

Illegal and Unsustainable Wildlife Hunting and Trade in Mongolia

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Abstract

Recent reports and studies document dramatic declines in a wide variety of wildlife species in Mongolia. The prime driver in these declines appears to be illegal and unsustainable hunting, both for local trade and consumption and for the international market. While data on these declines are sparse, comparisons of survey reports since the 1980s present evidence that some species may have declined by up to 90% in recent years. We outline the situation for eight major species of wildlife in Mongolia (saiga antelope, Mongolian gazelle, red deer, musk deer, argali, brown bear, Siberian marmot, and saker falcon). We then review the existing legal conditions and government efforts to control this situation, and suggest specific changes and actions that Mongolia should take to halt these dramatic declines in wildlife populations and avoid what may soon become an extinction crisis.

Key words: unsustainable hunting, trade, endangered species, mammals, birds

Introduction

Mongolia's transition in the early 1990s from a relatively strong Soviet-dominated economy with strict controls over hunting and trade to a struggling free-market economy has resulted in a dramatic increase in illegal hunting and trade. A faltering economy, increased reliance on trade with China, porous borders, and little revenue and will for enforcement has led to rapid declines in a range of wildlife. Much of this hunting is for local trade or consumption, but there are a number of species in Mongolia threatened by illegal international trade, and evidence suggests that this threat is growing and beginning to spread to new species.

Unlike Southeast Asia, where the international trade focuses primarily on small animals, much of the illegal hunting and trade in Mongolia is directed at larger mammals. Red deer (*Cervus elaphus*),

musk deer (*Moschus moschiferus*), Mongolian gazelle (*Procapra gutturosa*), saiga antelope (*Saiga tatarica*), brown bear (*Ursus arctos*), and a host of furbearers are the main components of the illegal trade market. As these species decrease in number, hunters and traders are already switching to other species such as moose (*Alces alces*), roe deer (*Capreolus pygargus*) and even red squirrel (*Sciurus vulgaris*) (Pratt *et al.*, 2004).

Eight examples illustrate the currently unsustainable illegal hunting and trade pressure in Mongolia.

Saiga Antelope: The Mongolian saiga antelope (*S. t. mongolica*) is a distinct subspecies long isolated from the main populations in Kazakhstan and Russia by the Altai Mountains. Saiga antelope are herd animals that live on open steppe and desert steppe communities. In Mongolia, they are found in the southwestern part of the country, primarily in Hovd and Govi-Altai Aimags.

Within the last five years, the population of Mongolia's subspecies of saiga antelope has catastrophically declined from over 5,000 to less than 800, an 85% drop (WWF 2004). The driver in this collapse is the lucrative Chinese medicinal market for saiga horn. The decline in Mongolia follows shortly after a similar collapse in the major populations of saiga in Kazakhstan and Russia, where populations have crashed from over 1 million in the early 1990s to perhaps as low as 40,000 in recent years (Millner-Gulland et al. 2001, pers. comm.). The decline is exacerbated by skewed sex ratios due to focused hunting on the horned males, which has negatively affected the populations' breeding system and its ability to recover (Millner-Gulland et al., 2003). The extremely low numbers of saiga remaining in Mongolia make them especially susceptible to stochastic events such as icy winter conditions (zuds) that could cause mass mortality and potentially drive this endemic subspecies to extinction.

Mongolian Gazelle: Mongolian gazelles still number around 1 million animals in Mongolia, and represent one of the great migratory ungulate spectacles in the world, the last such event in Asia. Historically they occurred throughout the eastern aimags and in a broad band across central Mongolia and west to the base of the Altai Mountains. Sadly, this range has dramatically constricted over the past 100 years, with much of the loss occurring in western Mongolia. Today, only a few western locations contain gazelles.

Mongolian gazelles are still common in eastern Mongolia. However, a recent hunting survey found that local herders in the eastern steppe region alone (Dornod, Sukhbaatar, and southern Khenti Aimags) take as many as 150,000 gazelles annually (K. Olson, pers. comm.). Meanwhile, urban dwellers in just one city in eastern Mongolia were estimated to consume approximately 16,000 gazelles a year, while in 2001 the Chinese customs office approved permits for 100 tons of gazelle meat (Scharf and Enkhbold 2002). Given that Mongolian gazelle harvest models suggest a total sustainable off-take of 6%, or 60,000 gazelles a year (Millner-Gulland and Lhagvasuren, 1998), Mongolian gazelles may be in the process of experiencing a decline similar to that of the Kazakhstan saiga antelope. This could be exacerbated if there is a commercial switch from saiga to gazelle horns, and evidence for this ominous trend has been found in the recent increase in price for gazelle horns.

