

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

Other proposals

A: Proposal

Transfer from Appendix I to Appendix II of the Bolivian populations of vicuña (*Vicugna vicugna*) in the conservation units of Mauri-Desaguadero (17°30' S - 18°30' S and 68°30' W - 69°30' W), Ulla Ulla (14°45' S - 15°25' S and 69°00' W - 69°20' W) and López-Chichas (21°30' S - 23°00' S and 66°20' W - 68°10' W) with the sole purpose of permitting international trade in cloth manufactured with fibre from the shearing of live animals with the designation "VICUÑA-BOLIVIA".

B: Proponent

Bolivia

C: Supporting Statement

This proposal is justified based on the biological and management criteria stated in Resolution Conf. 9.24 approved by the Ninth Conference of the Parties of CITES. In addition, social and economic reasons are also presented because in the case of the vicuña play a decisive role. This information is presented in point 7 (Additional Remarks).

1. Taxonomy

1.1 Class	Mammalia	
1.2 Order	Artiodactyla	
1.3 Family	Camelidae	
1.4 Genus and species	<i>Vicugna vicugna</i> Molina 1872	
1.5 Scientific synonyms	-	
1.6 Common names	Spanish	Vicuña
	Aymara	Huari
	English	Vicuña
	French	Vigogne
	German	Vikunja
	Quechua	Vicuna
1.7 Code numbers	CITES	A-119.004.002.002
	ISIS	5301419004002002001
	FAO	1.19.031.001
	RDB-1	19.123.2.1.V

2. Biological Parameters

2.1 Distribution

2.1.1 Distribution in South America

The vicuña is a species characteristic of the High Andes and endemic to South America. According to the classification established by Udvardy (1982), it lives in the bio-geographic province of the puna (8.43.12) that extends from Peru in the north to Argentina and Chile in the south (see Map 1). Its present area of distribution is less than before the Spanish colonization. Its range is above 3,000 metres from 8° S in Peru to 30° S in Argentina.

There are two geographical sub-species (Torres, 1992); one, the southern sub-species (*Vicugna vicugna* Molina 1872), is found south of 18° S and is larger and lighter in colour than the other, the northern sub-species (*Vicugna vicugna mensalis* Thomas 1917). This taxonomic differentiation is not definitive, and

in the seminar entitled "Populational, Morphological and Genetic Identification of the Vicuña", the signatory States of the Convention for the Vicuña agreed to use the term "geographical races" (IBTA, 1989).

This species had become extinct in Ecuador, but in 1988 Peru and Chile donated specimens, and the vicuña was reintroduced thanks to the cooperation of the signatory States to the Convention for the Vicuña. Bolivia contributed a donation of specimens in 1993.

2.1.2 Distribution in Bolivia

In Bolivia, the vicuña is distributed throughout the High Andes and on the altiplano in the departments of Cochabamba, La Paz, Oruro and Potosí. There are unconfirmed reports of the presence of vicuñas in the department of Tarija.

Its range extends between 14°45' S and 23°00' S and 66°20' W and 68°10' W (see Map 2).

Most of the vicuña population is found on the central altiplano. The second most important area is the upper basin of the Rio Pilcomayo, in the departments of Potosí and western Tarija, which flows into the River Plate basin. A small population of vicuñas is found in the puna in the department of Cochabamba, in the Amazon basin.

There are two distinct geographical races in Bolivia. The northern race, more abundant, is found in the departments of Cochabamba, La Paz and Oruro. The southern race is found in the departments of Potosí and probably Tarija.

There are isolated populations in the conservation units of Ulla Ulla (A), Altamachi-Morochata (F) and part of Tupiza-Sama (I). Other populations are found in widely dispersed groups near Lake Titicaca, in the Mauri-Desaguadero conservation unit (B), in the south of the country, throughout the altiplano and in the surrounding mountains (see Map 2). The distribution of the vicuña within its range is determined by human settlements, the location and the number of livestock and available habitat. Within its range, there are areas of large concentrations in the Mauri-Desaguadero (B) and the López-Chichas (H). These are the populations whose transfer to Appendix II is requested in this proposal.

The 1996 Vicuña Census (DNCB, in preparation) will provide information for the detailed mapping of the vicuña's range and will give the density and the degree of isolation or genetic exchange among various populations.

2.2 Habitat availability

2.2.1 Description of the natural environment

The vicuña is found in Bolivia in two main regions: the High Andes and the puna (see Map 2). This information is based primarily on the work by Ribera entitled *Regiones Ecológicas de Bolivia* (1992).

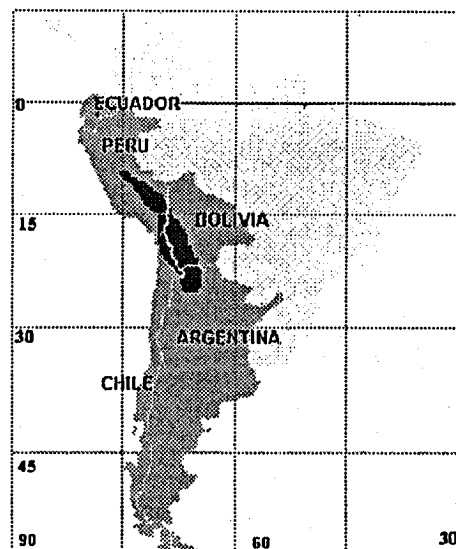
The High Andes

The High Andes is made up of the humid eastern cordillera and the drier western cordillera that surround the high altiplano. This area (the puna) lies between 4,200 and 5,000 metres in altitude. It is an area of low temperatures with freezing temperatures year-round. Precipitation, usually in the form of snow or hail, is low, less than 700 mm. In the eastern cordillera, there can be 1 to 4 dry months a year, and in the regions of desert south of Potosí, all months are dry.

