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Illegal wildlife trade in the Himalayan region of China

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Abstract. The Himalayan region of China, with its rich biodiversity, used to be important for hunting and collecting of medicinal plants. In the past decades, conservation attitudes and legislation for wildlife conservation have developed rapidly in China. Increasing numbers of species are listed in the state protection list and local protection lists. In the Himalayan region, the area of natural reserves is high accounting for 70% of total area of natural reserves in China. However, wildlife in Himalayan region is suffering from illegal hunting and trade even after China has enforced the China Wildlife Protection Law (CWPL). The illegal wildlife trade and smuggling across Sino-neighbouring country borders and illegal wildlife trade related to domestic use flourish in the region. Although domestic illegal trade has declined in the past ten years, international illegal trade and smuggling continue, and are even expanding, thereby threatening survival of many endangered species such as the Tibetan antelope (*Pantholops hodgsoni*), Giant panda (*Ailuropoda melanoleuca*) and Saker Falcon (*Falco cherrug*). Illegal wildlife trade in the region is attributed to four factors. First, the CWPL is still imperfect, especially concerning illegal trade and smuggling across borders. Second, CWPL is not fully enforced. Third, infrastructure in many nature reserves is undeveloped and human resources are lacking. Fourth, protection is hampered by differences in the laws of neighbouring countries, differences in penalties and in degrees of protection. Furthermore, national legislation is often not fully enforced in areas that are inhabited mainly by tribal and minority communities.

Key words: biodiversity, CITES, Giant panda, Himalayan region, illegal wildlife trade, legislation, Saker Falcon

Introduction

The Himalayan region in China including Tibet (Xizang), Qinghai, part of Gansu, Yunnan, Sichuan and Xinjiang province is a vast area of about 2.5 million km², one fourth of China's total land area with a population of only about 13 million. Because of its special geological and climatic conditions ranging from humid tropical forests to alpine and arid areas, this region is rich in biodiversity. Endemic fauna is especially diverse (Feng and Cai 1986; Zheng et al. 1983; Peng 1995).

While rich in biodiversity, the Himalayan region in China is a relatively less developed area where local people have traditionally exploited natural resources sustainably for thousands of years, and where cultural diversity has promoted the

use of these resources in a diverse way. Wildlife and wildlife products continue to be important in local peoples' lives. Both Tibetan Medicines (TM) and the Traditional Chinese Medicines (TCM) have been used for a very long time and are still widely used.

The area has also served as an important link along the 'silk route' for thousands of years. Two thousand years ago, goods from China, including silk, furs and medicines were exported to Pakistan, India, Italy and the other Mediterranean countries (Sheng 1985; Li 1991). In return, goods including ivory, rhinoceros horn, pearls, coral, rare animals and other articles were transported to China. Already by the West Han Dynasty (206 BC–25 AD), this trade existed between China and the Himalayan countries, and the trade flourished during the Ming Dynasty (1368–1644 AD). Besides ivory, rhinoceros horn, pearls and musk, some rare animals were imported to China. For example, the King of Bangladesh gave the ruler of China a giraffe as a gift. This was the first recorded giraffe in China (Sheng 1985). Furthermore, medicinal materials and wildlife were traded on a regular basis already in 100 AD along the trade route from the southern province of Yunnan in China to Burma and on to India (OuYang 1993). Since 600 AD, Tibet has had a thriving trade in furs and medicines across borders with Nepal, Bhutan and India (Xiao et al. 1993). For instance, in 1927, India exported furs to a value of about 1.2 million rupees equalling ca. 5% of the total trade value between India and Xinjiang, China (Liu et al. 1987).

Although trade in wildlife has a long history in the Himalayan region, it is now threatening the survival of many species, and the sustainable use of wildlife resources in the region. Illegal wildlife trade is a concern across the world (Wang and Li 1998; Martin 1997; Wright and Kumar 1997), but it is difficult to study and thus little is known about it. This paper provides an insight into the illegal wildlife trade in the Himalayan region. We first review the development of regulations regarding wildlife trade in China and in the Himalayan region. We then examine the current conservation status of fauna in the region, and discuss the dynamics of illegal wildlife trade. We will especially focus on illegal trade related to smuggling abroad.

Development of wildlife trade regulations in China and the Himalayan region

Chinese laws related to wildlife conservation originate from ancient times. Already during the Xia dynasty (2100–1700 BC) laws banned hunting of wildlife in particular times of the year (Zhang 1992). The Xizhou dynasty (1100–770 BC) had banned harvesting of young mammals and bird eggs. During the Qing dynasty (200 BC) 'Laws for Fields' prohibited hunting young mammals and birds, and collecting bird eggs from February to June (Fan and Song 1998). Since the Qing Dynasty, almost all of the dynasties had articles related to wildlife conservation in their legislation (Zhang 1992).

The modern norms and laws for wildlife conservation in China were established very late. The first nature reserve in China, Dinghushan Nature Reserve in Guangdong province in southern China, was established in 1956. On the other hand, some local governments encouraged people to hunt wildlife in the 1950s (Shou 1957). Between 1950s and early 1980s, state-owned enterprises were in charge of wildlife hunting. A great quantity of live wildlife and skins was exported to Hong Kong, and via Hong Kong to other countries (Wang and Li 1998; Li and Li 1997a).

To improve the management of hunting, the Chinese Government issued an instruction 'strengthening wildlife resource conservation, encouraging breeding and rational use of wildlife' in 1958 establishing consciousness for wildlife conservation in China (Liyu 1987). However, the instruction urged the active development of the hunting industry (Zu 1959), and therefore it is no surprise that the instruction did little to slow the exploitation of wildlife resources. From 1960s to the early 1980s hunting wildlife was legal. For example, China exported on average 20 million skins of wild mammals annually between 1950s–1980s, earning US\$ 10 million each year (CWE 1989). The animals hunted included threatened species. For instance, from 1950 to 1979, at least 96 Amur Tigers (*Panthera tigris*) were killed in Helongjiang province, and at least 24 Amur Tigers were killed between 1967 and 1978 in Jiling province (Li Y-M, unpublished data). Even in reserves, hunting of rare and endangered animals often took place.

