CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Transfer to Appendix II of the populations of vicuña (*Vicugna vicugna*) of Bolivia that are in Appendix I, in accordance with Article II, paragraph 2.(a), of the Convention, with the exclusive purpose of allowing international trade in products made from wool sheared from live animals and bearing the label "VICUÑA – BOLIVIA"

Currently, approximately 70 per cent of the total vicuña population in Bolivia is listed in Appendix II while 30 per cent is still in Appendix I.

B. Proponent

Republic of Bolivia.

C. Supporting statement

1. Taxonomy

1.1	Class:	Mammalia	
1.2	Order:	Artiodactyla	
1.3	Family:	Camelidae	
1.4	Genus:	*Vicugna vicugna*, Molina 1872	
1.5	Scientific synonyms:	---	
1.6	Common names:	English:	vicuña
		French:	vigogne
		Spanish:	vicuña
		Aymara:	huari
		German:	Vikunja
		Quechua:	vicuña
1.7	Code number:	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 inhabits the upper Andes of south-eastern Peru, western Bolivia, north-eastern Chile and north-western Argentina (San Martín and Bryant, 1987) between latitudes of 7° and 34° south (Hofmann, 1971), at altitudes of 3,800 to 4,600 m (Glade, 1982), in a temperature range from between 5° and 15°C down to -18°C, and in a rarefied atmosphere with variable humidity, ranging from very low during the dry season to very high during the rainy season (Calle, 1982). The vicuña is currently distributed throughout an area that

extends from a latitude of 9°30 to 29°00 south (Torres, 1992) as it has also been introduced into Ecuador.

2.1.2 Distribution in Bolivia

In Bolivia, the vicuña is distributed over the Altiplano and upper Andean regions of the Departments of La Paz, Oruro, Potosí, Cochabamba and Tarija at altitudes of 3,800 to 5,000 m. Its area of distribution is between the latitudes of 14°42´ and 22°54´ south and the longitudes of 64°50´ and 69°38´ west (Map 1). This region comprises 167,000 km^2 (Alzérreca, 1982), of which the vicuña currently inhabits 34,283.56 km^2. It is estimated that the net area that can be inhabited by the vicuña is 99,703.72 km^2 (DNCB, 1997).

2.2 Habitat availability

2.2.1 Description of the natural environment

Vicuña populations in Bolivia inhabit two principal ecological regions: the upper Andes and the high Andean plateau, or *puna.* The following description is based primarily on the work entitled *Regiones Ecológicas de Bolivia* [Ecological Regions of Bolivia] (Ribera, 1992):

The upper Andean region comprises the more humid eastern and drier western mountain ranges surrounding the Altiplano, ranging from 4,200 to over 5,000 m. This region is extremely oligothermal, with ice all the year round and low precipitation (less than 700 mm), which generally falls in the form of snow or hail.

The *puna* corresponds to the plateau of the Altiplano, with altitudes ranging from 3,700 to 4,200 m. As one moves from north to south, the humidity decreases, and there is thus a distinction between the humid *puna* and the arid one. The average annual precipitation varies from 700 mm in the north to some 50 mm or less in the south.

Vegetation constitutes low-lying prairie, dominated by tough and siliciferous grasses, such as *Stipa ichu* and *Festuca dolichophylla,* and creeping, rosetted plants in compact clumps. There are marsh areas that are flooded all the year round, that provide excellent grazing for camelids. Clumps of *Azorella compacta* and *Werneria aretioides* are representative. There are also thickets of thola (*Parastrephia* spp. and *Baccharis* spp.) and vestigial copses of queñua (*Polylepis* spp).

2.2.2 Land use

The Agrarian Reform of 1953 granted land to the peasants in two ways. One was by consolidating land granted to those native communities that had the usufruct rights to their land from colonial times, a widespread situation within the upper Andean region. The other was by giving land to individual landholders for those communities under a landowner – a situation that was more common in the *puna*, especially in the north-east, where the best land is located. In both cases, land is used for extensive cattle ranching and subsistence agriculture.

2.3 Population status

2.3.1 Internationally

Based on data presented by the Parties in country reports to the Technical-Administrative Commission of the Vicuña Convention, the current size of the vicuña populations in its five range States was compared to the 1981 figures (Table 1).