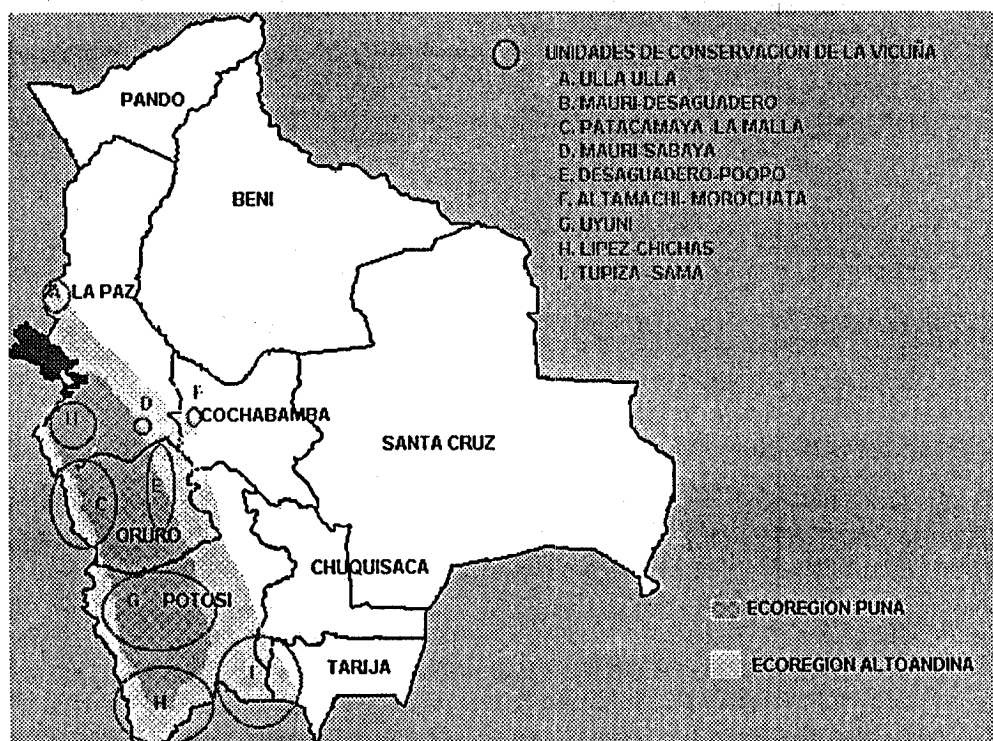
Vegetation is formed by low grasses, primarily tough Gramineae with a high silica content; such as *Stipa ichu* and *Festuca dolichophylla* and compact clumps of vine-like plants. There are areas that are flooded year round (*bofedales*) offering excellent pasture for the Camelidae. Clumps of *Azorella compacta* and *Werneria aretioides* are representative vegetation. There are thickets of thola (*Parastrephia* spp. and *Baccharis* spp.) and relic groves of queñua (*Polylepis* spp.). There are extensive areas of cold desert with wide areas of sandy and bare soil.

The region is almost completely uninhabited, with only small and dispersed human settlements. The climatic restraints do not allow the growing of crops, and, therefore, the only possible activity is the

Distribución de la vicuña en Sudamérica



Mapa 1. Distribución de la vicuña en Sudamérica



Mapa 2. División política y distribución de la vicuña en Bolivia

grazing of Camelidae. Vicuñas are distributed throughout the region, with larger concentrations in some areas such as the Ulla Ulla Reserve or in the cordillera de López.

Wildlife in the High Andes is characterized by a small number of species; a situation which is more significant because a neighbouring region, the Yungas, is one of the richest areas in species in the world. Only a few highly specialized species have become acclimatized to this bare and hostile environment. Characteristic species are the condor (*Vultur gryphus*), the suri (*Pterocnemia pennata*), the puma (*Felis concolor*) and the Andean cat (*Oreailurus jacobita*). There are many High Andean fresh-water lakes in the north and salt pans in the south that are the habitat of abundant bird life with representatives of migratory and local species. Three species of parihuana, *Phoenicoparrus jamesi*, *Ph. andinus* and *Phoenicopterus chilensis*, and the chocha de copete (*Fulica cornuta*) are found here in abundance. This region is characterized by the outstanding beauty of its landscapes.

The puna

The puna corresponds to the altiplano that is surrounded by the cordilleras described above (Map 2) lying between 3,700 and 4,200 in altitude. Humidity decreases from north to south, creating two punas, one humid and the other arid, with an average annual precipitation of 700 mm in the north and 50 mm or less in the south.

The vegetation of clumps of tough Graminaceae pasture and bushes of thola is similar to that of the High Andes. Towards the south, signs of soil salinity and salt-tolerant species begin to appear.

Human activity is intense, and natural vegetation has been widely changed by man. Wildlife is also similar to that found in the High Andes, but it is more scarce and numerous species are missing. There are several characteristic species such as partridge (Tinamidae) and the quirincho (*Chaetophractus nationi*).

The density of human settlement decreases from north to south, owing to the harsher climate and the lower soil fertility in the south. Vicuñas are found on communal and public lands, and the greatest concentration is in the Mauri-Desaguadero conservation unit.

2.2.2 Land use in the vicuña's range

The landowning patterns and the social organization of the rural communities in the puna and the High Andes have permitted the vicuña populations to develop in relative liberty.

The 1953 agrarian reform provides for two methods of giving title to the rural inhabitants. One method is the consolidation of communal land for communities that maintain the use of their land. This is the most frequent situation in the High Andes. The other method is to grant land to communities dominated by a large landowner, the most frequent situation in the northern and eastern puna, where the best land is found. A rural community may be granted land as individual holdings or as communal areas.

In both cases, the rural Aymara and Quechua communities maintain strong community structures that allow the planning of the use of the land, by determining which areas will be farmed and which will be used for grazing, defined every year by the whole community. This system allows cattle to graze harvested fields without using fences.

Most of the vicuñas are found in areas of private property. In the Ulla Ulla Reserve, they share the region with alpacas. On the central altiplano, they share the land with livestock (llamas, cattle and sheep) and cultivated fields. On the southern altiplano, they compete with llamas.

Extreme climatic conditions act as important limiting factors on agricultural production. Cold temperatures with frequent frosts and low precipitation delay photosynthesis and lead to low levels of productivity. The prevalence of winds, the concentration of rain and the high incidence of solar radiation affect not only productivity but also the high ecological fragility of the soil.

