marshes under a layer of mystery and scepticism. A number of overflights made on the area in late 2002 and two expeditious surveys provided conclusive evidence of the singularity of this grassland confirming that deeper and more specific survey work deserved to be done.

In surveys and conversations, several local pathfinders mentioned the existence of floating marsh areas inside islands of Bajo Delta. None the less, their existence was unknown to the scientific community.

Objectives

The work described in this document was designed in order to gather definite evidence about the existence of these areas, their characteristics and their



function in the preservation of the marsh deer. With this purpose, two main objectives were set. Namely:

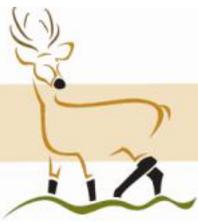
- To verify the existence of floating marshes and to know their main characteristics;
- To evaluate how marsh deer use these areas as a shelter in flooding conditions.

By means of the installation of two electronic sensors inland, monitoring work was done for a year, to study the vertical move of the grassland and the water on the island. During the same period, by means of a helicopter survey, a number of estimations were done of the presence of deer on the floating marshes and nearby non-floating marshes comparing periods of normal water height with periods of floods.

Results

The floatability of certain grasslands in Bajo Delta del Paraná was mentioned by some authors (D'Alessio et al 1997, 2001, 2002; Varela et al 2000, 2001, 2002; Pralongo 2004). Nevertheless, the results presented in this work have made it possible to verify this phenomenon accurately, measuring for the first time the floating capacity of this grassland according to the level of the waters inland. In the same period, the height of the floating marshes has presented variations of almost one metre and a half between maximum and minimum peaks.

Marsh deer is known to use a number of different habitats in the Delta, such as woods, ceibo woods, grassland and even forested areas. However, the islanders who were surveyed claim that during the floods many deer get drowned and die and many others are killed as they gather in the higher areas, which makes it easier for poachers to hunt them. In the last significant flood in 1998, it is estimated that over 200 deer were hunted.



The floating marshes constitute an essential portion of their habitat in this wetland. Surveys have demonstrated a greater presence of deer on floating marshes in the periods of high waters than in periods of normal water levels, which would show that the deer may move to the floating marsh areas in flooding conditions, as we now believe, to protect themselves from the water.

From these observations lately made it has been able to verify that many other grasslands in the Bajo Delta have some degree of floatability. None the less, both satellite image analysis and aerial photographs of Bajo Delta as well as interviews made to over 150 islanders demonstrate that there does not exist another grassland of the same characteristics as the floating marsh studied in this work, when it comes to dimension, importance, floatability and presence of deer during floods.

Recommendations

Protection of the floating marsh areas.

In the light of the information emerging from the present work we recommend the corresponding authorities to urgently implement the mechanism they consider appropriate so as to secure the protection of this rare natural area, unique in the island ecosystem.

We also believe that the long-term survival of the endangered marsh deer in the region is intimately connected to the protection of these habitats. Thus the region of floating marshes we have located within the nuclear area of the Delta del Paraná Biosphere Reserve is a priority to be preserved.

Promoting new research of these habitats.

Making into consideration that the present work is the first expeditious survey of the area, we draw the attention upon promoting the development of new investigation which may focus on the many questions that are still to be answered



about the floatability of the grassland, as well as about the relationship between these areas and the survival of the marsh deer.

We also consider essential to search for the possible existence of other grasslands in Bajo Delta del Paraná in order to analyze them to implement strategies tending to their conservation.



8. Introduction, background and justification

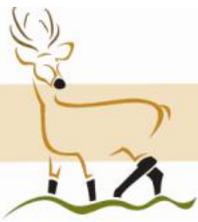
The presence of floating marshes in Bajo Delta del Paraná

Floating marshes are areas of vascular vegetation which emerge and move vertically, according to the changes in the level of the water. The vegetation in these areas is supported on a coat of vegetable matter in different state of decomposition which separates from the soil during floods and remains floating permanently.

“Floating marshes are floating areas of vegetation strong enough to support the weight of a human being” (Sw arzenski, 1991).

There exist floating marshes in different parts of the world. Vast areas of floating marshes can be observed in Africa, in the Danube Delta, in the River Amazon, in the Brazilian Pantanal (swamp) and in the Mississippi Delta. There are floating marshes in wetlands in the North of Argentina, in the provinces Chaco, Formosa and Corrientes. In those provinces a number of studies have been made on this kind of environment.

Although the vegetation in Delta del Paraná has been thoroughly studied (Malvárez, 1997; Kandus, 1997, Kandus et al, 2003, Kandus et al, 2004), the presence of this sort of habitats has not been specifically mentioned in scientific bibliography so far. The existence of floating marsh has been mentioned in reports of the Marsh Deer Project (MDP) since 1997, but only based upon local people’s accounts, interviews to pathfinders, local fiction literature and some overflights. In particular Juan Sampietro, an islander, actively interested in the protection of nature in Bajo Delta, has affirmed for years that floating marshes existed in the third section of the islands, emphasising the need to take urgent measures tending to protect them.



Although these areas had not been directly surveyed by land, the floating marsh has been considered as one of the prior investigation of the Delta del Paraná Biosphere Reserve (RBDP). However the lack of information about their characteristics as well as about their function within the island ecosystem does not allow neither to define them nor to take measures to guarantee their conservation.

From the moment of its creation, the management committee of RBDP spoke about the necessity to determine if floating marshes really exist and, if so, to study them in depth to get to know about their characteristics, their hydrological functioning and their function within the system, as the only manner to secure their protection (RBDP, 2000).

The floating marsh areas that have been studied were reached for the first time by an expeditious survey campaign of the RBDP in June 2002. The expedition was successful thanks to the logistic support provided by the group of local pathfinders and by San Fernando local Council.

It is important to mention that the islanders claimed that never before had they entered those areas, and most of them did not even know how to reach them. In December 2002, a second campaign by land was made and American Ecologist in Wetlands of East Carolina University (USA) as well as Dr. Patricia Kandus and Lic. Paula Pratolongo, both belonging to the Laboratory of Environmental and Regional Ecology of Facultad de Ciencias Exactas y Naturales (Universidad de Buenos Aires). In this campaign, a vast part of the grassland could be covered on foot due to the fact that it had recently caught fire.

These two campaigns allowed us to collect more information and confirm that the grassland in the area showed extensive longitudinal cracks and there was water under the thick coal of organic matter on which it was sustained. The floatability of the grasslands was a phenomenon impossible to be ignored.



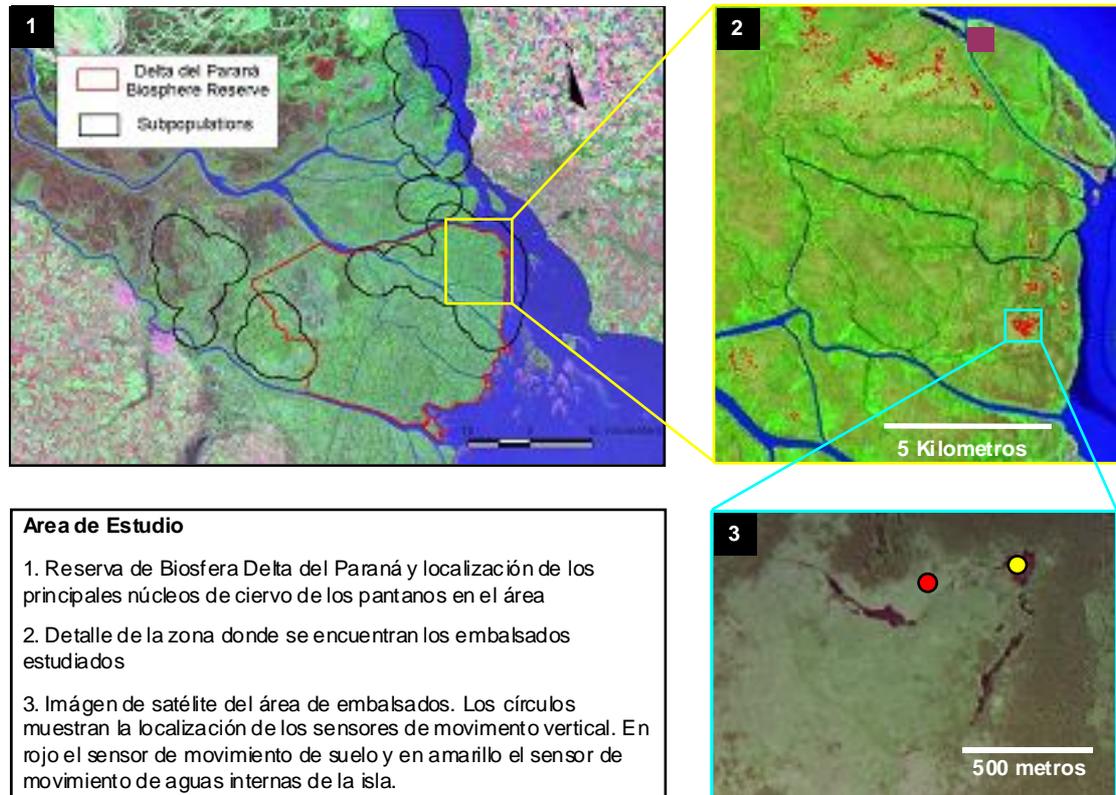
Since 2002, MDP began a specific work line to go deeper into the knowledge of this phenomenon, thanks to which different elements about it were added. The information presented in this document definitely puts aside any doubt about the existence of this phenomenon and at the same time opens a line of investigation of great interest and relevance as to the island environment.

Location of the studied area

The present work focuses on the grassland which ranges from streams Vasco (also Reduró), Las Bogas and Melendre to the River De la Plata. This area has been pointed by local pathfinders and hunters as the most important floating marsh areas in the region. This zone belongs to the nuclear area of the RBDP, within the limits of the islands in San Fernando local Council, Buenos Aires Province, Argentina.



Geographic Coordinates: 34°5'6" South, 58°22'23" West.



The floating marsh as natural shelter for the island fauna during floods

The importance that these areas could have in the survival of the marsh deer especially for the subpopulation next to River De la Plata, have been mentioned by locals, hunters and fiction writers on several occasions.

Surveys among the local population have clearly demonstrated for this species in the Delta del Paraná (D'Alessio et al, 2002).



Floods are natural phenomena, frequent in the Bajo Delta del Paraná. When River Paraná and River Uruguay rise and at the same time winds blow from the South, the water covers the islands. Flooding causes the death of many deer especially by drowning but also because it is in this period when poaching intensifies, as the water forces the deer to look for higher areas to protect themselves, thus becoming more exposed to hunters.



Old locals and hunters often claim that floating marshes function as a shelter for the species, given that they provide a dry surface where the animals can stay safely far from hunters, while the rest of the area remains flooded for as long as the rise lasts.

This hypothesis, which in case it was verified, would grant this area a significant importance for the survival of the endangered marsh deer, had not been evaluated so far.



9. Objectives

Floatability of grasslands

Objective 1:

To verify the floatability of the studied grassland area, by means of monitoring work of their move and water height level.

Hypothesis: the grassland in the studied area floats and rises when floods occur.

Predictions: the records of organic matter height where the studied grasslands exist should rise when the water in the islands rises.

The use Marsh Deer makes of the floating grassland

Objective 2:

To obtain evidence which confirms the function of floating marsh areas as a shelter for marsh deer in flooding conditions.

Hypothesis: marsh deer use the floating marsh as shelter during floods.

Predictions: during a flood the number of deer on floating grassland should increase if compared to the number of individuals on these areas in non-flooding periods.



10. Methodology

5.1 Verification of floatability of grassland: measurement of vertical movement.

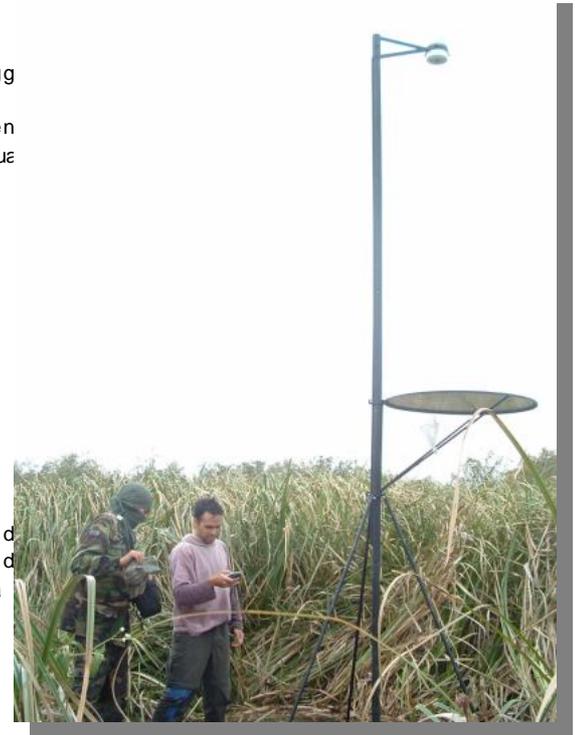
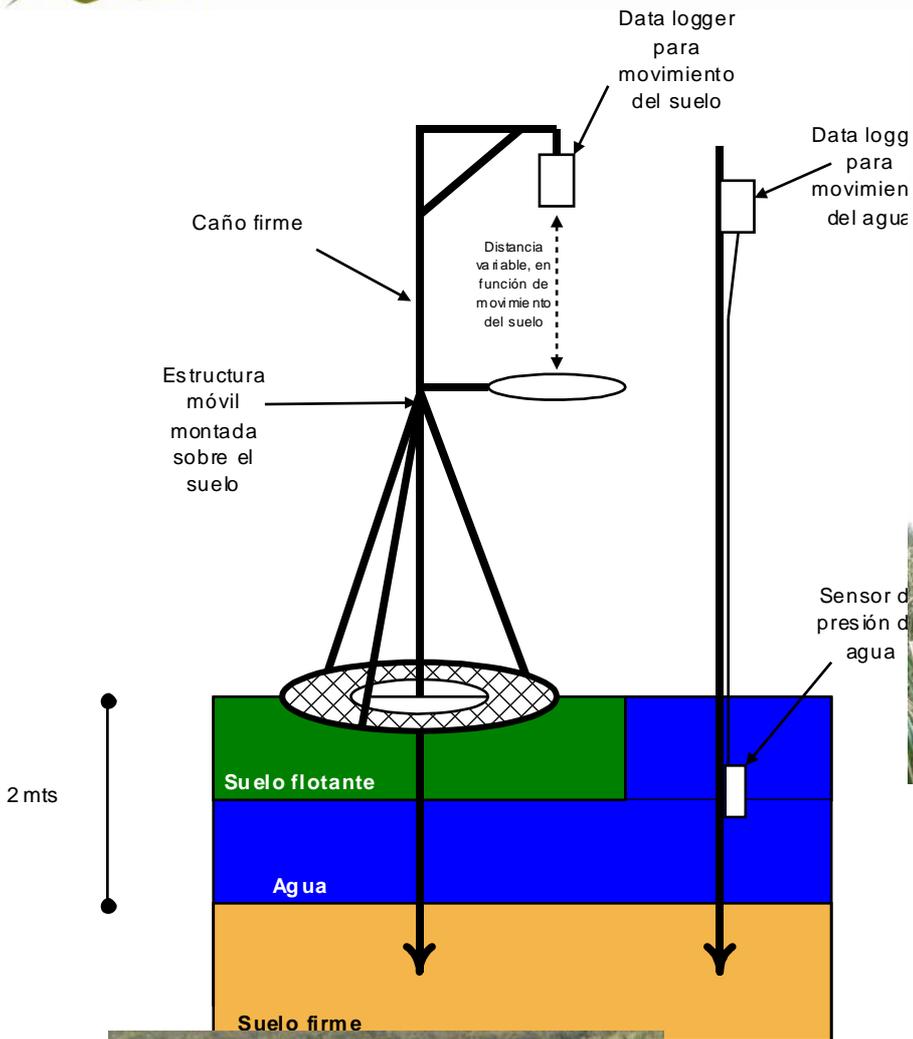
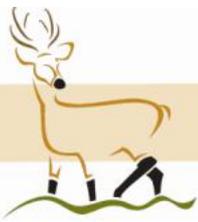
The floatability of the grassland and the water level inside the island were monitored from April 2004 to April 2005, by means of electronic sensors.

To obtain the records of water level, a water pressure sensor was used. It was placed in a lagoon inside the island.

To obtain the records of grassland height, a mobile mechanism was designed, which used an ultrasonic distance sensor placed in an area whose accessibility did not prove to be too complex. The methodology used was taken from similar work realized on floating marshes in USA (Sw arzenski et al, 1991, Sasser et al, 1995).

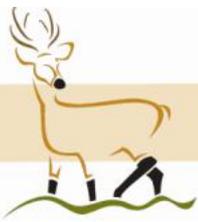
The electronic instruments used were made by Infinities USA Inc and donated to the Project by Dr. Christopher Sw arzenski, Investigator of US Geological Survey.

The design of the stands where the vertical movement sensors were mounted on, was made by the members of the Project team (Picture 2).



Both sensors were featured to record in a synchronised manner an hourly record of the water height in the internal lagoons of the island and of the grassland, respectively. The sensors were checked every 2 or 3 months, to secure their correct work, to unload data and to check the battery charge.

The record of the nearer tides was also taken, to be able to know the height of the water in the rivers surrounding the studied area. The obtained records



correspond to the period April 2004 - April 2005, and were provided by Dirección Nacional de Construcciones Portuarias y Vías Navegables.

The station that registers these data is located in the mouth of River Paraná Guazú, at a distance of about 8 km from the studied area. Given that this station is practically lined northward from the studied area, these data were not re-adjusted. With a view to analyse and interpret the present word data, it must be taken into account that the water level in Paraná Guazú mouth and that of the rivers and streams surrounding the studied area are equivalent.

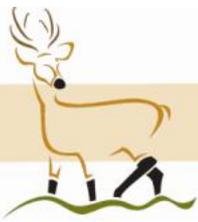


5.2 Evaluation of the function of the floating grassland area as a natural shelter for marsh deer in flooding conditions

To obtain a first qualitative evidence about the use marsh deer make of the studied area, deer surveys were made comparing the amount of individuals watched in the studied grassland in normal water periods, small rises and flooding conditions caused by South winds.

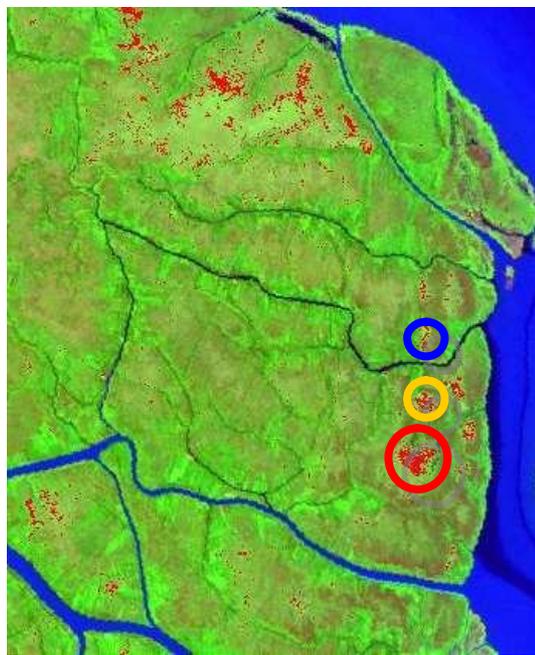
The dense vegetation in the studied area, with a dominating *Scirpus giganteus*, prevents visibility in the area if made by land. This makes it impossible to place deer land sensors.





Aerial survey techniques have been successfully implemented with South American mammals with a view to fauna management and research purposes. In fact, a number of scientific investigations on deer in the Centre of Brazil are based on these methods.

In previous aerial expeditious surveys made by MDP using light aircraft, it was confirmed that the high speed and altitude of these flights make it impossible to spot deer, except on rare occasions (Varela et al, 2001; D'Alessio et al, 2002). Helicopter surveys, even implying a considerably larger expense, provide wider



manoeuvre flexibility better visibility and greater certainty (Caughley, 1977).

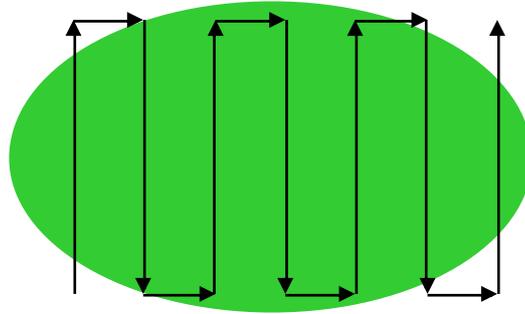
Grasslands selected for the surveys were made in three grassland areas not far apart. The data possessed at the beginning, the result of land expeditious surveys and comments made by local pathfinders, showed that only one out of these three grassland areas had significant floatability (red circle) while the other two did not (yellow and blue circles).

Seven overflights of the area were made, two of them in normal water conditions, two during small rise and three in strong South wind conditions.

Considering the proximity of the areas one to the others and land survey previously made, it was supposed that deer density in normal water levels were similar in the three areas. The surveys in the different areas were made on the same day, with just a few minutes difference. To obtain comparable indices, the time devoted to each grassland was proportional to its surface. The counting was



made by a Robynson R44 helicopter, by means of parallel transects following this sketch:



The flights were made at 40 m height and a speed of about 30 km/h. In each flight, three observers with similar training level counted the deer in the area distinguishing males from females adults, brood and unidentified individuals. The pilot was not supposed to look for animals or point at them.



11. Results

11.1. Description of the floating marsh in the nuclear area

Morphologic characteristics

The studied area is dominated by a large grassland surrounded by an area of ceiba woods all around. Inside the grassland a perimeter crack could be observed, diversely shaped, but denoting an apparent separation between the central grassland and the surrounding grassland (see



photographs of the area). This separation has shown various shapes and sizes probably owing to lateral movement during South winds.



shape of the island.

Basic expeditious surveys have made it possible to observe an increasing distance between the grassland surface and the firm mineral soil, from the “albardón” (high edge of the island) and ceiba woods towards the centre of the floating marsh, confirming the typical



It has been estimated that there is an average two meters depth from the organic matter surface on which the floating grassland grows to the firm mineral soil. Areas where this depth is much larger (3.80 m) were found, which might be attributed to the presence of canals that can be observed even in aerial images. However, it is still to be discovered whether they have a natural origin or are man-made.

