

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

Proposals submitted pursuant to Resolution on Ranching

A: Proposal

Transfer of the Argentine population of broad-snouted caiman (*Caiman latirostris*) from Appendix I to Appendix II taking into account resolutions on ranching (Resolutions Conf. 3.15, 5.16, 6.22, 8.22 and 9.24).

B: Proponent

Argentina

C: Supporting Statement1. Taxonomy

1.1 Class	Reptilia
1.2 Order	Crocodylia
1.3 Family	Crocodylidae
1.4 Genus and species	<i>Caiman latirostris</i>
1.5 <i>Scientific synonyms</i>	-
1.6 <i>Common names</i>	
Spanish	Yacaré overo
English	Yacaré nato
Portuguese	Broad-snouted caiman
	Jacaré de papo amarelo

2. Biological Parameters2.1 Distribution

The broad-snouted caiman (*Caiman latirostris*) is found in South America in parts of Argentina, Bolivia, Brazil, Paraguay and Uruguay (Medem, 1983; Scott, 1990).

In Argentina, this species is found in the provinces of Chaco, Corrientes, Entre Ríos, Formosa, Jujuy, Misiones, Salta, Santa Fe and Santiago del Estero. Waller (1987) gives a detailed description, up until 1987, of the two species of Crocodylia found in Argentina, *C. latirostris* and *C. yacare*.

Larriera (1992, 1993, 1995) has studied in detail the distribution of the broad-snouted caiman in the province of Santa Fe. In these studies, he describes the range of the *C. latirostris* in three different bio-geographical regions of the province: (a) on the floodplain of the Paraná River (in the departments of Garay, General Obligado, La Capital, Rosario, San Gerónimo, San Javier and San Lorenzo); (b) on the floodplain of the Río Salado (in the departments of La Capital, Las Colonias, 9 de Julio, San Cristóbal, San Justo and Vera); and (c) in the Los Saladillos basin (in the departments of Garay and San Javier).

2.2 Population status and trends

During many years, primarily because of its preference for a certain habitat rather than as the result of any factual study, the *C. latirostris* was considered to be more vulnerable than the *C. yacare* (Fitch and Nadeau, 1980). The fact that the broad-snouted caiman (*C. latirostris*) prefers to live in swamps, usually heavily vegetated and of difficult or simply impossible access, has resulted (in areas where their ranges overlap) in more frequent observation of the black or narrow-snouted caiman (*C. yacare*); thus hiding the real situation (Larriera, 1993).

Apart from data gathered by Medem (1983) and Scott (1990), very little information is available about the populations of this species in the rest of South America. In the case of Argentina, Yanosky provides data on the presence of this species in the province of Formosa (1990) and in the province of Salta (1992). Venturino (1994) for Entre Ríos, Micicci and Waller (1995) for Corrientes and Larriera (1993 and 1995) for the province of Santa Fe provide important information on the present state of the population of *C. latirostris*.

The work of Larriera (1992, 1993 and 1994) on population trends shows that the situation is clearly improving with percentages of recovery reaching 1500 percent in some cases.

2.3 Habitat

As is the case for most species of Crocodylia, the *C. latirostris* is highly adaptable to different situations. The species's habitat has been studied in detail for the following water basins in the province of Santa Fe.

The right bank of the Paraná River, along the central part of the province, is the axis into which the main tributaries flowing through the province of Santa Fe enter. The opposite bank, the shore of the province of Entre Ríos, is higher in elevation, while the right bank is low and floodable. Towards the southern part of the province, the situation is the opposite. There, the bank begins to rise above the river. The *C. latirostris* is found in three distinct areas of the province of Santa Fe.

1 - The floodplain of the Paraná River

This area has similarities to a former island area 15 to 30 kilometres wide and is cut by numerous small canals, some partially sedimented, with closed-off meanders forming ponds and gullies. Along the water courses, there are small berms (*albardones*) where typical island species of vegetation have taken hold. These species include ceibo (*Erithryna crista-galli*), curupí (*Sapium haematospermus*), sauce criollo (*Salix humboldtiana*) and vines such as the mburucuyá and the zarzaparrilla.

In these areas (*albardones*), sand sediments collect in depths ranging from 40 to 150 centimetres on soils rich in mud and clay. Frequently, strata of probable loess deposits are found.

The costal berm defines the Paraná floodplain and covers a long, narrow strip (2 to 6 kilometres wide) that runs discontinuously from the northern town of Romang to the south near Coronda. Deposits of sandy material vary in depth between 1 and 4 metres. There are slight, but well-marked, rolling hills and a series of micro-depressions.