The Himalayan region was an important exporter of wildlife and wildlife products (Wang and Li 1998). Between 1950 and 1985, 46 species of mammals were commonly hunted for skin export. In Qinghai province, about 3.1 million skins of the Alpine marmot (*Marmota marmota*), about 1.4 million skins of other animals and about 332 000 pairs of wild birds were purchased for export in 1965–1984 (Northwest Plateau Institute of Biology 1990). Furthermore, for medicinal use, 18 607 kg of deer pilose antlers and 1218 kg of musk were purchased. Until the 1980s, most wildlife resources for export were over-exploited in China (Li and Li 1997a).

In China, the legislation for wildlife conservation developed rapidly after 1980. A legislative reform was carried out in 1978 after which business in wildlife and its products entered a transitional period from the planned economy to the market economy. Today private companies are playing an increasingly significant role in wildlife hunting and manufacturing of wildlife products (Li and Li 1996) which is a new threat to wildlife in China. In 1983, the Chinese Government issued a general order for 'tightly conserving precious and rare wild animals', showing that the Government of China is beginning to pay attention to wildlife conservation. The same year, the Ministry of Forestry, and the Ministry of Agriculture, Animal Husbandry and Fishery drafted 'regulations on wildlife resource management' which was an embryonic form of the 'Wildlife Protection Laws of China'. Also in 1983, the China Wildlife Protection Association was founded to distribute information about wildlife conservation and to educate people. In addition, the first wildlife conservation organization related to the Himalayan region in China – Northwest China Five Provinces

Wildlife Conservation Committee – was established in 1983 to coordinate wildlife conservation development in the provinces of Gansu, Xinjiang, Qinghai, Shanxi and Ningxia.

In spite of these new regulations and associations, smuggling in wildlife and wildlife products had increased by mid-1980s. Even skins of the Giant Panda (*Ailuropoda melanoleuca*) were smuggled abroad, which prompted attention from the Chinese government, and speeded establishment of legislation for wildlife conservation in China. The highest court of China informed the standard of penal discretion for cases related to the Giant Panda in 1987. In 1988, National People Council issued standard of penal discretion for cases involving illegal hunting and illegal trade in wildlife. These two standards became an important foundation of legislation for wildlife conservation.

The first legislation for wildlife conservation – China Wildlife Protection Law (CWPL) – was promulgated in November of 1988 and enforced on 1 March 1989. A state protection list (SPL) was included in the CWPL. The two annexes entitled ‘Animals under State’s Special Protection (ASSP)’ include 96 species (Appendix I (also called Category I)) and 161 species (Appendix II (also called Category II)). The CWPL states that ‘wildlife resources belong to the state’, and ‘prohibits hunting, selling, purchasing and transporting ASSP and their products’, and that ‘anyone who wishing to catch, tame, sell, transport, import or export ASSP or its products due to a special reason must have a permit issued by the state or provinces’. For instance, hunters must have hunting permits issued by the local government, and there is a hunting quota for species. To enforce the CWPL effectively, the Chinese Government issued the ‘regulations on terrestrial wildlife protection enforcement’, ‘regulations on aquatic wildlife protection enforcement’ and ‘regulations on natural reserves’ in 1992 and 1994.

Chinese legislation related to wildlife conservation has developed fast during the 1980s and the early 1990s. Legislation related to wildlife habitat conservation such as ‘land management laws’, ‘forestry laws’ and ‘rangeland laws’ were enforced in 1984, 1985 and 1986, respectively. The legislation related to wildlife use such as ‘fishery laws’, ‘regulations on wild medicine material resource management’ and ‘animal and plant quarantine laws’ were enforced in 1986, 1987 and 1992, respectively.

Internationally, China became a member of CITES in 1981. The same year China and Japan signed a convention on conserving migratory birds and their habitats. China signed a similar convention with Australia in 1989. China signed the RAMSAR Convention and Biodiversity Convention in 1992. These conventions play an important role in conserving wildlife in China and the world, and they also contribute to regulatory development and have become important complementary regulations for CWPL.

In accordance with the CWPL and the conventions, most provinces in China issued their wildlife protection regulations and province wildlife protection lists. In the Himalayan region, Sichuan, Tibet and Gansu issued their provincial lists. The number

of protected animals including species listed as ASSP, appendix I and II of CITES and province protection list consist of 231 species in the Himalayan region (Table 1).

Numbers of protected areas, reflecting conservation concerns in China, increased slowly before 1978. In 1965, China only had 19 natural reserves, of which three were for conservation of the Giant panda in the Himalayan region. The area of the three reserves accounted for only 0.03% of the total area of the Himalayan region, lower than that of the area of Chinese reserves in total (0.07%). The number and area of natural reserves have increased considerably after 1978. In 1995, the Himalayan region had 68 natural reserves, covering 20% of the region; a proportion three times higher than that in the rest of China. About 70% of the area of natural reserves in China is in the Himalayan region. This suggests that nature reserves in the region are the main body of natural reserves in China. The conservation status of the natural reserves in the region probably determines the success or failure of conservation in China.