The floating marsh area surface is estimated in about 36 hectares.

Vegetable community

The vegetable community in the grassland is clearly dominated by *Scirpus giganteus* (brave straw). Other species, such as *Schoenoplectus californicus* ("junco"), *Paspalum quadrifarium* (mild straw), *Cortaderia selloana* ("plumacho"), *Hydrocotyle* sp. (water roundie), *Bacharis* sp. ("chilcas y carquejas"), and *Ludwigia* sp. can also be observed in the area.

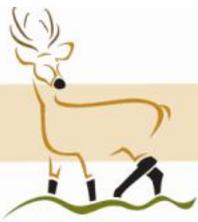
Ceiba trees (*Erythrina cristagalli*), some over 5 meter tall, have also been observed.

Grassland vertical movement

Vertical move sensors were placed in the area in April 2004. Hourly height rates were obtained from April 2004 to June 2004 and September 2004 to April 2005. The interruption was caused by the breaking of a sensor wire, probably as a consequence of the bite of a coipo (*Myocastor coypus*).

Grassland vertical move for the complete period April 2004 to April 2005 was obtained.

Height rates obtained make it possible to clearly observe the rise of the grassland, studied together with the internal water of the island in flooding



conditions, which coincide with the expected predictions from the proposed hypothesis.

In the following graphics the behaviour of water level inside the islands, the oscillation of the floating grassland and the variation in tide levels in River Paraná Guazú mouth can be observed.

It is also possible to observe the elevation of the floating grassland coinciding with the rise of water levels inside the island. When a rise occurs and the water overflows the *albardón*, the water inside the island rises, and the grassland floating on it rise in turn.

Additional information provided by non-planned events

The stand on which the grassland vertical move sense was mounted on for the year's survey was cracked in its base, buried in the firm mineral soil, like is shown in the photograph.

After analysing the position of the broken stand, we got to the conclusion that not only does grassland move vertically but also has lateral movements during floods caused by South winds. This concurs with the observations made while overflying.

On the other hand, the stand where the interval water level sensor was mounted on was swept by a large grassland island which floated across the centre of the lagoon where the stand stood. The





movement of this small island is another proof of the movements of these areas (see photograph).

Graphics of the monitoring work of floating marsh and water vertical movement

We now include three graphics which show the vertical observed for a period of 15 days, out of our total time but which prove useful to interpret the obtained results, given that in this period, two South wind events occurred.

Graphic 1: sketch of the period of vertical move. From July to November 2004 no data about inland water levels were obtained because the sensor was damaged. There are three months when no data on the water height in Paraná Guazú mouth were obtained. The complete survey period is highlighted.

Graphic 2: reports of water height inland and outside the island and height of the floating grassland during the first fortnight of May 2004.

Graphic 3: detail of reports of water height inland and outside the island and height of the floating grassland from May 2nd to 5th, 2004.

Graphic 4: record of water heights inside and outside the island, and height of the floating marsh during the 12th to May 15th, 2004

Graphic 1

Sampling period: The following diagram shows the period during which the work was done monitoring for vertical movement: from April 2004 up to April 2005

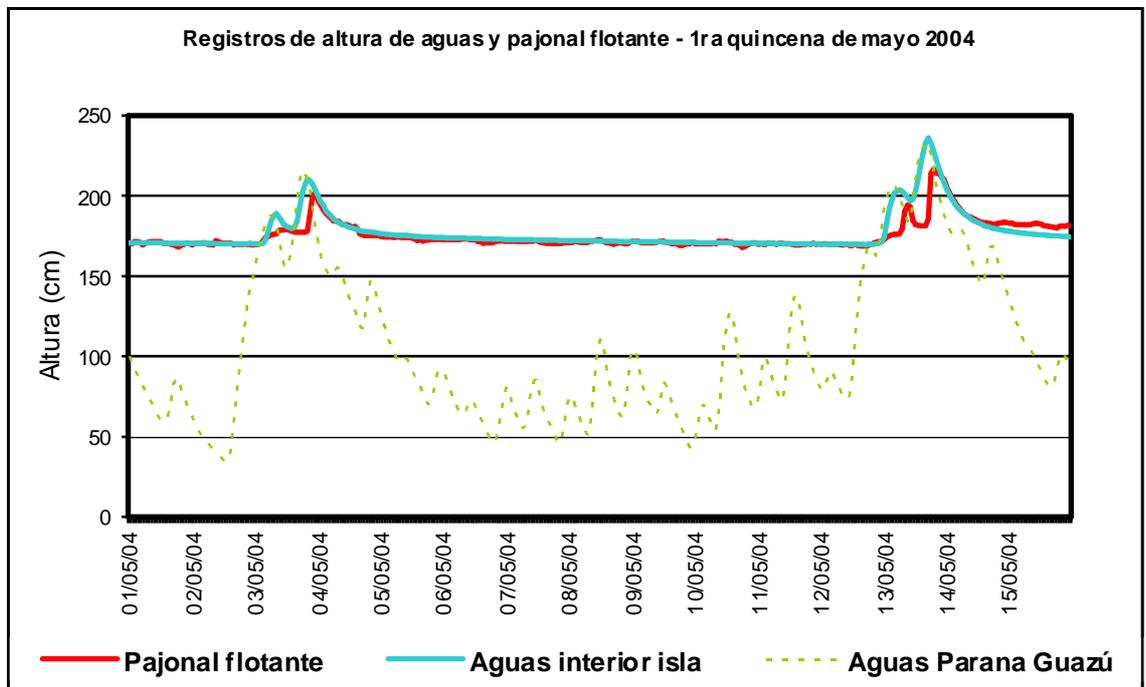


	2004										2005			
	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar	Abr	
Agua interior isla				-	-	-	-	-	-	-				
Pajonal flotante														
Aguas Parana Guazú											-	-		-

↳ Período de datos graficado: primera quincena de Mayo 2004

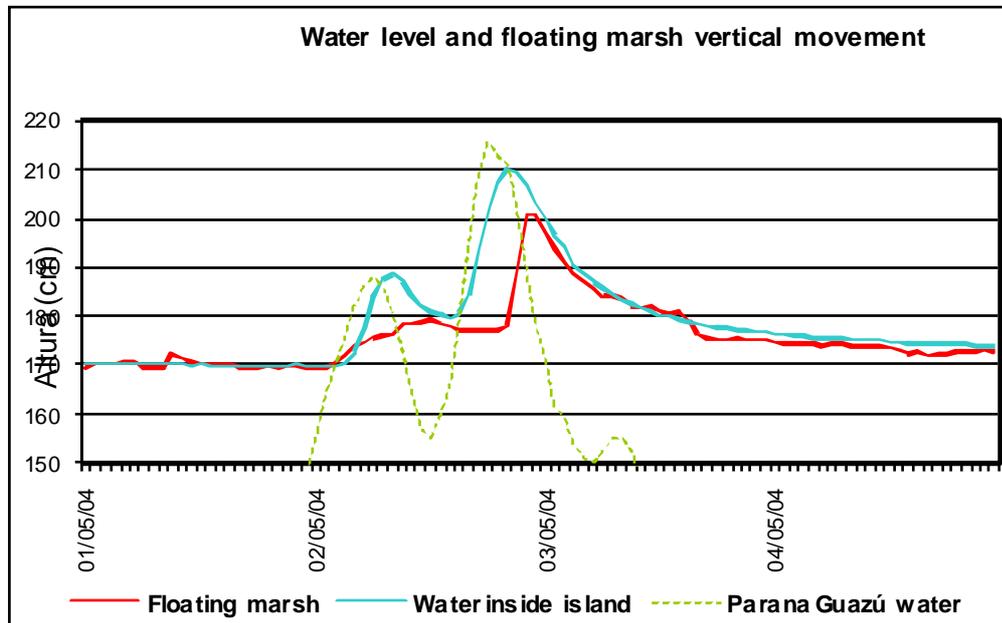
[-] Período sin información

Graphic 2

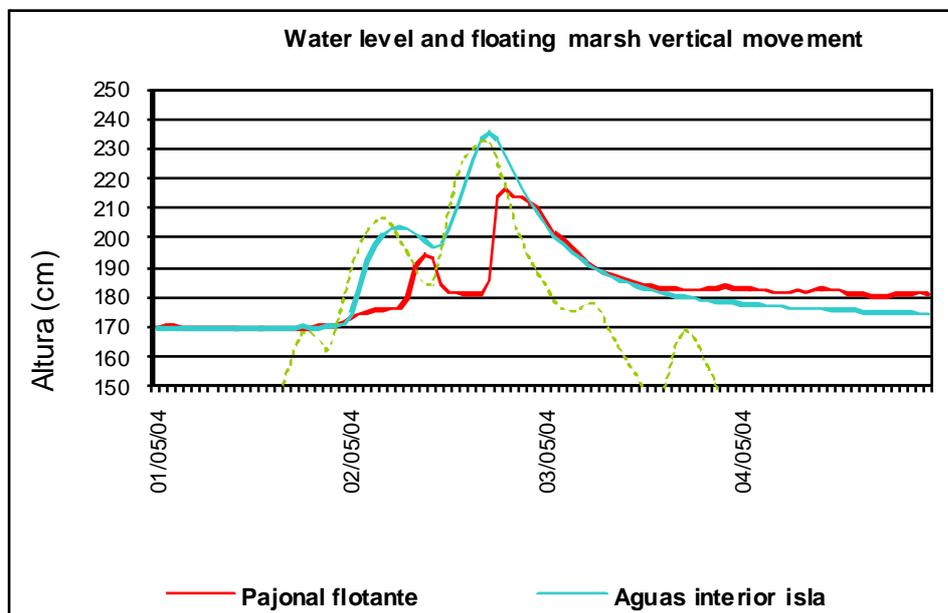




Graphic 3



Graphic 4





11.2. Evaluation of the function of floating marshes as a shelter for marsh deer in flooding conditions

Seven surveys on the grassland areas defined for the counting of deer were carried out. Two of these areas are considered non-floating, while the third one corresponded to the floating marsh area. The non-floating areas were called Grassland 2 and 3. Two surveys were made in low water conditions, two during rise (middle level) and three during strong South winds, that is, high waters. Table 1 shows the results of the countings in each area and each water high condition.

Nº	Date	Water height	Floating area						Non floating areas																															
			Floating marsh						Grassland 2			Grassland 3																												
			M	H	J	C	NN	T	M	H	J	C	NN	T	M	H	J	C	NN	T																				
1	7-Mar-04	Normal	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2	14-May-04	Middle	2	3	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3	5-Nov-04	High	6	13	6	1	3	29	2	3	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4	11-Nov-04	Middle	1	2	4	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5	6-Dic-04	Normal	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	31-Ene-05	High	6	8	2	0	0	16	2	5	3	0	0	10	2	3	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
7	25-Feb-06	High	3	5	4	2	1	15	0	1	2	1	0	4	0	4	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	

Table 1. References: M (male), F (female), J (juveniles), C (fawns), NN (individual not categorized), T (total)

In each over flight, the amount of males, females, juveniles and brood was counted in the different environments and under different water height conditions. Deer observed in aerial censuses are presented in this table. On the aerial survey of 5 November 2004 noted 29 deer in the corresponding to floating marshes,



while never more than an individual was noted in this same area, in conditions of normal height waters.

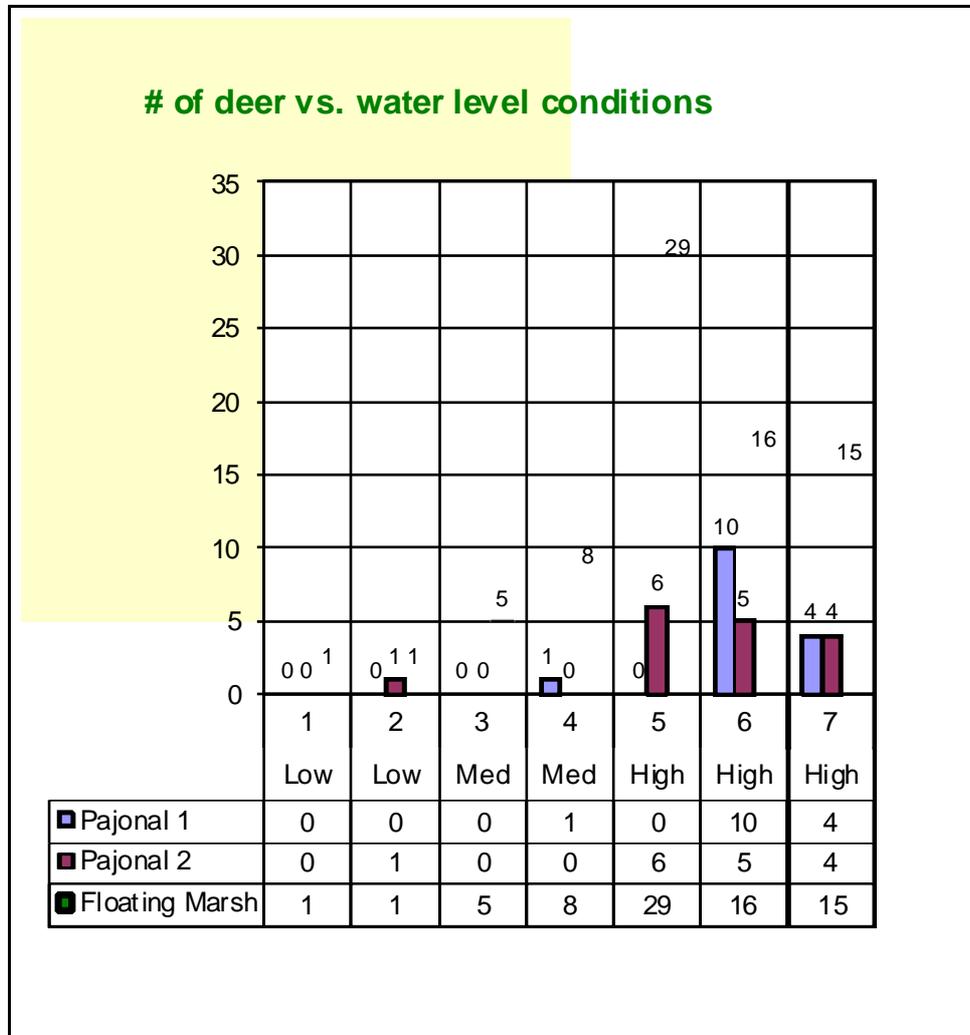
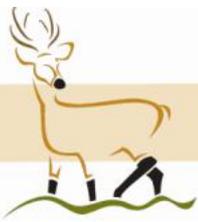


Figure 4. This graph shows the amount of deer observed in each area and different conditions high water.



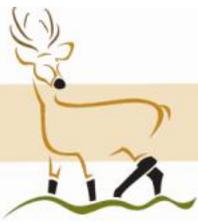
12. Discussion and conclusion

Observations collected from this work represent the first concrete evidence on two issues which are still very little known by the scientific community. Both the buoyancy of certain areas of grasses and the use of these areas by marsh deer during floods are phenomena which until a few years back were absolutely unknown.

It is common in scientific research, the earliest evidence obtained on unknown phenomena present limitations or errors in approach and/or the methodologies used, product of the lack of previous experiences and ignorance about them and their characteristics. This work does not escape this rule. Few years ago the existence of floating marshes in these areas was completely unknown, and many of the basic biology of the marsh deer in the Paraná River Delta were still unknown. In spite of these limitations, and taking in consideration the complex logistics involving work in these areas, we consider that results presented in this summary represent strong evidence that give affirmative answers about addressed assumptions.

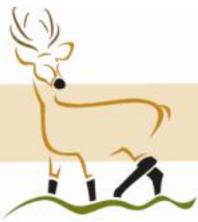
Vertical movement of the floating marshes

The methodology was very appropriate for the data needed to test assumptions. The costs required for adaptation, installation and maintenance of used sensors have been important. However, the information that these sensors have given is of excellent quality and precision, representing an excellent relation on cost-benefit. Used electronic elements worked seamlessly during the year of use. The only downside was related to the breaking of one of the water measuring sensor cable as we believe caused by the bite of a Coipu (*Myocastor coypus*). The support received from local people proved to be very important to penetrate the islands through dense and permanently flooded vegetation, as well as for transfer, installation and maintenance of measuring instruments.



One of the main objectives of this work was to verify the existence of buoyancy in interior of certain Island area grasses core of the reserve of Biosfera Delta del Paraná. The data obtained have enabled us to verify this: when there are major floods the floating marshes move vertically accompanying increase in the level of water within the islands. The water level remains relatively stable while there is no new flood, presenting a very slow decline, perhaps due to evaporation or a mild drainage. It is interesting to note that at the time of retiring the floodwaters and return the height of water in the river at normal levels, water from the interior of the studied island remains at a higher level. This means that the level of remaining of water inside of island stops decreasing at one point, leaving approximately one meter inland water above the water level in the River, slowly lowering or raising very little by rain. This aspect is important, and tends to strengthen the hypothesis that the floating marshes are presented in islands with a few or inexistent drainage channels, where interiors remain flooded, allowing grasses are kept away of mineral soil. However, in those islands in which there are drainage mechanisms allowing the water leave the island, grasses would have more contact with the firm ground, and this probably increase the level of rooting, reducing their buoyancy. It would be useful to repeat this analysis in other areas, to verify if there is a correlation between the quantity of channels and the existence of floating marshes.

Pratolongo (2004), in his doctoral thesis on herbaceous communities of the lower Delta, performs a comparative analysis of net primary productivity between a floating grasslands in the Felipe stream with a non floating one close to the Barca Grande River. According to this author level of ditch in Islands would be an element that would have impact in the buoyancy of grasses, since a higher income of tides involves a greater contribution of sediment, to settle on the grasslands lowering their buoyancy. Information has been collected which confirms that not only Las Bogas floating marsh fleet, but the buoyancy is an observable attribute in many other grasses in lower Delta which, depending on variables that were not analysed in the present work, cause different degrees on buoyancy.



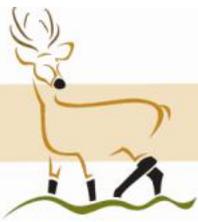
This confirmation caused a strong impact on the knowledge and research about Parana River Delta vegetation, changing the previous paradigm of these ecosystems.

Evaluation of the role of floating grasses as a refuge for the Marsh Deer during floods

This aspect of the work was developed for the purpose of collecting the first evidence on using performing areas of floating marshes Marsh Deer populations during periods of flood. While studies should be clarified for future research, data obtained through made sampling match established predictions and tend to confirm the proposed hypothesis: Las Bogas floating marsh is acting as a natural haven for this species during periods of flood.

While in periods with normal water (low) levels virtually there were deer in the floating marshes 1 individual, during periods of flooding by sudestada (local wind) significantly higher deer (29 individuals; 16 individuals 15 individuals) concentrations were observed. During periods of flooding average observed concentrations intermediate (5 individuals; 8 individuals). It is remarkable to note that also not floating considered grasses found an increase in the amount of deer during floods by sudestada. The number of repetitions of sampling was limited by the low frequency of events of significant flooding by sudestada occurring in the region. Also the speed with which triggers a sudestada, combined with the complex logistics involving the Organization about flights by helicopter and winds associated with these events, make difficult the task of sample under flood conditions.

The Marsh deer is a species of solitary habits. The observation of groups, except the formed by mother and calf, with the eventual company of a male is uncommon. The concentration of deer in a small area is something rare. However, during some floods were groups of up to 10 copies an area of less than 1 hectare.



The number of deer observed in a not floating considered grasslands (floating marsh 1) was a major case to the expected number. This could strengthen the idea of many grasses in the lower Delta float during floods, even partially. Even grasses considered not floating in this work might exhibit some degree of buoyancy.

It has been observed that deer leave from the floating marshes quickly once the water has returned to normal levels. This could be because the areas dominated by an array of *Scirpus giganteus* presented little food supply for the deer. Another hypothesis could be associated with mechanisms repulsion between individuals focused in the areas of low surface. A not quantified observation was the identification of numerous small beds and traces of births in the terrestrial travelled on grasses of floating marshes. Baquianos (local expert people) believe that areas of floating marshes would be used by females giving birth, thus putting their young safe from flood. We believe this information is still preliminary but it would be advisable to deepen the evaluation on this aspect.

The uniqueness of the studied floating marsh

Both interviews with the main baquianos (experimented local people) lower Delta and analyzed aerial images confirm that other floating marshes of the importance of which are located between the rivers Manzano Medina and Las Bogas would not exist throughout the region. However, it is important to broaden the search in other areas, in order to locate other floating grasses which need to be protected. Baquianos (experimented local people) have mentioned the probable existence of others floating marshes close to the area of Guazu-Guazucito grasses and also close to the FB Forest Company, in Buenos Aires province. In the province of Entre Ríos they mentioned the possibility of other floating marshes in grasses surrounding funds of Carbon and Carboncito streams. It should be noted that, according to the work distribution and relative abundance on the species, all of these areas coincide with areas with high concentration of deer. New studies will be needed to know in greater depth the functioning and the dynamics of these systems. This work means a first step in the knowledge of a little studied to date



area, and the results open many new questions that must be addressed by future research.

The need to protect the last floating marshes in lower Delta

For a long time we have been receiving information from various baquianos (experimented local people) telling about the existence of floating marshes in these islands and its relationship to the survival of the Marsh Deer in these areas. Local public concern, some scientists and even of authorities of the State regarding the destruction of these environments could not be directed towards the protection of these areas the total absence of information on these topics.

Depending on the results we believe that there is sufficient evidence justifying the need for protection of floating grasses analysed in this work areas. The framework representing the membership of these areas to the zone core of the reserve of Biosfera Delta del Paraná surely facilitate these actions.



13. Recommendations

- Elevate the status of legal and effective protection of floating marshes located in the heart of the Delta del Paraná Biosphere Reserve.
- Encourage and support the search for other areas of floating marshes in the lower Delta
- New studies deepen knowledge areas of the Paraná Delta Buenos Aires floating marshes.
- Deepen - from new research - knowledge about relations between the floating marsh and the marsh deer.

Protection of the lower Delta floating marshes

The lower Delta del Paraná River floating marshes have remained hidden to science for a long time. Considering the uniqueness of these natural structures, the little knowledge we have about them, the importance that appear to have on the ecosystem of the delta, and the economic potential that can involve as tourist element in the future, it is strongly recommended to drive and to support studies to develop appropriate strategies to ensure its conservation.