This area of islands follows the Paraná River and forms a strip along its eastern limit. The landscape often changes owing to the water's action which erodes the banks and berms of the islands or deposits sediments towards the centre of the islands. The river produces substantial changes in vegetative communities and in the banks of the new islands leaving sand deposits along the berms and clay muds toward the interior of the islands. Tree cover grows on the higher parts (*albardones*) of the islands, while the lower parts are permanently or temporarily flooded and are usually covered with a variety of herbaceous, aquatic or marsh vegetation.

In general, the berms, formed with coarse materials, have good permeability and drainage, although it is possible to find berms along the main channel of the Paraná that have fine-textured, less-permeable surfaces with imperfect drainage. In the coarse textured soils, it is possible to find gallery woodlands with several tree species including ceibo (*E. crista-galli*), curupí (*S. haematospermus*), sauce criollo (*S. humboldtiana*), timbó (*Enterolobium contortisiliquum*), espinillo (*Acacia caven*) and vines such as mburucuyá, campanilla and zarzaparrilla blanca. In the areas with fine-textured soils, the gallery forest is similar to that found in the coarse-textured soils, but with almost no espinillo.

Canutillo, carqueja, duraznillo blanco, gramilla, paja brava, pasto colorado and salvia de la isla form the herbaceous vegetation.

2 - The Rio Salado basin

The very extensive Rio Salado begins in the Province of Salta then flows through the north of the Province of Santiago del Estero entering the province of Santa Fe at 30° S. The climate of this region is subtropical, and annual precipitation varies between 800 mm in the west and 1000 mm in the east. The landscape is flat (a slope of 0.2 percent) and has poorly drained soils and no well-defined drainage routes. This results in water flowing in a sheet creating many marshes, ponds and swamps that are joined during periods of flooding. Under these circumstances, water runoff flows towards two normal channels of drainage: El Golondrina and the Calchaquí-Salado.

Communities of variable composition that change with elevation comprise the natural vegetation. At the higher and better drained elevations, savanna grows with pasto amargo (*Elionurus viridulus*) and several species of trees in small groves of chañares (*Geoffroea decorticans*), algarrobo negro (*Prosopis nigra*) and ñandubay (*Prosopis algarrobilla*).

In the saline-alkaline regions, there is a predominance of espartillo (*Spartina argentinensis*) associated with *Chloris virgata*, *Polypogon chilense*, *Leptochloa chloridiformis*, *Distichlis spicata*, *Vicia graminea*, *Delochopsis paraguariensis* and *Eriochloa montevidensis*.

In the marches are found *Echinochloa helodes*, *E. polystachya*, *Paspalum distichum*, *Paspalidium paludivagum*, *Scirpus giganteus*, *Solanum malacoxilon*, *Lercia hexandra* and *Heliocaris* spp.

The natural vegetation in the lower parts of the southern region includes espartillar (*Spartina argentinensis*) associated with *Stipa neesiana*, *Sporobolus pyramidatus*, *Chloris virgata*, *C. gallana*, *C. halophila*, *Eriochloa montevidensis*, *Panicum bergii*, *Cynodon dactylon* and *Mellilotus indicus*.

In the better drained soils, small islands of chañar (*Geoffroea decorticans*) alternate with isolated specimens of ñandubay (*Prosopis algarrobilla*), cina-cina (*Parkinsonia aculeata*) and several species of *Opuntias*.

3 - The Los Saladillos basin

The Los Saladillos basin lies on the former terrace of the Paraná River and presents a flat, extended landscape. Saline loam deposits predominate among the materials that have created the soils, and there is evidence of intense water action.

The natural vegetative communities show a dominance of reedy espartillar broken by grassy areas of *Panicum prionites* in semipermanent ponds and neighbouring areas.

Within this region there are higher areas of woody vegetation whose origin is related to the coarse sediments deposited by the Paraná River. These sediments are enriched with iron oxide that in some cases forms strong bonds in these soils.

Many of these areas have been cleared for farming and livestock raising, but there are isolated patches of relic woodlands with primarily espinillo (*Acacia caven*), algarrobos (*Prosopis* spp.) and tala (*Celtis espinosa*).

In these three zones, the nests of the *C. latirostris* are concentrated in the following habitats:

Berms (albardones) These are higher areas around the edges of the ponds, swamps, streams and rivers (active moving water and still water of low stream velocity), with slight elevation above water level (between 40 and 150 cm) and, therefore, often flooded.

