


**Problems and Recommendations
for the Conservation of the Maned Wolf in Argentina**


Results from the *First Workshop of **Chrysocyon brachyurus***
In Argentina and surrounding countries: conservation in situ and ex situ

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Resumen

Chrysocyon brachyurus es un cánido endémico de Sudamérica. Internacionalmente ha sido categorizado Cercano a la Amenaza y en Argentina como en Peligro de Extinción; sin embargo la información disponible sobre la especie es insuficiente para desarrollar un plan de acción para su conservación. Las más significativas e históricas amenazas propuestas para el Aguara guazú son: los conflictos con los humanos, drástica reducción del hábitat, muerte por atropellamiento en rutas y los perros salvajes (persiguen y matan individuos de la especie, son fuente de enfermedades y compiten por el alimento en vida silvestre). Con el objetivo de revisar los problemas para la conservación y contribuir a un integrado y sincronizado plan de acción para el Aguara guazú, fue desarrollado un **Taller para la Conservación del Aguara guazú en Argentina**.

Abstract

Chrysocyon brachyurus is an endemic canid of South America. Is a "at low risk / near threatened" (international) and "endangered" (national) species. However, the information availability for the maned wolf is not enough for encourage an action plan for the conservation. The most significant and historic threats proposed to maned wolf are conflicts with humans, drastic reduction of habitat, kills by automobiles, and feral dogs (pursue and kill maned wolf individuals, source of diseases and competence for food). With the objectives to update the conservation problems and to contribute in an integrated and synchronized action plan for the maned wolf, was developed a **Workshop for Conservation of Maned wolf in Argentina**.

Biography

Lucía Soler is a biologist of the Universidad Nacional del Sur (Bahía Blanca, Argentina) and at the present time is President of HUELLAS. She is the general coordinator of the project "Carnivore Conservation in the Northeast of Argentina". The proposal has specific aims: to develop an education and ecological program for the carnivore conservation. Since September of 2004 two maned wolf are been radio-monitored in wildlife.

Organizers: Huellas, Association for the Study and the Conservation of Biodiversity (Argentina), Oikoveva, (Francia) and Technical Delegation of the Argentinean Northeast, National Park Administration (Argentina). General Coordinator: Lucía Soler
Members of Protected Areas: Walter Drews and Antonio Nuñez (Provincial Reserves Galarza and Santa María, Iberá, Corrientes), Ariel Carmarán, Julio Sotelo, Alcides Vallejos, Sergio Larosa (Mburucuyá National Park, Corrientes), Andrés Lanfiutti (Chaco National Park, Chaco), Matías Entrocassi, Matías Carpinetto, Adrián Ortiz, José Calo (Río Pilcomayo National Park, Formosa).

INTRODUCTION

Chrysocyon brachyurus, commonly known as *maned wolf*, *aguará guazú*, *lobo de crin*, or *borochi* is one of the 10 species of wild canids that inhabit South America (Ginsberg and Macdonald 1992). Its distribution area includes northeastern Brazil and Argentina, eastern Bolivia, southern Paraguay, and southeastern Peru (Cabrera 1957; Dietz 1985). Its existence in Uruguay is doubtful, and it is presumed to have been extirpated there. Maned wolves are found in low densities (Rodden et al. 2004) and there by considered rare throughout the range (Ginsberg and Macdonald 1992; Rodden et al. 2004). The most significant threats to maned wolf populations are conflicts with humans, including drastic reduction of habitat (especially due to conversion to agricultural and pasture land), and kills by automobiles. In addition, feral dogs pursue and kill maned wolves and can also be an important source of diseases and possibly compete with the wild canid for food (Ginsberg and Macdonald 1992; Rodden et al. 2004). In Argentina, the canid was studied between 1980 and 1990 by Becacceci (see 1985, 1987, 1988, 1990, 1992, 1992, 1993), however, important gaps in information about the distribution, ecology, biology, and behavior remain (Soler and Carenton 2001; Salvatori et al. 2003; Soler et al. 2004). Internationally, it has been categorized as near threatened (Rodden et al. 2004), and in Argentina endangered (Díaz and Ojeda 2000).