As mentioned, drainage channels made to the river edges and other actions to drain the floodable interiors of the Islands could cause rooting of floating grasses, and cause the consequent loss of their buoyancy. Until deeper studies about this relation are made, we recommend prohibiting such actions in the area.

Taking in consideration the importance that floating marshes seem to have to the survival of the Marsh Deer in the lower Delta del Paraná we recommend to carry



out a specific strategy for the protection of the area, particularly considering that, based on concrete evidence (intentional burning of the grasslands as a method of hunting fauna, and presence of hunting hides), the site is known and used as area of poaching. Biological value seen in this singular ecosystem and the level of threaten that is registered on in show clearly the necessity to improve the control of the activities on this area, implementing a permanent park ranger with adequate logistic to operate.

It is clear the importance of getting these kind of natural habitats to be well known by the local community, so they can feel pride about this unique natural element of the island ecosystem, present on few natural wetlands worldwide.



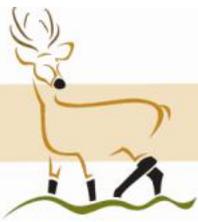
Chapter 3

Discovery of new floating marsh areas in Parana River Delta



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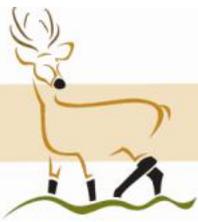
14. Introduction, background and justification

Through interviews to old local islanders during the marsh deer distribution surveys carried out in Buenos Aires and Entre Rios Provinces, the Project team obtained information about the probable existence of other floating marshes areas in those unprotected islands.

Though it has not been scientifically confirmed, there is a clear trend that shows coincidence between marsh deer distribution and the existence of floating marshes. From government and scientific areas it was considered of high priority to locate other remnant floating areas and to ensure their protection, in order to conserve marsh deer nucleus. Floating marshes are considered vulnerable areas that can disappear when the islands are artificially drained to increase timber areas.

Marsh Deer Project (MDP) has verified the existence of previously unknown floating areas, through terrestrial campaigns and aerial flights. During 2003-2004 our project was able to prove that these areas –located on some islands of the core zone of Delta Del Paraná Biosphere Reserve- floated during floods. In the same stage of the Project the team obtained important evidence that made it possible to infer that these floating areas are shelter for marsh deer during floods.

After discovering and studying the main floating marsh of the region, the Project team carried out new surveys to localize unknown floating areas in the wetland. Using satellite images, flights and terrestrial surveys, new floating areas were found in undisturbed islands. The protection of these areas is considered a critical step to assure the long-term conservation of this population of marsh deer. The information generated by this survey is being used to design new conservation strategies for marsh deer and these floating ecosystems.



15. Objective and methodology

Objective

- To identify new floating marsh areas in the Paraná River Delta, Buenos Aires and Entre Ríos Provinces.

Methodology

Using the information gathered through interviews to local islanders in previous stages of the Project (1998-2004) in Buenos Aires and Entre Ríos Provinces, and with the support of satellite images and aerial photographs, potential floating marsh areas were identified and mapped.

Aerial surveys over these areas have been carried out following a predesigned route in order to identify morphological patterns, similar to those of the floating marsh already studied. We also took in consideration previous information gathered by our project about the presence of marsh deer nucleus in those areas



suspected of buoyancy, as we believe that marsh deer needs floating areas to survive on these islands, as they get flooded periodically.

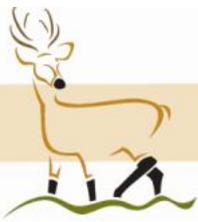


The flights were done flying on a Cessna 182 and a Piper PA-32, and departure was from San Fernando Airport.

Areas with marsh deer presence confirmed and with morphological characteristics similar to floating marshes:



Sites to be surveyed georeferenced:



16. Results

We surveyed a total of 53 sites suspected of having a floating behavior covering an area of more than 150000 hectares. We found signs of buoyancy in 27 of them. 10 belonging to category A, 14 to B y 3 with A characteristic patterns along with patterns of type B (A/B).

Categories for floating marshes areas

In this research, floating areas were classified in three types depending on the way they originated and their morphological characteristics:

A – wide depressions inside the islands covered with floating thick entangled vegetation;

B - streams covered with floating grass mat;

C - areas suspected to have a certain degree of buoyancy, although no clear clues were found (it needs to be confirmed by other methods).

Floating evidence description

1-**Lagoons**: big circular ponds of open water in a floating grassland matrix

2- **Floating Islands**: Small circular patches of grassland on lagoons. There can appear ceibo trees on them.

3-**Irregular gaps**: Small ponds of irregular shape with open waters in them.

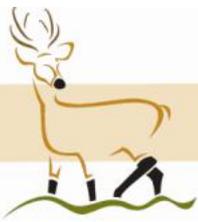


4-**Fissures**: Linear narrow gaps like channels into the vegetal tangle.

5-**Ancient riverbanks**: stream coasts without open water between them. They belong to enclosed rivers covered with floating vegetation. On those banks appears endangered gallery forest.

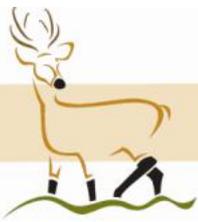
Route of one of the flights carried out:





Buoyant sites identified

References	Categories	Observations
001	A	It does not show clear floating evidence in aerial survey but was mentioned as floating marsh in scientific bibliography (Pratolongo 2005)
002	A	Clear evidence of floating areas, with irregular gaps and small floating islands
004	A	Distinct evidence of floating areas, with irregular gaps and small floating islands. Presence of ceibo trees and willows.
005	A	Evidence of floating areas, with irregular gaps and small fissures.
008	A	Distinct evidence of floating areas, with irregular gaps and small floating islands.
009	A	Little evidence of floatability, just one small fissure. Mentioned by islanders as an old floating marsh that lost buoyancy.
010	A	Specific surveys have been carried out on this system, showing its floatability. It is the main floating marsh of Buenos Aires Province. It is an area used by marsh deer as a shelter during floods.



011	A	Little evidence of floatability, just one small fissure.
012	C	This area does not show visual evidence of floatability, although in former studies there has been showed that marsh deer used this area during a flood.
015	B	
017	B	The area shows about five streams covered with floating mat vegetation, surrounded by a wide wet grassland matrix.
021	B	
023	B	This enclosed river covered with floating grassland mat presents fissures and irregular gaps.
025	A	Distinct evidence of floating areas, with irregular gaps, fissures and small floating islands. Presence of ceibo or coral tree (<i>Erythrina crista-galli</i>) woods.
026	B	
027	A / B	Small lagoons, fissures and a stream covered with floating vegetation next to a timber wood.
028	B	Presence of endangered native gallery forest (monte blanco)
029	B	
030	B	



031	B	The area shows enclosed rivers covered with floating mat vegetation, surrounded by a wide grassland matrix. Presence of drainage channels.
032	C	Very modified, abandoned areas
034	C	Reed beds and wet grasslands, enclosed drainage channels covered with floating vegetation. Very modified areas but nowadays they are abandoned.
035	C	Reed beds and grasslands showing open waters and enclosed drainage channels covered with floating vegetation. Very modified areas but nowadays they are abandoned and with natural vegetation
036	C	Reed beds and grasslands, enclosed drainage channels covered with floating vegetation. Important timber disturbance but nowadays the area is abandoned. The area shows open waters
037	B	
038	C	Path on a dock (artificial terrace)
039	C	Path on a dock (artificial terrace)



040	B	-----
041	B	The area presents rivers covered with floating vegetation mass, surrounded by a wide grassland matrix. Presence of abandoned drainage channels.
042	B	The area presents rivers covered with floating mat vegetation, surrounded by a wide straw matrix. Mentioned by islanders as a floating area.
043	A	Distinct evidence of floating areas, with a lagoon and three small floating islands that showed clear lateral movement. The pond is surrounded by a wide grassland matrix.
044	B	
045	A	Clear evidence of floating areas, with irregular gaps and small fissures.
046	A / B	The area presents an enclosed river covered with floating mat vegetation. Presence of fissure in a wide grassland matrix
048	A / B	-----
049	A	Evidence of floating areas with fissures.
050	A	Distinct evidence of floating areas, with a lagoon and several small floating islands that showed clear lateral movement. Surrounded by a wide grassland matrix.

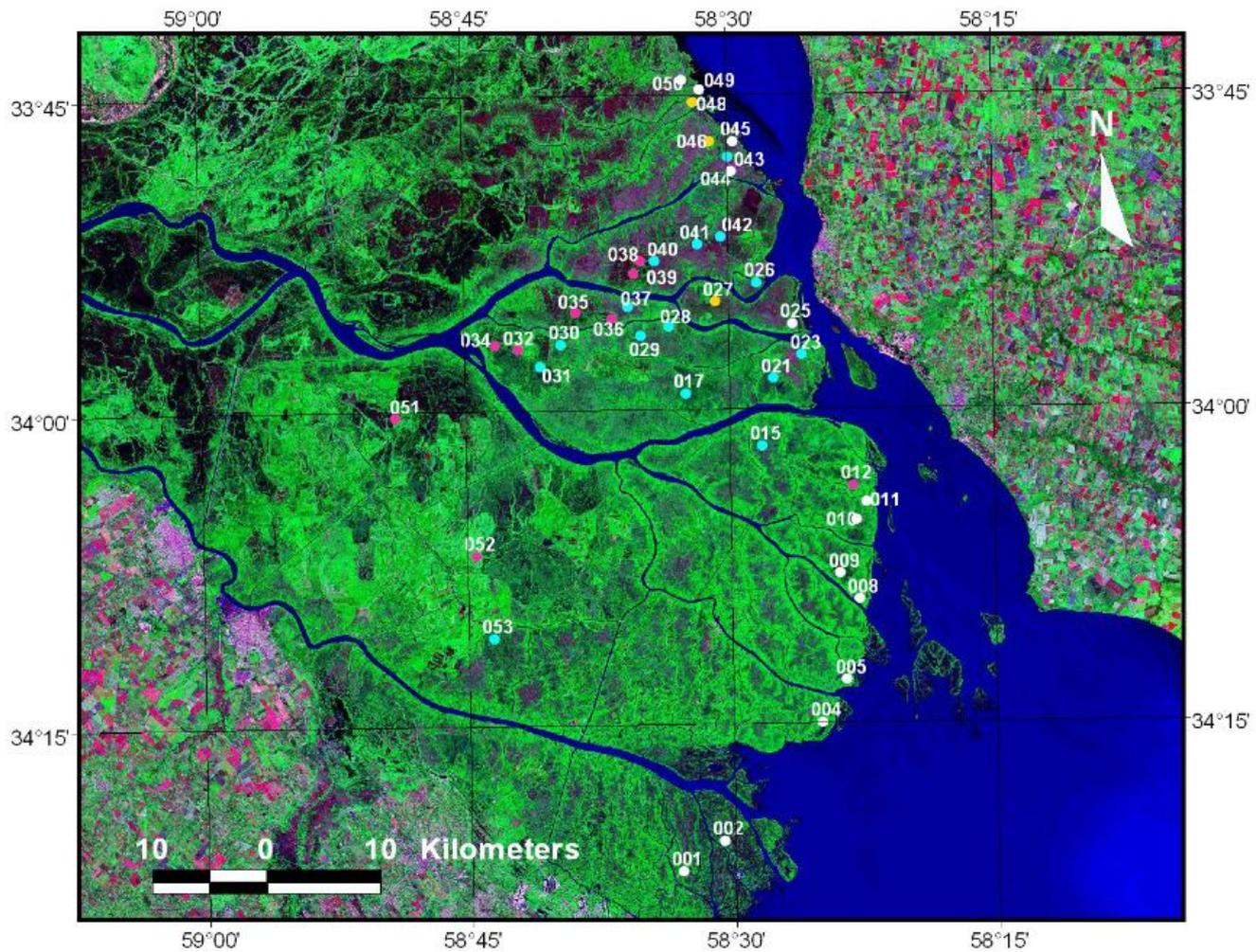


051	C	-----
052	C	A big non- floatant sw amp, although it shows places with some evidence of potential buoyancy.
053	B	The area shows several enclosed rivers covered with floating tangled vegetation, surrounded by a wide grassland matrix



Map of characterized sites

This map shows the surveyed sites in Paraná lower Delta. The most of the sites are found in island of the south east of Entre Rios Province.





Photographs of some floating sites found

Floating marsh site number 043



Note the evidence of horizontal movement of the detached pieces (small islands) from a big floating marsh surrounding the lagoon. This is a clear A category floating marsh.



Floating marsh site number 023



This is a floating marsh grown on the old basin of an old river. This has been called as B Category in this document.

Floating marsh site number 041





Floating marsh site number 042





Floating marsh site number 050

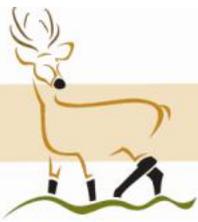


This floating marsh close to Uruguay River is one of the largest ones found in this survey, and probably one of the largest of Parana River Delta.



Floating marsh site number 045





17. Conclusions

Reinforcing what had previously been observed in Buenos Aires Province; the position of the main discovered floating marshes of Entre Ríos Province showed an important coincidence with the current distribution of marsh deer nucleus in the region.

The results obtained show that there are not many big floating marshes still remaining in the area and some of them are threatened by forestry activities.

Endangered vegetal communities such as gallery forest (locally known as *Monte Blanco*) and non-disturbed *ceibo* woods (*ceibales* in Spanish) have been found associated with the main floating marshes of this wetland. Taking all this into consideration, floating marshes can be used as a “flagship landscape” to promote conservation actions in the Delta.

Limitations of the method

On some areas that do not present clear morphological floating evidence the method did not allow us to identify buoyancy. A floating marsh, whose floatability was detected during significant floods, was evaluated as non-floating with this method.

The aerial surveys were not carried out during floods. It would be very useful to survey the area in flooding conditions to evaluate floatability with additional elements, and also to evaluate the use marsh deer make of these areas as a shelter during high water level conditions.



18. Recommendations

- To improve the knowledge of these floating areas
- To carry out new studies to evaluate if these discovered systems are also used by marsh deer as shelter.
- To communicate to public, local authorities and scientific institutions the existence of unknown floating marsh areas in Delta del Paraná region.
- To protect these floating marsh areas



Chapter 4

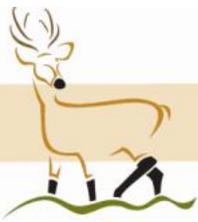
Reintroduction of a marsh deer in the islands of the Paraná Delta



A Team constituted by members of several institutions made it possible to rescue, rehabilitate and then release a juvenile of marsh deer. The deer was found wounded in August 2008 near river Parana de las Palmas. Institutions involved have managed to generate and implement a new management protocol that can be replicated for similar cases. The specimen, with only six months old had injuries on their legs and a general deterioration health. The animal was found in a drain, in Campana, province of Buenos Aires. It would have fallen there, allegedly fleeing from forestal fires that affected the islands of the Parana during this period. This initiative involved the following institutions: the Provincial Natural Protected Department (OPDS), the National Department of Wildlife (SAyDS), INTA (Agronomy Technological Institute), National Parks Administration (APN), Temaikén Foundation, Marsh Deer Project (MDP –ACEN), Papel Prensa timber company and locals. Besides local producers, residents businesses, and other NGOs like Conservación Argentina and the Wildlife Conservation Society –WCS-, participated in this initiative.

Rescue of Gurí

Staff Otamendi Natural Reserve attended the deer in the first instance and gave notice to the relevant agencies in handling such situations: the Provincial Natural Protected Department and the National Department of Wildlife, who decided the destination of the animal, and coordinated their transfer to the Temaikén Foundation veterinary hospital for its recovery. The animal was treated by professionals of that foundation. The body showed abrasions on legs, muscle injury, and general health instability. After several months at the end of treatment, the deer was in position to begin their reintroduction. For this, a brand and a radio-collar (identification and tracking) was placed in the neck. Then, the deer was transferred to a pre-release enclosure, built in their natural environment, to monitor their rehabilitation before their final release. While Guri (name chosen by participants of this process which means little boy in Guarany native language) was recovering, the INTA (Agronomy Technological Institute),



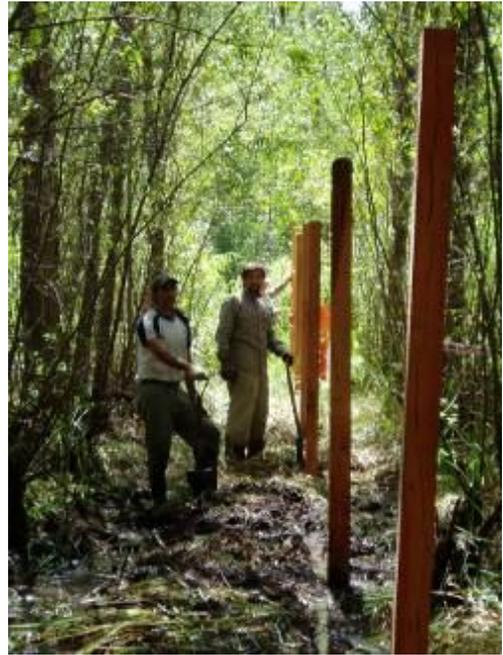
along with members of the Marsh Deer Project (ACEN), carried out the evaluation, material management and site selection for the release of the animal. In addition, a radio-collar was managed and made suitable for marsh deer.



In turn, the Marsh Deer Project provided funds and provided technical advice for reintroduction process, treating the animal, and the setting of pre-release pen.



Transporting construction materials and vegetation for pre-release enclosure implementation. Photos Javier Pereira (ACEN)



Enclosure under construction. Photos: Bettina Aued (SAyDS)





Enclosure habitat enrichment with native plants. Photo Marcos Lartigau (ACEN)

Weeks prior to his final release, Guri was transferred to a pre-release enclosure on an island of the Paraná Delta, built with the contribution of Papel Prensa Company who also provided materials, labor and advice. In this enclosure the health and rehabilitation of the young deer was monitored. In May 2009, Guri was released successfully. Since that time, we carried out monitoring with telemetry to analyze and assess his movements and habitat selection.



Gurí near enclosure border. Photo Bernardo Lartigau



Enclosure view from raised hide. Natalia Fracassi (INTA / ACEN)



Monitoring by radio tracking after Gurí being released. Photo: Bernardo Lartigau.



Team that worked on Guri rehabilitation and release. Photo: Damián Riveros.



Gurí in the wild. Photo Natalia Fracassi (INTA /ACEN)

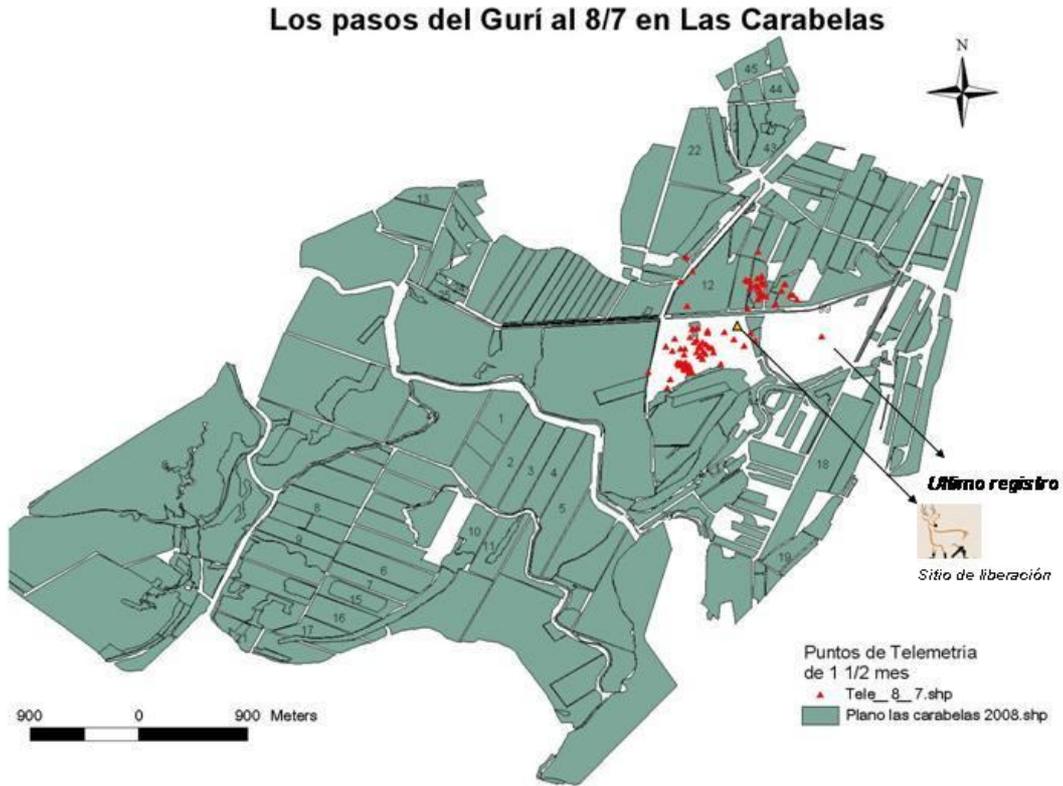




Pictures taken by trap cameras. Upper photo: a female exploring the enclosure in construction. Above, a male in a nearby timber company. Photos courtesy of Natalia Fracassi (INTA / ACEN)



Monitoring of Gurí movements after his release

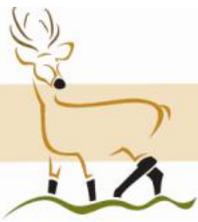


Gurí movements among forest patches recorded by radio tracking. Imagen courtesy of Natalia Fracassi



Chapter 5

Education activities



19. Introduction

Educational activities have been carried out by Marsh Deer Project since the beginning of its activities in 1998. Talking with local islanders, visiting their homes and listening to their stories has been one of the strengths of the way this project could change, along many years of sustained work, some ideas, interest and customs of the local community. Nowadays local people and other scientists that work on this area agree that marsh deer hunting has decreased in relation with the alarming levels it had some years ago. This change was achieved by different strategies carried out, as reinforcing the poaching controls and the action of fauna agents. But we believe that was through different education activities with schools and local families the most efficient way this project has helped in the challenge of reducing poaching.