The predominant vegetation in these areas is reeds (*Scirpus* spp.) and cattails (*Typha* spp.); two well-established species.

On the higher parts, the vegetation is grass of medium to high height (Gramineae and espartillares of *Spartina* spp.) with occasional open scrub woodlands. The most frequent species are tala (*Celtis* spp.), curupí (*Sapium haematospermum*), molle (*Schinops* spp.), algarrobos (*Prosopis* spp.), chañar (*Geoffroea decorticans*), espinillo (*Acacia caven*) and palmera carandilla (*Trithrinax biflabellata*) among others.

Nests are found relatively close to the water (1 to 10 metres) and are constructed primarily of grasses, reeds and cattails.

Floating islands (embalsados) In the heavily vegetated bodies of water, floating islands are frequently found.

They form from the accumulation of dry leaves and decaying vegetation in areas of almost no water flow.

On this base, sediments are deposited that progressively accumulate in size and consistence until they form a true floating floor on which grasses and even shrubs grow.

The nests in these areas are built primarily with grasses, reeds and cattails.

Rises in swamps (lomadas) These are areas of slight elevation surrounded by swamp that do not quite form berms. They are frequently flooded, and, in contrast to the floating islands, the ground is firm.

Because of their low elevation, they are not colonized by trees or shrubs. Espartillar (*Spartina argentinensis*) predominates, and this is the primary nest-building material used in these environments. The nests are generally built along the borders of the rises where there is a high density of cattails and reeds.

Artificial bodies of water (canals, dams and ditches) Although very diverse, this group is characterized by a low or zero rate of water flow that allows the development of rooted aquatic vegetation in the case of shallow water, but only floating vegetation in the case of deep water (dams).

The caiman's nests are usually built close to the water (1 to 4 metres) because the caiman is often confined to a small area without access, except occasionally, to larger bodies of water.

Even though woodlands are often quite close by, nests are built with material from pastures, primarily grasses.

The species most frequently found in these woodlands are algarrobos (*Prosopis* spp.), chañar (*Geoffroea decorticans*), acacias (aromito or espinillo) (*Acacia caven*), tala (*Celtis* spp.), curupí (*Sapiem haematospermum*) and molle (*Schinops* spp.), among others.

Woodlands This habitat corresponds to an area of relatively high relief, although of poor drainage and subject to flooding.

The vegetative cover is formed by species of medium and low height. Cover varies from open, quasi savanna to closed forests. The most frequently found species are tala (*Celtis* spp.), curupí (*Sapiem haematospermum*), molle (*Schinops* spp.), algarrobos (*Prosopis* spp.), chañar (*Geoffroea decorticans*), quebracho blanco (*Aspidosperma quebracho-blanco*), espinillo (*Acacia claven*), tusca (*Acacia aroma*), sombra de toro (*Jodine rombifolia*) and palma carandilla (*Trithrina campestris*). In well-established forests, the quebracho colorado chaqueño may appear.

Frequently, the herbaceous strata is not developed. The nests in this habitat are often far from the water (300 to 2000 metres) and are built using ground vegetation from the herbaceous strata and with small branches of woody species.

2.4 Habitat availability and potential

A study of the caiman's habitat reveals that approximately 40 percent live in heterogenous environments (woodlands, ponds, swamps, creeks and artificial bodies of water), and the remaining 60 percent live in homogenous environments (heavily vegetated and inaccessible swamps). An analysis using field work and the interpretation of SPOT satellite images shows that it is possible to find the *C. latirostris* in 80 percent of swamps of more than 300 hectares north of 31° S in the departments of San Cristóbal and San Javier and in the forested basins of the departments of Vera and General Obligado. A study has been carried out in 54 percent of the habitat in the department of San Cristóbal (5,875 hectares out of 10,747) and 27 percent of the department of San Javier (4,813 hectares out of 17,809). Another study will be made in the wooded basin (25,117 hectares). Leaving aside the rest of the departments of Vera and General Obligado and the lowlands in the southern regions, the project is actively under way in 19 percent of the potential habitat in the province of Santa Fe.

2.5 Threats

Even though this species was previously excessively and then illegally hunted, the main determinant of *C. latirostris* populations and the principal threat that it faces at the present time is loss of habitat. In general, the broad-snouted caiman is found in floodable marshes, swamps and shallow ponds; all considered unproductive land from the viewpoint of present agricultural practices. The rural inhabitants often drain these lands with the intention of "recovering them for productive use." The only way to change this mentality is to give the undrained land an economic value. The utilization of wildlife in general and the caiman in particular is a tool that should be put to use as soon as possible.