Table 1. Size of vicuña populations in South America

Country	1981 population	% of total	2001 population	% of total	Source
Argentina	8,155 *	10	33,414 **	14.71	Argentina Report, * (1981 data), **(1998 data)
Bolivia	4,493 *	5	56,383 ***	24.82	Bolivia Report, * (1981 data), ***(2002 data)
Chile	7,990 *	10	16,899 ***	7.44	Chile Report, * (1981 data), ***(2002 data)
Ecuador	0	0	1,827 ***	0.8	Ecuador Report, ***(2002 data)
Peru	61,896 *	75	118,678 ***	52.23	Peru Report, * (1981 data), ***(2002 data)
TOTAL	**82,534**	**100**	**227,201**	**100**	

Based on this information, the vicuña populations of Argentina, Bolivia, Chile, Ecuador and Peru total 227,201 animals, and are demonstrating an increase throughout the Andean region of South America.

2.3.2 Vicuña population status in Bolivia

In Bolivia, the increase of 22,539 specimens recorded between 1996 and 2001 (Table 2) is due both to a population increase and to the addition of 18 areas in which populations were counted. However, the total number of vicuña included in the census with these new areas was only 4,683 individuals in 2001 (8.3 per cent of the total). These populations had not been detected previously because they were small and isolated.

Within the area of distribution of the vicuña, Bolivia has eight protected areas under the National System of Protected Areas (SNAP), which are in different management categories. These areas harbour 24 per cent (13,537 specimens) of the country's vicuña population. Table 3 presents the following information on the protected areas: surface area, number of vicuña, percentage of the total within the SNAP, percentage of the total national population, and population density.

The greatest number of vicuña, 8,299 specimens, or 61.3 percent, are in the Apolobamba National Natural Integrated Management Area, formerly the Ulla Ulla National Wildlife Preserve. Second in numbers is the Sajama National Park with 25.86 per cent (3,500 vicuñas), while the population is more sparse in the remaining protected areas, which have fewer than eight hundred.

Table 2. Number of vicuñas in Bolivia 1996 - 2001

Vicuña Management and Conservation Unit	No. of vicuñas 1996	No. of vicuñas 1999	No. of vicuñas 2000	No. of vicuñas 2001
Ulla Ulla	6,536	7,522	8,245	8,299
Mauri – Desaguadero	7,800	11,202	13,964	14,117
Patacamaya – Malla	414	444	467	487
Mauri – Sabaya	2,308	3,788	3,934	7,084
Desaguadero – Poopo	2,198	2,535	2,798	2,126
Altamachi – Morochata	790	790	790	790
Uyuni	3,513	3,597	3,547	3,460
Lípez – Chichas	9,057	14,192	13,816	18,297
Tupiza – Sama	1,279	1,092	1,673	1,723
NATIONAL TOTAL	**33,844**	**45,162**	**49,234**	**56,383**

Source: DGB, SERNAP, 2002

Table 3. Vicuña population in protected areas

Protected area	Area in hectares	Number of vicuñas	% of population in SNAP	% of national total	Density vicuña / ha
1. Apolobamba National Natural Integrated Management Area (Ulla Ulla)	100,000	8,299	61.31	14.72	0.08
2. Sajama National Park	120,000	3,500	25.86	6.21	0.03
3. Eduardo Avaroa Wildlife Preserve	714,745	378	2.79	0.67	0.00
4. Huancaroma Wildlife Refuge	8,000	20	0.15	0.03	0.00
5. Yura National Wildlife Preserve	10,000	207	1.53	0.37	0.02
6. Incakasani – Altamachi Preserve	23,300	790	5.83	1.40	0.03
7. Llica National Park	13,100	16	0.12	0.02	0.00
8. Cordillera Sama Biological Preserve	108,500	327	2.41	0.58	0.00
Total	**1,097,645**	**13,537**	**100.00**	**24.00**	

Source: Vicuña Census and Monitoring, DGB and SERNAP, 2001

2.4 Population trends

Table 2 shows the increase in vicuña population over the last five years and, since there is still available habitat (Map 1), it may be assumed that the vicuña population will continue to grow. Although the unoccupied area comprises 99,703.72 km^2 and the vicuña currently inhabits only 34,283.56 km^2, in other words 25.6 per cent of the potential habitat, there is no detailed evaluation of how much of that 74 per cent is definitely habitable by the vicuña (DNCB, 1997). Consequently, it is not possible to project the potential growth of the current population precisely.

2.5 Geographic trends

As can be seen on Map 1, which shows distribution, the potential area for vicuñas, estimated at 99,703.72 km^2 (DNCB, 1997), is well above the current area occupied by this species (34,283.56 km^2). The available area offers conditions that allow the vicuña to continue expanding throughout the Andean and upper Andean region of Bolivia.