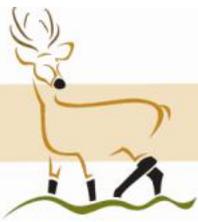
From a long-term conservation point of view, in an area such as the Paraná Delta with geographical characteristics that make very difficult the access of control patrols, we have no doubt that working on education with the local population is the more effective to control poaching. In addition, because through education activities people are stimulated to enjoy, value and protect their environment, which raises their quality of life.

During this phase Marsh Deer Project carried out the following activities:

- Islanders Annual Festival

- Educational campaign “Guri comes back to the island”

In this chapter these two activities are described.



20. Islanders annual festival

Since 1998 Marsh Deer Project has participated every year in the Islander Festival.

This traditional meeting gathers different actors in the island present to participate in various recreational and

promotional activities. It is the more traditional popular celebration in the Lower Delta, where every year all island families are invited and it is an excellent opportunity for our project for making contact with the local community.



It is usually held in School Number 26, located on the Carabelas river, next to the town of Nueva Esperanza, San Fernando. Apart from the local population, many other groups come to take part in the celebrations: craftsmen from different regions of the country, students and



teachers from local schools, farmers, timber companies, and local and provincial institutions.



Marsh Deer Project sets up year its own stand, where information about marsh deer and island wildlife information is shared with the public. We also organize a children's drawing place, where participants make drawings about the island



wildlife. At established times a tale about the story of a marsh deer fawn is read to the kids. Also each child who participates of the stand was given a chapter of the book "Río Abajo, el drama de los montes y esteros de las islas del Ibicuy" ("Down the river, the drama of the forests and marshes of the Ibicuy islands"), written by Lobodón Garra, a local author.

We gave the people who visited the stand pamphlets on the Deer's status as Natural Monument of the Buenos Aires province, with detailed information on the legislation protecting it and the penalties for its non-observance.



The actions carried out by ACEN with the Marsh Deer Project were divulged by the distribution of pamphlets on the association with a summary of the project.

The Project stand was visited by a great number of people, who participated actively and enthusiastically in the planned activities. Many local residents expressed a vivid support for our work, encouraging us to continue and many of them offering logistical collaboration in our future campaigns.



The provincial and local authorities are also involved in the festival. So the event is also used by Marsh Deer Project to interchange information with authorities and make lobby towards natural wildlife conservation.



Above, in the left photograph the chief of the local government, Gerardo Amieiro, and the governor of Buenos Aires Province, Daniel Scioli, inaugurate the festival. On the right Santiago D'Alessio, Marsh Deer Project leader, gives some scientific reports to Arq. Miguel Angel Otero, chief administrator of the Delta del Paraná Biosphere Reserve.





21. Education campaign "Guri comes back to the islands"

21.1. Introduction

Between 30th March and 29th June 2009 the environmental education campaign "Guri comes back to the islands" is carried out by the Marsh Deer Project. This campaign was related with the release of a fawn which got lost probably due to fires on the area.

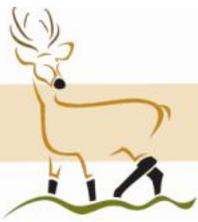


Kids from N° 911 Kindergarten (San Fernando) holding a sign of Guri



Kids from 1st grade from N° 26 school (San Fernando) working on how marsh deer uses the resources of the island

An educational campaign related with the release of a marsh deer fawn



In August 2008 a male of the Marsh deer appeared fallen into a concrete drain in a factory near the river Carabelas, in Campana city, Provincia de Buenos Aires, Argentina.

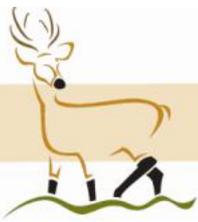
This animal was about a year and a half old and was rescued by guards who took him to Bioparque Temaikén. After some months of work, there fawn was rehabilitated by many institutions. Some months later Guri was taken to a cage located in an area where this species currently inhabits the Delta. Guri behavior and health on the cage was observed a couple of weeks and he was finally released in May 2009.

Among other activities in parallel to those of biologists and veterinarians who were working on rehabilitation and future release of Guri, Marsh Deer Project decided to face the educational project of telling the local people what it was happening. The Education Campaign "Guri comes back to the islands" was planned to inform local people about the biological and veterinarian work in course, but mainly to tell local islanders the importance of their participation in this new experience. Guri was released with a white tag on his right ear (No. 057) so that anyone could easily identify him and also a radio-collar that permit biologists to locate exactly where Guri was.

To make this release possible, professionals from many organizations worked together during 10 months generating a pioneering experience in the area.



News about finding Guri in Otamendi National Reserve blog



On the whole Project participated biologists from the following organizations: National Parks Administration, la Asociación para la Conservación y el Estudio de la Naturaleza (ACEN) through Marsh Deer Project, National Fauna Agency, Delta del Paraná station of the National Institute for Agricultural and Livestock (INTA), Temaikén Foundation, Provincial Agency for Sustainable Development (OPDS), Papel prensa Company y many people from the islands.



Gurí with the ear tag and the radio-collared antenna in the pre-release cage, few days before being released..

Photos: Walter Prado

21.2. Objectives

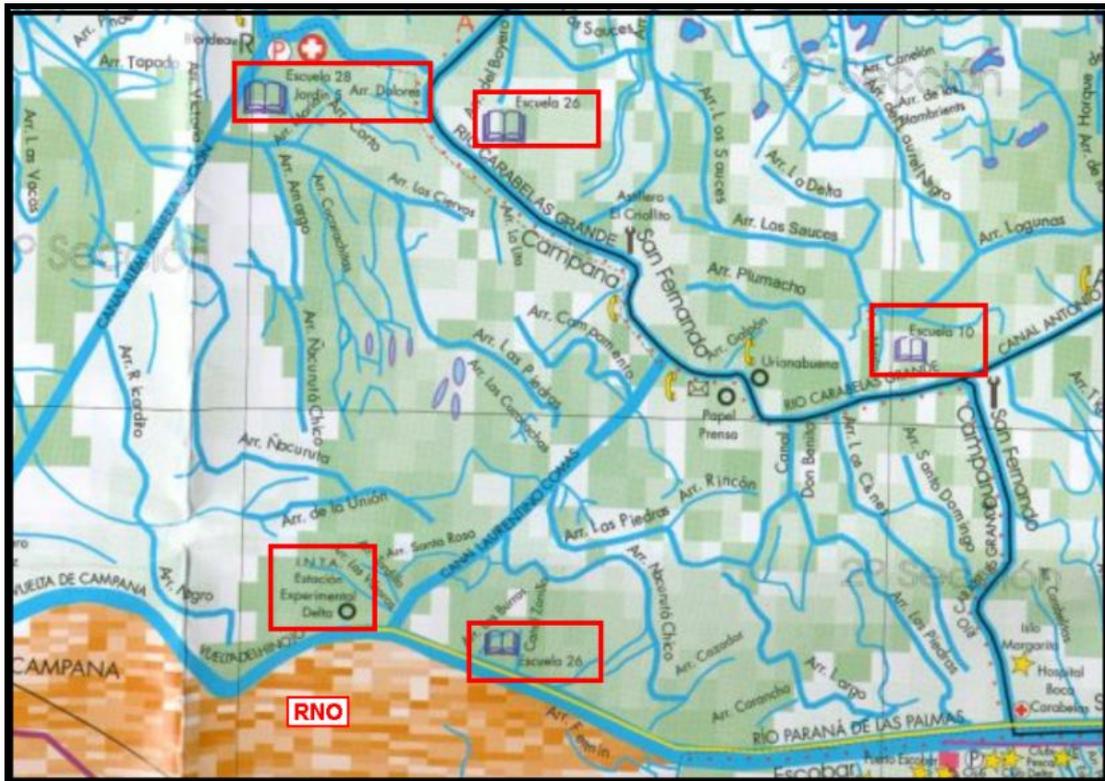
- Contribute to the conservation of marsh deer and their environment



- Spreading the inter-institutional work done in the whole project "Guri comes back to the islands"
- Get more commitment of the local communities towards the conservation of Guri and other specimens of this species

Five schools were selected on the islands of the Delta of Buenos Aires, as they were the more near ones to the area of release of Guri. And the possibility of the children, teachers and their families of watching him on the natural habitat was high.

Between June and July 2009 were carried out several environmental education activities, including: lectures and workshops in schools, a training workshop for internal team of the education campaign and a workshop for teachers.



The selected schools are outlined in red on this map of Campana islands.

To access to this five schools it is necessary to take a bus-boat from Tigre port or crossing through in 4x4 vehicle using raft from INTA Delta.



Bus-boat to get to the schools



Kids getting on the bus-boat returning to



their home

The mission of the campaign was to contribute to the conservation of Marsh Deer (*Blastocerus dichotomus*) in Parana River Delta area.

21.2.1. Workshops for kids

SPECIFIC OBJECTIVES (the kids get to...)

- To know the marsh deer species, the environment in which it resides, and the project carried out for the release of Guri
- To increase the interest on the conservation of the species in nature
- To outline the marsh deer species as a cultural symbol of the island.
- To understand the importance of conserving natural resources and sustainably managing of the environment in relation to their daily life
- To feel involved in the conservation of deer as key actors

PURPOSES (which dictate the workshop facilitators to achieve ...)

- To begin a process of teaching and learning in relation to the marsh deer, their environment and the project.
- To generate a kind of exchange and knowledge construction.



- To encourage the children to involve in conservation of nature that surrounds them

21.2.2. Workshops for school teachers

SPECIFIC OBJECTIVES (that teachers assisting to the workshops achieve...)

- To identify environmental education activities that will enable them to use in their daily work.
- To know marsh deer species, the environment in which they live and the project to release Guri.
- To increase the interest on conservation the species in nature.
- To identify the marsh deer species as a cultural symbol of the island.
- To understand the importance of conserving natural environments and sustainably management of the environment.
- To get interested in participating in a community environmental education project in their respective areas of work.

PURPOSES (that teachers assisting to the workshops achieve...)

- To initiate a process of teaching and learning in relation to the marsh deer, their environment and the project "Guri comes back to the islands".
- To generate an interchange of know ledge.
- To develop dynamic during training that can be adapted and used by teachers with their ow n groups.



- To encourage teachers to involve the local community using school as a communication channel with families.

TOPICS / THEMES / MAIN IDEAS

- Marsh deer
- Conservation of nature
- Local sustainable productive activities
- Lower Delta del Parana natural habitats
- Biosphere reserves
- Function of wetlands

Team for the education campaign: the campaign team was composed of 10 people from 5 different institutions and coordinated by the Marsh Deer project team (ACEN)



21.3. The workdays told through images

21.3.1. Workday Nº 1 – First visit to schools



Talks at a secondary school



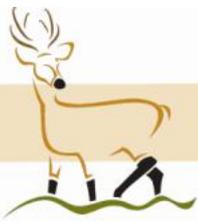
With kids of kindergarten Nº 911, San Fernando



Marsh deer posters were delivered on many schools



Talk at primary school



21.3.2. Workday Nº 2 – team capacitation

On Thursday 11 June, a training workday was conducted for the team of the campaign “Guri comes back to the island”. It was hold on Otamendi Natural Reserve.



Practice of alive tale, where participants represented diverse characters to tell Guri story



Internal training of the team, discussing the contents of the talks

The aim was to conduct an internal training to unify criteria and content for the Environmental Education Campaign. Some of the team members that would be working together during the next days were from five different institutions and did not know each other.



“Radio messages” through which kids elaborated a radio spot asking for help to conserve their environment



In this activity all the teachers and participants understood why all the elements are important on the protection of local wildlife

21.3.3. Workday Nº 3 – 1 Workshops at school

On 17th June a workshop was done in Rural School Nº 2 (INTA – Campana).



The participants answered diagnosis



Kids listening to an explanation about how is the geological profile of a typical



questions before the workshop started

island



Secondary kids playing a role game about Guri story.



Closing speech of the workday

21.3.4. Workday Nº 4 – Workshops at schools

On Thursday, 18 June a workshop was held at School No. 28 Campana.





Telling to 1^o y 2^o grade kids the story of Guri

The same group making drawing habitat



Drawings of 1^o y 2^o grade



Drawings of 1^o y 2^o grade



We worked with 6 primary groups (1^o to 6^o grade). In total participated 35 kids and 5 teachers.



“Alive tale work” with 4^o to 6^o grade kids.



Some works of this group.

21.3.5. Workday Nº 5 – Teachers capacity building



Workgroup about River basin geomorphology



Teachers practicing foot prints painting

On Saturday 20 June 2009 a teacher training workshop called "Environmental education activities and tools for conservation of the marsh deer on Parana River Delta". It was held on Natural Reserve Otamendi, Campana, Buenos Aires Province.



Explanation about habitat uses of marsh deer in the area



Enthusiastic workshop assistants carrying out an activity called “Alive tale”.

This workshop was attended by 14 people, mostly teachers of schools in the delta islands, but also nature guides of the reserves and naturalists. All of them were given a folder with a CD with material specially prepared for this event: information on the Parana Delta river basin, marsh deer, environmental education campaign, planned activities, etc.).



Ending the workday, playing and making diagnosis of the results of the talks



Group photo with local teachers after receiving the certificates of attending the



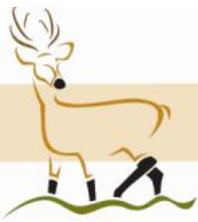
training workshop



Explanations about how the whole River basing works



Local teachers showing their works during the training



21.3.6. Workday Nº 6 – Workshops at schools



Kids from 1^o and 2^o grade showing as how marsh deer uses each area of the island. Photo of the group at the closing of the day.

On Thursday 26 June, we visited School No. 26 of San Fernando. There, workshops were made in the 6 groups of primary (workshop I: 1st and 2nd grade, workshop II: 3rd and 4th grade workshop III: 5th and 6th grade).

Like the other workshops, we worked on the objectives of the campaign and participated a total of 62 boys and 6 teachers.

One of the pleasant surprises we had when arriving at the school was that, between the first and second visit, several groups had taken the story of Guri developed new stories, tales, posters, brochures, drawings, etc., communicating the importance of conserving their own wildlife. In many cases the work they had done was with his parents at home.



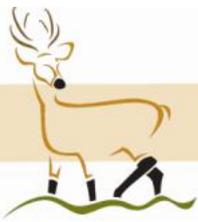
Activities with kids from 5^o and 6^o grade



Net activity with kids from 5^o y 6^o grade

21.4. The campaign in numbers

Detail	Cantidad - Amount
Amount of people who formed the team that worked on the Education Campaign	10
Teacher's training workshops	1
Assistants to the teacher's workshop	14
Visited schools during the Campaign	5
Workshops given for kids	6
Teachers present at workshops for kids	12
Children who took part of the workshops	106



Talks given for kids	13
Children who take part of the talks	240
Teachers present at the talks	18
Total Islanders (young and old) who participated in either instance of the campaign (kids workshops, lectures, teacher workshops, etc.). (This means around 90% of the total kids and teachers of the area)	314

21.5. Conclusions

The Environmental Education Campaign "Guri comes back to the islands" took part between the months of May and July 2009. We worked intensively because the normal times of the planning and execution of such activities had to be accelerated due to the urgent need to inform local residents the story of Guri before he was released. However, through lectures and workshops offered for children and adults in the area of influence we achieved diffusing the work for the rehabilitation and release of Guri to a really significant amount of local people, fulfilling the general objective of the campaign.

On the campaign worked 10 people from 5 different institutions who get in directly, to 314 people (32 teachers and all the children from the five selected schools).



Indirectly, the activities and information that we worked at each meeting came to other teachers, schools and to the families of the children, for example through the publication of material in their notebooks and tasks they were asked to prepare at home.

In many cases, different situations showed us how the local people wanted to take part in the story of Guri and to participate actively in his care.

- Two schools close to the area, in which our workshops weren't developed, participated indirectly due to teachers who participated in the training, replicating the activities with their groups.
- At schools where there were visiting for second time, they received us with works made about Guri and marsh deer, such as: stories, songs, articles, posters, etc.
- When the campaign was already finished, we received mails from teachers telling us how they continued with them.
- In the trip on the collective boats, teachers of other institutions asked us to visit their schools to give the campaign workshops.





Billboard with work on marsh deer

Poster on the deer made between a boy and his mom

Carrying out the activities at schools of the islands wasn't an easy task. Several days had to be suspended at the last minute due to fog, the low water level of the river, broken motors, etc. This impeded the navigation of the collective boats and consequently led to the suspension of classes and of course, our activities. To all this situations we have to add the country's health situation related with N1H1, as winter holidays had to be advanced, forcing us to cancel the last two workdays planned.

Despite all this, we achieved communicating on the five selected schools the story of Guri, the importance of their participation and the challenge of the work made by many organizations and local stakeholders, which was necessary for his release of Guri and the development of the Environmental Education Campaign.



22. Anexos

ANEXO I – Cartel utilizado para difundir la historia de Gurí y el Proyecto

Campaña de Educación Ambiental "Gurí vuelve a las Islas"

CONOCÉ A GURÍ:



¿Quién es Gurí?
Es un Ciervo de los Pantanos macho de un año y medio de edad aproximadamente. Apareció caído dentro de un desagüe de hormigón de una fábrica de Campana muy cerca del río Paraná. Probablemente llegó hasta allí corrido por los incendios forestales. Fue rescatado y luego curado de lastimaduras en las patas por veterinarios quienes lo cuidaron con mucho afán. Gracias al trabajo de diferentes personas e instituciones, como entidades del gobierno, ONGs, empresas, y especialmente gracias al esfuerzo de pobladores locales y vecinos, se logró que Gurí fuera devuelto sano al Delta.

¿Y ahora... dónde está Gurí?
Fue liberado en su ambiente originario en la zona del Carabelas con un radio-collares con rastreador que envía una señal que permite saber donde se encuentra exactamente. También tiene un aro blanco en su oreja derecha llamada caravana (nº 057) para que todos lo podamos identificar fácilmente.

Si lo ve, cuídelo, no trate de capturarlo, solo contáctese al:
Tel: (011) 4348-8547/ 03489-460075/ 0221-4253875
o al mail: guridelta@gmail.com

Las siguientes instituciones están trabajando en conjunto para esta campaña: **Dirección de Fauna Silvestre (S.A. y D.S.) - Administración de Parques Nacionales - INTA EEA Delta del Paraná - Dirección de Áreas Naturales Protegidas (OPDS) - Proyecto Ciervo de los Pantanos (ACEN) - Fundación Temaikén - Papel prensa**





ANEXO II – Certificado entregado a todos los chicos que participaron de la campaña

Secretaría de Ambiente y Desarrollo Sustentable de la Nación

APN

INTA

opds

ACEN

CIERVO DE LOS PANTANOS

Fundación Temaikèn

CERTIFICADO

Campana: "Gurí vuelve a las Islas"*
Taller "Los Guardianes del Ciervo"
Junio y Julio 2009

Certificamos que.....
es un Guardián de los Ciervos de los Pantanos

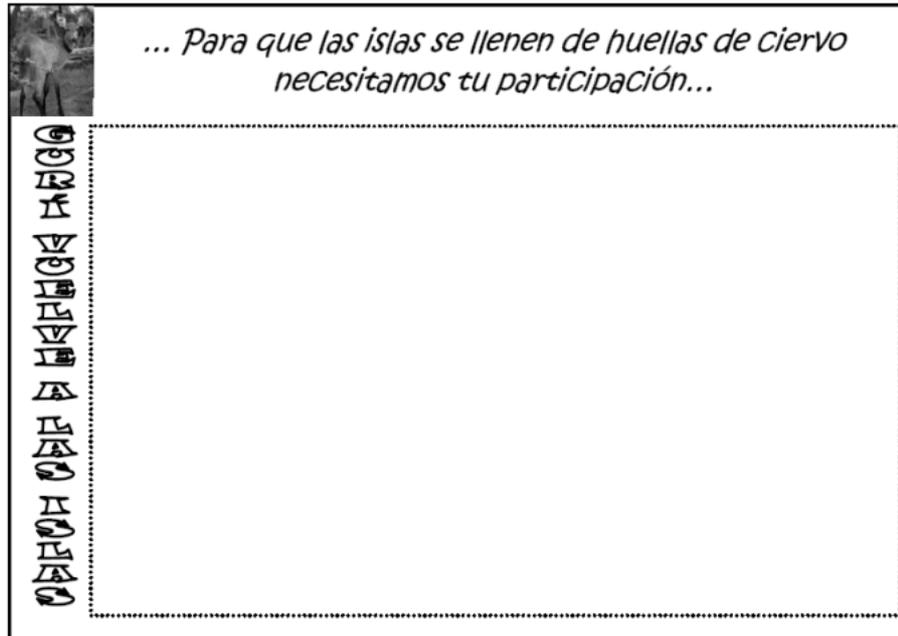


En tanto que comprendió la necesidad de su protección y se comprometió a colaborar con la conservación del mismo difundiendo su importancia entre amigos y familia.

*La campaña "Gurí vuelve a las Islas" es un trabajo conjunto entre las siguientes instituciones: Administración de Parques Nacionales, Asociación para la Conservación y el Estudio de la Naturaleza (ACEN) a través del Proyecto Ciervo de los Pantanos, Dirección de Fauna Nación, EEA Delta del Paraná- Instituto Nacional de Tecnología Agropecuaria, Fundación Temaikèn, Organismo Provincial para el Desarrollo Sostenible (OPDS) y Papel prensa. Si lo ve, cuidelo, no trate de capturarlo, solo contáctese al: 4348-8547/ 03489-460075/ 0221-4253875 o al mail: guridelta@gmail.com



ANEXO III – Modelos utilizados para diferentes actividades en los talleres de 1º a 4º grado



ANEXO IV – Folletín entregado para los cuadernos de cada chico



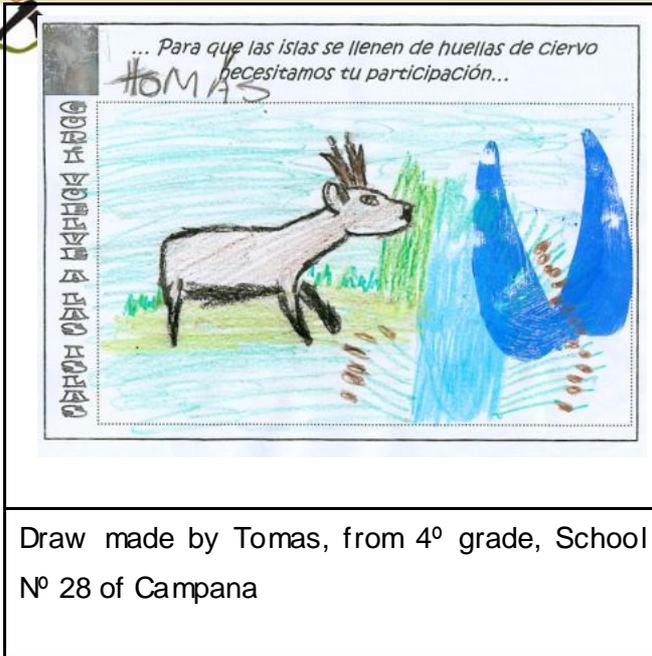
CONOCÉ A GURÍ



Es un **Ciervo de los Pantanos** macho de un año y medio de edad. Apareció caído dentro de un desague de hormigón de una fábrica. Fue rescatado y luego curado. Gracias al trabajo de diferentes personas e instituciones y especialmente gracias al esfuerzo de pobladores locales y vecinos, se logró que Gurí fuera devuelto sano al Delta.