Red Deer: Mongolia's Red deer (*C. elaphus sibiricus*) were once common throughout much of the country. They occurred in large numbers in the forested north, and occurred in lesser and more scattered numbers across much of the steppe, where they were usually found near or within wooded or hilly regions. Cover in the form of bushes or trees are critical, as it provide both protection from predators such as wolves and important food in winter in the form of browse (Chen et al., 1998).

Unfortunately, red deer have also declined catastrophically across Mongolia. According to a 1986 government assessment, the population size at that time was approximately 130,000 inhabiting 115,000 square km. The most recent population assessment in 2004 showed that only about 8,000-10,000 red deer now inhabit 15 aimags (provinces) of Mongolia. This is a 92% decline in only 18 years. While habitat loss may play a small role, illegal poaching is the primary reason for this dramatic decline. Much of the poaching and subsequent trade is directed toward the international medicinal market, and include harvesting for antlers (1 kg US\$60-100), male genital organs (US\$70-80), fetuses (US\$20-50), and female's tails (US\$50-80).

Musk Deer: Musk deer are unusual, primitive members of the deer family. Musk deer do not grow antlers – instead, males develop elongated 'tusks' that are used as sexual ornamentation and dominance. These small deer live in forested regions across much of Asia, including Mongolia. Male musk deer are hunted for their valuable scent glands, or musk pods, for which there is a heavy demand in China and Southeast Asia.

Although no recent surveys have been performed for musk deer in Mongolia, there is evidence of an unsustainable increase in hunting of this species. Over a five-year period (1995-2001), the number of musk deer traders increased by a factor of four and the number of musk pods traded increased six-fold, probably as a direct result of the six-fold price increase of a musk deer pod. Mongolian scientists believe that musk deer populations peaked at 44,000 in the 1980s due to strict state control of hunting and trade. Over the last 11 years, market-based estimates of off-take were as high as 33,000 (Tsenjav and Batbold, 2003), with a minimum estimate of 2,000 males taken every year (Holmes 2004).

Argali: Mongolia is home to the world's largest mountain sheep, the argali (*Ovis ammon*). These animals are greatly sought by foreign hunters

because of their impressive size and long, spiraling horns. Yet, argali are declining in Mongolia primarily due to an increase in poaching for meat and horns (to trade with China), predation by domestic guard dogs, and competition with domestic livestock (Reading et al. In Press).

Government figures estimated 50,000 argali in Mongolia in 1975 and 60,000 animals in 1985, but only 13,000 to 15,000 in 2001 (Amgalanbaatar et al. 2002). This is a 75% decline in just 16 years. Despite being listed as a threatened species both in Mongolia and internationally, argali trophy hunting remains legal in Mongolia and the number of licenses has been increasing, with 80 licenses offered in 2004. Trophy hunting is a lucrative business, with companies offering hunts for US\$25,000-50,000. Controversy surrounds this program, as manifested by growing local opposition, accusations of corruption by the media, and a U.S. lawsuit (Amgalanbaatar et al., 2002).

Siberian Marmot: Until recently Siberian marmots (*Marmota sibirica*) were one of the most common mammals of the steppe region in Mongolia. Marmots live in fairly large colonies and may be a 'keystone species' – e.g., they affect community structure and function at a greater level than their numbers alone might suggest (Power et al. 1996), much like prairie dogs (*Cynomys* sp.) in North America (Kotliar, 2000) and pikas (*Ochotona* sp.) in Asia (Smith and Foggin, 1999). Marmots affect vegetation around their colonies, are themselves food for a number of raptors and mammalian predators, and provide ready-made burrows for a wide variety of wildlife, from birds (*Oenanthe* sp.) to hedgehogs (*Erinaceus* sp.), foxes (*Vulpes* sp.) and Pallas' cats (*Octolobus manul*).