Another important factor is the unsuitability of most of the land for cultivation. Soil studies show that about 50 percent of the soils near Lake Titicaca and more than 70 percent of the soils south of Potosí are sterile, without any productive capacity.

These soils are very fragile and of low productivity. They have been overexploited by the use of poorly adapted technologies, leading to high levels of erosion and salinization and a decrease in livestock productivity. Under these conditions, the vicuña is seen as an enemy competing for little available pasture and tends to be pushed into the less productive areas. Given the present policy of total protection of the vicuña, together with a continuous increase in the size of vicuña populations, rural inhabitants have begun to view the vicuña as a competitor for the use of pastures.

In this region, the poorest in Bolivia, the vicuña is an alternative means of production that can increase the income of the rural communities. Until now, these communities have participated in the protection of the vicuña on communal lands, but they are now becoming interested in its management and use.

In order to organize its use, the rural communities are preparing a management plan that will create zones of use in the area, take into account areas assigned for each of the productive activities and for protection. This information will allow detailed monitoring, especially of the units that are included in the use plan.

2.3 Population status

2.3.1 International

In light of the data presented in reports of the meetings of the Comisión Técnica-Administradora of the Convention for the Vicuña the numbers of present vicuña populations in various countries has been compared (Table 1). The reference population reported by each country at the time of the signing of the convention is, for the most part, based on estimates (INFOL, 1981a; INFOL, 1981b).

Table 1 (Present and 1981 vicuña populations)

PAÍS	NUMERO REPORTADO EN 1981	% del total	POBLACIÓN ACTUAL	% del total	FUENTE DEL DATO DE POBLACIÓN ACTUAL
ARGENTINA	8,155	10	32,283	21	Informe en XVI Reunión Convenio (Argentina, 1996)
BOLIVIA	4,493	5	33,844	22	Censo 1996 (DNCB en prep.)
CHILE	7,990	10	19,848	13	Informe en XVI Reunión Convenio (CONAF, 1996)
ECUADOR	0		522	0.3	Informe Perú (INRENA, 1994)
PERÚ	61,896	75	66,559	43	Censo 1994 (INRENA, 1994)
TOTAL	82,534	100	153,056	100	

Fuente: INFOL y DNCB (informes)

It can be seen that Bolivia now has the second largest population of vicuñas, formerly the fourth largest, and its vicuña population is now slightly larger than that of Argentina.

This is partially the result of evolution. It is impossible to calculate the rate of increase, however, because the data reported in 1981 and the present data correspond to different areas. The increase is the result of both a real increase of vicuñas and the incorporation of new areas during the recent survey.

2.3.2 Population trends in Bolivia

Bolivian vicuña populations in the area that is now the Ulla Ulla Reserve have been counted since 1965. Beginning in 1979 when the former Instituto Nacional de Fomento Lanero (INFOL) was given responsibility for the protection of the vicuña and since the implementation of the Convention for the Vicuña, more and more complete censuses have been carried out. INFOL created a system of game wardens that permanently monitored the populations.

As a result of the Convention for the Vicuña, populations of this species have recovered throughout its range. The information provided by census and periodic surveys since 1980 show a continuous increase of populations throughout the country.

The 1996 Vicuña Census was carried out by direct count and found 33,844 specimens and an increase in the species's range (DNCB in preparation).

Nine conservation units and census areas have been created for administrative purposes and for carrying out the national census and the periodic inspection of the populations. They are indicated on Map 2. The number of vicuña in each of the nine units is listed in Table 2.

The areas surveyed correspond to survey sites that have been adjusted using the maps prepared during the 1996 vicuña census. This allows a more detailed estimate than during previous years.

Table 2 (Vicuña populations in the conservation units--Bolivia)

UNIDAD DE CONSERVACIÓN DE LA VICUÑA	DEPARTAMENTOS	SUPERFICIE ESTIMADA (ha)	NUMERO DE VICUÑAS	%	DENSIDAD
A. Unidad Ulla Ulla	La Paz	100.000	6.536	20	0,07
B. Unidad Mauri Desaguadero	La Paz	388.400	7.800	23	0,02
C. Unidad Patacamaya - La Maya	La Paz	65.100	414	1	0,01
D. Unidad Mauri - Sabaya	La Paz - Oruro	510.911	2.308	7	0,01
E. Unidad Desaguadero Poopó	Oruro	447.300	2.198	6	0,01
F. Unidad Altamachi - Morochata	Cochabamba	23.300	790	2	0,03
G. Unidad Uyuni	Potosí - Oruro	483.200	3.513	11	0,01
H. Unidad López - Chichas	Potosí	1.282.445	9.057	26	0,01
I. Unidad Tupiza - Sama	Potosí - Tarija	127.700	1.228	4	0,01
TOTAL		3.428.356	33.844	100	0,01

Fuente: DNBC, Censo Nacional 1996 (DNCB en prep.)

The vicuña conservation units include three protected areas that cover 27 percent of the surveyed area (934,700 hectares) and have 23 percent of the total vicuña population (7,648 specimens). These figures show the importance of establishing an efficient management system for the vicuña outside of the protected areas.

In the nationwide report presented to the XIII Regular Meeting of the Comisión Técnica-Administradora of the Convention for the Vicuña, held in 1992, population estimates were projected giving 20,832 vicuñas in 1995. The number found in the 1996 vicuña census is more than this projection and shows that the populations have recovered considerably, not only in the areas surveyed in 1992 but also by the inclusion of new areas.

The 1996 Vicuña Census provided reference information for the new phase of the National Programme for the Conservation of the Vicuña that will use vicuña fibre obtained by the shearing of live wild populations. This census is considered vital for the detailed monitoring of variations in vicuña populations once live-shearing programmes have begun.

2.3.3 Population status in the pilot areas

This proposal requests the transfer from Appendix I to Appendix II of vicuña populations in three conservation units considered pilot areas in the National Programme for the Conservation of the Vicuña. Their selection is based on the criteria of size of vicuña populations and the management capacity of the rural communities. Each of the three units presents different social and economic conditions and spatial use (protection, agriculture and livestock) which will allow complementary projects to be carried out on the management and use of the vicuña.