Illegal wildlife trade across Sino-neighbouring country borders in the Himalayan region

There is illegal wildlife trade across the Sino-Burma, Sino-Nepal, Sino-India and Sino-Pakistan borders. Individuals and products of eleven species of mammals, at least seven species of birds and at least six species of reptiles were confiscated at the Sino-Burma border and at domestic Yunnan borders in China in 1994–1995 (Table 2). These include 11 species listed in Appendix I and II of CITES, and 10 species listed in the state protection list. Obviously, the number of species and volume of trade is much higher than those confiscated, but it is difficult to estimate how much higher.

Tiger-based products from Burma were confiscated on the Chinese border twice during 1994–1995 suggesting that these products are actively traded across the Sino-Burma border (Table 2). Furthermore, rhino horns have been traded across Sino-Burma border, but the volume is unknown. Only a small part of the species traded stays in the border zone: most is transported to other cities in Yunnan and other provinces of China.

The traded species and wildlife products are used for food, medicines and pets. For instance, Hill Mynas (*Gracula religiosa*) are traded for pets in China, and especially in the Indo-Malayan region the volume of trade of Hill Mynas is high (Nash 1993).

The illegal trade across the Sino-Nepal and Sino-India border is active. The wool (Shahtoosh) of the Tibetan antelope (*Pantholops hodgsoni*) is involved in the trade. For example, in the summer of 1997 the Ali custom point in Tibet at the border between China and India seized 684.5 kg of Shatoosh equalling the weight of wool of six thousand Tibetan antelopes (Zhang 1997). Furthermore, it is believed that Saker Falcons are illegally traded across Sino-Pakistan border, but no data are available.

Table 1. The conservation status of wildlife in Himalayan region in China. Status: 1 = species on Category 1 of SPL; 2 = species on Category 2 of SPL; I = species on Appendix I of CITES; II = species on appendix of CITES; 3 = species on Tibet protection list; 4 = species on Sichuan protection; 5 = species on Gansu protection list.

Scientific name status	Scientific name status	Scientific name status	Scientific name status		
Mammalia	<i>Neofelis nebulosa</i>	1, I	<i>Athene noctua</i>	2, II	
<i>Aeretes melanopterus</i>	4	<i>Nyctereutes procyonoides</i>	5	<i>Bambusicola fitchii</i>	4
<i>Ailuropoda melanoleuca</i>	1, I	<i>Otocolobus manul</i>	2	<i>Bonasa swerzowi</i>	1
<i>Ailurus fulgens</i>	2, I	<i>Ovis ammon</i>	2, I	<i>Botaurus stellaris</i>	4
<i>Aonyx cinerea</i>	2, II	<i>Paguma larvata</i>	5	<i>Bubo bubo</i>	2, II
<i>Bos gaurus</i>	3	<i>Panthera pardus</i>	1, I	<i>Buceros bicornis</i>	2, II
<i>B. gunniensis</i>	1, I	<i>P. tigris</i>	1, I	<i>Butastur teesa</i>	2, II
<i>Budorcas taxicolor</i>	1	<i>Pantholops hodgsoni</i>	1, I	<i>Buteo buteo</i>	2, II
<i>Capra sibirica</i>	1, I	<i>Paradoxurus hermaphroditus</i>	4	<i>B. hemiliasius</i>	2, II
<i>Capreolus capreolus</i>	5	<i>Petaurista petaurista</i>	4	<i>B. rufinus</i>	2, II
<i>Capricornis sumatraensis</i>	2, I	<i>Presbytis entellus</i>	1, I	<i>Butorides striatus</i>	4
<i>Catopuma temmincki</i>	2, I	<i>P. geei</i>	1, I	<i>Cacomantis. merulinus</i>	4
<i>Cervus albirostris</i>	1	<i>Prionailurus bengalensis</i>	3, 4, I	<i>C. sonneratii</i>	4
<i>C. elaphus</i>	2, I	<i>Prionodon pardicolor</i>	2	<i>Caprimulgus indicus</i>	4
<i>C. unicolor</i>	2	<i>Procapra prae picticaudata</i>	2	<i>Chrysolophus amherstiae</i>	2
<i>Cuon alpinus</i>	2, II	<i>P. walskii</i>	1	<i>C. pictus</i>	3
<i>Elaphodus cephalophus</i>	3, 4, 5	<i>Pseudois nayaur</i>	2, I	<i>Ciconia ciconia</i>	1, I
<i>Equus kiang</i>	1	<i>P. schaeferi</i>	3, 4	<i>C. nigra</i>	1, II
<i>Felis bieti</i>	2, II	<i>Pygathrix bieti</i>	1, II	<i>Circus aeruginosus</i>	2, II
<i>F. chaus</i>	2, II	<i>P. roxellana</i>	1, II	<i>C. cyaneus</i>	2, II
<i>Gazella subguttarosa</i>	2	<i>Rhinoceros unicornis</i>	3, I	<i>C. macrourus</i>	2, II
<i>Helarctos malayanus</i>	1, I	<i>Uncia uncia</i>	1, I	<i>Clamator cormandus</i>	4
<i>Hemitragus jemlahicus</i>	1	<i>Ursus arctos</i>	2, II	<i>Columba leuconota</i>	5
<i>Hylobates hooock</i>	1, I	<i>U. thibetanus</i>	2, I	<i>Corvus corax</i>	5
<i>Lutra lutra</i>	2, I	<i>Viverra zibetha</i>	2	<i>Crex crex</i>	1, II
<i>Lynx lynx</i>	2, II	<i>Viverricula indica</i>	2	<i>Crossoptilon harmani</i>	2, I
<i>Macaca assamensis</i>	1, I	<i>Vulpes ferrilata</i>	3, 4, 5	<i>Cuculus sparverioides</i>	4
<i>M. mulatta</i>	2, II	<i>V. vulpes</i>	3, 4, 5	<i>C. fugax</i>	4
<i>M. nemestrina</i>	2, II	Aves		<i>Dryocopus martius</i>	4
<i>M. thibetana</i>	2, II	<i>Accipiter gentilis</i>	2, II	<i>Dupetor flavicollis</i>	4
<i>Manis pentadactyla</i>	2, II	<i>A. nisus</i>	2, II	<i>Egretta alba</i>	5
<i>Martes flavigula</i>	3, 2	<i>A. virgatus</i>	2, II	<i>E. garzetta</i>	5
<i>M. foina</i>	2, 3	<i>Aceros nipalensis</i>	2, II	<i>E. intermedia</i>	4
<i>Moschus berezovskii</i>	2, I	<i>Aegypius monachus</i>	2, II	<i>Eupodotis bengalensis</i>	1, I
<i>M. chrysogaster</i>	2, II	<i>Anser albifrons</i>	2	<i>Falco cherrug</i>	2, II
<i>M. fuscus</i>	2, II	<i>A. anser</i>	5	<i>F. columbarius</i>	2, II
<i>M. moschiferus</i>	2, I	<i>A. cygnoides</i>	4	<i>F. subbuteo</i>	2, II
<i>Muntiacus muntiac</i>	3	<i>A. indicus</i>	3, 5	<i>F. tinnunculus</i>	2, II
<i>M. reevesi</i>	5	<i>Anthracoceros malayanus</i>	2, II	<i>Francolinus pintadeanus</i>	4
<i>Mustela altaica</i>	3, 4	<i>Anthropoides virgo</i>	2, II	<i>Gallix crex cinerea</i>	4
<i>M. eversmanni</i>	3	<i>Apus affinis</i>	4	<i>Gallinula chloropus</i>	4
<i>M. nivalis</i>	4	<i>Aquila chrysaetos</i>	1, II	<i>Glaucidium cuculoides</i>	2, II
<i>M. putorius</i>	3, 4	<i>A. heliaca</i>	1, I	<i>Grus grus</i>	2, II
<i>M. sibirica</i>	3	<i>A. rupux</i>	2, II	<i>G. nigricollis</i>	1, I
<i>Naemohedus Baileyi</i>	1, I	<i>Asio otus</i>	2, II	<i>Gypaetus barbatus</i>	1, II
<i>N. goral</i>	2, I	<i>A. flammeus</i>	2, II	<i>Gyps himalayensis</i>	2, I

