

Not so Black and White: Panda Conservation, Bile Farming and the Conflict between Cultural Traditions and Modern Values in China

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Introduction

The conservation of animal species in China is a complex problem that reflects two distinct cultural attitudes—a traditional utilitarian view that sees animals as resources to be used in service to humans, and an emerging view that emphasizes welfare and conservation and uses media and citizen activism to highlight and discuss these issues. The main question I am addressing is whether or not the traditional utilitarian view of animals has changed (or is starting to change) into a view that incorporates ideas about animal welfare and conservation. And if there is a change, what has caused it? And what does this change mean for the future of animal welfare and conservation in China? I will take the use and conservation of the Asiatic Black Bear (*Ursus Thibetanus*) and the Giant Panda (*Ailuropoda melanoleuca*) as case studies to answer this question.

The primary conservation issue for pandas is loss of habitat. The panda is practically the face of the modern wildlife conservation movement (Schaller 1985), but for all its popularity very little has been done to expand its habitat in a way that would allow the species to sustain itself (Yu 2006). The Asiatic Black Bear has the same problem with habitat loss, but suffers from a unique problem of its own—its bile is used in Chinese medicine. Asiatic Black Bears are poached for their livers, but they are also kept alive in facilities and “milked” for their bile, a cruel process which is now becoming a lightning rod for discussions of animal cruelty and animal welfare. (Robinson, Cochrane and Loeffler 2007).

In order to answer these questions I will discuss the following topics: cultural attitudes towards animals and nature (section 1), the use of bears and other rare species in traditional medicine and culinary practice (section 2), deforestation and poaching (section 3), and changing attitudes towards animal cruelty (section 4). For each of these topics I will explore the cultural ideas that underpin them. Then I will discuss how these attitudes and practices affect the use and

conservation of bears, with my primary focus being on Asiatic black bears and pandas (sections 5 and 6).

Within my analysis of these topics I will also discuss the more general issues raised by this problem: the limitations of scientific training and research on forestry and species conservation (Harris 2008), whether or not China should adopt “Western” styles of conservation, whether the cultural practice of using bear bile in medicine should be stopped due to cruelty issues, the disparity in public perception between pandas and other kinds of bears, and whether or not NGO campaigns and citizen activism will become an important force in addressing this problem.

Taking into consideration the above factors and the cultural framework out of which they emerge I seek to demonstrate that public concern over the practice of bile farming and the exotic food trade has provoked public debate in China and produced an emerging group of animal welfare activists committed to codifying anti-cruelty laws and improving conditions for wild and domestic animals. Yet despite growing public consciousness and grassroots activism, the classic problems of wildlife management, poaching, and steady demand for bear products continue to threaten all wild bear populations in China.

1) Cultural attitudes towards conservation and the use and consumption of animal resources

A. North America

I recently saw a bumper sticker on a car that said “I didn’t fight my way to the top of the food chain to be a vegetarian.” The owner of the car probably did not literally equate going to the grocery store with the fight for survival against nature, but both the message of the bumper sticker and the combative tone of that message reveal a conflict ongoing in American culture

about our relationship with animals.

On one hand, there is broad support for the conservation of wilderness and the national park system, and the protection of the wildlife within them (Nash 1967). This support tends to cut across socio-political boundaries. There is some contention over the ethics of hunting, but the practice is made sustainable by the oversight of Departments of Fish and Game, and does not pose a threat to wild populations (Garshelis 2002). The intermediate zones between domesticated animals and wild animals are zoos and nature parks, which are generally held to high standards regarding the care of the animals (Frost 2011).

The US and Canada also have animal welfare laws designed to protect domestic animals like cats and dogs, and some farm animals like horses (Animal Legal Defense Fund “Animal Protection Laws of the United States and Canada, 7th edition”). The idea that domestic animals should be well-treated is nearly universal in American society—the transgressions of this ethic are generally the exception to the rule and provoke public outcry. For example, there was widespread outrage and public discussion about the involvement of the football celebrity Michael Vick in dogfighting, and as reported by the *The Seattle Times* the “Whistler 100,” a group of sled-dogs owned by a private company that were slaughtered when tourism dropped in the region after the Vancouver Olympics (Associated Press “100 Dogs Killed in Whistler After Business Slows”).

However, the welfare of food animals—cows, chickens, pigs, etc.—falls under the oversight of the USDA (United States Department of Agriculture), and the standards for their quality of life are much lower than those for other domestic animals (USDA “Animal and Plant Health Regulations”). The rise to prominence of “foodie” culture, the “locavore” movement and the general trend towards people living in urban environments wanting to feel connected to the

source of their food have created anxiety over the factory farming system and its implications for public health and animal welfare.

The backlash against this trend (as evidenced by the bumper sticker I mentioned) is the reassertion that humans are entitled to use animals because we are at the top of the food chain. One idea used in debate is a biblical one—that humans hold dominion over all the things of the natural world. They are the resources God has given us to sustain our human lives, and it is right that we should exploit them. The bible even equates the wilderness with evil and Satan, making mastery over the natural world through taming and cultivation a Godly pursuit (Nash 1967). This is often used as a justification for the exploitation of natural resources, but it is not the only way the Bible presents the relationship between humans, nature and God. Nature is also presented as a place where humans can go to develop a closer relationship with God. This has given rise to the view that nature has a spiritual dimension, and should be protected in its pristine state (Nash 1967). There are, of course, views that oppose such a strict biblical interpretation of American culture and our attitudes toward nature. But this idea is part of the reason why the US has protected wilderness areas where development and infrastructure are prohibited. And the conflict of ideas (biblical or secular) is also why Americans continue to disagree over how we should treat animals.

The fact that both the US and China have traditionally utilitarian views towards the use of animals implies that these views were not originally culture-based, they arose simply from the basic need for human survival. The ways these views are expressed now, however, have a cultural component—such as the “top of the food chain” idea, or the medicinal use of animals in Chinese medicine.

The American legal system is designed to mitigate complicated issues such as animal

rights and environmental protection, and in addition, citizens can argue their issue through awareness-raising campaigns and media. This stands in contrast to Chinese society, where the media is state-controlled and civil organizations and activist groups are often treated with mistrust and suppressed.

B. China

China contains the primary populations of two bear species—the Giant Panda and the Asiatic Black Bear—and the ranges of two others—the Brown Bear and the Sun Bear—overlap with China’s borders. The panda is one of the most popular animals in the world, and it is used as the symbol of both China and of international conservation efforts (Schaller 1993). Black and brown bears have been used in Chinese medicine for thousands of years, and their paws are considered one of the finest delicacies of Chinese cuisine (Lai 1984).

Bear populations and conservation status in China by species				
Species	Population in China	IUCN status	CITES protection ^{1 2}	Protection under Chinese law
Asiatic Black Bear (<i>Ursus thibetanus</i>) ³	15,000-46,000	Vulnerable	Appendix I	Category II
Giant Panda (<i>Ailuropoda melanoleuca</i>) ⁴	approx. 1600	Endangered	Appendix I	Category I
Sun Bear (<i>Helarctos malayanus</i>) ⁵	insufficient data	Vulnerable	Appendix I	
Brown Bear (<i>Ursus arctos</i>) ⁶	approx. 7,000	Least Concern	Appendix I (in China)	Category II

¹ CITES “CITES Official Documents: Appendices I, II and III”

² For the full text of the CITES Articles II-IV see Appendix II. These text from the CITES Convention treaty are the guidelines that each member party adheres to when regulating trade in animals and their parts that are listed in CITES Appendices I and II.

³ IUCN “*Ursus thibetanus*”; WWF “Asiatic Black Bear”

⁴ IUCN “*Ailuropoda melanoleuca*”; WWF “Panda Central” and “Giant Panda”

⁵ IUCN “*Helarctos malayanus*”; WWF “Sun Bear”

⁶ IUCN “*Ursus arctos*”; WWF “Brown Bear”

The **Giant Panda** (*Ailuropoda melanoleuca*) is the only currently endangered bear species in the world, and China is the only country with a wild population. China has about 50 protected panda reserves in the provinces of Gansu, Shaanxi and Sichuan. About 75% of the wild panda population lives in Sichuan (Yu 2006). Pandas live in temperate montane forests with lots of bamboo, their primary food source. Because of the low calorie content in bamboo, they spend more than half of their time consuming it, and generally expend as little energy as possible, which gives them their characteristic sluggish and lazy demeanor. Pandas are not used in Chinese medicine, but are sometimes poached for their fur. Poaching and trading panda pelts were once punishable by the death penalty in China, but currently the maximum sentence is ten years in prison (IUCN “*Ailuropoda melanoleuca*”; WWF “Panda Central,” “Giant Panda”).

Sun bears (*Helarctos malayanus*) live in tropical forests throughout Southeast Asia, but there is a sparse population in southern China, primarily Yunnan province. They eat insects and fruit, and are the smallest of all bear species, weighing on average between 35 and 80 kilograms. They are threatened by habitat destruction and logging, by hunting for their gall bladders and other parts, and by trapping to be sold as pets. They are illegally farmed for bile in Vietnam but usually not in China (IUCN “Seventy-five Percent of Bear Species Threatened with Extinction,” “*Helarctos malayanus*”; WWF “Sun Bear”).