With the aim of renewing the state of knowledge about *C. brachyurus* in Argentina and surrounding countries, the "First Conservation Workshop of *Chrysocyon brachyurus* in Argentina and surrounding countries" took place September 12–14, 2002 in Mburucuyá, Corrientes, Argentina. It was sponsored by the National Park Administration, the Education and Culture Ministry of Corrientes, and the Honorable Chamber of Senators from Corrientes Province.

The goals of the meeting were (1) to debate the problems facing the development of field and captive projects), (2) to contribute in an integrated and

synchronized way to an education program that will help manage projects and assure the conservation processes, (3) to evaluate the possibilities to generate interdisciplinary programs, and (4) to create a species working group at the international and national level.

The research and educational projects about *C. brachyurus* were presented and three working break-out groups were organized: Conservation in situ (CIS), Conservation ex situ (CES) and Political and Educational Management (P-EM). Each group debated real and potential problems for the species and developed recommendations.

RESULTS

Fifty-nine people participated in the workshop, of which 24% were institutional members (governmental and nongovernmental organizations (GOs and NGOs). Park ranger–fauna and local teachers were in the same proportion (17%); project leaders made up 10%; and the remainder was local people. In relation to the presentations (table 1), three were proposals in Argentina, one in Bolivia, one in Brazil, and one of international scale. The subjects of the presentations are shown in figure 1. Sixty percent of the proposals involved wildlife, being 86% of the total institutional proposals. Forty-three percent had grants.

The CIS group developed a specific approach, using a problematic matrix (Table 2). Each problem was classified according to the following criteria: *Urgency* and *Impacts* on the species and *Time Frame*. Within the *Urgency* criteria, the following scale was used: (1) few, (2) medium, and (3) big. *Impact* to the species was classified by whether the problem affected (1) individuals, (2) the species, or (3) populations. *Time Frame* was divided into three possible situations depending on if the solution to the problem is of (1) short duration (months), (2) medium duration (1 to 5 years), or (3) long duration (more than 5 years). Each problem was evaluated based on the following considerations: economic resources, specific human resources, availability of local people to help with the project, and institutional support. Each problem (conservation problem) was then ranked and assigned a corresponding priority value: 9 = maximum priority ; 7–8 = medium priority, and 5–6 = low priority. The high value (9) mean the most important Conservation Problem to be considered in a action plan for the conservation of the canid.

Table 1: Projects presented during the *First Maned wolf Conservation Workshop for Argentina and surrounding countries*.

INSTITUCIÓN	AUTHOR/AUTHORS	TITLE OF PROJECT
Jardín Zoológico de la Ciudad de Buenos Aires, Argentina	Díaz, Marcela L.; Orozco, M. Marcela; Pino, M. de la Cruz; Rosso, M. Soledad; and Kina A. María	MANED WOLF CONSERVATION PROJECT
Istituto di Ecologia Applicata de Roma, Italia	Salvatori, Valeria	AREAS FOR THE CONSERVATION OF THE MANED WOLF (<i>Chrysocyon brachyurus</i>)
Centro de biología Genomita e Molecular da Pontificia Universidade Católica do Rió Grande do Sul, Brasil	Prates, Paulo Jr. , Moreira, José Roberto and Sandro Bonatto	MITHOCHONDRIAL DNA DIVERSITY, POPULATION HISTORY AND CONSERVATION OF <i>Chrysocyon brachyurus</i> .
Cátedra de fauna silvestre de la Facultad de Veterinaria de la Universidad de Rosario. Argentina	Steiman, Laura	PROBLEM OF THE MANED WOLF IN SANTA FE AND CHACO PROVINCES, REGIÓN OF THE LOW SUBMERIDIONALS.
Cátedra de Fisiopatología de la Reproducción y Obstetricia. UNNE, Corrientes. Argentina	Torres Jiménez, Gonzalo	STUDY OF THE REPRODUCTIVE PHYSIOLOGY OF THE MANED WOLF <i>Chrysocyon brachyurus</i> (ILLIGER, 1811) IN CAPTIVITY BY DOSAGE OF SEXUAL FECAL ESTEROIDS.
Museo de Historia Noel Kempff Mercado. Bolivia	Chávez Calvimontes, Verónica	ECOLOGY OF THE MANED WOLF (<i>Chrysocyon brachyurus</i>), IN THE CAMP "LOS FIERROS" FROM NOEL KEMPPF MERCADO NATIONAL PARK - BOLIVIA.
HUELLAS – Asociación para el estudio y la conservación de la biodiversidad, Bahía Blanca. Argentina	Soler, Lucía; Pérez, Pascual; Cáceres, Cesar; Taboada, Adrián and Jean Marie Carenton	CONSERVATION OF THE CARNIVORES FROM ARGENTINEAN NORTHEAST BY THE PARTICIPATION OF LOCAL PEOPLE.