Table 1. Continued.

Scientific name status	Scientific name status	Scientific name status	Scientific name status
<i>Haliaeetus albicilla</i>	1, I	<i>Podiceps ruficollis</i>	4
<i>H. leucoryphus</i>	1, II	<i>P. cristatus</i>	4
<i>Haliaeetus indus</i>	2, II	<i>P. nigricollis</i>	4
<i>Harpactes erythrocephalus</i>	4	<i>Polyplectron bicalcaratum</i>	1, II
<i>Hirundapus caudacutus</i>	4	<i>Porzana bicolor</i>	2, II
<i>Hydrophasianus chirurgus</i>	4	<i>P. fusca</i>	4
<i>Ithaginis cruentus</i>	2, II	<i>Psittacula alexandri</i>	2, II
<i>Ixobrychus sinensis</i>	4	<i>P. derbiana</i>	2, II
<i>I. cinnamomus</i>	4	<i>Pucrasia macrolopha</i>	2
<i>I. eurhythmus</i>	4	<i>Rostratula benghalensis</i>	4
<i>Larus argentatus</i>	4	<i>Spilornis cheela</i>	2, II
<i>L. brunnicapillus</i>	4	<i>Spizaetus nipalensis</i>	2, II
<i>L. crassirostris</i>	4	<i>Sterna hirundo</i>	4
<i>L. ichthyaetus</i>	4	<i>Strix aluco</i>	2, II
<i>Leptoptilos javanicus</i>	4	<i>Syrrhaptes tibetanus</i>	3,4
<i>Lerwa lerwa</i>	4	<i>Tetraogallus tibetanus</i>	2, I
<i>Loicichla omeiensis</i>	4	<i>T. himalayensis</i>	2
<i>Lophophorus impejanus</i>	1, I	<i>T. obscurus</i>	1
<i>L. thuyssii</i>	1, I	<i>Tragopan melanocephalus</i>	1, I
<i>L. sclateri</i>	1, I	<i>T. blythii</i>	1, I
<i>Lophura leucomelana</i>	2	<i>T. satyra</i>	1
<i>Megalaima virens</i>	4	<i>T. temminckii</i>	2
<i>Mergus serrator</i>	4,5	<i>Treron sphenura</i>	2
<i>M. castor</i>	5	<i>Tringa erythropus</i>	4
<i>Milvus milvus</i>	2, II	Reptilia	
<i>Mycteria leucocephala</i>	2	<i>Deinagkistrodon acutus</i>	4
<i>Netta rufina</i>	5	<i>Elaphe perlacea</i>	4
<i>Pandion halietus</i>	2, II	<i>Japalura grahami</i>	4
<i>Pavo muticus</i>	1, II	<i>Oligodon multizonatum</i>	4
<i>Phalacrocorax carbo</i>	4	<i>Ophisaurus gracilis</i>	3
<i>Phasianus colchicus</i>	3	<i>Python molurus</i>	1, II
<i>Picus flavinucha</i>	4	Amphibia	
<i>Platalea leucorodia</i>	2, II	<i>Batrachuperus longdongensis</i>	4
		<i>B. pinchonii</i>	4
		<i>B. tibetanus</i>	3
		<i>Hyla tsinlingensis</i>	4
		<i>Hylarana daunchina</i>	4
		<i>Microhylidae(all species)</i>	5
		<i>Oreolalax liangbeiensis</i>	4
		<i>Polypedates hungfuensis</i>	4
		<i>Rana chensinensis</i>	4
		<i>Ranidae (all species)</i>	5
		<i>Ranodon shihi</i>	4
		<i>Scutigera chintingsis</i>	4
		<i>Tylotriton verrucosus</i>	2
		<i>Vibrissaphora boringii</i>	4
		Insecta	
		<i>Zorotypus sinensis</i>	2
		<i>Z. medoensis</i>	2
		Pisces	
		<i>Anabarilius liui</i>	4
		<i>A. qoihaiensis</i>	4
		<i>Belligobio pengxianensis</i>	4
		<i>Cobitis rarus</i>	4
		<i>Coreius septentrionalis</i>	5
		<i>C. chengtuenensis</i>	4
		<i>Ctenogobius szechuanensis</i>	
		<i>Hemimyzon yaotianensis</i>	
		<i>Leptobotia elongata</i>	4
		<i>L. microphtha</i>	4
		<i>Percocypris pingi</i>	4
		<i>Procypris rabaudi</i>	4
		<i>Salmo trutta</i>	3
		<i>Schizothorax chongi</i>	4
		<i>S. cryptolepis</i>	4
		<i>Zacco chengtui</i>	4