Brown bears (*Ursus arctos*) are widely distributed throughout the world, but due to their large size they now only flourish in parts of the world with large swaths of remote wilderness, such as Alaska, Canada, and northeastern Russia. There are some sparse populations of brown bears in China’s remaining forests (overlapping with black bear habitat) and in high rugged terrain above the tree line (IUCN “*Ursus arctos*”; WWF “Brown Bear”). A subspecies unique to

China, the Tibetan Brown Bear (*Ursus arctos pruinosus*, sometimes called the Tibetan Blue Bear) lives on the Tibetan Plateau. Another subspecies, the Himalayan Brown Bear (*Ursus arctos isabellinus*) is found in Central Asia, including the Xinjiang Autonomous Region in Western China (A. Santiapillai and Santiapillai 1997). Brown bears are protected by Chinese law from use in Chinese medicine, but in eastern Russia they are often poached for gall bladders and paws, which are removed and then smuggled into China. This is usually the source for bear paw soup (IUCN “*Ursus arctos*”; WWF “Brown Bear”).

Asiatic Black Bears (*Ursus Thibetanus*), sometimes called Moon Bears for the white crescent markings on their chests, live in both broadleaf and coniferous forests and eat a variety of plants, nuts, small animals and insects. They have a range extending from southern Iran, through Afghanistan, Pakistan, Southeast, China, eastern Russia and North Korea. They are also found on Taiwan, Hainan and several Japanese islands.⁷ A reliable survey has not been done to estimate how many black bears are in China. They are protected from hunting (with an exception for permitted hunting of nuisance bears) under China’s Wildlife Protection Law. These are the primary species of bear used for Chinese medicine and they are poached in the wild as well as kept on farms for bile “milking” (IUCN “*Ursus thibetanus*”; WWF “Asiatic Black Bear”).

Han Chinese are historically tamers of landscape, and tend to see taming and civilizing as the solution to both ecological and social problems. In terms of environmental protection this currently means settling nomadic peoples, banning hunting and harvesting resources that could be threatened (but that also provide many minority groups with economic independence) (Yu 2006), and implementing large-scale projects (Shapiro 2001). These things are done to bring everything—people and landscape—into relational order and harmony, and to maintain these

⁷ For range maps of all species see Appendix I

good and proper relationships. But this idea of “harmony” often gives way to the over-exploitation of natural resources for financial gain. This is why for Chinese the issue of bear farming is not primarily an issue of cruelty (or at least, has not been seen that way before now), because in China a bear has no intrinsic value unto itself, but only has a value in its proper and good relationship to humans. A bear left alone in the forest has a neutral or even potentially negative value, but a bear harvested as medicine is turned into a “good” bear, in that it is now used in the service of promoting and sustaining human life in an ordered system.

Chinese methods used to promote forest conservation come from the legacy of Maoist philosophy (Shapiro 2001). Mao gave little credence to empirical scientific methods, instead promoting the mastery of nature through mass mobilization projects. At the height of the Cultural Revolution large-scale deforestation was caused by the need to feed the furnaces for making steel, “pest” animals like flies and sparrows were targeted for extermination, rivers were dammed to control their flow, and the soil was plowed and planted beyond its natural capacity (Shapiro 2001). The folly of these practices has been widely accepted, but the legacy of top-down technocratic solutions to environmental issues continues.

There are also problems in the Chinese educational system, preventing reasonable scientific solutions to environmental problems. In academic training in fields of wildlife science and biology the emphasis is on creating taxonomic systems and learning them, and memorized information often substitutes for expertise. Wildlife biologist Richard Harris writes that the main problems with wildlife science in China are the scientists’ discomfort with uncertainty, their failure to be rigorous when gathering data, their rush to use formulas to make broad conclusions, their failure to fully explain and disclose methods, and the failure of the scientific community to skeptically analyze each other’s work, possibly due to the perception of skepticism as rude or

negative (2008). The overall impression I get from this analysis, supplemented with my own experience working for two years in a Chinese vocational college, is that in the Chinese educational system in general there is an emphasis on classifying and establishing structures of information, and much difficulty and resistance to analyzing and changing these established structures. And in areas (like wildlife science) where there are not already comprehensive structures of knowledge to simply tell the scholar what is most important, inappropriate or untenable models are applied to new situations, to the detriment of good scientific or creative inquiry.

2) The use of bears and other exotic and endangered animals in Chinese medicine and Chinese cuisine

These two topics are interrelated, since in China food is thought to have medicinal qualities, but I will discuss them separately here.

Medicinal Use

A. Ancient prescription—*Materia Medica*

There are written pharmacopoeias of Chinese medicine as far back as the Han Dynasty (202 BCE-220 CE). The first records of the use of bear bile (*xiong dan* 熊胆) are from the *Materia Medica of Medicinal Properties* (本草纲目) compiled around 600 CE, during the late Sui and early Tang Dynasties. This compendium was the best and most comprehensive collection of information about the herbs, minerals and animal substances used in Chinese medicine, their properties, and applications (Bensky, 1993).

In general, Chinese medicine focuses on the “qualities” of the medicines and their ability to bring the body back into equilibrium, and has philosophical connections with Daoist and Buddhist concepts. The belief is that *qi*, sometimes translated as “energy,” flows through all

things, in nature and through the human body. It is a force that can be channeled for mental, physical and spiritual benefits through medicinal, culinary, artistic and spiritual practices. In contrast, western medicine uses specific cures for specific illnesses, and does not focus as much on holistic medicine. With the influx of western medical influences into urban China from the end of the 19th century to the beginning of the 20th, Chinese medicine practice went into decline as the western models of modernism and science began to take root (Mainka and Mills 1995). After the Communists came to power they reinvigorated the use of Chinese medicine, and now most people in China see no contradiction in using both western and traditional medicine as necessary (Mainka and Mills 1995).

About one quarter of the world's population uses Chinese medicine or traditional medicine derived from Chinese medicine, as in Korea and Japan. About 85% of the number of drugs are made from plants, 2% are from minerals and the other 13% are from animals. Prescriptions are usually made of multiple components and tailored to the specific complaints or imbalances of the patient (Rob Parry-Jones 1998). Examples of animal components used in Chinese medicine are macaque bezoar, seal penis, seahorse, deer musk, worms, snakes, caterpillar fungus, and cockroach. There are 1,500+ recorded uses for animal products in Chinese medicine although in most current official Chinese medicine practice less than 40 are used (Alves and Rosa 2005). Rhino horn, pangolin and tiger bone are listed in the standard *Materia medica*, but the sale and use of these products is illegal—although they are still being used illegally⁸ (“Call to Close Tiger Farms Disputed” *China Daily*; Coggins 2003). All bears in China are protected from hunting, but bear bile can be farmed for commercial use.

⁸ The common belief that the penis of tigers and the horns of rhinos are used in Chinese medicine to cure impotence is apocryphal. Tiger bones are used for arthritis, and rhino horn is used for high fevers and convulsions (Bensky 1993, Rob Parry-Jones 1998, and “Rhino Horn Use: Fact vs. Fiction” 1998).

A current Chinese *Materia Medica* entry describes gall from the black or brown bear (panda gall was never preferred) as having bitter and cold properties. It can be used for burn-induced delirium, skin lesions, swollen red eyes, and for reducing swelling and pain. All of these symptoms are a sign of “interior heat, i.e. presents with fever without chills, dry mouth, thirst, irritability, scanty and dark urine, yellow tongue coating, constipation or diarrhea, and abdominal distention” Bear gall is in the category of medicines that are “used for treating high fever, irritability, thirst and delirium associated with febrile disease” (Bensky 1993, 89). It is usually taken internally as a pill, but can also be applied topically as a salve for swelling or lesions.

B. Modern usage and scientific findings

Studies have been conducted to test the efficacy of bear bile on certain diseases and chronic health conditions. The Harvard School of Public Health researcher Gokhan Hotamisligil has discovered that the tauro ursodeoxycholic acid (TUDCA) in bear bile can be used to treat type 2 diabetes in mice (Melton 2007). There is also evidence that TUDCA can relieve intestinal spasms and control coughing paroxysms, and has an anti-hypertensive effect when used to treat high blood pressure related to childhood glomerulonephritis--a condition caused by immune response to infection or other disease (Bensky 1993). TUDCA has been successfully tested on mice to slow retinal degeneration (Boatright et al. 2006). TUDCA is being developed for use to control the death of brain cells in people with Huntington’s disease (Taub 2004). TUDCA and a similar chemical called Urso deoxycholic acid can be synthesized, and the synthetic chemical is already being used in FDA-approved medicines to treat cholestatic liver disease (when the flow of bile cannot pass from the liver to the digestive system) and to dissolve gall stones (Achord 1990; Mainka and Mills 1995). This offers an alternative to farming bears for their bile, but public opinion about traditional practices is not easily changed.