While there are no recent surveys to determine the decline of marmots, all circumstantial evidence points to a critical and catastrophic decline across most of their range in Mongolia. A recent hunting study found that in eastern Mongolia the observed trade volume alone was almost three times the actual hunting quota. Although the government only issues about 100,000 marmot licenses a year, 88,000 marmot skins were found in the markets of just three towns in Mongolia in 2001, while in that same year 200,000 skins were officially imported to China from Mongolia (Scharf and Enkhbold, 2002). This is undoubtedly only a fraction of the number of marmot skins that cross the border – for example, in 2003 just two seizures of illegal shipments into China totaled 37,332 marmot skins. In October of

2004, over 117,000 marmot skins were reported confiscated in a three-day raid by the State Professional Inspection Agency, and a State Inspector recommended that marmot hunting be suspended nation-wide for two to three years to help control the decline (Anonymous, 2004b).

Brown Bear: The brown bear has a holarctic distribution, occurring throughout northern Asia, Europe, and North America. Historically the brown bear occurred throughout this range north of approximately 35-40° latitude, occasionally extending southward along a number of mountain chains. In Mongolia, the brown bear occurs primarily in the northern taiga forest zone, with a small pocket of potentially genetically distinct bears isolated in the Gobi Desert, numbering between 20-40 individuals (Mallon, 1985; McCarthy, 1999).

According to a Mongolian Institute of Biology report from 1986, there were about 500 brown bears in Mongolia inhabiting 50,000 square km in 4 aimags. Since then no population surveys have been performed for brown bear in Mongolia. However, circumstantial evidence suggests that the number of brown bear and area of distribution in Mongolia has declined sharply since the early 1990s. Most likely, this is primarily due to illegal hunting and increased demand for bear body parts in the medicinal trade. A set of four paws can be sold for US\$400-500 on the black market, while a bear gall-bladder sells for US\$150-200 and the skin for US\$200-300. In an October 2004 *UB Post* newspaper article (Anonymous 2004a), it was reported that three Vietnamese nationals were captured attempting to smuggle 80 bear gall bladders out of Mongolia. Even if this were the only smuggling effort involving brown bear parts, it is still likely a sizeable fraction of the brown bears left in Mongolia.

Saker Falcon: The saker falcon (*Falco cherrug*) is widespread across Mongolia. This large falcon is unusual in that a large proportion of its prey consists of mammals – pikas, ground squirrels, and voles, including the highly cyclic Brandt's vole (*Lasiopodomys brandtii*). Saker falcons will also take avian prey, ranging from small larks and wheatears to large gulls and corvids. Because of their large size and capable hunting skill, saker falcons are highly prized among falconers.

Today, Mongolia's saker falcon population is threatened by illegal trapping, effects from Brandt's vole poisoning, and electrocution (Gombobaatar et

al., 2003). Trapping for the falconry trade, especially the export trade to the Middle East, is growing rapidly (Badam, 2001). It is not known how many falcons are legally and illegally being trapped in Mongolia each year or to what extent trapping is affecting the breeding population. 300 licences are supposedly sold each year, but as many as 250 falcons were taken by licence in 2004 from Sukhbaatar Aimag alone, and information suggests that falcons were illegally taken from other aimags such as Dornod during this time (K. Olson, pers. comm.).

In 1999, the saker falcon population was estimated at 3,000 breeding pairs (Shagdarsuren et al. 2001). However in 2000, the population dropped to an estimated 2,200 pairs and in 2003 the number of falcons breeding in 6 study sites was less than 50% that of previous years, with most sites being unproductive. Saker numbers are closely related to vole cycles (Bold and Boldbaatar, 2001) and fluctuate naturally, and the widespread use of rodenticides has caused increased falcon mortality. The extent to which these different factors contribute to the saker decline in Mongolia requires urgent analysis. However, it appears that a major factor in the recent decline has been an unsustainable trade with the Middle East in Mongolian saker falcons.