3. Utilization and Trade

3.1 National utilization

Argentina has always intensively used its natural resources for productive activities, and wildlife has always played an important role in this context. Products and derivatives of certain species represents an important resource for several sectors of society, and in some cases has become the only source of income for the poorest sector of society. The *C. latirostris* population has not escaped this reality, because it is exploited in order to supply the leather trade. European demand for skins led to the creation of tanneries on the outskirts of Buenos Aires in the 1930s. These tanneries sought exclusively the skins of the broad-snouted caiman (Waller and Micucci 1994).

At the beginning and for a long period of time, its use was legal and unregulated, but then in 1945 an awareness of conservation issues began to grow that during initial phases in several provinces where this species is found usually took the form of hunting bans, designation of hunting reserves and partial authorizations. In 1980, this led to full prohibition. This was reinforced by ratification of CITES that came into force in April 1981.

Illegal trade continues, nonetheless, apparently using legal imports of crocodile skins from other countries.

During the 1980s, it is estimated that about 30,000 caiman skins were traded annually (70 percent *C. yacare* and 30 percent *C. latirostris*) (Waller and Micucci 1992).

Owing to a series of favourable factors, almost all of the illegal hunting of caimans was stopped in the country in the 1990s. Among the favourable circumstances are the ban on the importation of caiman skins in 1991, the drop in international prices and expectations raised in the industry by the proposed experimental management programmes now under way (Larriera personal communication).

3.2 Legal international trade

Although not of the high quality standards of other skins such as the *Alligator mississippiensis*, *Crocodylus niloticus*, *C. porosus* and *C. novaguinae*, the *C. latirostris* (perhaps together with the (*Melanosuchus niger*) is clearly different from the other Crocodylia, and occupies an intermediate position on the world market, primarily in Europe and Japan (Ashley and Trachter, personal communication).

The installed capacity of the tanning industry for reptile skins in the country can certainly absorb and process all of the production of a national ranching programme, and the leather-products industry can consume all of the available skins. Part of production can be exported as tanned leather for processing abroad.

3.3 Illegal trade

As already stated, there has been almost no illegal hunting of *C. latirostris* in the country since the beginning of the 1990s, except for the occasional hunting of single specimens for local consumption (Larriera, personal communication).

3.4 Actual or potential trade impacts

If trade is channelled through a system of ranching based on the experience of other countries in the tagging of animals raised in captivity, if products and derivatives are well labelled and if periodical national and international controls are enforced, violations will become almost impossible. Any negative impact on wild populations will be eliminated. On the other hand, experiments show that by giving the habitat an economic value, primarily by making eggs valuable, the conservation of the general ecosystem, the caimans and associated fauna and flora is promoted.

4. Protection

4.1 National

Although many national and the provincial laws provide for the protection of wildlife in general and the *C. latirostris* in particular, it was only after April 1981, through Argentina's ratification of CITES, that protection became effective. This legislation is reinforced by Law 22.421 on wildlife conservation, Decree 691/81 and the CITES convention. The following parts of this law are especially relevant.

Article 1 - Wildlife, temporarily or permanently living on national territory as well as its protection, conservation, propagation, repopulation and rational use are of public interest. All inhabitants have the duty to protect wildlife in accordance with the regulations for its conservation and management.

When compliance with this duty causes duly proven damage, those whose interests are harmed can request compensation through administrative channels from the national government or from the provincial authorities in accordance with established dispositions.

In the event that a claim is totally or partially rejected, claimants may appeal to a federal judge within fifteen working days from the time of notification of the decision.

Article 20 - In the event that a native wildlife species is in danger of extinction or has reached a low population level, the government should adopt emergency measures in order to ensure its repopulation and survival. The provinces will cooperate, and the pertinent administrative agency will take steps, if necessary, to prohibit hunting, interprovincial trade and the export of specimens and derivatives of threatened species.

In the province of Santa Fe, the protection of wildlife is covered by Law 4830 of which the following are selected articles:

Chapter I General provisions

Article 1 - The following activities are covered by this law:

- a) All activities concerning the capture, raising and use of wildlife for trade, sport or local consumption and the transit, sale and transformation of its parts and derivatives and the use and raising of these animals;
- b) All activities leading to the capture of fish, shellfish and specimens of aquatic fauna and flora for sale, sport or local consumption as well as the transportation, sale and industrialization of their products and the use of public waters for the reproduction, raising and the diffusion of these species; and
- c) All activities related to these natural resources that imply a modification in the natural conditions in which these animal species develop.