Illegal wildlife trade through smuggling in the Himalayan region

There is much illegal trade related to smuggling to other countries from the Chinese Himalayan region. The three main species involved in this trade are the Tibetan antelope, the Giant panda and Saker Falcon (*Falco cherrug*). The volumes of the smuggling of these species are large and affect illegal wildlife trade in many other countries in the world because of great profits.

The Tibetan antelope is an endemic species in Himalayan region (Yang and Feng 1998), listed in Appendix I of CITES and Category I of China Wildlife Protection Law. In China, the population of Tibetan antelope was about 100 000 individuals in the early 1990s (Yang and Feng 1998). Its wool, known as Shahtoosh (king of wool), has long been prized for its extraordinary warmth and softness, and has traditionally

Table 2. Data on wildlife and its products confiscated by local forestry bureau in Sino-Burma border areas of Yunnan (YN) province in 1994–1995 (Wang and Li 1998).

Scientific name	Type of wildlife	Origin	Destination	Quantity	Nationality of traders
Mammalia					
<i>Ailurus fulgens</i>	Live individuals	China	Tengchong of YN	1	Chinese
<i>Panthera tigris</i>	Skeletons	Burma	Tengchong of YN	1	Burmese
	Skins	Burma	Liuku of YN	1	Burmese
<i>Manis pentadactyla</i>	Live individuals	Burma	Ruili, Baoshan of YN	14	Chinese
	Scales	Burma	Inland of China	35 kg	Chinese
<i>Ursus thibetanus</i>	Live individuals	Burma	Hebei province of China	2	Chinese
	Paws	Burma	Ruili of YN	10	Chinese
<i>Neofelis nebulosa</i>	Live individuals	Burma	Inland of China	2	Chinese, Burmese
<i>Elephas maximus</i>	Skins	Burma	Inland, Ruili	98 kg	Burmese, Chinese
<i>Macaca nemestrina</i>	Live individuals	Burma	Inland of China	1	Chinese
<i>Macaca mulatta</i>	Live individuals	Burma	Inl. China, Ruili of YN	3	Chinese, Burmese
<i>Macaca assamensis</i>	Live individuals	Burma	Ruili of YN	1	Chinese
<i>Viverricula indian</i>	Live individuals	?	Inland of China	2	Chinese
<i>Paguma larvata</i>	Live individuals	?	Inland of China	2	Chinese
Birds					
<i>Psittacula alexandri</i>	Live individuals	Burma	Inland of China	108	Burmese, Chinese
<i>Polyplectron bicalcaratum</i>	Feather (singles)	Burma	Kunming of YN	70 000	Chinese
<i>Gyps fulvus</i>	Live individuals	China	Shidian of YN	43	Chinese
<i>Phasianus colchicus</i>	Live individuals	China	Baoshan of YN	34	Chinese
<i>Gracula religiosa</i>	Live individuals	Burma	Ruili	1 094	Chinese
Eagles (not identified)	Live individuals	?	Inland of China	7	Chinese
<i>Lophura nycthemera</i>	Live individuals	?	Inland of China	71	Chinese
Reptiles					
Snakes (not identified)					
	Live individuals	?	Inl. China, Ruili of YN	1 587	Chinese
<i>Naja naja</i>	Skins	Burma	Ruili of TN	70	Chinese
<i>Elaphe taeniura</i>	Live individuals	Burma	Baoshan of YN	20	Chinese
<i>Python molurus</i>	Live individuals	Burma	Baoshan of YN	53	Chinese
<i>Varanus salvator</i>	Skins	Burma	Ruili of YN	14	Chinese
	Live individuals	China, Burma	Tengchong, Ruili of YN	17	Chinese
Tortoises (not identified)	Live individuals	Burma	Tengchong of YN	8	Chinese

been used in the manufacture of shawls (Kumar 1993). In 1992, the price of Shahtoosh was about US\$ 1250/kg (Kumar 1993). China exported a small volume of skins of Tibetan antelope before 1985 (Wang and Li 1998), but large-scale illegal hunting of the antelope started in Kekexili natural reserve in Qinghai in 1989. From there hunting spread to Aejinshan natural reserve in Xinjiang in 1992 and to nature reserves in Tibet in 1994. The wool is usually smuggled from Tibet to India via Nepal, and from India to European countries such as Italy and France. It has been estimated that about 20 000 Tibetan antelopes are killed annually (China Forestry Bureau 1999). The Chinese Government pays much attention to the illegal hunting and trade in Tibetan antelope. For instance, about 17 000 skins and dead bodies, and 1100 kg of Shahtoosh were confiscated from illegal hunters and traders in 1989–1998 (China Forestry Bureau 1999). Most confiscations occurred in Qinghai and Xinjiang. However, the illegal trade continues and spreads to other areas where Tibetan antelope occurs.