A slightly more detailed analysis is presented of changes in the three pilot areas which are the object of this proposal of transfer of appendix. In this study, the criteria listed in the appendices of Resolution Conf. 9.24 of CITES are used. These criteria of numbers of vicuña and variations in numbers of specimens should be used in this case in reverse, because the intention to incorporate a species in Appendix I, but to remove it, as provided for in Annex 4 of Resolution Conf. 9.24.

Three vicuña conservation units have been selected as pilot areas in order to initiate the sustainable use of the species under the National Program for the conservation of the Vicuña. Table 3 gives the number of vicuñas in each of the pilot areas and the relationship with national totals, for the years in which information is available.

The Ulla Ulla Conservation Unit

This unit is in the High Andes, with many *bofedales* that are excellent grazing sites for the alpacas that live among the vicuña.

This conservation unit is formed by the Ulla Ulla Reserve (RFUU) and the surrounding areas with vicuña populations. The protected area was created in 1972 by Law 10070. In 1977 it was recognized by UNESCO as a biosphere reserve which is a classification compatible with the managed use of natural resources. A management plan is being prepared providing for the experimental use of the vicuña. Owing to its character of a protected area, this conservation unit provides facilities and guarantees for carrying out applied and basic research.

The local rural communities have expressed an interest in actively participating in the management of the vicuña. Their leaders are members of the management committee of the Ulla Ulla Reserve. This committee supervises and inspects the work carried out in the reserve and decides which activities will be authorized.

The Ulla Ulla Reserve is by far the best known of the reserves in which protection and monitoring activities have been carried out for more than 30 years. Between 1965 and 1996, there have been periodic population surveys (Table 3) that show a continuous population increase, especially during the early years of survey. Apparently, this population still has not stabilized.

The area occupied by the vicuñas has increased, and vicuñas are now found in the foothills of the cordillera and in neighbouring areas where they were not found several years ago.

Table 3 (Changes in vicuña populations in the pilot areas)

TAMAÑO DE POBLACIONES DE VICUÑAS - AREAS PILOTO				
AÑO	ULLA ULLA	MAURI - DESAGUADERO	LIPEZ - CHICHAS	TOTAL BOLIVIA*
1965	97	sda	sda	1097
1969	124	sda	sda	
1972	246	sda	sda	
1974	399	sda	sda	
1976	546	sda	sda	
1977	713	sda	sda	
1978	820	sda	sda	
1979	1139	sda	sda	
1980	1516	sda	sda	4493
1981	1885	1232	1644	7150
1983	2878	1736	1675	9506
1985	2556	3101	2786	
1986	2900	3065	3021	11706
1995	5729	6168		
1996	6536	7800	9057	33844

sda. sin datos.

*incluye otras Unidades

Fuente: Informes INFOL y DNCB

The Mauri-Desaguadero Conservation Unit

This conservation unit is in the department of La Paz, near Lake Titicaca, and has a milder climate because of the lake's mitigating effect. The rural community is agricultural, but does raise sheep and llamas. There is a large vicuña population that moves among the cultivated fields and into the foothills.

Periodic population surveys have been carried out in this unit since 1981 (Table 3). As in the other units vicuña populations continue to increase.

On 22 December 1993, the government, through the Ministry for Sustainable Development and the Environment, and the six communities of San Andrés de Machaca signed an agreement creating a pilot project to begin the management of the vicuña population. Several members of the communities have been trained in Peru in survey and management techniques. The rural communities have shown a strong interest and willingness to participate in the management of the vicuña.

The Lipez-Chichas Conservation Unit

This unit is in southern Bolivia in the department of Potosí where the main economic activity is the raising of Camelidae on poor natural pastures. There has been a good rate of recuperation of vicuña populations in this area, one of the poorest regions in the country owing to the lack of economic activities apart from the raising of llamas and mineral extraction.

This unit has been the least surveyed. Since 1981, only four population surveys have been made (Table 3).

The increase in population is due to the inclusion of new sites in the latest survey. It is for this reason that a more rapid increase in population was found, compared with the other conservation units.

This is the poorest region of the three regions proposed for the transfer of vicuña populations from Appendix I to Appendix II.

2.4 Population trends

Table 3 shows large increases in vicuñas in Bolivia as the result of both increases in reproduction and survival as well as the gradual inclusion of new areas in the surveys. During the early years, not all of the country was surveyed.

If there has been a continuous increase in almost all areas, especially in the Ulla Ulla Reserve, that may be considered as representative of the national situation because it is the area with the most complete surveys, then an equilibrium has not been reached.

The following description of the population structure is given in support of this analysis of population trends.

The vicuña has a social structure based on territoriality and polygamy (Hofmann et al, 1993). There are two types of groups:

- Family groups (GF) formed by a male, several females and their offspring. These groups ensure the reproduction of the species. The size of the family group is reportedly determined by the male's ability to defend his territory and females, while ensuring sufficient pasture for the group. The availability of food also determines variations in the size of the territory that the male must defend.
- Herds (T) of a variable number of solitary males that do not reproduce or defend a territory, but that ensure the vigour of the overall population because they are permanently fighting with the males of the family groups for the role of reproducer.

Two studies of population structures have been carried out. One is based on time series in order to see variations in the total population increase based on data from the Ulla Ulla Reserve. The other is based on selected present populations in order to identify the existence of different structural patterns in light of recent data on the total population and pilot areas in Bolivia and the total population in Chile and Peru.

The study based on changes over time in the vicuña populations in the Ulla Ulla Reserve shows that in family groups the number of females per male was initially very high (4.5) and then stabilized at around 3. The number of off-spring per female shows variations, but has remained almost stable around 50 percent. The number of specimens in family groups is almost 100 percent at the beginning, then decreases and stabilizes around 65 percent. The size of family groups and herds shows the widest variation, especially the size of herds (DNCB, work in progress).

In a comparison of data recently obtained in Bolivia with data from Chile and Peru, a large degree of similarity was observed. The only value showing greater change is the size of herds in Chile. It reaches more the 22 specimens, while in Bolivia it is 7.9. Peru was not included in this comparison because the number of herds is not known.

In summary, it can be stated that apparently the basic population structure is around 65 percent of the total population forms family groups, in other words, is in a position to reproduce. Within this parameter, individuals organize into groups (families or herds) of different sizes, probably depending on the quality of habitat and other factors not yet understood.