Chapter II Hunting

Article 2 - An act of hunting is defined as any attempt to find, follow, attack or kill wild animals as well as the gathering of any products derived from them such as feathers, eggs and nests.

Article 3 - The hunting of wild animals throughout the province as well as the transit, sale or processing of hides, skins and products, with the exceptions provided for in this law, are prohibited. This prohibition also applies to landowners on their own land.

Article 4 - The following activities are exempted from these provisions:

- b) Commercial hunting is limited to designated species and subject to special provisions established by this law.

- d) Hunting for scientific, technical, educational or cultural purposes is subject to the same restrictions and regulations and requires the prior agreement of the agency responsible for ensuring compliance with this law.

Article 7 - Any means of hunting that leads to the large-scale destruction of animals or that threatens the reasonable conservation of a species is expressly prohibited.

Chapter IV Hunting and fishing regulations

Article 22 - The Ministry for Agriculture and Livestock is authorized to establish regulations and conditions for hunting and fishing, including acclimatization and the breeding of animals, the setting of hunting seasons and the creation of reserve areas, restrictions and exemptions in the list of species whose capture is permitted, regulation of the use of arms and means of hunting and fishing, and the establishment of health requirements concerning the capture, conservation, sale and processing of their products.

Article 23 - Any person or firm engaged in the sale and processing of products from hunting or fishing must be duly registered with the supervisory board and is required to provide all information requested and to permit the access of inspectors at any time or place.

Article 24 - It is expressly prohibited to facilitate the transit, sale and industrialization of products from hunting and fishing originating in other provinces and territories or in violation of the provisions of this law.

Article 25 - The executive branch is authorized to establish directives, rights, fees as well as inspection fees, for the activities referred to in Article 1 and to carry out these activities in coordination with the national and municipal authorities.

Article 27 - Any infraction of this law and regulations can be punished by confiscation of both hunting and fishing weapons as well as the result thereof. In addition, any infraction can be penalized with a fine between five thousand and one million pesos.

Chapter VI

Article 37 - The Ministry for Agriculture and Livestock, through the Office for Ecology and Wildlife Protection, is responsible for enforcing this law and its regulations as well as all investigations and studies concerning the capture, removal, breeding, sale and processing of wildlife. This agency should be directed by someone with training in the natural sciences and have a staff trained in botany, chemistry, zoology and related disciplines. The executive branch will be given the means for providing needed resources and personnel.

Article 38 - The present law supersedes all regulations contrary to this law.

Law 04148/63
Regulations of Law 04218/63 Ratified by Law 4830

Chapter I
General provisions

Article 1 - Hunting, fishing, trade and processing throughout the province is regulated and subject to the dispositions of this regulation which may be changed in light of studies.

Article 2 - The Ministry for Agriculture and Livestock is charged with settling cases not covered by the present law.

Chapter III
Commercial hunting

Article 10 - Anyone engaged in commercial hunting must have a permit granted by the Office for Ecology and Wildlife Protection with specific obligations and rights.

Article 13 - The Office for Ecology and Wildlife Protection will determine annually the species which may be hunted commercially and can limit the number of specimens hunted each season by licensed hunters in light of studies of animal populations.

Chapter IV
Sale and transit of wildlife products

Article 15 - Anyone using hides and skins resulting from commercial hunting or from ranching referred to in Article 1 of this law for sale, processing or manufacture must make monthly sworn statements regardless of sales. These declarations must be made on special forms provided by the Office for Ecology and Wildlife Protection.

4.2 Neighbouring countries

The *C. latirostris* is protected by national legislation in the neighbouring countries within this species's range (Bolivia, Brazil, Paraguay and Uruguay). No significant illegal captures have yet been declared. No project exist for the management of this species.

4.3 Needs for additional protection

The implementation of a ranching programme requires specific legislation and regulations based on specific circumstances and taking into account existing legislation. Considerable progress has been made in the province of Santa Fe where this programme is being carried out.