Other Species: While the eight species listed above may be the most critically endangered wildlife threatened by unsustainable hunting, other species in Mongolia are also under extreme pressure. Moose and wild boar (*Sus scrofa*) are considered to be declining in the north (Pratt et al., 2004), and ibex (*Capra sibirica*), khulan or wild ass (*Equus hemionus*), roe deer, lynx (*Lynx lynx*), red fox (*Vulpes vulpes*), corsac fox (*V. corsac*), otter (*Lutra lutra*), sable (*Martes zibellina*), wolverine (*Gulo gulo*), and Pallas' cat are all under threat and likely to be declining. These species are heavily hunted throughout their range for skins and for the international trade in body parts, and in most cases the hunting occurs outside the legal requirement for permits or quotas (Scharf & Enkbold, 2002).

Discussion

While habitat loss is considered the most crucial global threat to wildlife and overall biodiversity, this is not the case in Mongolia. Mongolia has one of the world's lowest human densities (NSO-Mongolia,

2004), and while desertification and forest loss are both an issue in the country, the prime driver of species loss in Mongolia is illegal and unsustainable hunting. Illegal hunting has become the major threat to wildlife in the last decade in Mongolia, and despite adequate available habitat, a number of wildlife species are rapidly being driven toward the brink of extinction.

The recent increase in poaching in Mongolia stems from a combination of strong demand in Asian markets for wildlife products, coupled with large numbers of people who are unemployed or struggling to make a living. We believe that successfully addressing the poaching problem will require a blend of public education programs, social development to provide alternative livelihoods for poachers, better regulation of commercial hunting and improved use of legal disincentives and incentives, reforming and vastly improving law enforcement, and creating some form of national wildlife agency.

Legal Situation: Since 1994, Mongolia has actively engaged in the development of an environmental legal regime that comprises most of the components necessary to control illegal hunting. A few critical gaps remain, however, exacerbated by a lack of capacity to implement and enforce established mandates.

A significant gap, common to many of Mongolia's environmental laws, is the lack of adequate disincentives (fines and penalties). The primary justification for the application of fines is twofold: 1) to deter the targeted behavior and 2) compensate for damage caused. The civil penalties fall far short of achieving these goals. Even though many targeted species have appreciable value, the hunting law applies fines as little as 1,000 Mongolian tugrugs (< US\$1) for certain forms of poaching (not including certain "hunnable" rare animals for which criminal charges apply). In addition, applicable fines range widely for any given violation. While the upper end fines might have some effect, the lower end of the range is so small as to be meaningless. Even in a cash poor environment, the deterrent effect of a US\$10 fine for poaching a brown bear (worth as much as US\$1,000 on the black market) is questionable at best. Moreover, none of the laws provide direction on when to apply a higher fine, leaving this entirely up to the discretion of the inspector or ranger. Compounding these problems is the absence of inflation-indexing or a regulatory mechanism to adjust fine levels, all of which are

specified in the organic legislation. The result is a steady reduction in the already inadequate disincentive and compensative values. Current trends make it abundantly clear that the civil penalties for poaching are simply too small to deter the market.

Another vital gap is the inadequate definition and regulation of commercial hunting. The MLH does not regulate “commercial” hunting per se, restricting its focus to “industrial hunting” - a narrow area of commercial use applicable to registered companies that harvest animals in large quantities for a given market. All environmental laws assume a greater level of responsibility for companies and levy significantly higher fines for violating the law. Commercial hunting of wildlife, however, occurs in many forms and is not restricted to organized companies. Even so, individuals engaged in commercial exploitation of wildlife are treated more leniently by the law and typically risk only 10% of the fines applied to registered companies. This myopic legal view is mirrored by industrial hunting quotas that do not yet adequately consider the full impact on target species of all exports (legal and illegal) to the Asian market.

Enforcement of industrial hunting has improved substantially since the institution of certificates of origin for the sale of wildlife products, including specialized tags, in 2003. This simple mechanism enables enforcement personnel to inspect not only hunting areas, but also market places and transportation routes. Mongolia’s Professional Inspection Agency reported positive results almost immediately upon introducing the system.

The MLH’s subsistence hunting regime (referred to as “household hunting”) is managed primarily through a permit system and six standard management mechanisms - 1) total bans, 2) closed areas, 3) close seasons, 4) fixed quotas, 5) restricted techniques, and 6) regulating effort. Notably, the law does not contain two common regulatory schemes – sex-based regulation or size limits, both of which are essential components of an adaptive hunting management regime. National and international reports indicate that this system is widely ignored and that the actual number of animals taken per year exceeds the recorded amounts by orders of magnitude. The success experienced using certificates of origin for industrial hunting is a strong argument for expanding it to include non-commercial forms of hunting as well.