The relationship between off-spring and females, considered a rough indicator of fertility, is always high, around 50 percent of the females give birth every year. It is important to point out that a census is normally carried out at the beginning of May, more than one month after the birthing season, that occurs between February and April. Thus, the census is carried out after perinatal deaths have occurred.

The granting of custodianship to the local communities and the delegation of monitoring responsibilities to the provincial governments will make it possible to have gather more complete and periodic information on the vicuña and its habitat, thus permitting a better estimate of population trends and decision-making for the overall management of the species.

2.5 Geographic trends

As shown on the distribution map (Map 2), the potential vicuña habitat (estimated to be roughly 20 million hectares) is far greater than that presently occupied by the species (3 million hectares). It is hoped that the creation of legal trade will contribute to the reduction in pressures to displace the vicuña into marginal areas in order to eliminate competition with domestic livestock. Nonetheless, it will never be possible to occupy all of the potential habitat because there are human settlement, cultivated fields and other types of land use incompatible with the presence of vicuñas.

The National Programme for the Conservation of the Vicuña provides for the possibility of carrying out repopulation programmes using the populations that have reached a point of equilibrium by moving them into areas that formerly had vicuñas, but that presently have none.

As already mentioned, available data on the total area of the vicuña conservation units is still imprecise. The mapping of census information as well as the registration of vicuña populations and the rural communities responsible for their custodianship will make possible the monitoring of geographical trends in detail.

2.6 The role of the species in its ecosystem

The vicuña, like the domesticated Camelidae species of the llama and alpaca, has evolved adapting to the High Andean ecosystem and has gained a favoured position under the extreme conditions in this region. The shape of its upper lip allows the vicuña to select what it eats and to cut off leaves without up-rooting plants as is the case with introduced livestock. In addition, the vicuñas's feet have cushions on the toes that do not damage the soil as do the hooves of the other ungulates.

Its use, combined with present development programmes for the raising of Camelidae, will permit vicuñas to replace part of the introduced cattle. Vicuñas are an alternative that can permit the recovery of the soil and the habitat. This change can have favourable consequences for other directly threatened species that share the vicuña's habitat; such as the chinchilla (*Chinchilla lanigera*), the Andean cat (*Oreailurs jacobita*), the taruca (*Hippocamelus antisensis*), the suri (*Pterocnemia pennata*) and the condor (*Vultur gryphus*), all included in Appendix I of CITES as well as several other species included in Appendix II and others such as the quirquincho, considered to be serious danger by the *Libro Rojo de los Veterbrados de Bolivia*.

2.7 Threats

There are three main types of threats: illegal hunting, competition for the use of space and the attraction of markets in neighbouring countries. In order to reduce these threats, it is proposed to authorize legal use under regulated conditions and to guarantee access to international markets.

A serious threat is illegal hunting. The monthly reports of the game wardens reveal isolated cases of the hunting of 1 to 5 specimens per month. It should perhaps be considered, nonetheless, hunting for survival and not hunting organized by powerful groups tied to contraband or large scale illegal trade.

Although the characteristics of land tenure mentioned in point 2.2.2 constitutes an advantage for the natural evolution of the species, it also is a risk because any sharp limitation on the environment makes even more intense competition between the vicuñas, agriculture and livestock raising for the use of land. Any increase in vicuña populations under a complete hunting ban is an important threat to the extent that it leads to increased ill will among the rural communities. These communities prefer to keep domesticated cattle because they obtain direct benefits from them.

The legalization of trade in vicuña fibre in Chile and Peru has raised expectations about the use of this resource in the rural communities in Bolivia. In the event that a total ban on trade in vicuña fibre throughout the country is maintained, there is a risk that more and more animals will be captured in order to sell their fibre in Chile and Peru. The first signs of this phenomenon have already appeared.

Authorization by the government of Bolivia for the sustainable use of the vicuña should be combined with its transfer from CITES Appendix I to Appendix II, because it is the only way to guarantee the rural communities access to the international market and to obtain tangible benefits from the vicuña.

3. Utilization and Trade

3.1 National utilization

Traditionally, the use of vicuña fibre was reserved for the Incas or for chiefs for whom the finest clothing was woven. Tradition was very strict about this (Torres, 1992).

Even at the present time, this tradition is partially in force. The *jilacatas* (local traditional authorities) and others can often be seen wearing delicate vicuña ponchos or scarves that make them stand out.

Political authorities and women are often seen wearing beautiful articles made from vicuña fibre on festive occasions.

These products are the result of handicraft activities, from the spinning of the fibre to the weaving, producing products of high quality. In spite of their cultural importance, the local market is limited. At the present, time this fibre is obtained illegally from animals either killed or found dead.

3.2 Legal international trade

At the present time, there is no legal international trade in Bolivia because all of the vicuña populations are included in Appendix I of CITES.

There was one case of the exportation of vicuñas. It was, however, a non-commercial export of a donation of 100 vicuñas to Ecuador in 1993, carried out under the Convention for the Vicuña and CITES regulations.

The following stocks of fibre and skins have been identified:

Fibre:	
first grade	3.0 kg
second grade	6.0 kg
third grade	6.5 kg

All of this fibre was obtained by experimental shearing carried out at the Research Station of Patacamaya.

Skins:

A total of 81 skins are being held in the Ulla Ulla Reserve and at the Office for the Conservation of Biodiversity. These skins are from animals having died naturally or accidentally.

3.3 Illegal trade

There is no accurate data on illegal trade.

There has been no confiscation of Bolivian vicuña products reported in other countries in application of the CITES agreements. There is, however, a small level of illegal exportation, primarily in the baggage of tourists. There is no evidence of large-scale contraband activities.

The traditional use described in point 3.1 creates very low volume of illegal trade discouraged because of the hunting ban in the country, but it is difficult to control because of cultural traditions.

3.4 Actual or potential trade impacts

The current market for South American Camelidae and their products shows a preference for live animals over finished products. This means that importing countries would prefer to import specimens for raising in the countries that would eventually consume their products. In the case of the vicuña, this scenario will not take place, because the signatory States to the Convention for the Vicuña have agreed to prohibit the export of fertile specimens. By prohibiting the export of live specimens, these countries will be the only producers of vicuña fibre for the international market.