Conservation Group *Ex Situ*

Detected problems:

- (1) individual efforts
- (2) low reproduction and survival in captivity
- (3) low or non-participation of zoo directors in discussions about captive management problems
- (4) lack of concern and institutional responsibility for maned wolf conservation, e) lack of current information about individuals in captivity (origin, genetic, later derivations, etc.)
- (5) nonexistence of standardization between zoos for management of health and nutrition; nonexistence of proper places for the disposal of rescued, confiscated, and accidentally injured animals
- (6) lack of an authority able to decide the destiny of rescued animals
- (7) lack of an action protocol for captured wild animals and another for uniform necropsy to facilitate efficient use of information from dead animals
- (8) lack of a management plan for the species at a national level

Recommendations:

For the short term we recommended

- (1) compilation of information from zoo animals and creation of a national register for *C. brachyurus* in Argentina (NRAG);
- (2) establishment of a uniform recording system and implementation of an action protocol for treatment of rescued, confiscated animals, etc., that determines the destiny of an animal (freedom or captivity), and provides procedures to follow from the moment of acquisition;
- (3) formation of an *ex situ* working team to facilitate the exchange of information between institutions; and
- (4) providing the report from this workshop to the directors.

For the medium and long term we recommended

- (1) creating a facility to house confiscated and rescued maned wolves;
- (2) standardizing biological samples (collection, processing, and storage) and dispersal of the protocols to park rangers, fauna rangers, fauna inspectors, etc.;
- (3) collecting information from captive animals that are not registered in the NRAG;
- (4) developing an educational program *ex situ*;

- (5) promoting the collaboration and support of the Species Survival Plan (SSP); and
- (6) enabling people at a national level through the support of the World Conservation Union (IUCN) Canid Species Survival Commission (SSC).

Conservation Group *In Situ*

Detected Problems: (table 2)

The problems detected for the in situ conservation of the maned wolf were listed in a table and scored in order of urgency, impact and temporal reach. This was done considering the local situation reported from the participants in various locations of the Corrientes, Chaco, Santa Fé, Santiago del Estero y Entre Rios regions. *Urgency* was considered in terms of highly needed in order to either progress with other studies or stop the decline of the species; *Impact* was considered in terms of effect on the species (both positive and negative); *Temporal Reach* was considered in terms of sustainability and long term effect on the population. Each variable identified was given a score between 1 (low) and 3 (high) for the three effects considered, and the sum of the three scores was used to rank the variables in order to prioritise problems to be tackled. The table is reported below.

Table 2: Problem matrix from the Conservation Group *In Situ*.