2.6 Role of the species in its ecosystem

The vicuña is the largest herbivore in most of its area of distribution. It has few natural predators. Only the puma (*Felis concolor*) could have a significant impact on its numbers, primarily affecting young, sick or old animals. Like the llama and alpaca, the vicuña has adapted itself to the ecosystems of the upper Andes, which means that it inhabits ecosystems at altitudes difficult for other mammals of its size to reach. Its haemoglobin has an oxygen dissociation curve that evidences a greater degree of saturation than the haemoglobin of most mammals at the partial pressures found near 4,000 m. The shape of its upper lip allows it to select its food and bite off leaves without pulling plants up by the root. Moreover, its toes have cushions that do not damage the ground as do the hooves of other ungulates.

Its ecological, economic and social importance make the vicuña a key species within the ecosystem, and it may be considered an 'umbrella' or emblematic species since the actions taken to protect it have served to protect other wildlife, such as the Andean cat (*Oreailurus jacobita*), the North Andean deer (*Hippocamelus antisensis*), the lesser rhea or puna rhea (*Pterocnemia pennata*) and the condor (*Vultur gryphus*).

2.7 Threats

Primary threats to the vicuña are poaching, natural predators and mortality caused by external parasites.

2.7.1 Poaching

Individual poaching of vicuña may be called 'subsistence poaching', in that it is done by the local inhabitants. This is attributable to the fact that the peasants live in conditions of extreme poverty.

Poaching for profit is done by bands of hunters using motorcycles and modern weapons, as was done in the 'Toledo' protection area, in which it was estimated that 500 vicuñas were killed, representing 11.828 per cent of the total local population and 0.935 per cent of the national population.

For the rest of the country, it has been estimated that 300 vicuñas are killed annually, representing 0.561 per cent of the total population. We also assume that a similar number of undetected deaths occur, bringing total mortality from poaching alone to 2.057 per cent.

2.7.2 Predators

Owing to its opportunistic feeding habits, the puma (*Felis concolor*) has preyed on local flocks of llama, alpaca and sheep as these breeds are easier to catch than the vicuña. This has had a considerable economic impact on the region's marginal production structure. Community members relate that the puma is responsible for the deaths of llamas and vicuñas, especially in the province of Sud Lípez of the Potosí Department and in the Sajama Province of the Oruro Department. These provinces include rocky and mountainous zones, considered to be the puma's natural habitat.

The fox (*Pseudolopex culpaeus*) is another natural predator, which primarily affects sheep and the young of the vicuña; the number of these deaths is not recorded.

There are no data to quantify the impact that these predators have on vicuña populations.

2.7.3 External parasites

Vicuña mortality is also caused by external parasites, such as mange. The greatest incidence occurs in the Oruro Department, with approximately 300 vicuñas infected, while the La Paz Department estimates that 50 vicuñas are infected (ANMINA).

Although there are other parasites, such as ticks and fleas, these do not cause mortality.

3. Utilization and trade

3.1 Domestic use

Currently in Bolivia, women (*Cholitas*) can be seen wearing traditional vicuña ponchos during traditional or patron saints' celebrations. These products are handcrafted, from spinning to weaving, and of a reasonable quality. In spite of the cultural importance of this, trade is illegal and the wool is obtained from animals that have been killed (in poaching).

3.2 Legal international trade

It has not yet been possible to market fabric from vicuña wool within the framework of CITES since commercial production is only just being launched.

The accumulated stock of vicuña wool sheared from live animals and included in CITES Appendix II totals 195 kg. In addition, there are 196 whole hides, 89 half hides, 25 hides from young animals and 83 scrap pieces stored in Ulla Ulla as well as 10 hides from dead animals (adults and young) stored at the Directorate-General for Biodiversity (DGB).

3.3 Illegal trade

The traditional use described in point 3.1 occurs in spite of the ban on trade in vicuña products. It is difficult to prevent this use due to the country's traditions and the extreme poverty of the communities; therefore, it is problematic to record the volume traded.

3.4 Actual or potential trade impacts

The actual impacts of producing income to improve the living conditions of rural settlers by legal trade in vicuña products are of great importance for the Bolivian Altiplano. Some of the provinces that have the principal vicuña populations are among the poorest in the country. From the agricultural perspective, these provinces are poor and, in some cases, marginal. At birth, the life expectancy of an inhabitant of the northern provinces of Potosí is 46.

Making an projection on the basis of 40 per cent of the wild population (22,553 vicuñas) and the annual average production of 4,000 kg of wool, trade would represent an income of USD 400,000 for communities that have vicuñas. From every perspective, the impact would be positive.