The Giant panda occurs in the eastern edge areas of the Himalayan region, a border area of Sichuan, Gansu and Shanxi (Hu 1998). With a population of about 1000 individuals it is one of the most endangered species in the world. Threats to the Giant panda include deforestation, habitat fragmentation and hunting (Hu 1998). Illegal hunting and trade began in the mid-1980s, but the scale of this operation has been unknown. At least 52 skins of the Giant panda were confiscated in 30 cases of illegal trade from 1987 to 1998 (Table 3) (Li Y-M, unpublished data). Of these skins 45 came from Sichuan, 5 from Shanxi and 2 from Gansu. The figure of 52 hunted animals is an underestimate because many cases related to the Giant panda are not public. For example, there were 153 cases of illegal trade in the Giant panda during 1989–1992.

From 1987 to 1998, 30 cases of illegal trade in the Giant panda occurred in many provinces, such as Sichuan, Guangdong (at least five cases), Shanghai, Shanxi, Hubei, Gansu, Fujian (at least four cases), Qinghai, Hunan, Beijing and Shanxi. About one third of the cases occurred in Sichuan. The skins of the Giant panda are smuggled from Fujian and Guangdong to Taiwan and Hong Kong, and from there to other countries. According to China Forestry Bureau skin of giant panda may cost as much as US\$ 100 000 in the black markets in Taiwan and Hong Kong.

The penalty for illegal hunting and trade in the Giant panda is very high, from imprisonment to death. At least seven illegal hunters and traders have been sentenced to death and hundreds to prison (Li Y-M, unpublished data).

At present, lumbering activities in the distribution area of the Giant panda have been stopped, and conservation work for establishing corridors for the species between habitat fragments is being carried out (Fan and Wang 1993). In spite of these efforts, the Giant panda remains threatened because illegal hunting and trade continues, becoming the main threat to the survival of the species.

The Saker Falcon is a species listed in Appendix II of CITES and Category II of the state of China protection list. The species occurs in the provinces of Xinjiang, Qinghai, Gansu, Tibet, Hebei and Ningxia (Zheng 1994). In the Middle East, the

Table 3. Numbers of the Giant Panda and Saker Falcon confiscated in China during 1987–1998 and 1992–1998, respectively. Source: Li Yiming, unpublished data.

Year	Giant panda (skins)	Saker falcon (individuals)
1987	7	
1988	3	
1989	6	
1990	10	
1991	3	
1992	3	19
1993	2	38
1994	2	79
1995	7	378
1996	4	245
1997	3	174
1998	2	14
Total	52	947

Saker Falcon is a symbol of wealth and power, and a well-trained bird may be sold for as much as US\$ 100 000 or even more (Cai 1996). In China, the price of a bird is only tens of dollars. The great profits from the trade in the Saker Falcon encourage international smugglers to come to China to capture or purchase live specimens.

Illegal capturing of the Saker Falcon began in Xinjiang in 1992 and spread quickly (Table 3). In 1994, most of illegal capturing took place in Qinghai, in 1996 in Ninxia and in 1997 in Inner Mongolia. A total of 954 Saker Falcons was confiscated by local governments and customs between 1992 and 1998, and about two thousand smugglers were arrested (information collected by Li Yiming from forestry bureaus and customs offices in Xinjiang, Qinghai, Gansu, Inner Mongolia and Beijing). Most of the smugglers are Pakistanis, and they usually come from Pakistan, the United Arab Emirates and even Germany. The penalty for illegal trade and capturing is a small fine (usually a few tens of US\$) and deportation from China. However, most smugglers return to smuggling because of the high profits and light penalty.

There are different routes of Saker Falcon trade from China to the Arab countries. A large proportion of the birds are smuggled through Beijing. A total of 354 Saker Falcons involving 28 cases were confiscated at Beijing airport since the first case in October 1993 (Li Y-M, unpublished data). Many Saker Falcons are brought to Arab countries through the Xinjiang-Pakistan border, aboard Xinjiang-Arab country airlines, from Guangzhou to overseas on airplanes, over Yunnan borders and so on (Wang and Li 1998).

The mortality rate of the Saker Falcons is very high during capture and transportation. Customs and local forestry officers often find dead and sick birds among the confiscated Saker Falcons (Cai 1996; Wang and Li 1998). Although the number

of Saker Falcons confiscated decreased in 1997–1998, it does not necessarily mean that the illegal trade has diminished. Illegal capturing and trade of Saker Falcon still exists, and may spread to other Saker Falcon habitats in China.

Illegal wildlife trade within China

Illegal hunting and trade in wildlife are commonly practised in the Himalayan region in China. During 1994–1997 about 40% of illegal wildlife trade in China occurred in the region (Cheng 1994; Zhang 1995, 1996, 1997). The species with the most volume of trade is Alpine musk deer (*Moschus chrysogaster*) (Table 4). At least 60 000 musks were confiscated during 1989–1998 equalling the same number of male musk deer killed. Red deer (*Cervus elaphus*), Tibetan gazelle (*Procapra picticaudata*), Mongolian gazelle (*P. gutturosa*), Bharal (*Pseudois nayaur*), Snow leopard (*Uncia uncia*) and Asiatic black bear (*Ursus thibetanus*) were also hunted and traded heavily (Table 4). However, the volume of species involved in domestic illegal trade and hunting has declined since 1995. For example, most hunting and trade in the Mongolian gazelle, Bharal, Tibetan gazelle and snow leopard occurred before 1993. Furthermore, most confiscations of musk and deer pilose antlers took place before 1995.