Law Enforcement: Law enforcement is the single most critical factor in controlling the

unsustainable and illegal hunting that is causing dramatic declines in Mongolia’s wildlife. Presently, the capacity for Mongolia’s law enforcement staff to control this situation is well below what is needed. Local departments are understaffed, underpaid, and poorly equipped. Many protected areas within Mongolia have only a single ranger who is responsible for thousands of square kilometers, and is required to provide fuel for patrols from his or her salary (which can be as low as US\$37 a month). Other government agencies involved in wildlife law enforcement are similarly handicapped by a lack of funding and equipment. Enforcement issues also encompass international trade, and border patrol and airport personnel are similarly ineffective in controlling cross-border trade in wildlife species.

Better law enforcement requires adequate recruiting, training, and provisioning of officers. This, in turn, requires additional financial investment, which we believe exists if a portion of the income generated by current, legal wildlife exploitation were provided for this purpose. For example, hundreds of thousands of US\$ are generated by argali hunting alone each year, yet almost none of this money helps pay for wildlife law enforcement, despite laws written to help ensure this happens (see Amgalanbaatar *et al.* 2002 for a more complete review). Charging small license fees for Mongolian hunters (e.g., marmot hunters) also has the potential to generate significant income for wildlife management in Mongolia. Obviously, some money generated by wildlife exploitation must also go to support wildlife monitoring and research, the results of which would form the foundation for credible and sustainable wildlife management in the nation.

Judicial Review: Beyond the field, enforcement by and coordination with the courts needs strengthening. Fundamentally weakening Mongolia’s entire legal system is the judicial prohibition on “interpretation” of statutory language; i.e., if a question is not unequivocally covered by the law, the court cannot rule. As a result, looking for gaps in legislation has become a kind of national sport with the judge, as referee, absent from the game. The continuing lack of adequate definitions and procedures makes it regrettably easy to win. Further undermining the court’s role (and the development of the legal system as a whole) is the lack of written court opinions. Without an understanding of what laws and facts have formed

the basis for a court's decision, there is almost no way to work within the system or make necessary changes for its improvement.

A series of events surrounding illegal marmot skin sales amply demonstrate the problem. In 2002, the PIA Inspection Agency confiscated approximately 56,000 marmot skins from a few individuals, worth approximately US\$670,000 in China. The case was submitted by the Inspection Agency to the courts for adjudication. Without explaining its reasoning, the court decided that the skins were mistakenly confiscated and therefore must be returned to the traders. In 2003, the Inspection Agency confiscated another 37,332 marmot skins. To avoid the vagaries of the court system, these skins were transferred by the Inspection Agency directly to the state coffers within the Ministry of Nature and Environment. The Ministry later sold them for \$162,000 to domestic tanneries as a form of support for the local economy. Of the two companies that purchased the skins, one sold the skins back to the original traders. Bringing the story full circle, the three traders from whom the skins were originally confiscated have now sued the inspectors for illegal confiscation of private property. Indirectly, the suit challenges the new legal provision that makes it illegal to possess and trade wildlife without a certificate of origin, which the PIA claims the traders did not have. At the writing of this article, the case was still before the courts.

Trophy Hunting: To be sustainable, hunting programs must be well managed and have the support of local communities. Neither currently occurs in Mongolia. Although legally required, no management plan for argali presently exists. Population surveys are too infrequent and widespread (i.e., nationwide) or localized (i.e., in areas where hunting does not occur) to inform managers about specific hunting areas in a timely manner. Critically undermining management capacity are legal mandates that rely heavily upon local governments without providing the necessary funding, tools, or training. Finally, despite laws for investment of trophy hunting fees in conservation of the resource, current practices deny local communities and conservation efforts the benefit of revenues (Amgalanbaatar *et al.*, 2002; Wingard and Erdene-Ochir, 2004). As a result, some local officials are working to eliminate trophy hunting from their territories (Amgalanbaatar *et al.*, 2002). Still, trophy hunting licenses are increasing even as

poaching also continues to increase. Mongolia must follow existing laws that return revenues to local government for conservation initiatives.