A positive effect will be the possibility of offering an alternative for the improvement of living standards of the rural communities by increasing protection, the impact on vicuña populations that live shearing represents will be minimized and the possibility of intensifying the regulation of the use of vicuña products will be increased.

A possible negative effect of legal trade is the risk of killing rate to increase, in order to satisfy trade in neighbouring countries as explained in point 2.7.

As already mentioned, the vicuña can live in areas that are very marginal for agriculture and livestock production while producing the finest fibre in the world. These two considerations combined with the extreme poverty of the rural communities living in the vicuña's habitat, create an economic alternative that can improve the living conditions of the inhabitants of the altiplano and the High Andes.

The Plan of Action prepared by the IUCN Specialists in Camelidae recognizes "... the long-run conservation of this species will be possible only if tangible benefit are created for the rural communities on whose lands the vicuña lives." (Torres, 1992).

If we add to these considerations the fact that the proposal is based on the shearing of live animals and that there is no elimination of specimens, the impact will be positive taking into account all considerations. At the present time, although less fibre is consumed, the impact is greater because the animals are hunted.

By authorizing legal use, the control of illegal use will become easier. As already indicated, illegal use is largely in response to deep-rooted local cultural traditions which can be controlled when the alternative of legal use is offered.

3.5 Captive breeding

There is reportedly a breeding site in the United Kingdom, but no precise information is available on its characteristics or operating conditions. It is doubtful that new breeding sites will be established, because all of the range States have signed the Convention for the Vicuña, Article 4 of which prohibits the export of fertile animals.

4. Conservation and Management

The management of conservation and biological diversity in Bolivia has significantly improved in the past four years, especially in the fields of policy formulation, application of norms and the administration of biological resources.

The structural reforms in effect in Bolivia since 1993 have led to the consideration of natural resources in public policy and the creation of possibilities in the central administration for creating processes that motivate the management and sustainable use of resources of biological diversity.

In 1933, the Ministry for Sustainable Development and the Environment (MDSMA) was created and given responsibility for the management of all renewable natural resources. Within this ministry, the National Secretariat for Natural Resources and Environmental Management (SNRNGA) has the task of establishing mechanisms for the rational use of natural resources, the evaluation and inspection of activities that affect the environment by creating incentives and sanctions and promoting the participation and training of local communities for the rational use of natural resources (Law 26660). The National Office for the Conservation of Biodiversity (DNCB), a technical body of the SNRNGA, drafts and implements policies concerning the conservation of biological diversity. This office has drafted and is responsible for carrying out the National Programme for the Conservation of the Vicuña (PNCV).

The competent provincial authority for the conservation of biological diversity is the Secretariat for Sustainable Development in each provincial administration.

The government of Bolivia has concentrated on the following two policies for the promotion of the conservation of the vicuña:

- the creation of conditions favourable for the sustainable use of the species, primarily by the shearing of live animals with the participation of rural communities in the sustainable use of the resource and the decision to create an alternative for a better standard of living; and
- the protection and repopulation of the vicuña within and outside of the protected areas.

4.1 Legal status

4.1.1 National

The following are the most important laws concerning wildlife conservation:

- the **Environmental Law** (Law 1333, passed in 1992) establishes the obligation for the sustainable use of authorized species taking into account technical, scientific and financial data. The administration must establish regulations, inspect and apply procedures and requirements, authorizing use and setting quotas whenever necessary. Regulations on the use and trade of wildlife are being prepared.
- the **Law on Wildlife, National Parks, Hunting and Fishing** (DL 12301, passed in 1975), that, because of the period in which it was passed, does not include more modern terms and concepts. Nonetheless, it is based on the principle of sustainable use and the duty of the State to regulate and administer the use of wildlife resources.

By virtue of the power granted for these disposition in 1990, the government passed Law 22641 creating **a total and permanent ban of the hunting of all wildlife species**. The ban can be lifted, only by a law indicating for which species and the conditions justifying the suspension of this measure.

There are other regulations that do not specifically deal with wildlife, but which greatly influence the conditions for its management. These are:

- the law concerning **ministries of the executive branch** (Law 1493) which reformed the structure of the central administration; creating the Ministry for Sustainable Development and the Environment (MDSMA) charged with administrating the National Planning System and coordinating sectorial economic and social programmes for sustainable development.

- the law **decentralizing the administration** (Law 1654) seeks to decentralize executive power at the departments and grants resources for regional development making possible the cooperation of the municipal governments and the departmental administrations with the national government and permitting a greater participation of the nine Bolivian departments for the achievement of the strategic objectives of national development.

- the law creating the **National Institute for Agrarian Reform** (Law 1715, passed in October 1996) reforms and brings up to date the Agrarian Reform Law of 1953. This law broadens the concept of the economic and social use, defined as "the sustainable use of land for the productive development of agriculture, animal husbandry and forestry and the promotion of the conservation and protection of biodiversity, research and eco-tourism to benefit society, the collective interest and landowners". In this way, those who use part or all of their land for conservation will not loose title to their land. Their land will not be subject to expropriation. This law establishes the need to moderate and regulate the use of the soil, respecting the Land Use Plan (PLUS).

- the law permitting **local participation** (Law 1551, passed in 1994) that among other provisions, recognizes traditional social organizations, granting them legal status. This provision is in accord with the new Article One of the Constitution which defines Bolivia as a single, republican, multi-ethnic and multi-cultural country. This law permits the creation of management mechanisms based on traditional patterns of organization and ideas that are still respected in spite of the time that has passed since Spanish colonization.

- the **Forestry Law** (Law 1700, passed in July 1996) established the System of Regulation of Renewable Natural Resources (SIRENARE) as the operational agency responsible for the granting of the right to use renewable natural resources and the inspection of compliance with regulations covering the use of these rights. The Superintendencia Forestal and Agraria is part of this system and in the draft law on the Conservation of Biodiversity, presently before congress, there is a proposal to create a specific technical operational agency, separate from the political and regulatory organ which is the Ministry for Sustainable Development and the Environment (MDSMA). This will avoid the situation where, in the event of a disagreement, a single institution is both judge and accuser. This situation led in the past to serious problems in Bolivia.