CONSERVATION PROBLEM	VARIABLES			TOTAL
	URGENCY	IMPACT	TEMPORAL REACH	
No information about the distribution in all scales: International Distribution	1	3	3	7
	3	3	3	9
	2	2	3	7
No information about the vulnerability of the species by local people No information about the presence/absence in protected areas	3	3	3	9
	1	2	1	4
	3	1	1	4
No information about how the modification of the environment affects the species Impact of artificial and prescribed fires, in times of breeding, etc.	3	1	1	4
	3	1	3	7
	3	2	3	8
No information regarding fragmentation as a problem for the species Taming of animals by local people: As semidomesticated animals	3	3	3	9
	1	1	2	4
	3	1	3	7
As pets Commercialization of animals for private collections, zoos, etc.	2	1	3	6
	3	3	3	9
	3	3	3	9
Lack of information from investigations in captivity and wild. No information regarding the ecology and behavior	3	3	3	9
	3	3	3	9
	3	2	3	8
Predation mortality Predation by wild dogs Road kills or injuries resulting from high speed traffic	3	1	3	8
	3	2	3	8
	3	2	3	8

Recommendations:

- (1) creation of a data bank with forms and procedures for the collection of uniform data, involving academic institutions, natural resources, environmental, fauna and flora directions for each province and also of the nation, security forces, and nongovernmental conservation organizations. Use of the Biodiversity Information System (BIS) of the National Park Administration was suggested.
- (2) promotion of ecological and behavioral studies of the species using radiotelemetry to assess habitat fragmentation and human impacts
- (3) digitalization of the actual and the potential distribution, defining optimal environments
- (4) creation of a directory of investigators and fauna observers
- (5) promotion of sightseeing registers, from municipal centers, using teachers as compilers
- (6) implementation of training for security forces regarding valid legal aspects in priority areas
- (7) development of aggressive awareness campaigns using successful models that have already presented results (e.g., the European wolf)
- (8) coordination of the interactions between national and provincial conservation agents in shared activities
- (9) development of environmental educational programs about natural resources value, biodiversity, conservation, and local threats
- (10) compilation of existent laws and distribution to security forces, municipalities, gendarmerie, police, firemen, etc.,
- (11) involvement in curricula development by educational ministries from the areas where the species exists and education regarding the value of local natural resources
- (12) continuation of workshops within distribution to develop a consensual action plan for the conservation of the species
- (13) declaration of the maned wolf as a national monument to ensure its legal protection with a strong enforcement of the law

Politics and Educational Management Group

Detected problems:

- (1) lack of cooperation and public involvement within the species range

- (2) lack of interest by the public in general
- (3) ignorance at all levels
- (4) lack of communication between managers and management agencies
- (5) lack of political decisiveness
- (6) lack of economic and human resources
- (7) lack of enforcement of existing laws
- (8) lack of continuity in governmental management

Recommendations:

- (1) promotion and management of the incorporation of education for conservation in the official school curricula, as well as in presentations made by park rangers, fauna rangers, etc.
- (2) requesting NGOs and GOs for brochures already available about the maned wolf
- (3) dispersal and implementation of data about ecotourism
- (4) promotion of talks and development of local radio programs
- (5) development of an information network with links to other institutions, GOs and NGOs, institutional projects, and on the Internet
- (6) management of economic resources in different agencies for educational projects
- (7) unification of management legislation
- (8) use of the incoming funds proceeds through ecotourism operators in provincial protected areas
- (9) diffusion of laws by fauna and flora delegates
- (10) arrangement of interjurisdictional and interinstitutional activities

DISCUSSION

The results of the First Maned Wolf Conservation Workshop were fully accepted by participants and recommendations were developed to benefit the species as well as promote educational studies and conservation of threatened species. The presence of different social levels of the community from Corrientes province was enriching, however their actual contribution was limited. We proposed that local people should continue to participate in future meetings if the coordinators can first present an initial overview of the workshop goals. A better mechanism to disseminate information and a greater willingness

to compromise between polarized stakeholders are needed to avoid disjunctive efforts. We must promote and generate uniform research criteria using the priorities developed here. Formal and informal education should develop not only in rural schools but in teacher training centers and in university centers, to promote the knowledge of natural resources of the area. The direct involvement of institutions that create, control, and apply effective legislation should be emphasized throughout the range of the species. The maned wolf has been declared a national monument in two provinces of Argentina, and this has improved protection of the species. The role of zoos housing maned wolves should be revised immediately, since many individuals are wild caught and no clear objective exists for holding them, nor is their fate understood.

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