Some risks are associated with using animal-derived medicines in places without widespread government supervision over the use and production of the medicines. Infectious diseases can be transferred from animals to humans, including *Salmonella* from bile and bones (Alves and Rosa 2005). Bears rescued from farms have a high rate of infection at the catheter site, suggesting that blood and pus is mixed in with the bile (Loeffler, Robinson, and Cochrane 2009).

TUDCA and Urso deoxycholic acid can be synthesized in a lab, and are affordable alternatives to actual bear bile. But many people using Chinese medicine believe that the synthetic substitute for bile is inferior to bile from an actual bear, and also that wild bear gall is better than bile from a farmed bear, which is reflected in the much higher price of wild gall over farmed. There has not been research to compare the medical efficacy of synthesized bile over real bear bile, so it is unclear if there are other trace elements in bear bile that could be affecting patients' health.

C. Issues of Chinese medicine and conservation

The popularity of Chinese medicine is depleting some of the resources that it relies upon. Even 40% of Western medicines are derived from plants, fungi and microorganisms, and some western medicines are derived from Chinese medicine (Still 2003; Rob Parry-Jones 1998). The key to protecting the continued practice of Chinese medicine and future development of environment-derived cures or treatments depends on sustainable use of plant and animal sources. But apart from some of the larger mammals like rhinos and tigers, little is known about the effect Chinese medicine is having on wild plants and animal populations. In 2007 the Chinese Government invested money into a program to further Chinese medicine research and

development, as well as to create a set of standards to guide Chinese medicine manufacturing and application (Melton 2007).

China, Japan, South Korea and all Southeast Asian countries contiguous with China have signed the UN Convention on International Trade in Endangered Species (CITES). Notably absent from this agreement is Taiwan, since it is not formally recognized as a nation by the UN. This creates a protection dead zone that has come into play in illegal trade networks and in cross-strait politics (“CITES Secretary Says Panda Transport Need Not Be Reported” *Taipei Times*; Lin et al. 1997).

CITES Appendix I bans all trade of certain animals and their parts, and Appendix II limits trade in other species to a strict permit system. For China’s bear population, Appendix I fully protects the Giant Panda, all brown bears (*Ursus arctos*) in China, the Malaysian Sun Bear and the Asiatic Black Bear (CITES “CITES Official Documents: Appendices I, II and III”)

In June of 1997 at a CITES conference in Zimbabwe, a resolution was made to address the issue of the use of endangered species in traditional medicine, most notably tiger and rhinoceros. The resolution recommended organizing practitioner and public awareness programs, developing scientific techniques to analyze Chinese medicine from unknown sources (it can be very difficult to determine what animal parts are fake or real), to look for Chinese medicine alternatives to the use of endangered animals, and to consider captive breeding to meet the needs of Chinese medicine and relieve pressure on wild populations (CITES “Traditional Medicine”).

At the same conference a resolution was introduced concerning the conservation and trade in bears worldwide, all species of which are listed under CITES Appendix I or II. The resolution recommends, among other things, that each participating country create its own legislation to control import and export of bears and bear parts, to make “new national efforts in

key producer and consumer countries to identify, target and eliminate illegal markets,” to work “with traditional-medicine communities to reduce demand for bear parts and derivatives, including the active promotion of research on and use of alternatives and substitutes that do not endanger other wild species” (CITES “Conservation of and Trade in Bears”).

Some practitioners of Chinese medicine defend the use of rare or endangered animals in their medicine, claiming that the conservation argument is western interference with and suppression of Chinese cultural practices (Rob Parry-Jones 1998). Other practitioners and Chinese medicine suppliers have joined a campaign to end the use of real bear bile in Chinese medicine. The Hong Kong-based animal advocacy organization Animals Asia Foundation organized the campaign, which involved going to 33 individual pharmacies in Chengdu and asking them to display stickers that say that they do not sell bear bile products (Xinhua “Retailers Back Bear Bile Battle”).

In general, the loss of the world’s biodiversity diminishes the potential for discovering new medicines. E.O. Wilson described the way evolutionary biology is helping to create potential cures that humans could utilize in medicine: “Caught in an endless arms race, these species have devised myriad ways to combat microbes and cancer-causing runaway cells” (2000).

Culinary traditions

A. History

Poems from the Warring States Period (475-271 BCE) reference a variety of “exotic” foods, including jackal, dog, and other animals not typically included in Western cuisines (Lai, 1984). This indicates long-standing cultural ideas about the utilitarian use of animals, and the belief that exotic and rare animals were vested with special properties that could benefit the

consumer. The philosopher Mencius (372-289 BCE) is recorded as referencing bear paw soup in Chapter 22 of the *Mengzi*: “I like fish, and I also like bear's paws. If I cannot have the two together, I will let the fish go, and take the bear's paws. So, I like life, and I also like righteousness. If I cannot keep the two together, I will let life go, and choose righteousness” (Legge 1893). This passage indicates that bear paw soup was considered to be very fine cuisine, with nourishing or *bu* (补) qualities, since Mencius was comparing it with the finest human quality, righteousness. In Chinese cuisine all foods are ascribed with qualities that correspond to traditional principles of health and harmony. Foods are hot, cold, warming, cooling, neutral, and *bu*. The idea of *bu* or tonic foods started in Cantonese cuisine but is now common throughout China. Here's another way of describing the importance of *bu* foods:

Bu (literally to patch up, repair, or replenish), refers to a subnormal physiological state described as the 'void.' Such voidness can be replenished with a suitable food, fine-tuned by cooking to replenish without excess. The idea of *bu* is so deeply ingrained in Chinese food culture that even today the first question one would ask of a novel cuisine or a new dish or even an exotic kind of food is whether it is *bu* (Kong 1998).

In addition to bear's paw soup, *bu* foods include bird's nest soup, shark's fin soup, and sea slugs. All of these items are cooked for a long time and eventually become tasteless and gelatinous. Sometimes herbs like ginseng are mixed in to give them even more of a medicinal boost. Bear paw soup was a specialty in Harbin, where there were entire restaurants devoted to this one dish (Lai 1984).

In his book *Discovering Nature* Robert Weller describes several dishes he ate that were considered *bu*, noting that these dishes seemed to derive some of their power by being from marginal regions of China, and that they are plants and animals that defy easy categorization like

the pangolin or the caterpillar fungus.⁹ He says, and quotes Eugene Anderson: “the more strange a food, the more power is ascribed to it’ These foods often originate in the physical periphery of China, but also rise up from the cognitive periphery that lies between standard categories of thought and even taste” (Weller 2006). This means the practice of eating *bu* foods is a way to connect directly with the wildest places in China—the jungles of the southeast, the Tibetan plateau, the forests and the ocean.

Another important component of Chinese culinary custom is the idea of hospitality. Weller recounts with humor the reaction of some of his American students when they were honored at a banquet by being served “living dead fish” a dish that takes much skill to make—it is cooked so fast that the fish is still alive when it reaches the table. Their Chinese hosts, in attempting to honor them with expensive, high-status *bu* food, had actually horrified them. At other banquets Weller goes so far as to point out to his hosts that some of the food they are eating is from protected species, but his hosts are indifferent to issues of conservation, being more impressed with the food’s medicinal power (2006).

B. Rare Foods and Conservation Issues

The 2003 efforts to control the outbreak of SARS in Guangdong Province—believed to have come from contact with exotic animals—shed light on the pervasiveness of the illegal animal markets. Authorities found more than 838,000 endangered animals in 14,900 markets and 67,800 restaurants nationwide (Li 2007). In 2004 Russian officials found 800 bear paws being smuggled out of the country, bound for China. The level of consumption of exotic animals has increased with the rising economy as the newly rich desire “status” foods (Li 2007).

⁹ *Dong chong xiacao* (冬虫夏草) or “winter insect summer grass” is the caterpillar of a ghost moth (*Thitarode*) that has been parasited by a fungus (*Ophiocordyceps sinensis*). It is found on the Tibetan plateau.

Chinese law forbids the selling of bear parts, including their paws, but the illegal trade is extensive. In 1990 an investigation found that officials from the Wildlife Protection Society in Guangzhou had smuggled in eight live black bears to sell to restaurants (Schaller 1993). In this case, it was the very people that were supposed to be protecting the bears that were selling them for food. In addition, the job of protecting and enforcing the wildlife laws falls to local officials, with no money being given by the central government to help them with the task (Li 2007). These wildlife officials also have limited power to enforce the laws when dealing with local officials who prioritize the right to use the land and its resources over the protection of wildlife (Li 2007). With no money or power to effectively do their job, it is not surprising that some wildlife officials would end up exploiting the very resources they are tasked to protect.

3) Deforestation and poaching

A. Deforestation

In Mark Elvin's book *Retreat of the Elephants* he describes the deforestation of most areas in China, which happened gradually for thousands of years then rapidly for about the last three hundred. His book follows the loss of forest habitat and subsequent decline of the Asian elephant population. This deforestation also killed off or dramatically reduced the numbers of all the animals that depended on the forest for survival, including rhinos, tigers and bears. The Asiatic black bear climbs trees for protection and eats mainly forest-dependent products like insect larvae, honey, soft bark and roots, termites and acorns. Pandas depend on bamboo groves spread across large areas, and the Sun bear lives primarily in tropical and sub-tropical jungle cover. Brown bears can live part of the time on more open ground in higher elevations, but they retreat to forests for food and shelter (2004).