Within this legal framework, draft regulations for the conservation and the management of the vicuña have been submitted for approval. These regulations provide for the following general provisions:

- Declares that the vicuña is a wildlife species and part of the national heritage. As such it is subject to governmental control through specific legal regulations;
- Authorizes the use of fibre from the shearing of live animals in the pilot conservation units under conditions established in the regulations;
- Grants custodianship of vicuña populations to the rural communities for protection and strengthening. These rural communities have the exclusive right to use vicuña fibre respecting, nonetheless, the appropriate regulations;
- Regulates the use of the vicuña for the manufacture of cloth by rural communities in authorized areas and following specific management plans;
- Creates an institutional framework assigning attributions and functions to each of the public and private organs; and
- Creates and organizes the Sistema de Vigilancia de la Vicuña and the Central Vicuña Registry (Registro Unico de la Vicuña).

These regulations have been harmonized with existing legislation in the other countries with vicuña populations, in compliance with agreements signed within the framework of the Convention for the Vicuña.

4.1.2 International

In 1969, Bolivia and Peru signed the peace treaty that later became the present Convention for the Vicuña. The signatory States are those that have natural vicuña populations that have joined efforts to promote the conservation of the species. The Convention for the Vicuña is a basic international instrument for the conservation of the species.

Initially, the Convention focused on the strict protection of the vicuña in order to permit the recovery of populations that were threatened with extinction in all countries. Thanks to the convention, vicuña populations have made significant recoveries throughout the range, and this has led the signatory States to implement gradually a process for using its fibre.

This convention is a means of regulation, but above all it promotes cooperation and an exchange of experiences that should lead to strengthening each country's management capacity and the obtention of benefits from the use of this species.

All countries have ratified the CITES Convention on use and international trade. Bolivia has made a considerable effort in the past few years to improve the application of the convention within Bolivia.

4.2 Species management

The Bolivian government seeks to promote the use of vicuña fibre through the management of natural populations by the shearing live animals. This requires strengthening social and administrative organizations for the monitoring of populations and the enforcement of legislation.

While it is true that Bolivia has little experience with the capture and the shearing of live vicuñas, the techniques developed in other countries, especially Peru, have been tested. It is felt that they can be used without problems, because the Peruvian authorities are quite willing to provide technical assistance, and the two countries share many cultural and natural similarities.

It is for these reasons that management activities emphasize improving administrative capacity and organization and procedures; and not experimental shearing which is not necessary at this time.

4.2.1 Population monitoring

The supervision of vicuña populations has been carried out under the sub-programme for monitoring of the National Programme for the Conservation of the Vicuña. Monitoring is the periodic survey of the vicuña and its habitat to gather information for decisions about the management of populations.

The permanent monitoring of the species is one of the main tasks of management, especially now that the phase for the use of the vicuña is about to begin.

The information produced in the 1996 Vicuña Census is the benchmark that will be used to measure populational variations that might occur as a result of the beginning of the operational phase. In addition, a map of the distribution of vicuñas and a population database will be prepared using the census data (DNCB, in preparation). All of this will be incorporated into a System of Geographical Information linked with the database of the DNCB-SI in order to have access to the means needed to follow population changes. This database will form part of the Central Vicuña Registry.

Population monitoring is based on the following activities:

1. The rural communities granted custodianship of vicuña populations register them taking into account the jurisdiction of the rural community and the population's territory.
2. The DNCB declares the area with a natural vicuña population under custodianship of one or more rural communities to be a Comunal Management Area (AMC). The AMC will be register with its name, boundaries, the number of animals found there and the name of the communities responsible for this area.

3. Game wardens designated by the DNCB and guards designated by the rural communities with technical support of the departmental governments will carry out the permanent monitoring of the vicuña populations, submitting monthly reports on the number of vicuñas and their condition.
4. Once a year, the DNCB, in coordination with the departamental government and with the participation of the game wardens and the guards, will carry out a census, either direct or by sampling, in order to determine variations in the size and structure of populations.
5. All of this information will be processed and analysed in the Central Vicuña Registry (RUV) that will provide annually the information required to establish protection measures and to authorize quotas.

The responsibility for periodic surveys will be delegated to the 5 departamental governments in light of administrative decentralization. This measure represents an important increase in the operational capacity of the government to monitor regularly the vicuña populations. Until now, this monitoring has been carried out from La Paz for all of the country.

4.2.2 Habitat conservation

The National Programme for the Conservation of the Vicuña will be carried out based on the management of natural populations, without attempting to raise vicuña in captivity or semi-captivity. The maintenance and improvement of the natural habitat is a fundamental aim. Three types of measures will be taken:

- the Vicuña Management Plans (PMV) prepared for each Comunal Management Area provide for the creation of administrative zones and guarantee the sustainable use of the vicuña and its compatibility with other activities and conservation of the habitat.
- the Land Use Plans (PLUS), prepared at the departamental level, apply the same principles and assign areas for the vicuña, but on a different scale. The PLUS are important because they have a regulatory function and they are mandatory. There are already two plans approved in the country (in the departments of Santa Cruz and Pando) and financing has been approved for the PLUS on the altiplano and they are being prepared.
- some programmes such as the Programa Nacional de Lucha contra la Desertificación y la Sequía (PRONALDES), have begun with components aimed at the recovery of ecosystems on the altiplano sponsored by the United Nations and the Plan de Acción Forestal para Bolivia, sponsored by the FAO.

The system of registration provided for the AMC will permit the identification of land holdings in areas with vicuñas and the possibilities of identifying areas that remain public under communal responsibility.

4.2.3 Management measures

In Bolivia, the overall management of the vicuña is carried out under the National Programme for the Conservation of the Vicuña. This programme establishes a sub-programme for use that requires the transfer of several vicuña populations to Appendix II in order to carry out the activities in three pilot areas described under paragraph 2.3.

The proposals to use the vicuña in Bolivia are based on the progressive incorporation of populations into the productive process. Activities will begin in pilot areas providing experience and management capacity making possible their application to other areas with vicuñas in the country later.