Fue liberado en su ambiente originario en la zona del Carabelas con un radio-collar con rastreador que envía una señal que permite saber donde se encuentra exactamente. También tiene un aro blanco en su oreja derecha llamada caravana (nº 057) para que todos lo podamos identificar fácilmente.

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Chapter 6

Reinforcement of the MaB UNESCO Delta del Paraná Biosphere Reserve



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23. Introduction

23.1. BACKGROUND AND JUSTIFICATION

The Delta del Paraná Biosphere Reserve (RBDP) has become an institutional tool of vital importance for the conservation of the marsh deer and the natural environment of the islands. However, the lack of public resources and of initiatives from the authorities make it difficult to carry out actions that yield short-term, concrete results beneficial to the species.

23.2. AIM

To accompany and support the effective implementation of stable and permanent conservation measures in the RBDP.

23.3. SPECIFIC OBJETIVES

To bring about concrete short-term actions that improve the infrastructure, to strengthen conservation actions, research and investigation in the area.

To generate a long-term commitment on the part of state authorities, to insure the continuity of control and protection actions in the area.

23.4. METHODS



Through the signing of different agreements between the Biosphere Reserve authorities and our organization, both parties will commit themselves to contributing to the materialization of different elements enabling the implementation of the RDBP. Each contribution to the infrastructure of RBDP is accompanied with a counterpart from the local government, sometimes with material issues and sometimes with regulations that help with the conservation of the local wildlife.



24. RBDP Interpretation Centre

The Delta del Parana Biosphere Reserve comitee took the decision of implementing an area w here visitors to the Reserve could know more about the wildlife of this reserve. The implementation of the center w as planned in Felicaria River, close to school number 18, Domingo Faustino Sarmiento.

In collaboration with the Regional Ecology Lab from Buenos Aires University, fourteen signs w here designed w ith different contents about islanders history and identity, native species and local production characteristics.

School number 18, Domingo Faustino Sarmiento



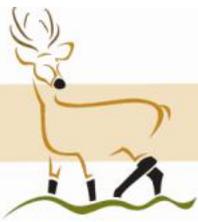


Posters and signs

There have been designed series of posters for the outdoor path and a series of posters that will be set inside the building.

Outdoor path





Outdoor Poster number 1

Ubicación y Mapa del Circuito

Referencias

- Ubicación y itinerario
- Qué es un Albardón
- Bosques de Nuevas Parcelas
- Nuevos Bosques
- Pajonal nativo
- Estudios de las islas
- Albardón
- Centro de Atención al Visitante

Sendero del Pajonal y el Bosque de Secos

Aquí podrá recorrer un AMBIENTE típico de la parte más baja e INUNDABLE de las islas. Dominan las Cortaderas que forman el pajonal, realizando un importante PROCESO DE CAPTURA de un gas que produce calentamiento global (óxido de carbono - CO₂). También logran sobrevivir a estas condiciones los Secos, otorgando gran BELLEZA a este sendero.

Sendero de los Nuevos Bosques de Albarcón

Aquí caminará por la parte alta de la isla y conocerá el bosque típico de las PARCELAS PRODUCTIVAS que fueron ABANDONADAS por décadas. En ellas, se generó un bosque nuevo, dominado por especies de vegetación EXÓTICAS e INVASORAS, con la presencia de renorales de especies NATIVAS. Esta formación vegetal cumple una función muy útil al proteger las islas de la erosión.

Choose your own circuit

Path in the grassland

Path in the "albardón" new wood



Outdoor Poster number 2

Reserva de Biosfera Delta del Paraná

Esta reserva es reconocida internacionalmente por su valor biológico, y también por realizar **ACTIVIDADES** productivas en forma **SUSTENTABLE**.

Zonificación de la Reserva de Biosfera:



ZONA NÚCLEO
Dedicada a la conservación estricta de la Naturaleza.

ZONA DE AMORTIGUACIÓN
Actúa como la zona tampón ambiental, y vincula a la producción de la zona núcleo.

ZONA DE TRANSICIÓN
Se desarrollan las actividades productivas tradicionales y el asentamiento humano.

Existen tres funciones principales:

CONSERVACIÓN de los ambientes y la biodiversidad.



Proyecto para la reserva - ACIN-CMA



Biodiversidad en la Zona núcleo



Proyecto Delta de los Esteros - ACIN

SUSTENTABILIDAD económica y social, sustentable en el tiempo.



Tucumana



Maderera



Asociación de Alamos

APOYO LOGÍSTICO a la investigación y la educación.



Campesinos con sus bovinos



Salidando



Luzes Científicas

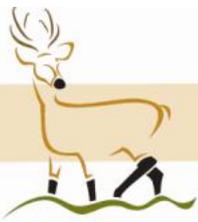
Which are the objectives of RBDP?

Conservation

Development

Research

Education



Outdoor Poster number 3

Un Mosaico de humedales

Los humedales se caracterizan por la presencia de agua que cubre la superficie del suelo por lo menos en algún momento del año. Sus suelos presentan rasgos hidromórficos y la vegetación está adaptada a estas condiciones de humedad.



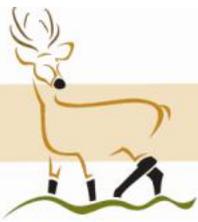
El Delta, un mosaico de humedales
Estamos en una gran planicie húmeda que desemboca en el río de La Plata, subdividida en forma triangular, como la letra Delta del alfabeto griego Δ.
Los regímenes hidrológicos de los ríos Uruguay, Paraná y de La Plata afectan al delta y determinan el tipo de comunidades biológicas que habitan esta gran mancha de agua.

El nivel del agua
El Paraná aumenta su nivel de agua principalmente en marzo debido a lluvias tropicales y subtropicales.
El Uruguay puede presentar crecidas en junio - julio y octubre - noviembre.
El río de la Plata: presenta bajas sus mareas altas en su nivel, debido a mareas bajas. También se ve afectado estacionalmente por vientos (tormentas).



Why Paraná River Delta is such a biodiverse Wetland?

Hydrological Regime



Outdoor Poster number 4

Ambientes y Usos del Suelo

Desde su creación en el año 2000, la Reserva de Biosfera Delta del Paraná ha sido objeto de investigaciones y relevamientos generales que brindan información necesaria para realizar un **MANEJO RACIONAL** de los recursos naturales y generar un desarrollo económico en la región, que sea sostenible en el tiempo.

Mapa de ambientes
A partir del análisis de imágenes satelitales, se caracterizaron los ambientes de toda la región para definir la **ZONIFICACIÓN** de las áreas núcleo, amortiguación y transición.

Mapa de actividades productivas
En la RB Delta del Paraná, existen **NORMAS ESPECIALES** para el uso del suelo y otras actividades. Las de mayor importancia son: la forestación, la producción frutihortícola y la ganadería.

Mapa de inventario forestal
Dada la riqueza natural del territorio, puede observarse una gran cantidad de parcelas en proceso de **REACTIVACIÓN**, luego de más de treinta años de despooblamiento masivo.

How is the productive map of the RBDP?



Outdoor Poster number 6

Los nuevos bosques de albardón

¿Dónde está en este ambiente?

Donde en otras épocas se alzaba el "Monte Blanco" en las zonas más altas que rodean la isla (ALBARDÓN) ahora se realizan las actividades productivas...

...si estos terrenos son abandonados, o la actividad productiva disminuye, otras especies (generalmente EXÓTICAS) colonizan el lugar formando un nuevo "Bosque de Albardón".

Si caminamos por estos bosques, podremos encontrar también, **RENOVALES DE ESPECIES NATIVAS** de gran importancia.

Parcela Activa

Parcela Abandonada

Albardón

Albardón

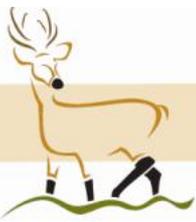
Tiempo

Path 2 – How has been developed the new wood in the albardón?



Indoor path





Indoor Poster number 1

Reserva de Biosfera Delta del Paraná

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Zonificación de la Reserva de Biosfera:

- ZONA NÚCLEO**
Dedicada a la conservación estricta de la Naturaleza.
- ZONA DE AMORTIGUACIÓN**
Actividades de bajo impacto ambiental, orientadas a la protección de la zona núcleo.
- ZONA DE TRANSICIÓN**
Se desarrollan las actividades productivas tradicionales y el asentamiento humano.

Existen tres Funciones principales:

CONSERVACIÓN de los ambientes y la biodiversidad.

DESARROLLO económico y social, sustentable en el tiempo.

APOYO LOGÍSTICO a la investigación y la educación.

Which are the objectives of RBDP?

Conservation

Development

Research

Education



Indoor Poster number 2

Formación de la Reserva de Biósfera Delta del Río Paraná

El Delta del siglo XVII
En la época de 1600-1690, la mayoría de las islas actuales de San Fernando, no existían, y el Bajo Delta había llegado hasta la altura de Campana. Aunque, por debajo de las aguas, ya se acumulaban los sedimentos que darían origen a las islas actuales.

dos siglos más tarde
Luego, hacia el año 1800, el delta había avanzado una distancia aproximada de 40 km, llegando hasta la altura del Río Reconquista.

Y cien años más
De 1890 a la actualidad, creció alrededor de 10 km más, y en la época actual, las islas avanzan de 30 a 70 m/año.

tiempo

...y mañana, ¿dónde estará?

How was the process of creation of the Delta?

...and where will it be in the future?



Indoor Poster number 3

Un Mosaico de humedales

Los humedales se caracterizan por la presencia de agua que cubre la superficie del suelo por lo menos en algún momento del año. Sus suelos presentan rasgos hidromórficos y la vegetación está adaptada a estas condiciones de humedad.



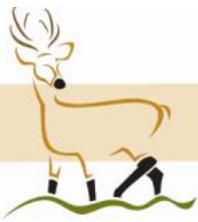
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Los regímenes hidrológicos de los ríos Uruguay, Paraná y de La Plata afectan al delta y determinan el tipo de comunidades biológicas que habitan este gran mosaico de islas.

El embudo del agua
En Paraná, aumenta su nivel de agua principalmente en marzo debido a lluvias tropicales y subtropicales.
En Uruguay, puede presentar crecidas en junio - julio y octubre - noviembre.
En la Plata, presenta hasta dos oscilaciones diarias en su nivel, debido a mareas lunares. También se ve afectado estacionalmente por vientos (salinidad).



Why Paraná River Delta is such a biodiverse Wetland?

Hydrological Regime



Indoor Poster number 4

Especies y Ambientes

Esta reserva se sitúa en una región de **CLIMA Templado**, pero también está habitada por **ESPECIES DE CLIMA SUBTROPICAL**, lo que aumenta su **BIODIVERSIDAD**.

Así, los isleños obtienen muchos **BENEFICIOS** de la naturaleza, usan muchas especies animales y vegetales nativas (obtienen carne y cuero de carpinchos y coipos, y también varias clases de maderas y fibras vegetales).

Pero... estos ambientes son **FRÁGILES** y por eso es muy importante proteger sus aguas de la **CONTAMINACIÓN** y hacer un **USO SUSTENTABLE** de sus recursos naturales.

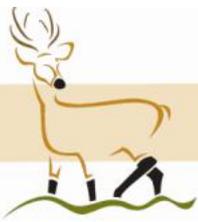
Flora

Nativa				
	Pantolera	Pinó	Cudavero	Camulote
Exótica				

Fauna

Carpincho	Mariposa Spina	Ranita del zarzal	Lobito de Rio

Which natural species can we find in this reserve?



Indoor Poster number 5

¿Por qué son útiles los humedales?

Extraemos muchos BIENES de los ecosistemas naturales: madera, peces, cueros, plantas medicinales, agua, pasturas, entre otros.
Y, por si esto fuera poco, en los HUMEDALES ocurren PROCESOS INDISPENSABLES para la vida que no pueden ser reemplazados tecnológicamente.

The poster features a central circular image of a wetland landscape. Surrounding this central image are several smaller images, each with a label and an arrow pointing to the central area, illustrating different ecological processes:

- Amortiguación de inundaciones y recarga de acuíferos.** (Buffering of floods and recharge of aquifers.)
- Floración y Polinización.** (Flowering and Pollination.)
- Disminución de dióxido de carbono atmosférico.** (Reduction of atmospheric carbon dioxide.)
- Refugio de fauna silvestre.** (Wildlife refuge.)
- Protección de costas y estabilización del clima.** (Coastal protection and climate stabilization.)
- Retención de sustancias tóxicas.** (Retention of toxic substances.)
- Recreación y turismo.** (Recreation and tourism.)

Additional labels with arrows pointing towards the center include: **Viento** (Wind), **Calor** (Heat), and **Olas** (Waves).

In the Delta there are ecological processes that give great benefits



Indoor Poster number 6

El cambio climático, la importancia del pajonal deltaico

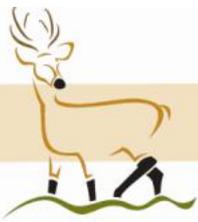
Los gases de efecto invernadero presentes en la atmósfera (CO₂, NO₂, CH₄, CFC) atrapan calor que viene del sol y, en forma natural, mantienen una temperatura estable para la vida. Sin embargo, su aumento descontrolado, provoca el calentamiento global.

Parte del CO₂ emitido (principalmente por la quema de combustibles fósiles y bosques), es captado por la vegetación e intercambiado por oxígeno en su proceso de fotosíntesis. Entonces el CO₂ pasa a formar parte de las estructuras de la planta. Estas eventualmente se descompondrán, dejando parte del CO₂ atrapado en el suelo.

¿sabés qué forma vegetal de las que encontramos en la isla es la que consume más CO₂?

Respuesta: el pajonal de cortadera

The native grassland capture large amounts of greenhouse gas



Indoor Poster number 7

Reserva de Biosfera Delta del Paraná

Actividad Productiva como Identidad Isleña

UNESCO

Los Pueblos Originarios

Los isleños de hoy



Timbués y Guaraníes, los principales pobladores. Ulrich Schmidt, 1569.

La primera experiencia de vida sustentable en el Delta, la llevaron a cabo los pueblos originarios; Chanádas, Mbequías, Timbués, Guaraníes y Aseranúñes. El testimonio arqueológico de las islas crece día a día y permite reconstruir como vivían.



Niños guayraníes pescando. Daniel 1933.



Construcción para almacenamiento de comida. Daniel 1933.



Cerámicas Zoomorfas (con formas animales). Distintos estilos de alfarería encontrados en Arroyo Fríos y otros sitios arqueológicos.

Cultivos con fines

Los primeros datos históricos de los cultivos con fines comerciales se encuentran en el año 1870.



Escuela Domingo Faustino Sarriento del Arroyo Educara.

En estos años se incrementa considerablemente, crecen industrias artesanales y se promueve comercialmente los productos típicos del Delta, así como las actividades y actividades en sus propios territorios.

El desarrollo de estos temas se resume a partir de los estudios de 1980, lo que permitió el fortalecimiento de las islas y el desarrollo de sus actividades productivas actuales.



Molinos de principios del s. XX con paja de Yaguareté - Gestilena Lu, Oscar D'Amadio.



Chicos isleños actuales.

Actualmente, la RBDelta es una región de importante explotación forestal. Los dos sistemas tradicionales de producción son: zanja abierta y endicado, ambos usados para modificar la entrada de agua a la isla.



Endicado.



Forestación a Zanja abierta.

Otras actividades importantes son: la producción de mimbre, la frutihorticultura y el ecoturismo, debido al atractivo natural que ofrece esta Reserva de Biosfera.

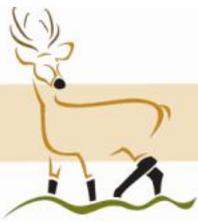


Mimbrera.



Ecoturismo.

A little History and Identity



Indoor Poster number 8

Ambientes y Usos del Suelo

Desde su creación en el año 2000, la Reserva de Biosfera Delta del Paraná ha sido objeto de investigaciones y relectamientos generales que brindan información necesaria para realizar un MANEJO RACIONAL de los recursos naturales y generar un desarrollo económico en la región, que sea sostenible en el tiempo.

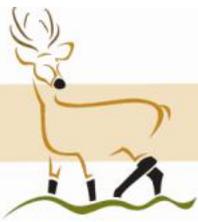
Mapa de ambientes
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Mapa de actividades productivas
En la RBDelta del Paraná, existen NORMAS ESPECIALES para el uso del suelo y otras actividades. Las de mayor importancia son: la forestación, la producción frutihortícola y la ganadería.

Mapa de inventario forestal
Dada la riqueza natural del territorio, puede observarse una gran cantidad de parcelas en proceso de REACTIVACIÓN, luego de más de treinta años de despooblamiento masivo.

How is the productive map of the RBDP?

At the moment that this report is being written the installation of these posters and signs in the islands are waiting the water floods to pass the islands. San Fernando Municipality has decided to wait the current alert of floods in the area, which will be gone at the end of summer 2010, according to Water National Institute predictions.



25. Park rangers' control in the core zone of RBDP

Background and justification

The Delta del Paraná Biosphere Reserve has become an institutional tool of vital importance for the conservation of the marsh deer and the natural environment of the islands. However, the lack of public resources and of initiatives from the authorities made it difficult to carry out actions that yield short-term, concrete results beneficial to the species.

The Delta del Paraná Biosphere Reserve was created in 2000 by San Fernando Municipality. Since that moment Marsh Deer Project collaborated in the implementation of this protected area, as the project was designated member of the Management Committee. The project team worked hard explaining the local islanders the benefits that they could get from the implementation of the reserve, and the benefits for their families in the future. We also worked creating a group of park rangers that during a couple of years took the responsibility of patrolling the area. Though it was a bit informal, this group made a good and useful job not allowing hunters to get into the island. But the economic crisis in our country left this group to an end, and the core area of the reserve lost its control patrol.

When the crisis started to finish we started to make lobby towards achieve the implementation of a formal and permanent park ranger for the reserve. We worked on this with the Management Committee, with the local UNESCO/MaB committee, with local universities and also with others NGOs.

Marsh deer hunting

After the disassembly of the park rangers group hunting started again on marsh

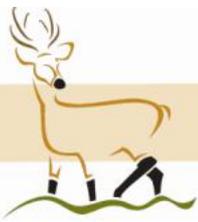


deer. Local islanders and also hunters from the continent appeared on the area, and some deer were killed to sell their antlers. The local islanders who had stopped their own hunting no deer and that have seen how the population was increasing because of their control were alarmed and asked our team to take part on control poaching again. The project team had to present as part on some law suits, and this participation was also dangerous for our project team that has been more than once threatened by illegal hunters. But what was worst was that judicial authorities had no information about the situation of this species and did not know if hunting a marsh deer had to be taken by local or federal courts, which made every case very slow and unclear.

As the situation was not well and the hunting pressure was increasing our team organized a local workshop with the objective of defining the best strategy to stop marsh deer hunting in Delta del Paraná.

The meeting was held on San Fernando Municipality, where the Delta del Paraná Biosphere Reserve Management Committee is based. The organization that took part:

- San Fernando Municipality chief government
- Delta del Paraná Biosphere Reserve Management Committee main members
- Chiefs of provincial Police of the island
- Chiefs of Prefectura Naval Argentina
- Judges and prosecutors of the local court
- Judges and prosecutors of the federal court
- Director of the National Agency for fauna protection



- Director of Buenos Aires Agency for Natural Resources protection

- Local islanders

- Marsh Deer Project Team

This workshop had excellent results, as judicial authorities could know for first time about the situation of this endangered species. But also the law that protects the species was explained and given to local forces. The local forces, which had to act in any event related with hunting, know since then which prosecutor or judge to call in each case.

But what was clear, and was outlined by each organization that participated of this meeting, was the necessity of implementing a permanent park ranger for the control of poaching and other illegal activities that could take place on the reserve. Also it was necessary to have a formal and permanent referent to give logistic to scientific expeditions to the area.

The designation of this park ranger was a long wait, but after some attempts on 2008 and 2009, on December 2009 we were notified about the designation of this resource.

As it has been arranged with the Delta del Paraná Biosphere Reserve Management Committee, Marsh Deer Project will be giving support to the logistics of this park ranger giving:

Boat, binoculars and communication equipment

Boat and motor: length 4,5 mts. 40 HP motor.





Binoculars, VHF radio equipment



At the moment of writing this report, we have received the confirmation of the designation of Juan Alberto Herrera, as a permanent park ranger for the core area. At this moment the contract between ACEN and San Fernando Municipality are being written.



26. Support for the conservation of native tree species in RBDP

On the original proposal for this stage of our project we thought about building a tree nursery for native species. But then we got in contact in another group from Buenos Aires University which is working focused on native woods conservation in Parana River Delta.

Marsh Deer Project has being working in collaboration with this group as they have the best knowledge and experience about native wood species conservation in this area. We have shared educational activities at schools and worked together on designing material for local kids about local wildlife.

After some workshops we have carried out together with local people to work on native species conservation, we have decided that the best initiative at this moment was to make a small book about native species. This book is at this moment ending its edition and it is planned to be sent to print on March 2009.



27. Support for the conservation of native tree species in RBDP

Marsh deer project proposed to support the educational activities that are carried out at schools in the islands, with strong effort of the local community, the teachers and the local families.

We asked the school directive commission, which members are local referents and stakeholders, which was most useful material we could donate for the school at this moment. They answered that a multimedia projector would allow the kids to access to lot of new multimedia materials they receive and cannot watch now. At the beginning this answer surprised us, but then we understood it was a great and useful idea.