Elvin finds evidence “that over the two-and-a-half thousand years from the ancient down to the late-imperial period there was a general spread of pre-modern development from the north to the south of China proper, with a further southwestward shift near the end. In other words, where elephants had retreated, intensive farming had usually arrived” (2004). Where forest cover remains, in western, southwestern and northeastern China, there are still populations of Asian black bears though scientific documentation of their range and population is inadequate. The International Union for Conservation of Nature (IUCN) reports: “A host of recent countrywide estimates have been posed for Asiatic black bears in China, ranging from 15–46,000 (Garshelis 2002; Gong and Harris 2006), with an official government estimate in 2003 of about 28,000; none of these estimates have been substantiated” (IUCN “*Ursus thibetanus*”).

Statistics from the State Forestry Administration in 2009 show that China’s forest coverage has increased from 8.6% in the 1950s to 18.21% in 2008. It also claims 2,006 nature reserves in the entire country, with 120 million ha (296.5 million acres) of protected forest (Xinhua “Developments in China’s Forestry Sector”). These figures should indicate increased range and protection for bears, but in reality the new forests and the natural habitats are not always ideal places for bears due to the quality of the new forests and the fact that many of the nature preserves are inhabited by an increasing population of people.

In China, the decline of bear populations is due to deforestation and hunting. This is an indication of an even larger threat, the loss of biodiversity. The biologist E.O. Wilson wrote this elegant description of the biodiversity crisis for Time magazine in 2000:

[Biologists] generally agree that the rate of species extinction is now 100 to 1,000 times as great as it was before the coming of humanity. Throughout most of geological time, individual species and their immediate descendants lived an average of about 1 million years. They disappeared naturally at the rate of about one species per million per year, and newly evolved species replaced

them at the same rate, maintaining a rough equilibrium. No longer. Not only has the extinction rate soared, but also the birthrate of new species has declined as the natural environment is destroyed.

While conservation solutions tend to focus on preserving pockets of certain kinds of charismatic large animals, the habitats themselves are vital to maintain a biologically diverse, functioning ecosystem. When wildlife biologist David Garshelis went to Thailand to study bears in 1994-1996 in the Khoa Ang Rue Nai Wildlife Sanctuary, he found that the forest had been cleaned out of almost all species of wildlife. He called this an “empty forest,” echoing Rachel Carson’s *Silent Spring*, a place where chemical poisons have killed off all animal life. In this case however, it is not chemicals that are emptying the Asian forests, rather humans are harvesting animals faster than they can replace their natural populations. Giant Panda researcher George Schaller writes: “Often forgotten is the fact that the panda, tiger, and others are merely symbols, so-called flagship species, of the natural environment in which they occur. The real national treasure of China or any country is the habitat with all its animals and plants; it provides watershed protection, recreation, a genetic storehouse of unique species, and other resources upon which the lives of people will depend” (1993).

B. Poaching and CITES enforcement

A study published in 1997 analyzed 183 medicinal products from Taiwanese markets that were supposed to contain bear bile. Of all the products, only 33.2% actually contained bear bile. The rest of the products were made from the bile of pigs, water buffalo and goats. The same study was also used to see if a bear’s species could be identified by the chemical compositions of the bile samples; an application that could help enforce CITES regulations. The tests found that the bear bile was from Asiatic Black Bears, but scientists could not determine if the bile was from a farmed or wild source (Lin et al. 1997).

Being unable to quickly identify whether or not a substance is actually from a bear is an ongoing problem with stemming the illegal trade in bear parts and in understanding how poaching is effecting the wild population of black bears (Garshelis 2002). Scientists at Bangor University, Wales, have developed a dipstick that can be used to test blood, skin, and bile and accurately determine whether they are authentic (Peppin et al. 2008). These dipsticks can be used easily by non-scientists, and could be a potential tool for tracking illegal trade in bear parts if widely adopted.

In 2002 a 10-year WWF survey of the North American Black Bear was published that put population estimates between 396,000 and 476,000 in Canada and between 339,000 and 465,000 for the US, with insufficient data to determine the population in Mexico. They are found in 41 states, and all but one of Canada's territories and provinces. In almost all states it is illegal to sell bear gall bladders and paws, though about 40,000-50,000 black bears are legally hunted in the US and Canada each year (WWF "Black Bear Study Finds Growing Populations, but Combating Illegal Trade Remains a Challenge").

There have been a number of incidents linking poaching in North America to the Chinese medicine market in the US and in Asia. In 2005 hunters in Alaska were prosecuted for killing 10 bears to sell on the Korean market (Raloff 2005). In Vancouver, British Columbia there have been attempts by conservation officers to break up organized rings smuggling illegally hunted black bear parts through Chinatown businesses. Many of the poached parts are not even smuggled out of the US or Canada, they are bought and sold by local Chinese medicine pharmacies (Associated Press "Law Enforcement Grows, But So Does Bear Poaching"). A survey in 1998 of 110 Chinese medicine pharmacies in North America found that half of them had illegal animal products for sale, including bear bile and gall (Greimel 1998). And in the late

1990s federal and state officials in Virginia organized several operations to track the illegal buying and selling of hundreds bear parts, and found that most of the gall bladders were being sold to a domestic market (Raloff 2005).

4) Changing attitudes toward animal cruelty

Official attitudes towards animals in China have been decidedly utilitarian. Even the *Law of the People's Republic of China on the Protection of Wildlife* of 1988 outlines “reasonable utilization” of animal resources. But the opening and reform period brought international criticism of the practices of bear and fur farming, dog culling, and the consumption of dogs and cats. International organizations such as the World Society for the Protection of Animals (WSPA) and People for the Ethical Treatment of Animals (PETA) have focused campaigns in China to raise awareness about these issues. Activist Jill Robinson was motivated to found and direct Animals Asia Foundation (AAF) after visiting a bile farm, and has been instrumental in changing public opinion about the farms. AAF is a Hong Kong-based animal welfare organization that focuses on China and other Asian countries. They have been successful pressuring local governments across China to close bear bile farms and relocate the bears to rescue centers (Animals Asia “Who We Are”).

There have been several high-profile incidents in the last ten years that have stirred up public debate on the state of animal welfare in China. In one case, a college student twice visited the Beijing zoo and poured sulphuric acid on five bears, permanently burning their eyes, noses, skin and mouths. There was widespread public condemnation of the act, and several legislative organizations drafted animal welfare proposals and submitted them to the National People’s

Congress and the Beijing Municipal People's Congress, though none have yet been considered (Zu, Li, and Su 2005).

Another issue that has sparked public debate on animal welfare is the treatment of farmed tigers. There are currently about 6,500 tigers on 12 farms in China, more than there are in the wild ("Call to Close Tiger Farms Disputed" *China Daily*). Because of a 1993 ban on domestic trade of tiger products, the farmed tigers are not supposed to be sold for parts, but since the farms were established prior to the ban, there is still some debate about whether or not it should be legal to sell the farmed tigers after they have died. In addition, there is criticism of the practices on the farms. After the ban on trade severely cut the profit of the tiger farms, they have had to find other sources of revenue, or make drastic cuts. Dozens of tigers were starved to death at zoos in Harbin and Shenyang (Jiang 2010). These incidents have led to renewed discussion of animal rights reform.

Another facet of the animal welfare debate is the increased ownership of dogs and cats as companion pets. In the last decade there has been public outrage over the "culling" of dogs in cities where there have been rabies outbreaks in the human population. Tens of thousands of dogs were rounded up and beaten to death or buried alive. In 2009 a group of lawyers from the Chinese Academy of Social Sciences drafted legislation designed to introduce basic animal welfare laws into Chinese society, including fines and punishments for animal abuse and outlines for programs to register and vaccinate pets. They consulted with British and American animal rights groups for guidelines (Watts 2009). There is also currently a law being proposed to ban the sale of dog and cat meat (Jiang 2010).

Bear farming, prior to the 1990s, had been praised in the media as an innovation that would save wild bear populations. When stories and photos came out revealing the cruelty of the

practice, peoples' attitudes started to change. A 2003 survey of 1,300 college students revealed that 90% of them perceived bear farming as a cruel practice (Zu, Li, and Su 2005).

Animal rights groups working in China have adopted the technique of raising awareness through the use of celebrity spokespeople. Basketball star Yao Ming works with WildAid to discourage the eating of shark fin soup. The consumption of this soup is another traditional practice that, while not yet threatening wild populations, is seen as part of a problem of animal cruelty, due to the practice of "finning," where they cut the fins off caught sharks and then drop them back into the water to die slowly. Jackie Chan has donated money to benefit the Asiatic Black Bear. Hong Kong actress Maggie Q is a spokesperson for Animals Asia and their campaign to end bear farming (Xinhua "Retailers Back Bear Bile Battle").