Decree 2154, of 5 August 1994 states:

Given agreement number 00701-0021698-6 between the Ministry for Agriculture, Livestock, Industry and Commerce (MAGIC) and the Mutual del Personal Civil de la Nación (MUTUAL), dated 14 June 1994; and

Taking into account the parties' agreement to jointly carry out the "Programme for the Development and Implementation of Ranching (collection of eggs) of the Broad-snouted Caiman" for its managed commercial use within the provisions of Articles 22 and 37 of Law 4218 ratified by Provincial Law 4830;

Therefore, the governor of the province declares: Article 1: Full ratification of all provisions of the agreement between the Ministry for Agriculture, Livestock, Industry and Commerce (MAGIC) and the Mutual del Personal Civil de la Nación (MUTUAL), registered on 16 June 1994 on page 183, Volume I of the Register of Treaties, Agreements and Contracts as follows:

Programme for the Development and Implementation of Ranching (Collection of Eggs) of the
Broad-snouted Caiman
Agreement between MAGIC and MUTUAL
21 March 1994

Between the Ministry for Agriculture, Livestock, Industry and Commerce of the Province of Santa Fe, hereinafter known as MAGIC, represented by the Minister, Arturo Di Pietro, on the one hand, and the Mutual del Personal Civil de la Nación, hereinafter the MUTUAL, represented by the following members of its governing council, Pablo Damaso Pereyra, Juan Carlos Sarsotti and Juan Manuel Guena, vice-president and acting president, secretary and treasurer, it is agreed to celebrate this AGREEMENT with the following clauses:

Article One: The parties agree to carry out a joint programme for the development and implementation of ranching (collection of eggs) of the broad-snouted caiman for future commercial conservational use, under the provisions of Article 22 of Law 4218 ratified by Provincial Law 4830.

The parties wish to state that this agreement is completely independent from the agreement signed between MAGIC and INTA on 27 September 1991 concerning the Project for the Monitoring and the Self-Repopulation of Caimans (*C. latirostris*) in the province of Santa Fe.

Article Two: In order to achieve the objectives laid out in Article One, the parties agree to create a coordinating committee formed by one representative of each party to establish, supervise and evaluate project activities.

The committee should be formed within 30 days of the signing of this agreement. The representatives can be replaced whenever necessary.

Article Three: The technical staff will supervise the work of a working team managed by the project director stipulated in the INTA- MAGIC Agreement referred to in Article One, the Veterinary Surgeon Alejandro Larriera of MAGIC, and will be formed by experienced technical staff who may or may not be staff members of MAGIC.

The participating staff of MAGIC will not be paid additional salaries, and MAGIC will not be responsible for other expenses.

Article Four: MAGIC will provide:

- The existing facilities for the incubation and early raising of the new-born caimans;
- Ground transportation and material for gathering eggs, returning juvenile caimans to the wild and the monitoring of wildlife populations.
- Water transportation and material for surveys of potential site activities.

Article Five: MUTUAL has provided the following support to the project:

- A greenhouse built at the Estación Zoológica Experimental with a concrete floor and heated ponds with a total covered surface of 200 square metres.
- An expansion of the incubator installed in the Estación Zoológica Experimental in order to increase production capacity. This expansion is in the form of automatic humidity control and the addition of an incubating area for 2500 eggs.
- A swamp vehicle (a Yacare with a 65 HP ROTAX motor) for field work.

MUTUAL declares that:

- The greenhouse and the expansion of the incubator are donated to MAGIC.
- The swamp vehicle mentioned in the previous paragraph must be returned to MUTUAL at the end of the project in the condition it is in at that time.

MUTUAL will be responsible for the following activities:

- The repair of existing vehicles and material belonging to MAGIC included in the project's inventory.
- The operating expenses of the field team and of the whole project including travel expenses, fuel, small repairs, insurance and additional operating expenses related to normal project activities.

The parties agree that:

MAGIC will not be responsible for accidents to the project's staff members who are not staff members of the Ministry of Agriculture.

- MUTUAL will not be responsible for the purchase of new equipment or the construction of new installations unless specifically agreed between the parties.

Article Six: The coordinating committee mentioned in Article Two will monitor the project's technical aspects and, taking into account CITES Resolution Conf. 3.15, will provide at least 80 percent of the un-released caimans at no additional cost taking into account the numbers planned in the programme included here as Annex II.

The other 20 percent will be turned over to the landowners of the areas where the eggs were gathered, if requested.

Article Seven: If additional parties are interested in participating or investing in the programme, MAGIC and MUTUAL must draw up specific plans.

If agreement is reached to give a third party participation, MUTUAL will be given preference to increase its participation in the project which should be carried out as agreed by the parties.

Article Eight: MUTUAL will decide what to do with "the surplus un-released caimans" taking into account current legislation and is obliged to consult with the project director only in the event that those animals are to be released in the wild.