An example of the volume of illegal wildlife trade within China are the confiscation records from the city of Xian, the largest city in the northwest of China. During six months in 1995 parts of at least 9 species were confiscated in Xian (Table 5). Six of these species are listed on the state protection list.

Himalayan wildlife and wildlife products are commonly used in Tibetan and traditional Chinese medicine. Both types of medicinal practices are popular and have a long history in the region. Most Chinese, including Tibetans and other minorities, rely on the traditional medicines even today. Tibetan medicines originated about 2300 years ago (Qiang 1996), and the number of species used in is high. For instance, in Yunnan province over 6100 species of plants and 372 species of animals are used in traditional medicines (Table 6). Approximately 130 species of animals are used in Tibetan medicine (Yang 1993), and 15% of these species are also used in traditional Chinese medicine (Yang and Chu 1987). About 10% of these species come from Nepal and India, suggesting that there must be a lot of illegal trade for traditional medicines across the border between China and Nepal, and China and India, as well as between Himalayan region and other parts of China. It is also notable that tiger bone is used in traditional Tibetan medicine.

It is evident that illegal trade for Tibetan medicines and traditional Chinese medicines continues. Although China Wildlife Protection Law prohibits the medicinal use of the species listed as ASSP, such as deer antler and musk, illegal trade in the species continues. For instance, only a small proportion of the total deer pilose antler and musk used in medicines comes from captive-bred animals; most is from wild animals (Guo et al. 1997). Despite a decline in the volumes of deer pilose antler and

Table 4. Information on confiscation of main species listed on Animals under State's Special Protection (ASSP) related to domestic trade in Himalayan region during 1989–1998. Source: data provided by the forestry bureaus of Qinghai, Xinjiang, Tibet, Gansu, Sichuan and Ninxia.

Species	Parts traded	Quantity	Origin	Provinces where confiscated
<i>Procapra gutturosa</i>	Dead body	> 9500 ind.	Qinghai, Xinjiang	Qinghai, Xinjiang
	Meat	thousands kg	Qinghai	Sanxi
<i>P. picticaudata</i>	Skins	624	Qinghai, Tibetan	Qinghai, Tibetan
<i>Capricornis sumatraensis</i>	Meat	thousands kg	Qinghai	Sanxi
<i>Gazella subgutturosa</i>	Meat	thousands kg	Qinghai	Sanxi
<i>Naemorhedus goral</i>	Meat	thousands kg	Qinghai	Sanxi
<i>Ovis ammon</i>	Skins	29	Qinghai, Xinjiang	Qinghai, Xinjiang
<i>Cervus elaphus</i>	Skins	118	Qinghai, Xinjiang	Qinghai, Xinjiang
	Skins	180*	Qinghai	Qinghai
	Antler pilose	88	Qinghai, Tibetan	Qinghai, Tibetan
<i>C. albirostris</i>	Skins	8	Qinghai	Qinghai
<i>Moschus chrysogaster</i>	Skins	60 000 singles	Qinghai	Qinghai
	Musk	204	Qinghai, Tibetan	Qinghai, Tibetan
<i>Bos grunniens</i>	Skins	4	Qinghai	Qinghai
<i>Equus kiang</i>	Skins	3	Qinghai	Qinghai
<i>Canis lupus</i>	Skins	10	Qinghai	Qinghai
<i>Lynx lynx</i>	Skins	1	Qinghai	Qinghai
<i>Octocolobus manul</i>	Skins	42	Qinghai	Qinghai
<i>Uncia uncia</i>	Skins	30	Qinghai, Xinjiang	Qinghai, Xinjiang
<i>Panthera tigris</i>	Dead body	1	Tibetan	Tibetan
	Skins	1	Tibetan	Tibetan
	Skulls	1	Tibetan	Tibetan
<i>Ursus thibetanus</i>	Skins	5	Gansu, Sichuan	Gansu, Sichuan
	Live	23 ind.	Sichuan	Hebei, Guangxi, Liaonin
	Paws	188	Sichuan	Hebei, Guangxi, Liaonin
<i>Pygathrix rexellana</i>	Gallbladders	2	Sichuan	Hebei
	Skins	5	Gansu	Gansu

* Including antler piloses of *Cervus elaphus* and *C. albirostris*.

Table 5. Data on wildlife and its products confiscated in Xian by Shanxi Forestry Bureau during May–October 1995 (Wang and Li 1998).

Scientific names	Parts	Origin	Quantity
Mammals			
<i>Bos grunniens</i>	Skulls	Himalayan region	5
<i>Procapra gutturosa</i>	Skulls	Northeast of China	5
<i>Procapra picticaudata</i>	Skulls	Himalayan region	3
<i>Pantholops hodgsoni</i>	Skulls	Himalayan region	3
<i>Nemorhaedus goral</i>	Live individuals	Himalayan region	2
<i>Ursus thibetanus</i>	Live individuals	Himalayan region	2
Birds			
<i>Grus grus</i>	specimen	Eco-Himalayan	1
<i>Phasianus colchicus</i>	Specimen	Shanxi	1
Eagle (not identified)	Specimen	Shanxi	1
Snakes (not identified)	Live individual	Shanxi	2

Table 6. Number of species used in CTM and TM in Xizang, Qinghai and Yunnan in China (Wang and Li 1998).

Province	Number of species		Data source
	Plants	Animals	
Yunnan	6157	372	Yunnan Medicines Material Company (1993)
Xizang	957	130	Yang (1993)
Qinghai	1508	100*	Northwest Plateau Institute of Biology (1989)

* Vertebrates only.

musk purchased in Himalayan region during 1990–1995, illegal trade in the region continues (Guo et al. 1997). In Qinghai province, a decline of some species due to illegal trade has led to a fall in production of medicines containing deer pilose antler, musk and bear gall bladder (Zhou et al. 1994).