There are several NGOs working in China to discontinue the use of some animals, especially endangered species, in Chinese medicine. The World Federation of Chinese medicine Society, based in Beijing, has issued a statement asking Chinese medicine practitioners all over the world to stop using endangered plants and animals in their practice ("Call to Close Tiger Farms Disputed" *China Daily*). Celebrity endorsements and public-awareness campaigns help to raise the profile of these issues and spark public debate, but whether or not they can change the cultural belief that consuming certain species of wildlife is good for you remains to be seen.

5) Asiatic black bears

A. Bear farming

Bear farming was invented in North Korea in the 1970s (Li 2004). The basic method is to render the bears immobile in small cages, then insert a metal or plastic catheter directly into the gall bladder. The bile then leaks out into a tray where it is collected.

Bear farming was encouraged by the Chinese government as a sustainable way to meet market demands. A captive bear can produce enough bile in one year—70 ml per day—as killing 40-50 wild bears (Mainka and Mills 1995). However, the farming has actually increased the market demand for bile products. In 1980, the worldwide demand for bile was only 500 kg per year. In 2005 the worldwide bile consumption had risen to 4,000-5,000 kg per year (Raloff 2005). The surplus of bile means that it can be included in products that have no application in Chinese medicine, luxury products like shampoo.

In the mid-1990s there were about 600 farms in China keeping 10,000 bears, mostly Asiatic Black Bears but also some illegally kept brown bears. According to official statistics, there are now about 7,000 bears on 68 farms (Robinson et al. 2007). The farmed bears are often illegally taken from the wild, indicated by scars and mutilations from the wire traps used to capture them (Li 2004). Because the wild populations are largely undocumented, no one really knows what effect bear farming is having on the wild population.

The bear bile issue on the surface appears to be an issue of promoting sustainable use of forest resources. This is how the provincial governments treated the issue at first, by promoting the captive breeding of Asiatic black bears on officially recognized bear farms. But when several NGOs became involved, most prominently the Animals Asia Foundation, provincial forestry departments (for the most part) shifted their focus to maintaining better and more humane conditions at the farms. AAF has worked with these departments to close down many of the smaller factories and move the bears to a learning facility/habitat. These NGOs provide a much more integrated approach to dealing with the issue, with the ultimate goal being to stop bear farming entirely. AAF focuses primarily on rescuing bears from the farms and educating the

public about the cruelty of the practice. They also work with pharmacies to put pressure on them to stop using bile in their practices.

AAF receives almost all of its funding from international sources, primarily from the UK, the US and Australia. When I spoke to an AAF representative, she told me that when she speaks to large groups of Chinese business professionals they usually treat her like the “elephant in the room.” They just do not want to be burdened with this issue, although she added that school groups are usually more receptive. The resistance to AAF’s awareness-raising campaigns is not surprising, and it adds to the difficulty of operating in a legal environment where NGOs are not given much status or protection.

The insertion of AAF and other NGOs into the issue of bear farming—NGOs that have substantial funding and access to top-quality scientists—could play an important role in forest conservation in China. However, for real changes to occur and for good conservation strategies to develop there will have to be more widespread acceptance of NGOs, and trust placed in their recommendations.

B. Bear farming: Is it ethical? Is it sustainable?

Investigations into bear farms have found no evidence that there is a way to extract bile from a bear that is not cruel. The bears are usually kept in cages only slightly larger than themselves, in industrial buildings. Some bears are made to wear metal corsets to prevent them from pulling out their catheters or mutilating themselves out of pain at the open and often infected catheter site. In some places they remove the bears’ claws at the joint and cut out their teeth. When the bile is being extracted they howl, writhe and shiver. They are given little food in order to save money, and water is restricted so it can be used to distract the bears during bile extraction (Loeffler, Robinson, and Cochrane 2009).

Because of their size, their inquisitiveness and need for mental stimulation, bears do poorly in captive environments, and often develop neurotic behaviors (Lemonick 2006). The farmed bears break their teeth by gnawing on the cages, rock back and forth, rub raw spots onto their skin by pressing against the cage, and hit their heads rhythmically against the sides of the cage (Raloff 2005). Some of the bears are missing limbs from trapping, or missing paws because they were cut off to sell to the exotic food market.

China has responded to international criticism of bear farming. In 1994 the government declared that there would be no new bile farms created. In addition, they created guidelines for bile extraction and the living conditions of the bears. Twenty provinces have banned bear farming but 10 provinces continue to issue permits for existing operations, even allowing them to expand. Jill Robinson, the founder of the Animals Asia Foundation, has led the effort to end all bear farming and retire the bears. She signed a deal with forestry officials to rescue 500 bears from farms, to be housed at the AAF rescue center in Chengdu. As of April 2010 276 bears have been rescued from bear farms (Animals Asia “10 More Bears Free After Dramatic Rescue, Part I,” “10 More Bears Free After Dramatic Rescue, Part II”). Of the first 99 bears they rescued, 18 died almost immediately due to abdominal peritonitis, septicemia, tumors at the catheter site, and self-mutilation (Li 2004). The milking process causes extensive internal injuries to the gall bladder and surrounding organs, and most rescued bears have large abdominal tumors and abscesses (Raloff 2005). AAF veterinarians have found objects lodged inside the bears’ gall bladders, like tubing and pieces of wire. Health problems persist, even after rescue. An AAF report on its rescued bile bear population summarizes: “our finding indicated that the physical and psychological health of bile farm bears is severely and chronically compromised and

precludes their ability to engage in normal behavior” (Loeffler, Robinson, and Cochrane 2009, 227).

In addition to the fact that many of the farmed bears are illegally taken from the wild, there is evidence that bear farming has increased the demand for bile, which could potentially mean that more bears are being poached (Loeffler, Robinson, and Cochrane 2009). Without a dependable survey of the wild bear population, it is impossible to know what effect bear farming is having on it. All this evidence together shows that not only is bear farming cruel, it is likely unsustainable.

C. Conservation

There has not been a comprehensive survey done in China to determine how many bears there are, and where they are located. There is enough information to indicate that all bear populations in China have diminished in the last 300 years due to widespread deforestation, and that overall the bear population is in decline (A. Santiapillai and Santiapillai 1997). The exception is possibly the wild panda, due to increased effort to protect habitat, and limit poaching and human-bear conflict. In 2002 the State Forestry Administration and the WWF conducted a comprehensive survey that ended up with an estimate of between 1,000-2,000 wild pandas, an increase from previous surveys, but possibly due to better methodology (IUCN “*Ailuropoda melanoleuca*”). From 2005-2007 a research team from Peking University did a survey in Sichuan to ascertain just the presence of black bears, to get a better idea of their actual range. They found that even with the latest conservation efforts, including the Natural Forest Conservation Program and the Sloping Land Conversion Program, the range of black bears had not extended and the existing populations were still threatened by poaching. Part of the problem

is that the reforestation program has planted mostly coniferous trees that don't produce nuts, and bears need nut-bearing trees for food (Liu et al. 2009).

Bear conservation and forest conservation are necessarily connected. In China the central government sets the conservation goals and priorities, and the task of interpreting and enacting them falls to the provincial level governments. There are also many laws made to govern the use of resources, but they are often vague and difficult to enforce. The primary methods the government has mandated to protect forest resources (including animals) are to create thousands of protected areas, ban hunting in the forests, promote captive breeding of certain "important" species and begin a large-scale campaign to reforest certain areas. The efforts have been proclaimed successful by the government, but scientific reports actually show that they have only had mixed success. There are pervasive problems with the protected areas, including lack of real authority by the officials who run the parks and lack of funding, creating the need to raise money from outside sources (Schaller 1993). Some scientists have argued that the hunting ban only serves to alienate the local population from the forests, and a better approach would be to develop sustainable hunting programs with government oversight, similar to what we have in the United States. This would involve the people who inhabit forest areas and give them an incentive to protect, rather than exploit the forests and the animals in them. The captive breeding programs have had minimal success introducing captive-bred animals back into the wild.

Sometimes estimates of population decline are exaggerated to generate concern over the bile industry. Garshelis writes: "In cases such as the gall bladder trade, where to most Westerners the practice is culturally alien and repugnant, claims of effects often become exaggerated, especially if they are thought to help instigate remedial action. Hence, assertions of Asian bear populations being 'devastated,' 'decimated,' or 'depleted' tend to be widely accepted, or at least

not questioned” (2002, 324). Garshelis believes that this “emotional guesstimation” hurts conservation efforts because they spread false information about what is actually happening to the bear populations.” He goes on to make a case that in areas (such as the US) where there is highly supervised sport hunting of bears, the populations are actually stable or improving. Two reasons for this are that there are officials (the Departments of Fish and Wildlife) closely involved with monitoring big game populations and controlling seasonal hunts through permit systems, and in addition, sports hunting creates a community of people with a vested interest in and ethic towards conserving bear populations in perpetuity (Garshelis 2002). Many minority groups in China have hunting cultures and are allowed to have some weapons, but it is unlikely that China will develop a system for using hunting to monitor and control wildlife populations, like what has happened in the US and Japan.