Article Nine: This agreement is to run for 4 years and will be renewed automatically for another period of 4 years unless one of the parties specifically declines and states so in good faith 120 days before the expiration established in this convention.

5. Information on Similar Species

The other species of Crocodylia found in Argentina is the *Caiman yacare* (*C. crocodilus yacare*) in a more limited range than the *C. latirostris* in the eastern Chaco, Corrientes, Formosa and northeastern Santa Fe. This species is included in Appendix II of CITES, and its use is prohibited in Argentina by Resolution 793/87 of the Secretariat for Agriculture, Livestock and Fishing of the national government.

6. Comments by Other Countries in the Region

There is no indication that the other countries in the region are planning to implement ranching programmes for this species. In fact, the only neighbouring country that uses this technique is Brazil where the *C. yacare* is raised.

7. A Proposal for Ranching

7.1 Antecedents

Many experiments with the raising of Crocodylia have been made around the world. Some experiments are very successful and others absolute failures; some have dealt with technical aspects and others with the administration of wildlife. Three approaches to conservation are possible.

There are now several successful examples in Latin America of the sustainable use of adult specimens captured in the wild (commercial hunting), namely a successful programme in Venezuela and the still un-realized potential in Brazil of species listed in Appendix II of CITES. Breeding farms are used for the breeding of *Crocodylus rhombifer* in Colombia and Cuba, although with questionable effects on trade and conservation. A decline around the world of breeding programmes has resulted in a drop in the number of proposals for breeding, the disappearance of most of the existing farms and the reorientation of the others to ranching projects (the gathering of eggs in the wild for hatching on farms).

Because it combines high economic benefits using highly valued species, valorization of the habitat, leaving intact the reproductive population and the maintenance of stable population levels by returning juveniles to the wild, ranching is the preferred alternative for promoting sustainable use throughout the Crocodylia's range.

The experimental ranching programme in Santa Fe, known as the "Monitoring, Self-repopulation and Management Programme of the *C. latirostris*" was begun in 1990 in order to confirm the adequacy of this technique for both the species and the environmental and the social and cultural conditions in the province.

While the studies of the *C. latirostris* in Santa Fe were carried out twelve years ago, the "Monitoring and Self-Repopulation or Ranching Programme for Caimans" was begun in 1990 with the essential purpose of developing ranching techniques (the collection of eggs in the wild for raising on farms) for the species taking into account the environmental characteristics of the region.

The project was first proposed at the Tenth Working Meeting of the Crocodile Specialist Group (CSG) in Gainesville (1990); the first progress report was presented at the First Regional Meeting of the CSG in Colombia (1991), the second at the Eleventh Working Meeting of the CSG in Zimbabwe (1992) and the report on the results of the first four years of work at the Twelfth Working Meeting of the CSG in Thailand (1994). At the Ninth Conference of the Parties (Fort Lauderdale, USA, 1994) a summary was presented to the CSG Steering Committee on project activities. The final conclusions and recommendations were presented during the Thirteenth Working Meeting of the CSG held in Santa Fe, Argentina in May 1996.

The programme began in Santa Fe with the collection of eggs from 10 nests in the department of San Cristóbal. This was increased annually until in 1996 more than 100 nests were found and eggs were collected from 84 of them. The increase in the number of work sites and nests from which eggs were collected has been accompanied by a confirmed increase in the range of *C. latirostris* and by a significant increase in population densities in the monitored areas. The large number of specimens handled during project activities and the training of technicians has produced abundant information concerning many questions related to the overall programme. An important contribution has been gathered and published about the following factors: monitoring techniques in the wild, optimal densities for raising Crocodylia under controlled conditions, the composition and the effect of different diets used for raising the animals, the influence of the season for gathering of eggs on the final results of incubation, the effects of predators and floods on nests and reproductive success, the use of methods for taking blood samples, measuring of cholesterol and blood sugar in specimens raised under conditions of ranching and the effect of the application of oestrogen on eggs during artificial incubation as well as other activities.

7.2 Experimental egg quotas

Taking into account the evolution of egg collections since 1990 and that during the first stage it is necessary to be cautious regarding the number of animals entering commercial channels, the establishment of a plan of gradual use is probably most advisable. Tentative quotas of an initial gathering of 2,500 specimens in 1998, 4,500 in 1999 and 6,000 in the year 2000 have been set.

----- Table 1 (Eggs collected and hatchlings released since 1990)

7.3 Collection of additional information and population monitoring

Population monitoring has been carried out since 1990 (attached are some of the results) and will continue to be carried out using the methodology described in Larriera (1992, 1993, 1994).