Community Rights: Local people directly and indirectly dependent on Mongolia's wildlife resources will be critical to the success of any wildlife management/conservation program. Recognizing this need, the Mongolian government has already started to formulate policies and laws that simultaneously enable communities to engage in conservation and allow them a stake in Mongolia's resource base. For the moment, proposals have remained focused on forestry, but can be expanded to include other resources. Unfortunately, there are still only a small number of Mongolian legal specialists involved in efforts to promote sustainable community-based natural resource management, and no institution is yet fully committed to it at the national level.

At present, Mongolia's communities have the right to form local organizations (Khorshoo, Nukhurlul) and gain access to resources, but additional regulatory work will be required to complete the process. Among them are the following: First, Mongolia still needs to develop a full framework for community participation that ensures adequate and timely access to information, admittance to government meetings, and full participation in policy formulation and decision-making. They may have these rights in name only, but not in practice. Second, the law needs to further define the term "community." An extremely difficult task under any circumstances, existing legislation places no restriction on membership in community organizations. Proposed amendments to the Law on Environmental Protection seek to limit community membership to registered community members, but do not go further. Third, even though community organizations may "possess" land, the law still does not make them a full partner in managing resources. Typical within Mongolia's legal regime, laws remain more concerned with protection activities than defining management functions and roles. Fourth, legal access to resources needs to be coupled with sufficient security in the right. Of all land tenure rights currently available, only mining and petroleum concessions enjoy real tenure security. Virtually all other land areas continue to swim in uncertainty while conflicting uses in the informal sector grow. To avoid inconsistent practices, the compensation requirements must be complemented by a

description of contract appraisal procedures included in the law, not the contract.

Monitoring: There is a critical need for regular, replicable, and scientific best-practice monitoring for all game animals to determine if populations are declining or otherwise under threat. If monitoring data suggests that a population is in decline and/or not sustainable, hunting should be prohibited until monitoring can prove that the population is again numerous enough to sustain hunting. As can be seen from the description of individual species above, almost no accurate, replicable or regular monitoring has been attempted on any of the species. It is essential that the national (preferably) or aimag governments expend more funding, resources, and manpower to survey and monitor these species to determine the true condition and trends.

National Wildlife Agency: We argue that creating a national wildlife agency is one of the better ways to improve wildlife conservation and management in Mongolia. Currently, wildlife management is almost solely restricted to protected areas. Souns are responsible for environmental law enforcement inside and outside Nature Reserves, but they remain woefully short of resources (staff, money, equipment, and training) for doing so. Wildlife agencies at the aimag, rather than the national, level might also accomplish this task, but we believe that they too lack sufficient resources. A National Wildlife Agency would be responsible for wildlife conservation and management throughout the nation, except possibly for protected areas. Activities would include law enforcement and monitoring of both wildlife populations and hunting programs. The agency might also conduct research, although it might work better if necessary research was contracted out to universities and the Academy of Sciences.

Public Awareness: Coupled with an appropriate community-based program, public education and local development would go far toward reducing illegal wildlife harvests in Mongolia. A public relations and education program should focus on the rich cultural heritage that Mongolia boasts (UNDP, 2000; World Bank, 2003) and how poaching negatively reflects on and affects that tradition. It should work to strengthen the conservation ethic that already exists in Mongolia and work to reinforce and increase existing, as well as develop new, social barriers to engaging in illegal wildlife practices. But such a program should also be linked to a social development plan that provides

alternatives to poor people who turn to illegal practices to survive. Providing jobs in law enforcement is one example, but this approach should be even more comprehensive and enlist the assistance of people trained in these areas.

Conclusion

Mongolia is facing a sudden and severe wildlife crisis, and illegal and unsustainable hunting is the primary driving force for these declines. Redressing the problems involving unsustainable and illegal hunting in Mongolia requires reforming hunting and population management to ensure: 1) openness and transparency, including external review and oversight, 2) a mix of top-down and bottom-up authority that enjoys local support, and 3) active and adaptive conservation and management, including anti-poaching enforcement, using funds generated by hunters (Amgalanbaatar *et al.*, 2002). If Mongolia does not take immediate steps to halt this crisis and reverse the dramatic decline in wildlife, the country may soon face a series of country-wide extinctions that will forever alter the biodiversity, ecological structure, and economy of the country.

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