Another problem that goes along with deforestation is the shrinking of the gene pools, and subsequent inbreeding in isolated pockets of bear populations (A. Santiapillai and Santiapillai 1997). In addition, these smaller populations of bears are at increased risk of being permanently destroyed by a major dramatic event, like a forest fire. Limited ranges also prevent bears from finding enough food during every season, since they are opportunistic foragers that generally benefit from a wide variety of food sources over extended ranges and biomes.

One problem with conservation efforts is misinformation. For example, the WWF website claims that bear gall bladders “bring high prices on the Asian aphrodisiac market” and that “there is no evidence that products derived from bear parts have medical value.” (WWF) Bear gall bladders are not used as aphrodisiacs, and they have been proven to be effective in treating liver disorders. This kind of erroneous information only aggravates Chinese medicine practitioners and users, who have long been criticized for their “superstitious” adherence to

medicine that has not been subjected to rigorous scientific testing. On the contrary, there is quite a lot of evidence that Chinese medicine promotes and sustains holistic health, and many Western scientists are currently developing medicine derived from Chinese medicine (Melton 2007). Mainka and Mills make the claim that “in almost all cases, the nations from which wildlife are taken to supply the Chinese medicine market are poor while the consuming nations are rich” (1995, 194). The vague designations of “rich” and “poor” aside, this statement is false. The top consuming nations and regions of Chinese medicine or Chinese medicine -related medicine are South Korea, Japan, Southeast Asia, Taiwan and China. China is considered a middle-income country, along with Thailand, Philippines, Vietnam, and Indonesia. Laos, Cambodia, and Burma are low-income countries. Only Japan, South Korea, Taiwan, and Singapore are high-income countries. Plus the medicines used in Chinese medicine within China are counted as China’s own resources, with the exception of tigers and rhinos which were present in ancient China but have now been extirpated. (Perhaps these animals are what the authors were thinking of due to their prominence in the international conservation discourse, but those are only two animal species out of more than 30 used in Chinese medicine.) This system of wildlife exploitation is more complicated than just the rich stealing from the poor.

It is unlikely that the Asiatic black bear will ever take on the cultural symbolism and cachet of the panda or the tiger. In addition, this issue plays into Chinese people’s fears of cultural erosion through exposure to global forces. Criticism from western media and western-style NGOs has given rise to the counter-argument that the use of wild animals is intrinsic to Chinese cultural tradition, and the common belief that Chinese medicine is outside the scope of understanding of westerners. Officials often state that the use of farmed bears protects the wild population, while activists state the exact opposite.

6) Giant Pandas

A) History and conservation

There are possible references to pandas in ancient texts as far back as the Western Zhou Dynasty (1066-771 BCE), and references to panda-like creatures appear throughout ancient literature under about 20 names. In the Western Han Dynasty (206 BC-24 BCE) Sima Xiangru wrote that the panda was the emperor's most prized animal in his personal collection of exotic species. During the Tang Dynasty (618-907 BCE), the royal family sent a pair of pandas to the Japanese emperor, possibly the first act of "panda diplomacy" in Chinese history (Schaller et al, 1985).

In the early 1980s the wildlife biologist George Schaller became the first western scientist to study pandas in the wild. The project was an agreement between the WWF and three Chinese agencies: the Ministry of Forestry, the Chinese Academy of Sciences and the Environmental Protection Office of the State Council (Schaller 1993). Schaller describes this as the most difficult project he worked on due to the bureaucracy and political maneuverings of all the involved organizations (including the WWF). He wrote bluntly in his book *The Last Panda*: "The realization that the panda has so suffered and declined in numbers while we chronicled its life burdens me painfully. Enthusiasm and goodwill count for little when the enemy is a vast bureaucracy of local officials who myopically use obstruction, evasion, outdated concepts, activity without insight, and other tragic traits to avoid central-government guidelines and create ecological mismanagement on a dismaying scale" (1993).

Schaller also recounts his frustration over police officials at the local level, who did very little to keep local minorities living in the preserve from laying out snare traps. Several of Schaller's research pandas were strangled in these wires which were laid out to catch pigs and

musk deer, and death by strangulation in these traps is particularly slow and brutal. One poacher was sentenced to two years in prison, and Schaller saw this as an injustice, since it did little to prevent the ongoing and widespread use of such traps. In addition, he was frustrated with the continued removal of pandas from the wild population to be housed in zoos and at the breeding stations, thus depleting the already limited stock of wild pandas. Female pandas in the wild only live to be about 20 years old, and in that time they will only raise about five cubs. With less than 2,000 pandas left in the wild, and the limited successes of captive breeding programs, the loss of even a few pandas from the wild populations has an impact (1993).

The panda also poses an interesting conservation problem with a particularly Chinese context. Much of the area preserved for pandas is also inhabited by Chinese minorities (Yi, Tibetans, etc). Some minority populations are allowed to have two or three children, depending on where they live. And some populations within reserves have grown since the reserves were designated. For example, the human population of people living in the Wolong reserve grew 70% from 1975 to 1990, though the total population is less than a thousand people (Garshelis 2002). Even in cases where the government would like to relocate the minority groups living in a reserve, the sensitivity of the issue and potential for widespread condemnation prevents them (Wudunn 1991).

The WWF chose the panda as its symbol in the late 1960s, well before its involvement with the panda project, and even rushed into a large financial commitment to building the research station in Wolong in part to keep out the competing interest of the Smithsonian (Schaller 1993). The WWF has also led the fight to prevent American zoos from taking “loaner” pandas from China for profit, which they worried would increase the likelihood that more pandas would be taken from the wild to send to zoos worldwide. The result of an extended legislative

battle is that zoos must donate a substantial amount of money (as much as a million dollars a year) to ongoing panda conservation programs in China when they accept a panda for an exhibit (Schaller 1993).

A more apt metaphor for the gift of a panda is “white elephant.” In the US there are currently four zoos with pandas from the Wolong breeding program, and they pay the Chinese government \$10 million dollars per panda for a ten-year panda loan, plus the obligatory donation for conservation. This does not include the cost of keeping the animals, which is five times the cost of keeping an elephant. When the popularity of the panda wanes after about three years, zoos start to lose revenue from decreased attendance. Some zoos make up the difference by getting corporate sponsors for the pandas (Goodman 2006). The money paid to China goes to support the panda breeding and conservation projects in Wolong and Chengdu (Elegant, 2007).

The panda model is being used in several reserves in southeastern China to promote the conservation of the South China Tiger. It is interesting to note that the government initially allowed the bodies of tigers that died (or more likely were killed) in captivity—mostly in zoos and safari parks—to continue to be traded, but this had no effect on curbing the illegal poaching of wild tigers (Coggins 2003). The government then banned all trade in tiger resources and use of tiger medicinally. This could be a precursor for an environmental agenda that would discourage the use of threatened and wild animals medicinally, but these cultural practices run deep, and the government has been unwilling to fully extend this protection to Asiatic black bears. In any case, there is an effort now to promote the South China Tiger as a culturally symbolic animal of China, although scientists are unclear how many are even left in the wilderness (Coggins 2003). Charismatic megafauna conservation campaigns in China focus on animals that are a source of national pride—but in fact, the South China Tiger is not genetically

different from any other kind of tiger, enough to qualify it as a distinct Chinese sub-species. Even though tigers from other parts of the world could be used to shore up the small population of China's tigers and add genetic diversity, Chinese scientists are unwilling to do this (Coggins 2003). This means that the tigers being "Chinese" is as important as their assured continued existence in the wild. This speaks to the attitude that the worth of wildlife in China is in its symbolic and economic value. The animals themselves are only as a means to an end.

The idea behind the panda model of conservation is that by getting the public to care about "charismatic megafauna"—species that are large or widely thought to be beautiful or adorable or both—then people will be mobilized to protect the habitat in which that species lives. There is less evidence that this will then lead to the protection of entire ecosystems on which many species (including us) depend.

B) Panda politics and panda mania

In China there is a widespread affection for the panda, and it is often used as a national symbol, most recently as one of the mascots of the 2008 Summer Olympics. The black and white colorings reflect the Daoist symbol of the unity of yin and yang. They have been sent as goodwill gifts to zoos in many countries.

After President Nixon visited China in 1972 the Chinese responded by sending two pandas, Hsing Hsing and Ling Ling, to the National Zoo in Washington D.C. Three million people went to visit them in the first few years, and their ongoing effort to conceive was the source of much public speculation (Cohn and Masters 1992). After the natural deaths of these two pandas, they were replaced with a new pair. This pair, through insemination, produced a baby panda, who was eventually named Tai Shan. Before his official name was given to him, he was dubbed "Butterstick" by some members of the media, for his small size at birth. This name

caught the public's imagination, and became so popular that there was a write-in campaign to add it to the official choices of possible names (Argetsinger and Roberts 2006).