One of the significant foreseeable effects of trading the wool through the Vicuña Management and Conservation Programme within the framework of the Vicuña Convention and the CITES Convention is the appropriation of the vicuña as a production resource by the native communities of the Altiplano. Currently, peasant communities do not hunt vicuña for cultural reasons as they consider it a sacred animal or one of high cultural value. However, with the increased density of vicuña populations, the conflict between local farming and these animals has increased greatly in

some areas. The vicuña affects crops such as alfalfa and barley as well as the marshes that support domesticated stock, such as llamas and alpacas. In view of the region's poverty, it is notable that there is as little poaching as there is, since the animal does not represent great value to the settlers and has become a pest. The possibility of profiting from trade then offers the option of changing this negative relationship with the local inhabitants to a positive one. Finally, it must be noted that catching these animals for shearing resulted in the mortality of only 0.76 per cent of the animals caught per year in Bolivia.

3.5 Captive breeding

The Patacamaya Experimental Station has a herd of 65 vicuñas (37 adults, six juveniles and 22 young) kept in partial captivity, strictly for research. The station also serves as a rescue centre for orphaned young. This facility is under the Departmental Service of Agriculture and Animal Husbandry.

4. Conservation and management

4.1 Legal status

Structural reforms implemented in Bolivia since 1993 have introduced the issue of natural resource management into public policies and have created programmes in the government administration for establishing processes that promote the sustainable use and management of resources from biodiversity. In this regard, the country has focused its efforts on implementing two policy guidelines to conserve the vicuña:

- creating conditions for the sustainable use of the species, with the participation of peasant communities; and
- protecting the vicuña throughout its area of distribution.

However, the effectiveness of the conservation measures based on control has been limited. Even though there are 37 game wardens responsible for controlling poaching in the Altiplano, which use up approximately 30 per cent of the budget allocated to the Biodiversity Office (DGB), they do not have the resources to do their work effectively. Their principal contribution involves monitoring the status of populations rather than repressing poachers. Each warden has very limited means and is responsible for an average of 20 to 96 thousand hectares. Thus, control is unthinkable without community support and this support will only be possible if there is a benefit to the settlers (see trade impacts above).

The current situation in which only some villages (Pilot Centres) are allowed to use vicuña wool is incomprehensible to the inhabitants of neighbouring or distant areas, which are not allowed to use this resource. This fact hinders the implementation of the harvesting programme, which is the only channel whereby the current conflict between the vicuña and human populations of the Bolivian Altiplano is to be resolved.

4.1.1 National

Legal provisions governing wildlife conservation and the vicuña include:

- Environmental Act (Law No. 1333 of 1992), which establishes the sustainable use of authorized species based on technical, scientific and economic information.
- Executive Order governing Wildlife, National Parks, Hunting and Fishing (No. 12301 of 1975), which defines the use of wildlife under governmental regulation and administration.

- General and Indefinite Closed Season Order (Supreme Decree No. 22641 of 1990, Supreme Decree No. 25458 of 1999) for wildlife species, which stipulates that this order may only be lifted by another decree.

- Regulations on the Conservation and Management of Vicuña (Supreme Decree No. 24529 of 1997), which contains two main provisions: a) it grants peasant communities custody of the vicuña for purposes of protection and recovery; b) it grants these communities the exclusive right to utilize vicuñas.

4.1.2 International

The **Vicuña Management and Conservation Convention** is a fundamental international instrument for protecting the species. This convention constitutes not only a facility for control, but more especially one for cooperation and the exchange of experiences to strengthen each country's management abilities and obtain greater benefits from the species.

Additionally, all of the countries participating in the Vicuña Convention have ratified the **CITES Convention** within which all international trade and harvesting activities have been conducted.

4.2 Species management

Bolivia's experience in catching and shearing the vicuña has developed with the use of technologies tested in Peru and Chile. Thus, vicuña management activities have focused more on improving administrative capacity on the organizational and procedural levels than on exploring new technologies.

In accordance with current law, the stress is being laid on keeping records in the community-managed areas and on the organization of Regional Vicuña Management Associations established in Apolobamba, Machaqa, Nor Pacajes, Paca Jaqis and Sud Lípez.

4.2.1 Population monitoring

Monitoring the species is a central activity, especially now that the harvesting phase has begun, and is based on the following measures:

a. Peasant communities with custody over the vicuña populations are keeping records of them, considering the geographical scope of their jurisdictions and of the vicuña populations.

b. The Ministry of Sustainable Development and Planning will issue an order, declaring the area containing a native vicuña population to be a Community-Managed Area (AMC) under the custody of one or more peasant communities. Furthermore, a record will be kept of the name of the AMC, its boundaries, the number of animals it contains and the name of the responsible communities.

c. Ministry game wardens, SERNAP park rangers and community observers are monitoring vicuña populations, drafting monthly reports on their number and conditions.

d. Once a year, the Directorate-General for Biodiversity, assisted by game wardens and community observers, conducts a census, particularly in the "Mauri-Desaguadero" and "Sud Lípez" pilot areas. At the "Ulla Ulla" Pilot Centre, personnel from the Apolobamba National Natural Integrated Management Area, part of the National System of Protected Areas, have assumed responsibility for taking the annual census.