Three pilot areas have been selected using the 1996 vicuña census data, with criteria of size and condition of the vicuña populations and with the involvement and organization of the rural communities. In these pilot areas, shearing and the training of the communities will generate experience that will be used to adapt the regulations and procedures before being applied to new areas.

The use of vicuña fibre will be authorized only from wild natural populations, obtained by live shearing. The rural communities in the pilot areas, after having registered the Communal Management Area in accordance with the provisions in paragraph 4.2.1 of this proposal will begin use operations taking into account the following steps:

1. Preparation of the five-year Vicuña Management Plan (PMV) by the DNCB and with the participation of the communities. The plan will have the following aspects:

- 1 The objective of the management of the vicuña populations.
- 2 The defining of the AMC, its area, boundaries and registration number.
- 3 Description of the environment and the activities carried out by the community for the management of pastures, livestock and cultivated fields.
- 4 Study of the size, structure and distribution of vicuña populations and an analysis of population dynamics and the habitat.
- 5 Preparation of the proposal to create zones in the area indicating the use assigned to each space taking into account the management of vicuña, livestock and cultivated fields.
- 6 Planning of protection activities to be carried out by the community.
- 7 Planning of monitoring activities taking into account the periodic survey of the state of populations and their habitats.
- 8 Planning for use taking into account the number of animals sheared, the dates, the grading and washing of fibre, health measures to be taken, etc.
- 9 Description of other activities, especially agricultural and livestock raising, to be carried out and harmonization with the management of the vicuña.
- 10 Proposal for investment in conservation of the vicuña and the distribution of benefits.
- 11 An economic study.
- 12 Other activities complementary to the management of the vicuña such as eco-tourism, research, etc.

2. Economic organization of the rural communities for the management tasks during use, processing and trade.

3. Experimental shearing to promote the training and experience of a greater number of local inhabitants.

4. Use of the fibre to weave cloth, to test grades and request the registration of the designation.

5. Shearing for the international trade in cloth. Acceptance of bids for the fibre from the manufacturers who will weave the cloth.

6. Sale of cloth and distribution of benefits among the local communities.

Activities will not be carried out simultaneously in all the pilot areas. It is planned to incorporate vicuña populations progressively into the productive process. This will be strictly monitored and decisions will be made in light of their conditions.

The National Programme for the Conservation of the Vicuña receives financing from the Netherlands to begin activities in this new phase. It is planned to assure continuity by charging fees during the process of commercialization.

4.3 Control measures

4.3.1 International trade

Within Bolivia, the application of CITES has been reinforced by the publication of teaching materials and training activities. A programme has been prepared for training customs officials in the identification of species subject to CITES control.

On the international level, measures are being coordinated. Furthermore, the government of Bolivia has agreed to present periodic reports on the progress and results of shearing activities, its transformation and trade, including the status of populations to the regular meetings of the Technical-Administrative Commission of the Vicuña Convention.

4.3.2 Domestic measures

During the past year, the number of game wardens has doubled, and the capacity to monitor the protected areas has been strengthened. The dissemination of information has begun in order to create interest among the inhabitants. Special attention has been given to informing the public about the ramifications

of the CITES Convention using didactic material. Customs and police officials have been trained in the identification of specimens whose trade is subject to CITES regulation.

Preparation has been made for the signing of agreements that provide for the formal participation of public officials in the regulatory process.

The System of Protection of the Vicuña (SVV) is composed of the following elements:

The game wardens, named by the DNCB, are responsible for the protection and the monitoring of the vicuña populations in each vicuña conservation unit.

The guards, named by the rural communities responsible for custodianship, to participate in the work of the game wardens in the areas of communal management (ACM).

The park rangers are responsible for supervising the vicuña populations in the protected areas.

The national police and the armed forces (FFAA) will support the inspection, confiscation and other activities in the field and in the cities.

Customs inspections will check CITES documentation at the borders and the airports.

The DNCB is responsible for the regulation and coordination of the activities of all the participants in the System of Protection of the Vicuña.

5. Information on Similar Species

Vicuñas are clearly differentiated from the domesticated species of llama and alpaca. The guanaco is the most similar species, but is not found on the Bolivian altiplano. There are several unconfirmed reports of guanaco seen in the south, outside of the areas that are the object of this proposal.

6. Other Comments

The provisions of Resolution Conf. 8.21 of the Eighth Conference of the Parties of CITES have been implemented. It is recommended that any proposal to amend the Appendices should be carried out in consultation with the range States for this species. This proposal was presented to the XVI Meeting of the Convention for the Vicuña, and the backing of the signatories was obtained (See resolution 167/96 in annex).

The Sub-programme on Use will be coordinated with the Specialized Group on South American Camelidae of the IUCN, the signatories to the Convention for the Vicuña and the CITES Secretariat.

7. Additional Remarks

In summary, the following social and economic criteria justify this proposal:

- In Bolivia as in the other countries, the vicuña's range coincides with areas of poverty where a large part of the land is considered marginal for agricultural and livestock.
- The information provided by the census and the periodical surveys since 1980 show a continuous increase in vicuña populations in Bolivia. In large part, the success of the recuperation of the populations is the result of the effort and involvement of the rural communities which have participated, in the expectation of receiving medium-term benefits.
- The implementation of programmes for use of the vicuña in Peru and Chile have created high expectations in the rural communities. The number of requests for authorization to begin use have increased.
- In addition, an increase in numbers has led to an increase in the competition between the vicuña and other agricultural and livestock activities that share the same areas. This situation will soon become intolerable if expectations of obtaining economic benefits from the vicuña are not satisfied.

- A clear signal should be given to the communities to show that the phase of preservation is over and that a new phase has begun that will lead gradually to the various vicuña populations beginning to produce an income. This signal should indicate that there is a possibility of selling vicuña products on the international market.

The lifting of the ban and the approval of norms regulating the use of the vicuña that the Bolivian government should be backed up by the transfer of Appendices that guarantees the possibility of acceding to the international market for vicuña products.

During the 1996 vicuña census, the national administration, the game wardens from all of the rural communities participated and cooperated with the government. All parties recognize the importance of these regulations and look forward to favourable results.

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