In 2006 China offered Taiwan a gift of two pandas, but the president at the time, Chen Shui-bian, feared that they were “Trojan pandas.” The pandas were named Tuan Tuan and Yuan Yuan, which together is the Chinese word for “reunion” (团圆), an undisguised reference to the Chinese government's desire to unite the mainland and Taiwan (Liu and Wehrfritz 2006). But the appeal of the pandas was too strong to overcome the political objections. When Chen Shui-bian left office in 2008 the new administration accepted the pandas. The transfer of the pandas caused another political scuffle. Because Taiwan is not a signatory to CITES, the organization's officials wanted to treat the transfer as a domestic issue, rather than an international issue that would require a special report to be submitted to CITES. The Taiwan Straits Exchange Foundation, the organization that regulates trade between the mainland and Taiwan, rejected this interpretation of CITES and called it a threat to Taiwan's sovereignty. To facilitate the transfer they reclassified the panda as “traditional herbal medicine,” but of course, pandas have never been used in Chinese medicine (Mo 2008; “CITES Secretary Says Panda Transport Need Not Be Reported” *Taipei Times*).

In 2006 the US Deputy Secretary of State Robert B. Zoellick was photographed in Chengdu hugging a baby panda. Xinhua immediately posted the photo, calling it a sign of friendly US-China relations (Cody 2006). This year Hillary Clinton used her own style of “bear diplomacy” during her visit to the Shanghai World Expo. She handed out American teddy bears to Chinese school children (Mohammed 2010).

In 2008 China ended a five-year ban against high-level meetings between Beijing and Japan. When Hu Jintao travelled to Japan he made an offer of two pandas to Prime Minister

Fukuda, who responded with gratitude. It was perceived by the public as a warming of Sino-Japanese relations (Hasegawa 2008).

Within China there have been several incidents at the Beijing zoo involving spectators at the panda exhibit. In 2006 an inebriated man climbed into the panda habitat at the Beijing zoo determined to hug the resident panda “Gu Gu.” The panda bit the man, and the man responded to the attack by biting the panda on the back. The man was hospitalized, and Gu Gu was unharmed. A year later a 15-year-old boy tried the same thing on the same panda, with similar results. Two years later Gu Gu mauled a third man who climbed into the pen to retrieve a stuffed toy panda that he had dropped. The man later said “The panda is a national treasure, and I love and respect him, so I didn't fight back. The panda didn't let go until it chewed up my leg and its mouth was dripping with my blood” (Vause 2009). Lack of common sense aside, Chinese media has promoted the panda as a national symbol in an effort to encourage conservation and national pride, but with the negative effect of misleading the public about the nature of bears. Using the panda as a symbol of China has raised the status of the bear in a superficial way, but has only been moderately successful in protecting the environment in which the animals live.

Conclusion

Attitudes towards wildlife conservation and animal welfare are starting to change in China, but formidable challenges lie ahead. The controversy over bile farming has created a problem that cannot be solved with the current environmental policies, which are largely related to promoting sustainable resource use in forests and bans on hunting. The provincial governments tried to deal with the issue at first in this way, banning the hunting or capture of wild bears and allowing the bile farms to continue to feed the demand for bile in Chinese medicine; but issues of cruelty, questions of Chinese medicine and culture, and now the entrance

of western-style NGOs into the issue have created a unique situation that reveals the conflicts between the rise of the Chinese economy, the entrance of China into global markets, exposure to western criticism, the fear of the destruction of environmental resources and fear of the loss of Chinese cultural practices. With all these intersecting factors, it is difficult to predict what will happen, but we can see that citizen activism and awareness campaigns have been the most successful in changing public attitudes towards animal cruelty issues and wildlife preservation,

The primary success of panda conservation has been in breeding captive pandas, with the hope that sometime in the future pandas can be returned to the wild. The government would need to designate some habitat for Asiatic black bears, and promote these bears as a species worth preserving if it becomes a priority to protect the wild population.

The crux of these issues in the public sphere is whether or not something besides a utilitarian view of animals and their welfare will enter into public consciousness. Since the belief that animals are better off when in the care of humans is so pervasive, it is not surprising that the official response to the controversy has been to place more stringent regulations on the industry, and try to force compliance with laws meant to minimize the suffering of the bears. There is no thought, except by small groups of activists, to just releasing the bears back into the wild and shutting down the farms. This is because there is an already established beneficial relationship between people and bears. As all problems are resolved in the Confucian tradition, the ideal is to make this relationship better, to bring people and bears back into harmony. There are also strains of Maoism—primarily the idea that humans can master nature through will and work alone, with little thought put into the idea of sustainable use of resources, because that would be admitting that nature has limits that humans must accept (Shapiro 2001). And there is also the pressure to

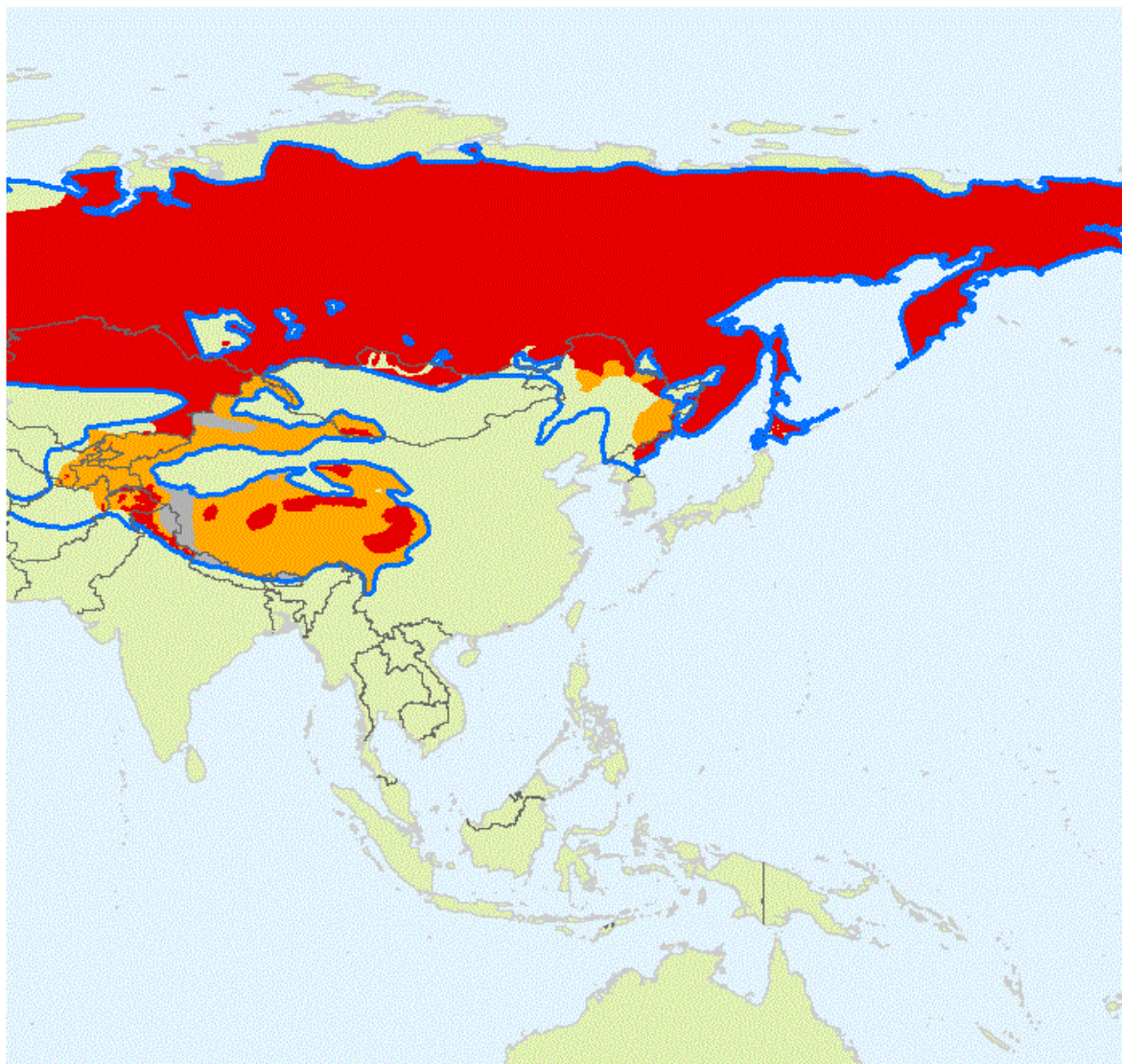
make money and expand the economy, a pervasive force in post-reform China. This pressure is at the heart of every single environmental problem in China, and most social problems as well.

In conclusion, this issue exemplifies some fundamental changes happening in the development of China's civil society, which would be a good place for further research to begin. It is not easy to pin down the motivations of the new generation of animal welfare activists in China, who think that the practice of bear farming must be stopped altogether. Have they taken on a western conception of the inherent value of wilderness and the separation of humans and the wild? Or are they drawing on a different strain of Chinese philosophy, perhaps the Buddhist conception of avoiding causing death or harm to all living things, or the Daoist concept of harmonizing with nature instead of mastering it? Or perhaps their activism is a hybrid of all of these things?