----- Table 2 (Survey of *C. latirostris* populations)

7.4 Release of animals in the wild

The following table shows the number of releases from the beginning of the programme. To this data should be added the more than 2000 specimens now in ranching programmes that will be released in the wild during November. The proposed work plan calls for the annual release of approximately 2000 specimens, with any excess being incorporated into commercial use (see paragraph 7.1).

----- Table 3 (Hatchlings released since 1990)

7.5 Requirements for facilities

The installations for raising caimans are those described by Larriera (1991, 1992) and are, in essence, those used for the repopulation programme.

7.6 Tagging and slaughter

All of the specimens will be tagged at birth, both those that remain in the raising station for repopulation, as well as those sent to commercial centres. All animals will be tagged (if possible with microchips) and will be checked at the time of release or at the time of slaughter. At the time of slaughter, the skins will be marked with CITES tags stating "Yacaré overo, Argentina [serial number]"

7.7 Derivatives

The caimans will be raised basically for their skins, although the meat may be used for human consumption. The export of Crocodylia meat has not been planned, at least during the first stage. Therefore, CITES authorization is not required.

7.8 Reporting and monitoring

The national Secretariat for Natural Resources and the Human Environment through the Office for Wild Fauna and Flora (the CITES Management Authority for Argentina) will provide an annual report to the CITES Secretariat on:

- the state of population monitoring;
- the number of eggs gathered during a season;
- the number of specimens being raised each year (both for release and for sale);
- the number of animals released; and
- the number of animals slaughtered and their identification.

In addition, the Crocodile Specialists' Group (CFSG/SSC/IUCN) will continue to be informed periodically on progress in the technical aspects of project activities, as has been the case since 1990.

7.9 Summary

While the request for the transfer from Appendix I to Appendix II covers all of the Argentine population of *C. latirostris*, this agency intends to begin ranching with part of the population already studied in the province of Santa Fe.

The following proposal will be implemented in the province of Santa Fe. The technicians of Project Yacaré (AGREEMENT INTA/MAGIC) will continue working at:

- the collection and transportation of eggs;
- artificial incubation of all the eggs;
- establishment of the portion of the eggs to be sold;
- transfer to MUTUAL of 15-day-old specimens for feeding;
- raising of specimens for repopulation (2000 annually); and
- monitoring (population surveys).

MUTUAL will be given the 15-day-old hatchlings tagged by Project Yacaré for sale. MUTUAL will name a managing director for its activities who will provide periodical reports on the progress of the project.

MUTUAL is required to inform Project Yacaré fifteen days before programmed slaughters and to keep the skins and tags of animals having died from illness or accident until the staff of Project Yacaré has inspected them. The skins of slaughtered animals, the skins of specimens having died during growth and the skins that the MUTUAL intends to sell will be marked with CITES tags provided whenever the skin is intended for export. In this case, the province of Santa Fe provide shipment documentation giving the numbers of the tags in order to facilitate the obtention of CITES authorization. In cases in which the skins will not be exported, they will be identified with a metal tag with the mention "Sta. Fe, Proy. Yac. #".

The slaughter of the specimens may be carried out at the raising centre or, at the request of MUTUAL, at an authorized slaughter house in order to permit commercialisation of the meat.

This proposal specifically intends to eliminate the gathering of eggs in the wild and artificial incubation by private individuals thus greatly simplifying control of operations.

7.10 Explanatory notes

While the present proposal requests a change from Appendix I to Appendix II of the Argentine population of *C. latirostris*, the application of this measure will be restricted to the province of Santa Fe. In the event that other provinces in Argentina, within the range of the *C. latirostris*, request the National Administrative Authority to include them in the programme and the use of the species in a similar way, the CITES Management Authority for Argentine will require the requesting provinces, and requests that this be included in the resolution, to satisfy the following prerequisites:

- obtain population surveys carried out during the two years prior to the request;
- the surveys should be submitted for review by members of the Crocodile Specialist Group;
- the surveys should cover at least 40 percent of the Crocodylia's range in the province;
- while the surveys may be subcontracted, it is imperative that the permanent staff of the provincial administration participate in the surveys;
- specify which centres (no more than three per province) will act as production centres for the skins;
- adopt the CITES system of tagging of products from the slaughter of the specimens.

Before entering into effect, but after completion of the prerequisites, the project should be approved by the Standing Committee of CITES.

8. References