4.2.2 Habitat conservation

There are two ways to maintain and improve the vicuña's natural habitat:

- Vicuña Management Plans (PMV), which include establishing zones, the manner in which the territory will be managed and compatibility between other activities and habitat conservation.

- Land Use Plans (PLUS), prepared at the department level, which follow the same principles and allocate the space required for wildlife on a larger scale. Land Use Plans are important since they are regulatory instruments, with which compliance is compulsory.

4.2.3 Management measures

Native wild vicuña populations may be utilized only for live shearing. Peasant communities beginning the harvesting process must first meet the following conditions:

1. A five-year Vicuña Management Plan (PMV) has to be drafted.

2. The communities have to organize themselves economically to administer the harvesting, transformation and marketing processes as a business.

3. During the catching and shearing of the vicuña, the training and education of local community members have to be promoted.

4. The wool has to be used for the international trade in luxury handicrafts or fabrics.

5. The profits have to be distributed among the communities.

4.3 Control measures

4.3.1 International trade

The national capacity to apply CITES has been strengthened through training and publicity, particularly with the Ministry of Foreign Trade and the Customs Authority. The Government of Bolivia has promised to submit regular reports on the progress and outcome of shearing, transformation and trade activities as well as on the status of vicuña populations at the ordinary meetings of the Technical-Administrative Commission of the Vicuña Convention.

4.3.2 Domestic measures

Domestically, the country's ability to meet its commitments to CITES has been reinforced through training and publicity, particularly in the departmental prefectures. Additionally, conventions have been established to structure the introduction of the police and armed forces into the process in order to control illegal activities associated with the vicuña.

The process of disseminating vicuña conservation and management regulations is continuing, with special attention placed on the scope of the CITES Convention.

The Vicuña Monitoring System comprises:

- **Game wardens**, who are responsible for monitoring and protecting the vicuña in community-managed areas.

- **Community observers**, who are responsible for custody and work closely with the game wardens.

- **Park rangers**, who are responsible for controlling and protecting vicuñas within the protected areas.

- The **National Police** and the **Armed Forces**, who are responsible for lending support to confiscation and other activities.

- **Customs inspectors**, who verify CITES documentation at border posts and airports.

The DGB is responsible for regulating and coordinating the activities of all participants in the Vicuña Monitoring System as the technical division of the CITES Management Authority.

5. Information on similar species

Vicuñas are clearly different from the domesticated llama and alpaca and the undomesticated guanaco. There are reports of a very small number of guanacos outside the areas occupied by the vicuña in Bolivia. Vicuña fleece may be mistaken for the fleece of certain-coloured alpacas, although the two breeds can be distinguished by fibre length.

6. Other comments

In summary, the following socio-economic criteria justify the proposal:

- Data as of 1980 show a continuous population increase.

- The beginning of commercial use in Peru and Chile has created great expectations in peasant communities, with increased requests being made to begin commercial use within the country.

- The areas in which the vicuña is distributed coincide with areas in which the human populations record high poverty levels and where lands are marginal for agriculture and cattle ranching. Without the support of this population, control is not possible.

- The increased populations of vicuña have also caused increased competition between the vicuña and the agricultural and livestock activities sharing the same space.

- The manner whereby the resource may be accessed according to the provisions of the Vicuña Convention and the CITES Convention is limited to the shearing of live animals. This means that it is not economically feasible for the smallest and most vulnerable populations to be involved.

- The implementation of the commercial harvesting programme throughout the area in which the vicuña is distributed is the only way whereby it will be possible to resolve the current conflict between the vicuña and human populations of the Bolivian Altiplano, improve the control of legal activities and promote the conservation of this species in Bolivia.

- The logic of having some populations in Appendix I and others in Appendix II is not conducive to conservation; rather it is illogical in the case of the vicuña in Bolivia.

- Countries within the area in which vicuñas are distributed have considered the proposal for transferring the remaining vicuña populations currently in Appendix I to Appendix II, and have formally approved and supported the proposal at the XXI Ordinary Meeting of the Technical-Administrative Commission of the Vicuña Convention by means of Resolution No. 241/02 of 28 March 2002.

7. Additional remarks

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8. References

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Map 1. Distribution of Vicuña in Bolivia