**CIERVO DE
LOS PANTANOS**
PATRIMONIO NATURAL DE LAS ISLAS DEL DELTA



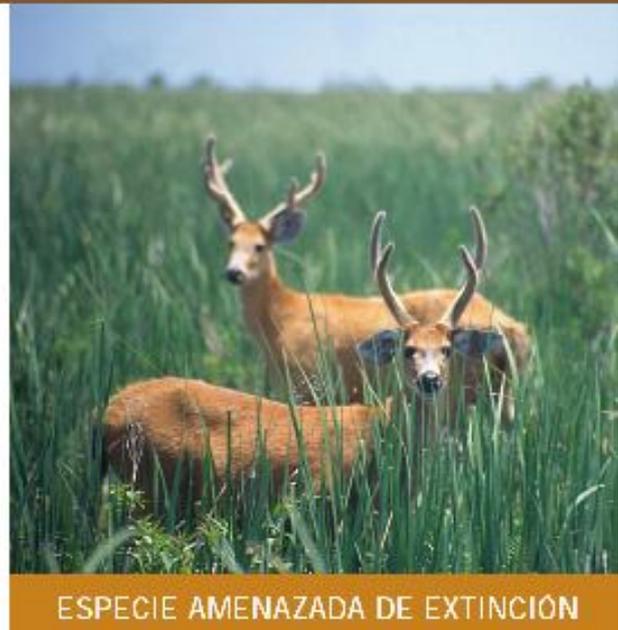
Equipo de Trabajo:
Santiago D'Alessio, Borrisio Lariguet, Gustavo Aguiló y Pablo Herrera
(Grupo IBERA) | Alejandro Amadori | Guillermo D'Amico (Arden Habitatos)



Para comunicarnos con nosotros:
pantanos.org.ar | tel: 00341-4621100 | 011-4666-2617

ACSA - Asociación para la Conservación y el Estudio de la Naturaleza
Calle Rivadavia 464/466 (Barridos) - Buenos Aires - Argentina - www.pantanos.org.ar

MEMBROS COLABORADORES:



ESPECIE AMENAZADA DE EXTINCIÓN

Chapter 7

Communication & Public awareness



28. Introduction

Background and justification

During the second stage of the Marsh Deer Project (2003) we had carried an interview survey on Buenos Aires city community which results showed that less than 1% of the common citizen knew about the existence of marsh deer populations in the islands of Parana River Delta, less than 50 km from the centre of this city. This lack of knowledge about the biggest mammal Buenos Aires has on its surroundings is considered an adverse factor for the conservation of the species and its habitats, not only in the Paraná Delta but also in its whole distribution area in the country. This is acting as a barrier not allowing the implementation of measures for the protection of this deer.

On the other hand, we considered that it is important to the people to know about its local wildlife, enjoying the luck of still having this native and endangered species, so close to the place they live. And of course, knowing and getting interested on our natural heritage is the only way to get involved on its protection.

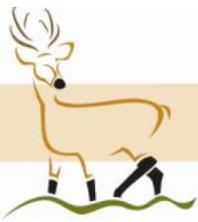
So, our aim was to generate knowledge, awareness and commitment in society on the problems faced by the species and its natural habitats.

At the end of this chapter we also show different activities through which we shared the information generated by this project with the state authorities and the scientific community.



Specific objectives

- To develop a communication campaign aimed at:
 - Significantly increasing the amount of people and organizations who know about the existence of this peculiar species in our country and become aware of its problems
 - To obtain new local support, both financial and institutional
- Extending and giving continuity to educational activities both in schools and in typical celebratory events in the Paraná River Delta
- Supporting educational and public institutions currently working in the Lower Parana River Delta





Dirección <http://www.clarin.com/diario/2005/06/24/sociedad/s-04702.htm>

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CIENCIA Y ECOLOGÍA : DISTINCION EN LOS ESTADOS UNIDOS
Premio a argentinos por cuidar a los ciervos de los pantanos

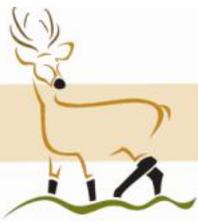
Gabriel Giubellino.
ggiubellino@clarin.com

A 30 kilómetros del estadio de River Plate, los preciosos y rojizos **ciervos de los pantanos** viven todavía en el Delta, aunque **en peligro de extinción**. A unos cuantos kilómetros más, en Washington, Estados Unidos, un proyecto que los protege de la ONG "Asociación para la Conservación y el Estudio de la Naturaleza" (ACEN) **fue premiado ayer**. En nombre de la organización, lo recibió el biólogo Pablo Herrera, de 26 años.

Entre otras 400 propuestas, el **Proyecto Ciervo de los Pantanos** obtuvo el premio principal del **BP Conservation Programme**, que otorgan cuatro organizaciones ambientalistas de renombre mundial: BirdLife International, Flora & Fauna International, Conservation International y la Wildlife Conservation Society.

Santiago D'Alessio, de ACEN, explicó ayer de qué se trata el premio que recibieron quienes protegen a la especie *Blastocerus dichotomus*, como la ciencia describe al ciervo, o *guasú-pucú*, ciervo alto, según la denominación guaraní.

Cor
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Domingo 26 de Junio de 2005
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Cervo de los pantanos

Premian un proyecto argentino

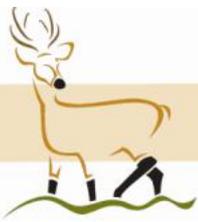
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Un grupo de investigadores argentinos recibió en el Smithsonian Institute, de Washington, un premio internacional por el proyecto **Cervo de los Pantanos** en el Delta del Paraná. El premio consiste en 75.000 dólares y fue otorgado por el Programa de Conservación de BP a los investigadores de la Asociación para la Conservación y el Estudio de la Naturaleza (ACEN), que trabaja en el tema desde 1998.

Santiago D' Alessio, coordinador del proyecto, dijo: "La distinción fue otorgada en reconocimiento al trabajo realizado por el equipo, durante los últimos seis años, para intentar revertir la situación por la que atraviesa el **cervo** de los pantanos en las islas del delta del Paraná. Desde ACEN queremos generar conciencia e interesar a los habitantes de las ciudades cercanas para que lo conozcan y se comprometan a preservarlo, así lograremos una cierta presión sobre quienes tienen que tomar las decisiones. En 2008 tenemos que tener un plan nacional de conservación, o lo vamos a ver desaparecer pronto".

Santiago D' Alessio, coordinador del proyecto, dijo: "La distinción fue otorgada en reconocimiento al trabajo realizado por el equipo, durante los últimos seis años, para intentar revertir la situación por la que atraviesa el **cervo** de los pantanos en las islas del delta del Paraná. Desde ACEN queremos generar conciencia e interesar a los habitantes de las ciudades cercanas para que lo conozcan y se comprometan a preservarlo, así lograremos una cierta presión sobre quienes tienen que tomar las decisiones. En 2008 tenemos que tener un plan nacional de conservación, o lo vamos a ver desaparecer pronto".

A menos de cincuenta kilómetros del Obelisco, en las islas del delta del Paraná habitan unos pocos centenares de ciervos de los pantanos o "guasú-pucú" (**cervo** alto), como lo llamaron los guaraníes. Aunque sus dominios se extendieron desde la Amazonia hasta los bañados de la región pampeana, la depredación lo convirtió en una especie en peligro de extinción.



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Seleccionado entre más de 400 proyectos del mundo

Premian a investigadores argentinos por Proyecto Ciervo de los Pantanos



Es por el Proyecto Ciervo de los Pantanos, de la ONG ACDA, que investiga desde 1998 a esta especie que habita a menos de 50 kms. del Obelisco -en las islas del Delta del Paraná- y está en inminente peligro de extinción.

Este proyecto ha sido premiado en tres ocasiones, por el Conservación Programme de BP uno de los Programas de Conservación de mayor prestigio en el mundo, orientado a jóvenes investigadores que trabajan en proyectos de conservación de la biodiversidad.

El Proyecto Ciervo de los Pantanos ha sido premiado en 1999 y 2003 por el Conservación Programme. Este año 2005 fue seleccionado entre más de 400 proyectos de todo el mundo y el 23 de este mes recibió el mayor galardón que entrega este organismo, en el *Sixty-second Festival* de la ciudad de Washington, con la presencia como invitado de honor de Edward Wilson, uno de los biólogos más importantes de la actualidad.

El BP Conservation Programme es organizado por cuatro de las más importantes ONG ambientalistas a nivel internacional: BirdLife International, Flora & Fauna International, Conservation International y la Wildlife Conservation Society. Los científicos de estas organizaciones evalúan los proyectos preseleccionados para decidir las propuestas ganadoras.

LA INICIATIVA

A menos de 50 kilómetros del Obelisco, en las islas del Delta del Paraná al norte de la ciudad de Buenos Aires hasta Villa Rañado, Entre Ríos, habita uno de las últimas poblaciones del cévido más grande y hermoso de Sudamérica: el Ciervo de los Pantanos o quasi-paci (ciervo alto) como lo llaman los gauchos. Aunque recientemente sus dominios se extendieron desde la Ansonía hasta los bañados de la región pampeana, la depredación humana lo convirtió en una especie en peligro.

La proleética es estudiada desde 1998 por un grupo de investigadores de la ONG Asociación para la Conservación y el Estudio de la Naturaleza, quienes desde ese año llevan adelante el Proyecto Ciervo de los Pantanos.

Santiago DiLesso, coordinador del Proyecto Ciervo de los Pantanos (PCP), dijo: "La distinción fue otorgada en reconocimiento al trabajo realizado por el equipo, durante los últimos seis años, para intentar revertir la situación por la que atraviesa el ciervo de los pantanos en las islas del Delta del Paraná, donde se encuentra en serio peligro de extinción. Los avances en el conocimiento de la biología de la especie, el hallazgo de un tipo de ambiente bastante desconocido hasta el momento en la zona, y que actuaría como refugio para el ciervo durante las crecidas, y el trabajo educativo realizado junto a la comunidad local para reducir la caza furtiva fueron las claves de su selección".

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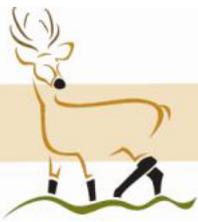
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Ciervo de los pantanos

Premian un proyecto argentino |

Un grupo de investigadores argentinos recibió en el Smithsonian Institute, de Washington, un premio internacional por el proyecto Ciervo de los Pantanos en el Delta del Paraná. El premio consiste en 75.000 dólares y fue otorgado por el Programa de Conservación de BP a los investigadores de la Asociación para la Conservación y el Estudio de la Naturaleza (ACEN), que trabaja en el tema desde 1998.

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Premian a investigadores argentinos por Proyecto Cervo de los Pantanos

Es por el Proyecto Cervo de los Pantanos, de la ONG ACEN, que investiga desde 1990 a esta especie que habita a menos de 50 km. del Obelisco -en las islas del Delta del Paraná- y está en inminente peligro de extinción.

Este proyecto ha sido premiado en tres ocasiones, por el Conservation Programme de BP, uno de los Programas de Conservación de mayor prestigio en el mundo, orientado a jóvenes investigadores que trabajan en proyectos de conservación de la biodiversidad.

El Proyecto Cervo de los Pantanos ha sido premiado en 1999 y 2003 por el Conservation Programme. Este año 2005 fue seleccionado entre más de 400 proyectos de todo el mundo y el 23 de este mes recibió el mayor galardón que entrega este organismo, en el Smithsonian Institute de la ciudad de Washington, con la presencia como invitado de honor de Edward Wilson, uno de los biólogos más importantes de la actualidad.

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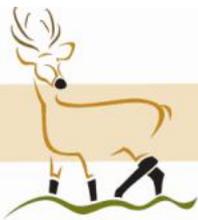
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**Secretaría de Ambiente
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San Juan



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La especie se encuentra en riesgo de extinción

Se realizarán los primeros talleres de Diagnóstico de Situación y Conservación del Ciervo de los Pantanos

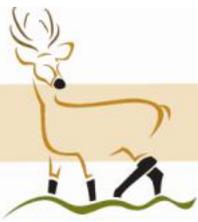
El 26 y 27 de agosto próximos se llevará a cabo, en la provincia de Santa Fe, el "I Primer Taller Nacional para el Diagnóstico del Estado de Situación del Ciervo de los Pantanos" y el "I Taller Regional para la Conservación del Ciervo de los Pantanos en el tramo medio del Río Paraná", organizados por la Dirección de Fauna Silvestre de la Secretaría de Ambiente y Desarrollo Sustentable de la Nación, la Dirección de Flora y Fauna y Manejo Sustentable de la Secretaría de Medio Ambiente de Santa Fe y la Universidad Nacional del Litoral.

El objetivo de los encuentros -de modalidad participativa- es realizar un diagnóstico del estado de situación de dicha especie así como delinear acciones para su preservación a nivel nacional y regional. A partir de los resultados obtenidos se generarán los lineamientos básicos para el desarrollo de un Plan Nacional Estratégico y planes regionales de Conservación del Ciervo de los Pantanos.

Este ciervo, el más grande de Sudamérica, es uno de los ejemplares más representativos de la fauna autóctona y se encuentra seriamente amenazado de extinción por la caza furtiva y la modificación de su hábitat natural. Actualmente habita en los Esteros del Iberá (provincia de Corrientes), en el Bajo Delta del Paraná (provincias de Buenos Aires) y en algunos parajes a de las provincias de Formosa, Chaco y Santa Fe.

La actividad se iniciará con una etapa introductoria y abierta al público en la que se abordarán diferentes aspectos relacionados a la biología, estatus legal y ejemplos sobre la protección de la especie. En una





red argentina contra el trafico ilegal de especies silvestres



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Ciervo de los pantanos - Taller de conservación y diagnóstico

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Durante el día de hoy (26 de agosto) y también mañana (27 de agosto) se esta desarrollando el “Primer Taller Regional para la Conservación del Ciervo de los Pantanos en el Tramo Medio del Río Paraná”

&

“Primer Taller Nacional para el Diagnóstico del Estado de Situación del Ciervo de los Pantanos y Lineamientos del Plan Nacional”

Organizado por la:

Dirección de Fauna Silvestre de la Secretaría de Ambiente y Desarrollo Sustentable de la Nación.

Dirección General de Manejo Sustentable de Fauna y Flora de la Secretaría de Medio Ambiente, M.A.S.P. y M.A. de la provincia de Santa Fe.



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Premio a argentinos por cuidar a los ciervos de los pantanos

GENTILEZA DIARIO PODESTA

Gabriel Giubellino
ggiubellino@clarin.com

A 30 kilómetros del estadio de River Plate, los preciosos y rojizos ciervos de los pantanos viven todavía en el Delta, aunque en peligro de extinción. A unos cuantos kilómetros más, en Washington, Estados Unidos, un proyecto que los protege de la ONG "Asociación para la Conservación y el Estudio de la Naturaleza" (ACEN) fue premiado ayer. En nombre de la organización, lo recibió el biólogo Pablo Herrera, de 26 años.

Entre otras 400 propuestas, el Proyecto Ciervo de los Pantanos obtuvo el premio principal del BP Conservation Programme, que otorgan cuatro organizaciones ambientalistas de renombre mundial: BirdLife International, Flora & Fauna International, Conservation International y la Wildlife Conservation Society.

Santiago D'Alessio, de ACEN, explicó ayer de qué se trata el premio que recibieron quienes pro-



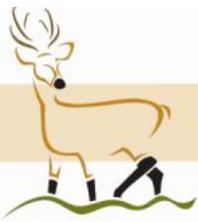
BELLEZA UNICA. EN EL DELTA, QUEDAN 500 CIERVOS DE LOS PANTANOS.

argentinos recibirán capacitación en el Instituto Smithsonian de Washington. Por otro, la ONG recibirá fondos para financiar durante tres años el proyecto de fortalecimiento de la reserva de biosfera: 90.000 hectáreas del Delta tienen ese reconocimiento de la UNESCO.

Una de las propuestas es monitorear el comportamiento del ciervo autóctono más grande de

daciones. El movimiento de estos terrenos llamados embalsados, clave para la supervivencia de los ciervos, fueron verificados con sensores ultrasónicos.

De estos ejemplares, quedan unos 500. Hace 10 años que los investigadores van a las islas, por lo que las campañas realizadas entre los isleños dieron sus frutos. Pero hay otros predadores. Dos semanas atrás un baqueano



INFOBAE

22 de Junio de 2005



de de una buena nutrición

a los comedores infantiles. Capacitar para Convivir pretende acercar a la comunidad cursos de formación integral y continua. Por su parte, Convivir en la Escuela está destinado a docentes y alumnos, con el objeto de desarrollar procesos de información, formación y reflexión sobre los derechos, la autoestima, las drogas, el alcohol, la sexualidad, los hábitos saludables y las habilidades sociales. Convivir en la Comunidad apunta a consolidar las capacidades individuales y comunitarias para la autoproducción, la autogestión y el fortalecimiento ciudadano.

rrientes 1530, Ciudad de Buenos Aires. Los interesados en obtener mayor información pueden visitar www.educared.org.ar/congreso.

ACEN

Premiaron a biólogos argentinos

En las islas del Delta del Paraná vive una de las últimas comunidades del cérvido más grande y hermoso de América del Sur: el ciervo de los pantanos. La depredación humana lo convirtió en una especie en peligro. El Proyecto Ciervo de los Pantanos, a cargo de un grupo de biólogos de la Asociación para la Conservación y el Estudio de la Naturaleza (ACEN) y que fue premiado en 1999 y en el 2003 por el Conservation Programme de BP, este año fue seleccionado entre más de 1.000 proyectos de todo el mundo y mañana re-

mismo día en los puestos bilitados, a partir de las 8 en dicho lugar y podrán tregar alfé lentejas, leche polvo y aceite, entre otros mentos no perecederos, luego serán donados al redor del Grupo Solidari de Florencio Varela.

Los primeros inscripto cibirán una remera reco toria y participarán, junto invitados especiales, de sesión de precalentamie brindada por un profesor educación física.

Al finalizar la marcha se tregará, a los primeros 2 participantes que lleguen meta, un diploma y se rzarán sorteos entre los criptos. Habrá también clase de gym, conductor música para disfrutar er milla.

Durante todo el recor habrá varios puestos sei zados para la hidratación los participantes que co

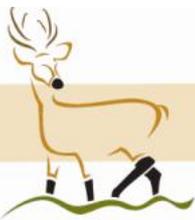


La diputada nacional lidera la Red Solidaria de militantes barriales y con el auspicio de la asociación civil Desarrollo.org, se instala semanalmente en distintos centros del Conurbano para atender con profesionales y asistentes sociales los requerimientos de los vecinos.

Premio internacional a investigadores argentinos

Un equipo de investigadores argentinos recibió un premio internacional tras ser seleccionado entre más de 400 proyectos del mundo, por el proyecto Ciervo de los Pantanos, de la ONG ACEN (Asociación para la Conservación y el Estudio de la Naturaleza), que investiga desde 1998 a esta especie que habita en las islas del Delta del Paraná y se encuentra en inminente peligro de extinción. Este proyecto fue premiado en tres ocasiones, por el Conservation Programme de BP, uno de los Programas de Conservación de mayor prestigio en el mundo, orientado a jóvenes investigadores que trabajan en proyectos de conservación de la biodiversidad.

El Ciervo de los Pantanos ha sido diezmado durante décadas por cazadores que lo buscaban por su exquisita carne, su cuero o para mostrar la cabeza de frondosa cornamenta como trofeo y adorno de casas y comercios.



Hacia un Plan Nacional de Conservación para evitar su desaparición

Reconocimiento internacional para el "Proyecto Ciervo de los Pantanos"

Por primera vez el Smithsonian Institute premió a un grupo argentino. La historia de esta cruzada por preservar la especie, difundida a través de Ecoportal.net y aportada por Maximiliano Banchie.



Fotografía "Proyecto Ciervo de los Pantanos"

El Proyecto Ciervo de los Pantanos ha sido premiado en 1999 y 2003 por el Conservation Programme de BP. Este año 2005 fue seleccionado entre más de 400 de todo el mundo y el 23 de este mes recibió, en el Smithsonian Institute de la ciudad de Washington el mayor galardón que entrega este organismo. Por primera vez un proyecto argentino fue seleccionado y obtuvo el reconocimiento en el marco de un acto que contó con la presencia como invitado de honor de Eduard Wilson, uno de los biólogos más importantes de la actualidad.

A menos de cincuenta kilómetros del Obelisco, en las islas del Delta del Paraná al norte de la Ciudad de Buenos Aires, habita una de las últimas poblaciones del ciervo más grande y hermoso de Sudamérica: el ciervo de los pantanos o "guasú-paci" (ciervo alto) como lo llamaron los guaraníes. Aunque remotamente sus dominios se extendieron desde la Amazonia hasta los bañados de la región pampeana, la depredación humana lo convirtió en una especie en peligro. La problemática fue detectada en 1996 por un grupo de investigadores de

la Asociación para la Conservación y el Estudio de la Naturaleza (ACEN), quienes desde ese año llevan adelante el Proyecto Ciervo de los Pantanos.

"El ciervo de los pantanos es uno de los más bellos animales que integran el elenco estable la fauna autóctona argentina y como gran parte de nuestro rico patrimonio natural, está seriamente amenazado".

El ciervo de los pantanos ha sido diezmado durante décadas por cazadores que lo buscaban por su coquísima carne, su cuero o para mostrar la cabeza de fierro como trofeo y adorno de casas y comercios. También los aborígenes lo cazaron como recurso.

Los técnicos de la ACEN estiman que en la actualidad en total no habría en el Delta más que unos pocos cientos de individuos. Las enfermedades transmitidas por el ganado y la competencia de especies introducidas como el búfalo de agua en el Iberá, entre otros factores, siguen contribuyendo a la acelerada desaparición de la especie.

El trabajo

Santiago D'Alessio, coordinador del Proyecto Ciervo de los Pantanos (PCP), dijo que "la distinción fue otorgada en reconocimiento al trabajo realizado por el equipo durante los últimos seis años, para intentar revertir la situación por la

en las islas del Delta del Paraná, donde se encuentra en serio peligro de extinción. Los avances en el conocimiento de la biología de la especie, el hallazgo de un tipo de ambiente desconocido hasta el momento en la zona y el trabajo educativo realizado junto a la comunidad local isleña para reducir la caza furtiva fueron las claves de su selección. Ahora son las autoridades nacionales, provinciales y locales las que tienen que implementar acciones urgentes para asegurar la conservación del Ciervo de los Pantanos y la de su ambiente".