Discussion

In China, the modern legislation for wildlife conservation was established for three reasons. First, wildlife is seriously threatened in China. At least six species of mammals are considered to be extinct from the wild (WCMC 1992; Li and Li 1994; Wang 1998), including Przewalski's horse (*Equus przewalskii*), David's deer (*Elaphurus davidianus*), and Saiga antelope (*Saiga tatarica*). Other species, such as the Giant panda and tiger are critically endangered. Almost all wildlife resources are over-used in China (CWE 1989), affecting the development of economy and environmental protection in China.

Second, international conventions for wildlife conservation have accelerated the need for modern legislation for wildlife conservation in China. After the conventions have been signed, corresponding national laws are required.

Third, China began a period of reform of the planned economy in 1978. The management policy of the state-owned hunting and wildlife companies before 1978 was not suitable for private companies in wildlife trade. Furthermore, the state-owned companies have not been able to control the illegal wildlife trade. Therefore, there was an increasing demand for legislation to control the illegal trade.

The development of regulations for wildlife conservation in China is reflected in the conservation status of wildlife in the Himalayan region as more species become protected by law. However, development of wildlife conservation in the Himalayan region still lags behind the general level of wildlife conservation in China because most reserves in the region were established quite recently. Today, nature reserves in the region constitute the main body of the protected areas in China.

Although large areas of the Himalayan region are now protected, the heaviest illegal hunting and trade in China occurs in there. Two changes are evident in the illegal wildlife trade. On the one hand, illegal trade related to the domestic black market, such as the illegal fur and medicine trade, has declined during the recent years. On the other hand, international illegal trade continues and spreads, despite improved control practices. Consequently, illegal trade has become a main threat to the survival of wildlife in the Himalayan region.

Illegal wildlife hunting and trade in the Himalayan region in China reflects the weaknesses of CWPL and problems in enforcement of the laws. The CWPL is still imperfect (Zhang and Zhang 1993; Wang 1998). For instance, Wang (1998) suggested that one of the weaknesses of CWPL is that penalties are too low and difficult to apply in practice. Furthermore, there is a need to revise the state protection list because the conservation status of many species has changed during 10 years since the establishment of the CWPL (Wang 1998).

The power of the CWPL is especially limited as regards international smuggling—for instance across the Sino-Russian border (Chan 1995; Makswhinuk and Zhirnov 1995) and across the Sino-Vietnam border (Li and Li 1996, 1997a–c, 1998). The illegal trade across the Sino-Vietnam border began in 1989 (Li and Li 1998), and is connected to the illegal wildlife trade in many provinces of China, Hong Kong, Macao and countries in Southeast Asia. Although bi-lateral meetings for controlling the illegal trade between China and Vietnam were held in 1995 and 1998, the effects were very limited, and the trade continues.

The illegal trade across the Sino-Russian borders began in the late of 1980s. Horn of the Saiga antelope and other wildlife products including tiger bone are traded. To control the illegal trade, the CITES Conference placed the Saiga antelope in Appendix II of CITES in 1993. As a result, the volume of trade in Saiga horn had declined by 1995, but has not stopped entirely (Li Y-M, unpublished data).

An additional weakness in the CWPL is that it does not deal with foreign hunters and traders. Therefore, there is no standard penalty to foreigners. For example, thousands of Pakistanis illegally hunt and purchase Saker Falcon, but if caught, the penalty is usually so small that it does not discourage them from continuing with the lucrative trade. Thus, there is a need to establish 'regulations for wildlife import and export' to complement the CWPL (Wang 1998).

Another problem is that nature reserves in the Himalayan region suffer from lack of funding. For example, one of largest reserves in China and the main site for Tibetan antelope, the Kekexili Nature Reserve (45 000 km²) in Qinghai, has only 19 officers with insufficient equipment for patrolling the reserve. Illegal hunters and traders often go free because forestry police do not have adequate funds to detect and investigate the cases properly. Furthermore, many local residents in the region have no knowledge of wildlife conservation and CWPL. Thus, to conserve wildlife in the region, there is a need to enforce the CWPL, improve the park officers' ability to efficiently patrol and guard the park, and to educate local residents about wildlife conservation.

All countries in the Himalayan region have laws for biodiversity conservation (Wang and Li 1998). China, India, Pakistan, Burma and Nepal are parties to CITES, but Bhutan is not. Most of the countries in the region have incorporated and implemented some of their international obligations in their national laws, yet poaching wildlife for trade continues in the border areas, and the laws and conventions have little impact. There are several loopholes.

First, there are differences in the laws of the neighbouring countries and differences in the penalties. For example, in China a person can be sentenced to death for killing an endangered species. In Bhutan and India, however, the penalty is imprisonment for a few years and a nominal fine (Wang and Li 1998). Furthermore, often illegal trade is considered to be a bailable offence, and poacher and traders are soon free to continue their plunder (Wright and Kumar 1997). This could be a major cause of the high incidence of poaching of tiger and rhino, the demand for whose products is high in China.

Second, there are differences in degree of protection accorded to endangered animals in the different countries. For instance, the endangered Tibetan Antelope, which is an Appendix I species under CITES and has been placed in Category I of ASSP in China, has been accorded a Schedule II status in the state wildlife law of Jammu and Kashmir (disputed territories bordering China in the north). This region is a major centre for Shahtoosh trade, and being a Schedule II species, controlled trade in the antelope is permitted (Wright and Kumar 1997).

Third, national legislation is often not enforced in areas that are inhabited mainly by tribal and minority communities which is often the case in the Himalayan region. Such mechanism for control of wildlife use and trade should be formulated that take into consideration the special ethnic conditions in this region. Some governments give due recognition to the laws and customs of local people.

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