"Desde ACEN queremos generar conciencia e interesar a los habitantes de las ciudades cercanas para que lo conozcan y se comprometan en preservarlo, así lograremos una cierta presión sobre quienes tienen que tomar las decisiones. En 2006 tenemos que tener un Plan Nacional de Conservación para el Ciervo de los Pantanos, o lo vamos a ver desaparecer pronto" agregó.

El ciervo de los pantanos forma parte del selecto club de especies de ciervo anfibio de la que quedan sólo tres representantes en el planeta: una en India y Nepal, otra en China y la tercera en Sudamérica. Habitante de humedales y bañados, es ca-

nado y de vadear terrenos movedizos con sus largas patas y sus pezuñas unidas por una membrana, que lo permiten sostenerse en el cenagal. "Hoy debemos decir que es un integrante estelar de la lista roja de especies amenazadas del mundo, y de esta manera el emblema de los pantanos va camino a desaparecer sin que sus vecinos de la selva urbana siquiera se enteren" alertó D'Alessio.

Estrategia

El equipo de la ACEN diseñó una estrategia de trabajo para los próximos tres años que incluye no sólo continuar con la investigación de la biología y los costumbres del animal sino también actividades de educación con las comunidades locales y un plan para reforzar la implementación de la Reserva de Biosfera del Delta del Río Paraná, un área protegida de reciente creación en el Municipio de San Fernando, en cuyo territorio está incluida la población más importante del "pantano" en la zona. (Dentro de la región del Delta e islas del Paraná sólo una ínfima porción del territorio de apenas el 0,38%, se encuentra dentro del sistema argentino de áreas protegidas). Dicha área es una importante herramienta de conservación para los singulares ambientes de humedales de la región isleña. Dentro de su plan estratégico 2005-2008 el PCP prevé seguir contribuyendo al fortalecimiento de su implementación a través de apoyo técnico, de infraestructura y de la promoción de alternativas productivas sostenibles para la población local. Además está trabajando en la generación de información científica para la elaboración de un plan de manejo para la Reserva.

"Dentro de la región del Delta e islas del Paraná sólo una ínfima porción del territorio de apenas el 0,38%, se encuentra dentro del sistema argentino de áreas protegidas".

Declarado Monumento Natural en las provincias Buenos Aires, Chaco y Corrientes, un ejemplar adulto alcanza los ciento veinte kilos y el metro veinte de altura en la cruz, sus cuernos llegan a medir sesenta centímetros y su pelaje varía entre el pardo y el rojo cobrizo. El ciervo de los pantanos es uno de los más bellos animales que integran el elenco estable la fauna autóctona argentina y como gran parte de nuestro rico patrimonio natural, está seria-

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La Asociación para la
Conservación y el Estudio de
la Naturaleza (ACEN) fue
premiada por organizaciones
ambientalistas de renombre
internacional por el 'Proyecto
ciervo de los pantanos',
ideado para proteger a estos
animales del Delta argentino
en peligro de extinción.

EFEMI

- **29 de junio de 2000:** Muere el escritor italiano Vittorio Gasman (foto)
- **30 de junio de 1936:** Se publica la novela 'Lo que el viento se llevó'
- **1° de julio de 1929:** Nace el escritor argentino marino comodoro de espina
- **2 de julio de 1877:** Nace el escritor alemán, Hermann Hesse, premio Nobel
- **3 de julio de 1933:** Mueren los fundadores de la UCR, Hipólito Yrigoyen y Sáenz Peña
- **5 de julio de 1980:** Muere el escritor argentino Juan Manuel de Rosas



• SELECCIONADO ENTRE MÁS DE 400 PROYECTOS DEL MUNDO

Premian a investigadores argentinos por Proyecto Ciervo de los Pantanos

• Tal proyecto pertenece a la ONG ACEN, que investiga desde 1998 a esta especie que habita a menos de 50 km del Obelisco -en las islas del Delta del Paraná- y está en inminente peligro de extinción.

Este proyecto ha sido premiado en tres ocasiones, por el *Conservation Programme* de BP, uno de los Programas de Conservación de mayor prestigio en el mundo, orientado a jóvenes investigadores que trabajan en proyectos de conservación de la biodiversidad.

El Proyecto Ciervo de los Pantanos ha sido premiado en 1999 y 2003 por el *Conservation Programme*.

Este año 2005 fue seleccionado entre más de 400 proyectos de todo el mundo y el 23 de este mes recibió el mayor galardón que entrega este organismo, en el *Smithsonian Institute* de la ciudad de Washington, con la presencia como invitado de honor de Edward Wilson, uno de los biólogos más importantes de la actualidad.

El *BP Conservation Programme* es organizado por cuatro de las más importantes ONG ambientalistas a nivel internacional: *BirdLife International*, *Flora & Fauna International*, *Conservation International* y la *Wildlife Conservation Society*. Los científicos de estas organizaciones evalúan los proyectos preseleccionados para decidir las propuestas ganadoras.

LA INICIATIVA

A menos de 50 kilómetros del Obelisco, en las islas del Delta del Paraná al norte de la ciudad de Buenos Aires hasta Villa Paranacito, Entre Ríos, habita una de las últimas poblaciones del ciervo más grande y hermoso de Sudamérica: el Ciervo de los Pantanos o guasú-pucú (ciervo alto) como lo llamaron los guaraníes. Aunque remotamente sus dormidos se extendieron desde la Amazonia hasta los bañados de la región pampeana, la depredación humana lo convirtió en una especie en peligro.



Un ejemplar de ciervo macho en la zona de Villa Paranacito, en la provincia de Entre Ríos.

FOTO: GENTILEZA ACEN

de, el hallazgo de un tipo de ambiente flotante desconocido hasta el momento en la zona, y que actuaría como refugio para el ciervo durante las crecidas, y el trabajo educativo realizado junto a la comunidad local leña para reducir la caza furtiva fueron las claves de su selección.

Agregó que "desde ACEN (Asociación para la Conservación y el Estudio de la Naturaleza) queremos generar conciencia e interesar a los habitantes de las ciudades cercanas para que lo conozcan y se comprometan en preservarlo, así logremos una cierta presión sobre quienes tienen que tomar las decisiones. Pero son las autoridades nacionales, provinciales y locales las que tienen que implementar acciones urgentes para asegurar la conservación del Cier-



En la entrega de premios: Iain Conn, director ejecutivo de BP Group; Pablo Herrera, Proyecto Ciervo de los Pantanos; Edward Wilson, científico, profesor de Harvard.

FOTO: GENTILEZA ACEN

hientes. Hoy debemos decir que es importante del Ciervo de los Pantanos.

EL DATO III

• **En peligro.** El Ciervo de los Pantanos ha sido diezmado durante décadas por cazadores que lo buscaban por su esquisita carne, su cuero o para mostrar la cabeza de ferozmente como trofeo y adorno de casas y comercios. También los aborígenes lo consumieron como recurso y hoy los técnicos de la ACEN estiman que en total no habría en el Delta más que unos pocos cientos de individuos. Las enfermedades transmitidas por el ganado y la competencia de especies introducidas como el búfalo de agua en el Iberá, entre otros factores, siguen contribuyendo a la acelerada



NATURALMENTE . En el Delta se trabaja para salvar una especie en peligro de extinción

Premio internacional para el Proyecto Ciervo de los Pantanos

El Proyecto Ciervo de los Pantanos ya había sido premiado en 1999 y 2003 por el IBC Conservation Programme. Ahora las selecciones de este más de 400 proyectos de todo el mundo y recibió el mayor galardón que entrega esta organización, en el Smithsonian Institute de Washington, con la presencia como invitado de honor de Edward Wilson, uno de los biólogos más importantes de la actualidad. El IBC Conservation Programme es organizado por cuatro de las más importantes ONGs ambientalista a nivel internacional: BirdLife International, Flora & Fauna International, Conservation International y la Wildlife Conservation Society.

ALERTA. En las islas del Delta del Paraná, al norte de la ciudad de Buenos Aires y hasta Villa Pampas, en Entre Ríos, habita una de las últimas poblaciones del ciervo más grande y hermoso de Sudamérica: el Ciervo de los Pantanos o guacá-pucú (ciervo alto) como lo llaman los guaraníes.

Aunque remotamente sus distribuciones se extendieron desde la Argentina hasta los bosques de la región pampeana, la depredación humana lo convirtió en una especie en peligro.

Se problematizó en esta década desde 1996 por un grupo de investigadores de la Asociación para la Conservación y el Estudio de la Naturaleza (ACEN), quienes desde ese año llevan adelante el Proyecto Ciervo de los Pantanos.

El ciervo ha sido diezmado durante décadas por cazadores que lo buscaban por su exquisita carne, su cuerno o para mostrar la cabeza de bronca como trofeo entre trofeo y además de cuernos y cuernos. También los aborígenes lo consumían.

Hoy los científicos de la ACEN estiman que en total no habría en el Delta más que unos pocos cientos de individuos. Las enfermedades transmitidas por el ganado y la contaminación de sus aguas introdu-

Un equipo de investigadores argentinos recibió un importante galardón. Es por el Proyecto Ciervo de los Pantanos, de la ONG ACEN, que investiga desde 1996 dicha especie, que vive en el Delta del Paraná y está en riesgo de desaparición.



EN PELIGRO. Se estima que en el Delta quedan unos pocos ejemplares del ciervo de los pantanos.

cidos en la zona —que actúan como refugio para el ciervo durante las nevadas—, y el trabajo educativo realizado junto a la comunidad local intenta reducir la caza furtiva, hacer las cosas para que sea galardonado.

Dijo que "queremos generar conciencia e interesar a los habitantes de las ciudades cercanas para que lo conozcan y se comprometan en preservar, así logramos una cierta presión sobre quienes tienen que tomar las decisiones. Pero son las autoridades nacionales, provinciales y locales las que tienen que implementar acciones urgentes para asegurar la conservación del ciervo y su ambiente. En 2006 debemos tener un Plan Nacional de Conservación para el

Ciervo de los Pantanos, o lo vamos a ver desaparecer pronto".

CÓMO ES. El ciervo de los pantanos forma parte del selecto club de especies de ciervo salvaje de la que quedan sólo tres representantes en el planeta: uno en India y Nepal, uno en China y la nuestra en Sudamérica.

Habitante de humedales y bañados, es capaz de atravesar grandes ríos a nado y de vadear terrenos pantanosos con sus largas patas y sus pezuñas unidas por una membrana, que le permiten sostenerse en este tipo de ambientes.

Hoy debemos decir que es un integrante vital de la lista roja de especies amenazadas en el mundo. De no incrementarse las medidas

de protección de esta especie, el emblemático de los pantanos va camino a desaparecer sin que sus miembros de la selva sabana siquiera se enteren.

LA ESTRATEGIA. El equipo de la ACEN diseñó una estrategia de trabajo para los próximos tres años que incluye no sólo continuar con la investigación de la biología del animal sino también actividades de educación con las comunidades locales y un plan para reforzar la implementación de la Reserva de Biosfera del Delta del Paraná, un área protegida de reciente creación en el Municipio de San Fernando, donde está incluida la población más importante del ciervo en la región.

Dicha área es una importante

PARA DESTACAR

Monumento Natural, Declarado Monumento Natural en Buenos Aires, Chaco y Corrientes, un ejemplar adulto de Ciervo de los Pantanos alcanza los 120 kilos y el metro entre de altura en la cruz; sus antas llegan a medir 80 centímetros y su pelaje varía entre el pardo y el rojo cobrizo.

Implementación de conservación para los singulares ambientes de humedales de la región ibérica.

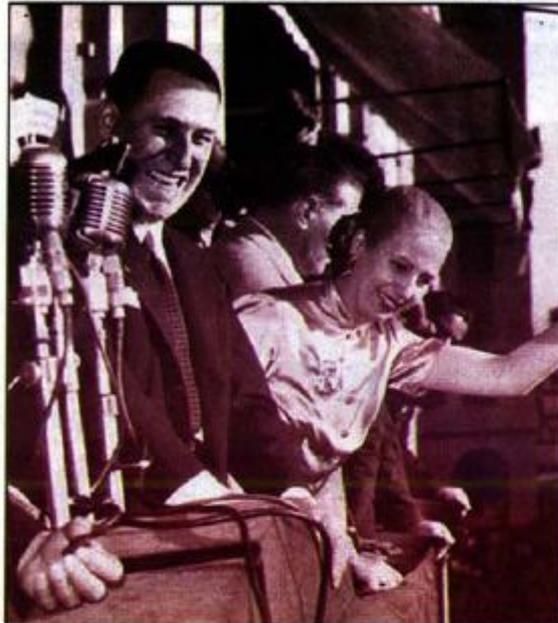
Desde de su plan estratégico 2005-2008, el proyecto prevé seguir contribuyendo al fortalecimiento de su implementación a través de apoyo técnico de infraestructura y de la promoción de alternativas productivas sostenibles para la población local.

Además está trabajando en la generación de información científica para la elaboración de un plan de manejo para la Reserva.

El Ciervo de los Pantanos es uno de los más bellos animales que integran el elenco salvaje de la fauna sudamericana argentina y como gran parte de nuestra rica patrimonio natural, está seriamente amenazado.

Sólo la voluntad conjunta y la acción concreta de autoridades, conservacionistas y la comunidad en general podrán evitar que se pierdan estas poblaciones que orgullosamente aún sobreviven en los pantanos de la Ciudad de Buenos Aires, en los pantanos del Delta del Paraná.





PERON EN CORRIENTES

Un incidente que pocos recuerdan

Sucedió en 1953 en el puerto de Corrientes. El mecánico Mario Moreno pidió que le redactaran una nota para serle entregado al Presidente de la Nación. Al no lograrlo, en pleno discurso del general Perón lo interrumpió varias veces planteando lo que sucedía en la Provincia. El jefe de Estado le señaló que los planteamientos los debía hacer al gobernador Castillo y hasta notando su defecto físico le dijo: "Parece que el planteo de su problema es desviado como su mirada". El caso derivó en detenciones, apremios ilegales y renunciaciones.

DISTINCION A INVESTIGADORES ARGENTINOS

Un premio por cuidar al Ciervo de los Pantanos



Un equipo de investigadores argentinos recibió un premio internacional. Es por el Proyecto Ciervo de los Pantanos, que investiga el ciervo 100R y esta especie que habita en las islas del Delta del Paraná y

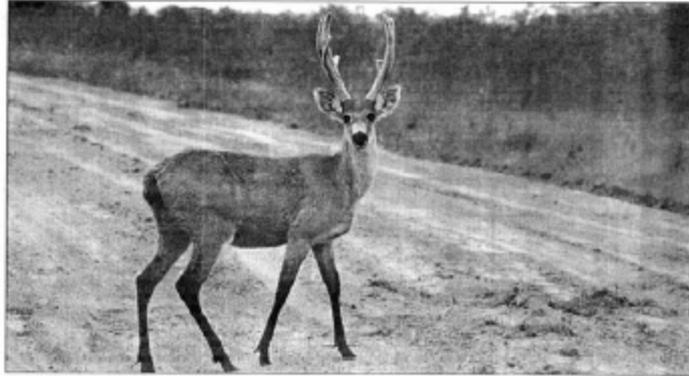




INVESTIGADORES ARGENTINOS

Premiados por trabajar en pos del Ciervo de los Pantanos

Un equipo de investigadores argentinos recibió un premio internacional. Es por el Proyecto Ciervo de los Pantanos, que investiga desde 1998 a esta especie que habita en las Islas del Delta del Paraná y los Esteros del Iberá. Está en inminente peligro de extinción



El Proyecto Ciervo de los Pantanos fue premiado en 1999 y 2000 por el Conservation Programme. Este año fue seleccionado entre más de 400 proyectos de todo el mundo y el 28 de junio recibió el mayor galardón que otorga este organismo, en el Smithsonian Institute de la ciudad de Washington, con la distinción como invitado de honor de Edward Wilson, uno de los biólogos más importantes de la actualidad.

El 24^o Conservation Programme es organizado por cuatro de las más importantes ONG ambientalistas a nivel internacional: BirdLife International, Flora & Fauna International, Conservation International y la Wildlife Conservation Society. Los miembros de estas organizaciones evalúan los proyectos presentados para decidir las propuestas ganadoras.

A menos de cincuenta kilómetros del Obelisco, en las islas del Delta del Paraná al norte de la Ciudad de Buenos Aires hasta Villa Paranacito, Entre Ríos, habita una de las últimas poblaciones del cervido más grande y hermoso de Sudamérica: el Ciervo de los Pantanos o "guanaco paca" (ciervo alibé como lo llaman los guaraníes). Otra población que queda en el país es la que habita en los Esteros del Iberá, en la Provincia de Corrientes. Aunque remotamente sus dominios se expanden desde la Amazonia hasta los bañados de la región paraguana, la depredación humana los convirtió en una especie en peligro.

La problemática es estudiada desde 1998 por un grupo de investigadores de la ONG Asociación para la Conservación y el Estudio de la Naturaleza, quienes desde ese año trabajan al servicio de la Reserva, el Centro de

recursos científicos de individuos. Las enfermedades transmitidas por el ganado y la competencia de especies introducidas como el bañado de agua en el Iberá, entre otros factores, siguen contribuyendo a la acelerada desaparición de la especie.

Santiago D'Alessio, coordinador del Proyecto Ciervo de los Pantanos (PCP), dijo: "La distinción fue otorgada en reconocimiento al trabajo realizado por el equipo durante los últimos seis años, para intentar revertir la situación por la que atraviesa el ciervo de los pantanos en las islas del Delta del Paraná, desde su existencia en serio peligro de extinción. Los avances en el conocimiento de la biología de la especie, el hábitat de un tipo de ambiente bastante desconocido hasta el momento en la zona y que actuarán como refugio para el ciervo durante las crecidas, y el trabajo educativo realizado junto a la comunidad local isleña para reducir la caza furtiva fueron los cimientos de su selección. Desde ACEN queremos generar conciencia e interesar a los habitantes de las ciudades cercanas para que lo conozcan y se comprometan en preservarlo, así logramos una cierta presión sobre quienes tienen que tomar las decisiones. Pero son las autoridades nacionales, provinciales y locales las que tienen que implementar acciones urgentes para asegurar la conservación del Ciervo de los Pantanos y la de su ambiente. En 2008 tenemos que tener un Plan Nacional de Conservación para el Ciervo de los Pantanos, o lo vamos a ver desaparecer pronto".

ESPECIE EN PELIGRO

El Ciervo de los Pantanos forma parte del selecto club de especies de ciervo autóctono que quedan sólo tres representantes en el planeta: uno en India y Nepal, otro en China y la mancha en Sudamérica. Habitante de humedales y bañados, es capaz de atravesar grandes ríos a nado y de vadear terrenos pantanosos con sus largas patas y sus perlas azules por una membrana, que le permiten sobrevivir en este tipo de ambientes.

Hoy debemos decir que es un integrante

estelar de la lista roja de especies amenazadas del mundo, y de no incrementarse las medidas de protección de esta especie, el ambiente de los pantanos va a causar a desaparecer más que sus cuernos de la sexta mil millones de animales.

El equipo de la ACEN diseñó un programa de trabajo para los próximos tres años que incluye no sólo continuar con la investigación de la biología del animal, sino también actividades de educación con las comunidades locales y un plan para reforzar la implementación de la Reserva de Biosfera del Delta del Paraná, un área protegida de reciente creación en el Municipio de San Fernando, donde está incluida la población más importante del Ciervo de los Pantanos en la región. Dicha área es una importante herramienta de conservación para los singulares ambientes de humedales de la región isleña. Dentro de su plan estratégico 2003-2008 el PCP prevé seguir mejorando el fortalecimiento de su implementación a través de apoyo técnico, de infraestructura y de la promoción de alternativas productivas sostenibles para la población local. Además está trabajando en la generación de información científica para la elaboración de un plan de manejo para la Reserva.

MONUMENTO NATURAL

Declarado Monumento Natural en las provincias de Buenos Aires, Chaco y Corrientes, un ejemplar adulto alibé (ciervo veintidós kilos y el metro veinte de altura) la cruz, sus cuernos de un metro sesenta centímetros y su pelaje varía entre el pardo y el rojo cobrizo. El Ciervo de los





31. Television

Since 2005 the project team has been interviewed by many TV and radio programs:

- **Telenueve (Canal 9) - News programme – Interview to Gustavo Aprile**

Average audience: 500.000 people

- **TN Ecologia (Canal 13) – Ecology news – Interview to Bernardo Lartigau and Santiago D'Alessio**

Average audience: 40.000 people

- **Zoobichos (Canal 11) – Nature news – Report about Marsh Deer Project**

Average audience: 40.000 people

- **Desde la Tierra (Canal 7) - Report about Marsh Deer Project**

Average audience: 30.000 people

- **Imago Mundi (Cable) – Ecology news – Interview to Santiago D'Alessio**

Average audience: 15.000 people

- **Producción en Marcha – Ecology news programme – Interview to Gustavo Aprile**



Average audience: 30.000 people

- **Telenoche (Canal 13) – News – Video with Guri story**

Average audience: 1.200.000 people

- **TN Ecologia (cable) – News – Video with Guri story**

Average audience: 40.000 people

- **La Liga (Canal 11) – News and General interest**

Average audience: 900.000 people



32. Radio AM & FM

FM Palermo 94.7 –“Vuelta de Radio” - Interview to Santiago D’Alessio

Radio BA 89.1 –“La Mirada” - Interview to Santiago D’Alessio

AM Carisma –Juan Cruz Gutierrez- Interview to Santiago D’Alessio

Radio El Mundo –“El Mundo 1070” - Interview to Santiago D’Alessio

Radio América –“Buenas Razones” - Interview to Santiago D’Alessio

FM Palermo 94.7 –“Siempre Hay Más” - Interview to Santiago D’Alessio



60 cm X 40 cm full color poster. 1.000 units.

EL CIERVO DE LOS PANTANOS

Una especie amenazada de extinción

El ciervo de los pantanos es una especie única y representativa de nuestra fauna nativa. En cautividad, el ciervo de los pantanos se encuentra seriamente amenazado de extinción.

La modificación de su hábitat natural y la caza furtiva y enfermedades transmitidas por el ganado, se suman entre sus principales amenazas.

Aunque vez su distribución abarca gran parte de Brasil, Paraguay, Uruguay, este se ve y es más, cada año y como una de las especies más amenazadas de Argentina.

Actualmente la especie se encuentra seriamente en riesgo de extinción y muchas poblaciones han desaparecido. Se sugiere su conservación.

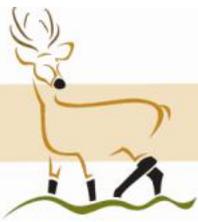
En Argentina, el ciervo de los pantanos se encuentra en todo el territorio, pero hoy sobrevive sólo en algunos santos de la provincia de Corrientes, principalmente en los Esteros del Iberá, y en el Bajo Delta del Paraná (provincias de Buenos Aires y Entre Ríos). Probablemente existan otros núcleos de importancia en las provincias de Formosa, Chaco y Santa Fe.

Si caza se encuentra prohibida en todo su área de distribución, una gran amenaza natural proviene en Surinam, Guayaquil y Buenos Aires, mediante el tráfico de ejemplares nativos protegidos, como lo Reserva Provincial Iberá, la Reserva de Biosfera Delta del Paraná, el Parque Nacional Mburucayá, así como en grandes campos privados donde no es vigilado.

ASOCIACIÓN ARGENTINA DE CRIADORES DE CIERVO DE LOS PANTANOS
Buenos Aires - Argentina
www.acib.org.ar

FUNDACIÓN CIERVO DE LOS PANTANOS
www.fundacionciervopantanos.org.ar

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PATRIMONIO NATURAL DE LAS ISLAS DEL DELTA

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RESERVA PARANÁ - ARGENTINA

Equipo de Trabajo:
Santiago Di Alélio, Ezequiel Leizaola, Gustavo Aprile y Pablo Roman.
(Grupo de trabajo de la Dirección Provincial de Ecología y Medio Ambiente - Gobierno de Buenos Aires)

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ESPECIE AMENAZADA DE EXTINCIÓN

EL DELTA DEL PARANÁ ES UNO DE SUS ÚLTIMOS REFUGIOS

El ciervo de los pantanos es el ciervo autóctono más grande de Sudamérica. Se lo encuentra en pajonales, barbechos y matorrales de Brasil, Paraguay, Bolivia y Argentina.

Antiguamente toda especie que crecía en todo nuestro Mesopotamia y zonas húmedas de Chile y Formosa; formando parte de la cultura de los antiguos y actuales habitantes del litoral. Hoy seguimos viendo la desaparición de la especie por la pérdida de su hábitat original a causa de la cosecha forzada y la destrucción del ambiente.

Sus dos últimos refugios de importancia en la Argentina se encuentran en los Esteros del Iberá (Corrientes) y en el Delta del Paraná (Buenos Aires y Entre Ríos).

El quazá púa, como lo llamaban los guaraníes, actualmente se encuentra en grave peligro de extinción a nivel mundial. En Uruguay ya se extinguió, mientras que en el resto de sus antiguos dominios, sus poblaciones siguen disminuyendo de forma alarmante.

En el Delta del Paraná la principal amenaza para la especie es la caza furtiva practicada por pobladores locales, sobre todo durante los períodos de inundación. Si no se detiene de inmediato la caza furtiva y sin sentido que se realiza sobre el ciervo, esta población estará condenada a la extinción. También la contaminación de los pajonales y ambientes afecta al crecimiento.

Si el ciervo desaparece, una parte del Delta se ira para siempre...

ENTRE TODOS PODEMOS EVITARLO.

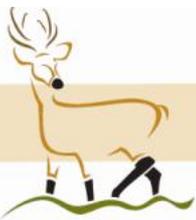
Como podemos ayudar al ciervo?

- El ciervo de los pantanos es parte del patrimonio natural de los ríos, crezcámoslo a nuestros hijos, avalemoslo y cuidémoslo.
- Apoyemos la creación de reservas y parques naturales.
- El costumero, a través de su observación en libertad, puede ser una fuente adicional de ingresos para la economía local.
- No cace ciervos, ni permita que otros lo hagan. De nada depende que subsistan en la isla.
- La protección del ciervo en los grandes campos férriles, es fundamental para su supervivencia en el Delta.
- Si encuentra una cría que crece abandonada, no la capture. Su madre puede estar escondida en los matorrales. Junto a ella también hay posibilidades de sobrevivir.

El ciervo de los pantanos es una especie en peligro de extinción a nivel mundial. Su caza o captura se encuentran prohibidas por leyes nacionales e internacionales.

Desarrollado por el Proyecto de Conservación y Manejo del Delta del Paraná. Contacto: www.ciervo.org.ar

teléfonos de las autoridades de las y medio ambiente:
Corrientes: 0342-4411111 | 0342-4411111 | 0342-4411111
Entre Ríos: 0343-4411111 | 0343-4411111 | 0343-4411111
Buenos Aires: 0222-5021120 | 0222-5021120 | 0222-5021120
Paraguay: 021-4411111 | 021-4411111 | 021-4411111



New letters with updates of the project

El Proyecto Ciervo de los Pantanos ha relevado, desde 1996, más de 300.000 hectáreas de islas del bajo Delta del río Paraná, en las provincias de Buenos Aires y Entre Ríos, generando información científica y desarrollando acciones de conservación para la protección de esta especie amenazada y los ambientes de humedales que le brindan refugio.

INTRODUCCIÓN
 El Ciervo de los Pantanos (*Mazama edithae*), es una especie globalmente amenazada, que vive en el bajo Delta del Paraná en las áreas de humedales protegidas. Desde el momento de su descubrimiento, se han iniciado esfuerzos de conservación y se han iniciado los estudios de su biología y su reproducción en los ambientes de humedales que le brindan refugio.

OBJETIVOS DE LA FASE 2000-2004 DEL PROYECTO
 Teniendo en cuenta los avances obtenidos en las últimas acciones de proyecto, se han planteado los siguientes objetivos para esta fase:

1. Estudio de establecer y monitorear el estado de la especie en un área del bajo Delta del Paraná.
2. Caracterización de las áreas de humedales que brindan refugio al Ciervo de los Pantanos en el bajo Delta del Paraná.
3. Caracterización de las áreas de humedales que brindan refugio al Ciervo de los Pantanos en el bajo Delta del Paraná.
4. Caracterización de las áreas de humedales que brindan refugio al Ciervo de los Pantanos en el bajo Delta del Paraná.
5. Caracterización de las áreas de humedales que brindan refugio al Ciervo de los Pantanos en el bajo Delta del Paraná.
6. Caracterización de las áreas de humedales que brindan refugio al Ciervo de los Pantanos en el bajo Delta del Paraná.
7. Caracterización de las áreas de humedales que brindan refugio al Ciervo de los Pantanos en el bajo Delta del Paraná.

DESARROLLO DEL PROYECTO
 Se han desarrollado las siguientes acciones de campo:

1. Caracterización de las áreas de humedales que brindan refugio al Ciervo de los Pantanos en el bajo Delta del Paraná.
2. Caracterización de las áreas de humedales que brindan refugio al Ciervo de los Pantanos en el bajo Delta del Paraná.
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Las acciones realizadas en el año de proyecto para la conservación de la especie y sus ambientes de humedales son:

1. Caracterización de las áreas de humedales que brindan refugio al Ciervo de los Pantanos en el bajo Delta del Paraná.
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20 cm x 20 cm stickers



Marsh deer project stickers

10.000 units





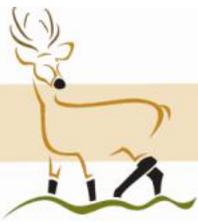
34. Video documental

In 2006 the video documental of Marsh Deer Project in Delta del Parana, named “The ghost of the Delta” has been finished. Since then the video has been show ed in more than tw enty local schooll s and festivals.

In 2008, during the III National Congress for Conservation of B Biodiversity the video was show as a formally to the local scientific community. More than four hundred scientist w atched the video, that received very good critics.



At this moment the video w e are w orking w ith an important local TV canal that is interested on this material.



35. Participation in scientific congresses & workshops

Technical report given to San Fernando Municipality to reinforce the legal protection of floating marshes areas

D'ALESSIO S., HERRERA P., LARTIGAU B., y G. APRILE. 2006. *Relevamiento inicial de los embalsados del área núcleo de la Reserva de Biósfera Delta del Paraná*. ACEN. Informe Técnico.

Congreso Biodiversidad FCEN 2008

D'ALESSIO S, LARTIGAU B., HERRERA P., APRILE G., ANTONELLI J, ARGIBAY H, CAVICCHIA M, CLADERA GOMEZ J, FARIÑA R., GARCÍA G. GIL SUÁREZ V., RAINIERI M. 2005. *Nuevos avances en el conocimiento y la conservación del ciervo de los pantanos (Blastocerus dichotomus) en el bajo delta del Paraná*. I Congreso de conservación de la diversidad, Buenos Aires.

Society for Conservation Biology annual meetings (SCB)

2005

D'ALESSIO, SANTIAGO; LARTIGAU, BERNARDO; HERRERA, PABLO; APRILE, GUSTAVO.



Advances in the knowledge and the conservation of the marsh deer (blastocerus dichotomus) in the delta of the Paraná River. SCB 19th Annual Meeting, Society for Conservation Biology, Brazilia, Brazil

2007

D'ALESSIO S, LARTIGAU B., HERRERA P. AND G. APRILE.

Discovery of new floating marsh areas, in Paraná River Delta, Argentina: Finding unknown and essential habitat for marsh deer. SCB 21st Annual Meeting, Society for Conservation Biology, Port Elizabeth, South Africa, 1-5 July.

2009

BERNARDO LARTIGAU, PABLO HERRERA, SANTIAGO D'ALESSIO, LEANDRO ANTONIAZZI, HECTOR BALL, DANIELA CANO, HORACIO CARDOZO, PATRICIO COWPER COLES, ALEJANDRO DI DIACOMO, AYELEN EBERHARDT, GUILLERMO FIGUERERO, NATALIA MEYER, ANIBAL PARERA, GABRIELA RAMIREZ

Distribution and conservation status of the endangered marsh deer (Blastocerus dichotomus) on poor-known wetlands of the Paraguay-Parana river basin, Argentina. SCB 23st Annual Meeting, Society for Conservation Biology, Beijing, China.

Workshops

2005 Participación en Seminario “Iniciativas para la implementación del Convenio de Diversidad Biológica en Paraguay y Argentina”. Fundación Hábitat y Desarrollo, Asunción (Paraguay) y Formosa (Argentina).



2007 Taller interinstitucional “Conservación del Ciervo de los Pantanos - Generando las Bases para la elaboración de un Plan Nacional de Conservación”. Luján Provincia de Buenos Aires, 9-10 de junio.

VI Congreso Iberoamericano de Educación Ambiental - 2009

Presentación de la Campaña en el “VI Congreso Iberoamericano de Educación Ambiental” (septiembre de 2009, La Plata) bajo la modalidad de póster durante el taller “Educación Ambiental en Espacios Protegidos”.

Congreso de la Sociedad Argentina de Mastozoología - SAREM 2008

DISTRIBUCIÓN DEL CIERVO DE LOS PANTANOS (*BLASTOCERUS DICHOTOMUS*) EN LA PROVINCIA DE CORRIENTES, ARGENTINA

Cano Paula D (1), Guillermo Cardozo (2), Susana A. Fernández (1), Carlos Figueredo (2), Héctor A. Ball (1), Anibal Parera (2), Bernardo Lartigau (1), Pablo Herrera (1), Santiago D’Alessio (1).

(1) Proyecto Ciervo de los Pantanos, ACEN (Asociación para la Conservación y Estudio de la Naturaleza), Vucetich 1919, Morón, Provincia de Buenos Aires, Argentina, (www.acen.org.ar).
ciervodelospantanos@acen.org.ar

(2) Fundación Reserva del Iberá. Belgrano 897, Mercedes, Provincia de Corrientes, www.fundacionibera.com.ar.

FORMOSA

SITUACIÓN ACTUAL DEL CIERVO DE LOS PANTANOS (*Blastocerus dichotomus*) EN LA PROVINCIA DE FORMOSA, ARGENTINA. Resultados Preliminares

Di Giacomo Alejandro (1) Bernardo Lartigau (2), Pablo Herrera (2), Santiago D’Alessio (2).

1 Departamento de Conservación, Aves Argentinas/ Asociación Ornitológica del Plata, Reserva El Bagual, Formosa. elbagual@avesargentinas.org.ar



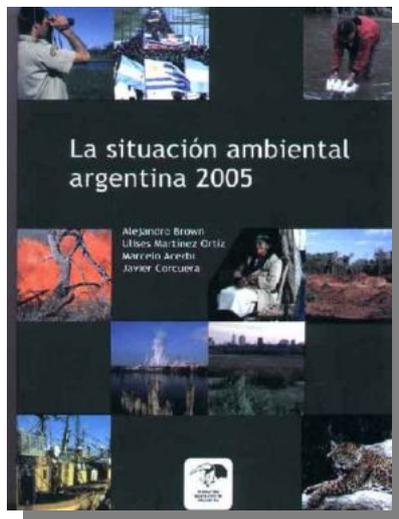
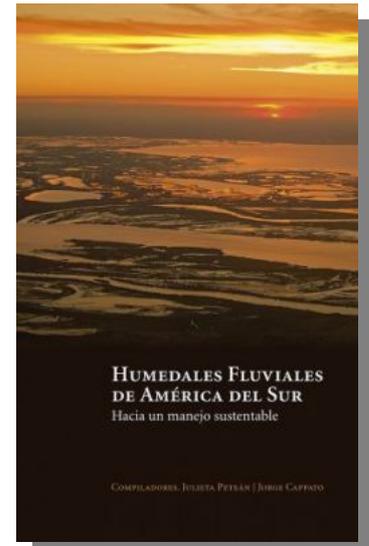
2 Proyecto Ciervo de los Pantanos, ACEN (Asociación para la Conservación y Estudio de la Naturaleza).
Vucetich 1919, Morón, Provincia de Buenos Aires, Argentina. www.acen.org.ar



36. Books and scientific magazines

Books

D'ALESSIO S., LARTIGAU B; APRILE G; HERRERA P; VARELA D; GAGLIARDI F y C. MÓNACO.2006. Distribución, abundancia relativa y acciones para la conservación del ciervo de los pantanos en el bajo delta del río Paraná. En J. Peteán & J. Cappato (comps.), *Humedales Fluviales de América del Sur, hacia un manejo sustentable*. PROTEGER Ediciones, Argentina. 540 pp.



APRILE G; D'ALESSIO S; LARTIGAU B. y P HERRERA. 2006. Avances en la conservación del ciervo de los pantanos en el bajo delta del río Paraná. En A. Brown, M. Martínez Ortiz, M. Acerbi & J. Corcuera (eds.), *La situación ambiental argentina 2005*, Fundación Vida Silvestre Argentina, Buenos Aires.



D'ALESSIO S; APRILE G; LARTIGAU B. Marsh Deer Chapter. Endangered species of Argentina. Daniel Ramadorio and Gustavo Porini editors. National Environment Agency, Buenos Aires, Argentina. (*In Press*).

Publication in *Biologica* scientific magazine

B I O L O G I C A Artículos | Año 2009 | N° 10 | 43 - 53

DISTRIBUCIÓN Y CONSERVACIÓN DEL CIERVO DE LOS PANTANOS (*BLASTOCERUS DICHOTOMUS*) EN LA PROVINCIA DE SANTA FE, ARGENTINA. RESULTADOS PRELIMINARES

M. AYELEN EBERHARDT ^(1,2,3), **LEANDRO R. ANTONIAZZI** ^(1,4), **ANDRÉS KESS** ⁽¹⁾, **PABLO HERRERA** ⁽⁴⁾,
BERNARDO LARTIGAU ⁽¹⁾ Y **SANTIAGO D'ALESSIO** ⁽¹⁾

1) Proyecto Ciervo de los Pantanos de Santa Fe. 2) Laboratorio de Parasitología, Facultad de Ciencias Veterinarias, Esperanza, Santa Fe. Becaria doctoral del CONICET. 3) Asociación Biológica de Santa Fe, Sargento Cabral 1140, CP 3000, Santa Fe (BioS). 4) Asociación para la Conservación y Estudio de la Naturaleza. (ACEN)

El ciervo de los pantanos (*Blastocerus dichotomus*) es el mayor cérvido autóctono sudamericano (D'Alessio y col. 2001). Esta especie se encuentra actualmente presente en una serie de núcleos poblacionales inconexos. El principal se encuentra al sudoeste de Brasil, en el Pantanal del Mato Grosso (D'Alessio y col. 2002). También se lo puede encontrar en el este de Bolivia y Paraguay y la porción sudeste del Perú (Pampas Heat). En Uruguay la especie estaría extinta (Duarte et al. 2008). En Argentina actualmente sus dos poblaciones conocidas más importantes están localizadas en los

El presente trabajo se desarrolló en el marco del proyecto de un Plan Nacional para la Conservación del Ciervo de los Pantanos impulsado por la Asociación para la Conservación de la Naturaleza (ACEN), con el aval y apoyo de la Asociación Biológica de Santa Fe (BioS) y de la Dirección de Manejo Sustentable de Fauna y Flora, Subsecretaría de Recursos Naturales de la Secretaría de Medio Ambiente de la provincia de Santa Fe (Ministerio de Aguas, Servicios Públicos y Medio Ambiente). El objetivo fue determinar la distribución de esta especie en la provincia de Santa Fe,



37. Press campaign for marsh deer release “Gurí comes return to the island”

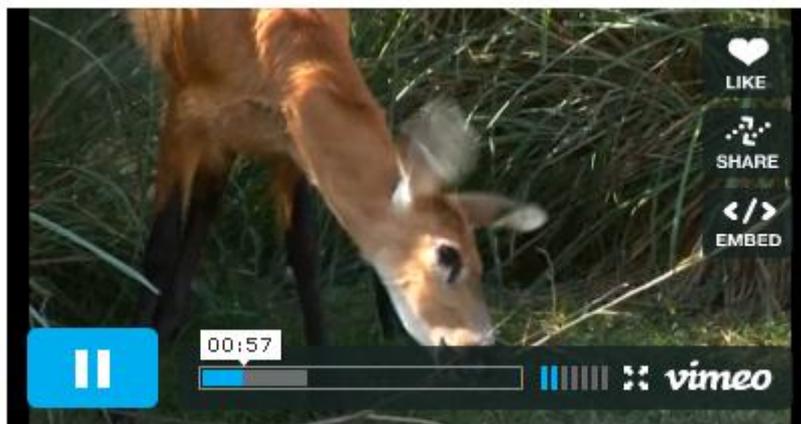
In August 2008 a fawn of marsh deer was found lost in a hole of a industry in Campana, Buenos Aires Province. After a long process for the readaptation of this fawn, it was taken back to the wild. A press campaign was made to take this message to the public. In this activity participated:

- Dirección de Fauna Silvestre (Secretaría de Ambiente y Desarrollo Sustentable de la Nación –SAyDS-)
- Dirección de Áreas Naturales Protegidas (Organismo Provincial para el Desarrollo Sostenible –OPDS-)
- Estación Experimental Agropecuaria (EEA) Delta del Paraná (Instituto Nacional de Tecnología Agropecuaria –INTA-)
- Reserva Natural Otamendi –RNO-(Administración de Parques Nacionales –APN-)
- Fundación Temaiken
- Proyecto Ciervo de los Pantanos (Asociación para la Conservación y Estudio de la Naturaleza –ACEN-)
- Papel Prensa S.A
- Wildlife Conservation Society (WCS)
- Local people



The news about this process was told to the press through two pieces:

- Press release
- Video with the whole process



This press campaign was very successful, but what worked very well was making this campaign at the same moment that an Educational Campaign was being made with local schools about this fawn.





38. Acknowledgments

To the Conservation Leadership Programme, Birdlife International and Flora, Fauna International, Conservation International and the Wildlife Conservation Society, which support made possible this project since its beginning. Specially thanks to Marianne Dunn, Robyn Dalzen, Kate Stokes, Lynn Duda, Kiragu Mwangi, Stuart Paterson and Julie Jackso.

To Natalia Fracassi, from INTA Delta (National Institute of Agricultural Technology), for her great efforts on the conservation of marsh deer in Parana River Delta.

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To Ana Inés Malvarez, Roberto Bó, Patricia Kandus, Rubén Quintana, y Fabio Kalesnik from the Laboratorio de Ecología Ambiental, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires.

To Victoria Lichstchein, Daniel Ramadori, Gustavo Porini and Hernán Ibáñez from the Direccion Nacional de Fauna y Flora Silvestres. In particular to Maria Betina Aued and Cecilia Li Puma, who made a great work on marsh deer conservation on the last two years.

To Andrés Bosso and Eduardo Haene from Aves Argentinas.



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To Juan Manuel García Conde, Nestor and Lipe, from Papel Prensa.

To Temaiken Fundation.

To Islander Police and Prefectura Naval Argentina

To our friends of Otamendi National Reserve.

To the park rangers of Ibera Provincial Reserve.

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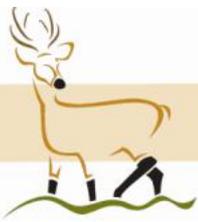
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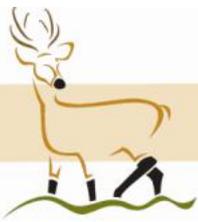
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Appendix

Summary of finances

	Incomes	Expenditures
CLP Award	75.000,00	
ACEN	10.000,00	
National Conservation Plan		
Field work		22.000,00
Workshops		5.000,00
Equipment		2.000,00
Congresses		1.100,00
Reinforcement of the Biosphere Reserve		
Boat & motor		8.500,00
Interpretation center and trails		3.000,00
VHF & equipment		1.200,00
Native tree book		1.500,00
Monitoring of the Marsh Deer Parana Delta		
Flights		900,00
Guri release & monitoring		2.100,00
Field work		500,00
Floating Marshes Survey		
Flights		3.500,00
Transport		600,00
Field work		1.000,00
Public Awareness		
Press campaign		1.200,00
Awareness material		2.800,00
Video documental		1.000,00
Education activities		4.000,00
Operative Costs		
Operation, administration & library		3.400,00
Stipend		11.250,00
Total	85.000,00	76.550,00