Another interesting question to ponder is how these civil groups will affect Chinese society, since their very methods are to create change through discord and criticism, something for which the Chinese government has little tolerance. Activism is a high-risk activity for Chinese citizens, even on issues that seem to have nothing to do with politics. Will the legal system be able to adapt to accommodate genuine conflict resolution? Will Chinese society change to accept some level of disharmony and disagreement in the public sphere?

Appendix I IUCN maps of bear habitat and range in China (IUCN, 2007)

I. Brown Bear



Ursus arctos - Asia

range type

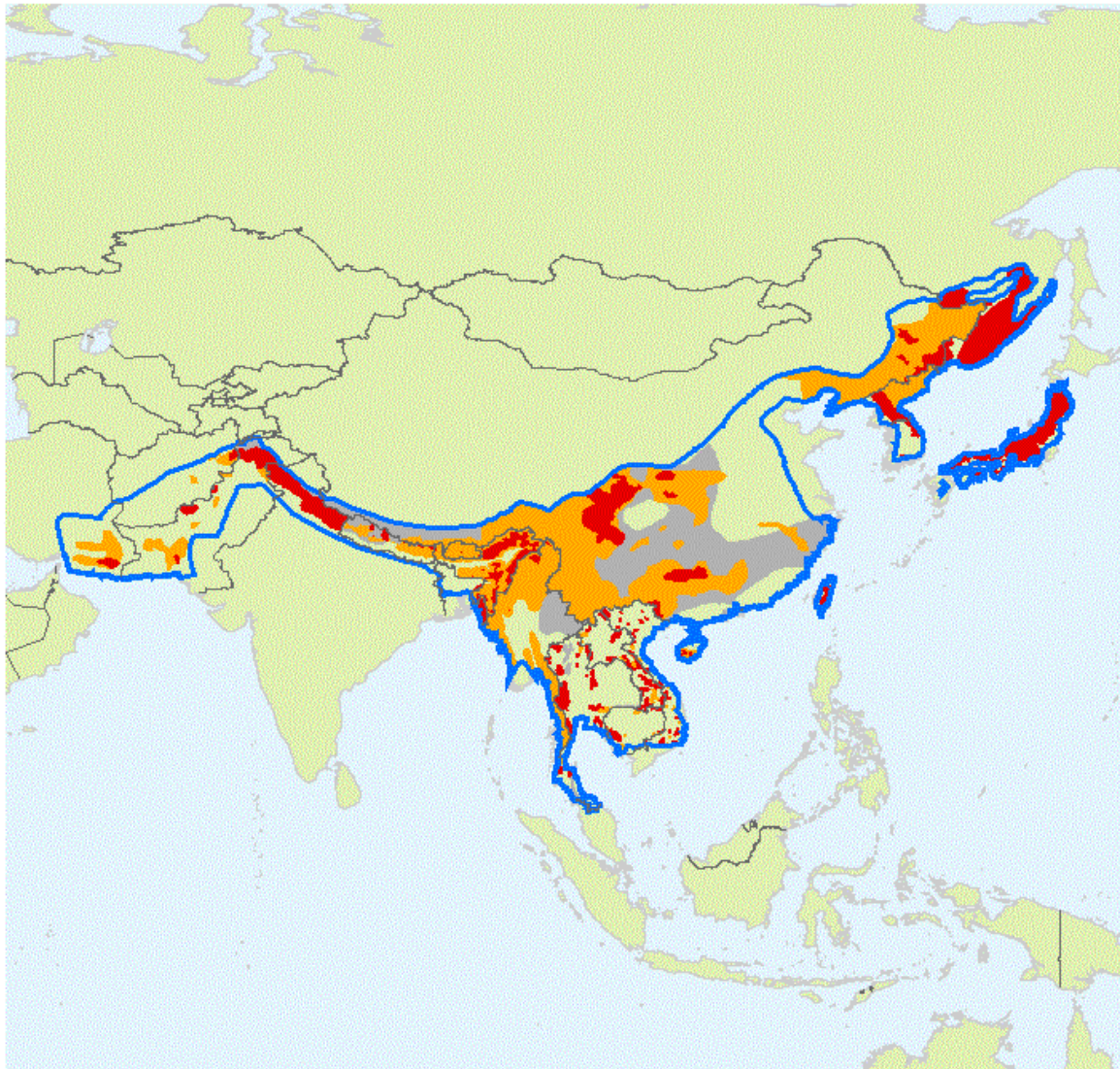
- Native Extant
- Possibly Present
- Unknown
- Historical range limits



- national boundaries
 - subnational boundaries
 - lakes, rivers, canals
 - salt pans, intermittent rivers
- elevation meters
- 5000
 - 4000
 - 3000
 - 2000
 - 1000
- 0 1,800 km
- Map created 11/01/2007



II. Asiatic Black Bear



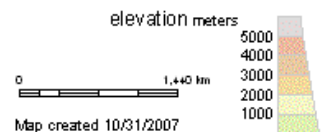
Ursus thibetanus

range type

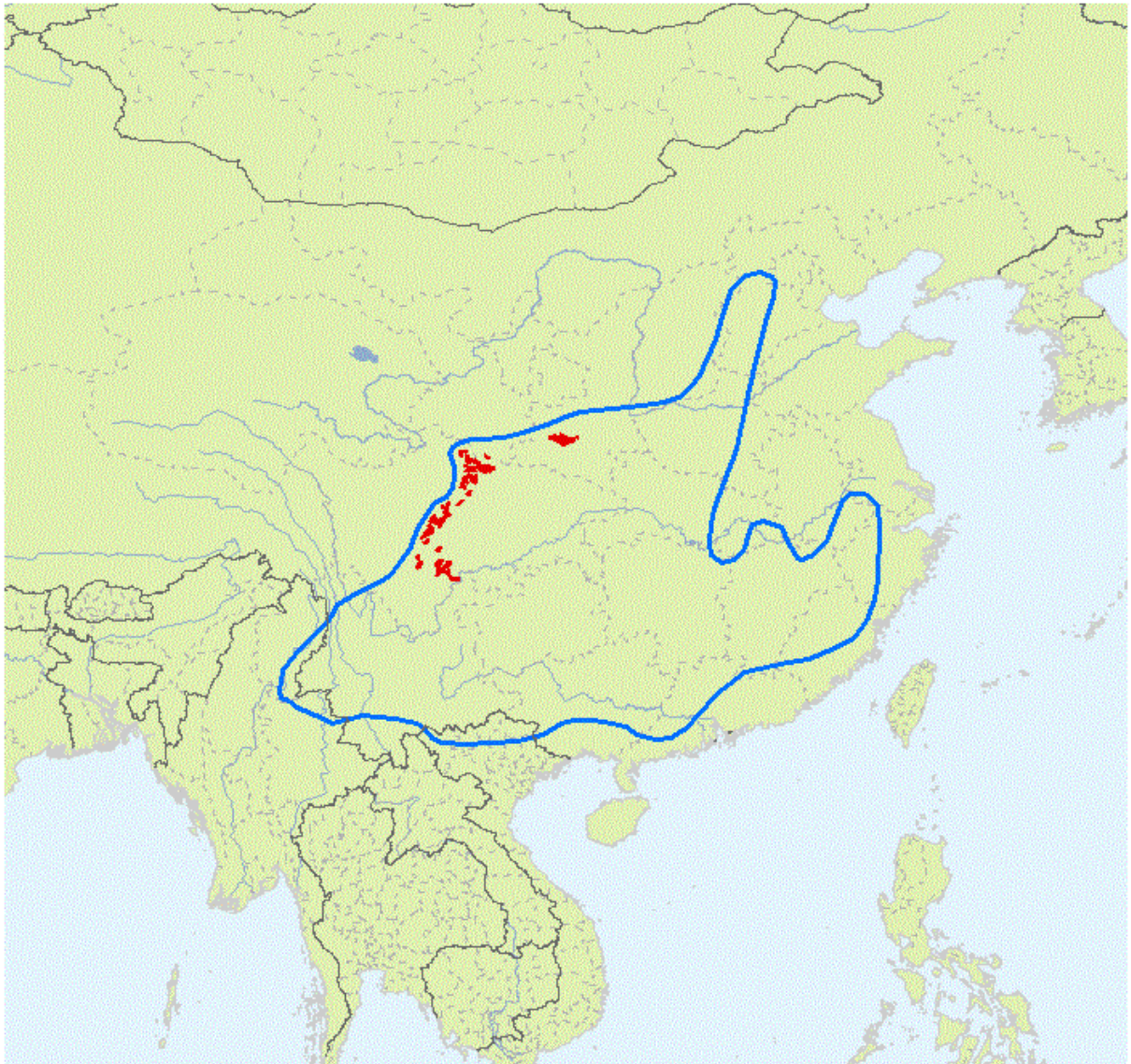
- Native Extant
- Possibly Present
- Unknown
- Historical range limits



- national boundaries
- subnational boundaries
- lakes, rivers, canals
- salt pans, intermittent rivers



III. Giant Panda



Ailuropoda melanoleuca

range type

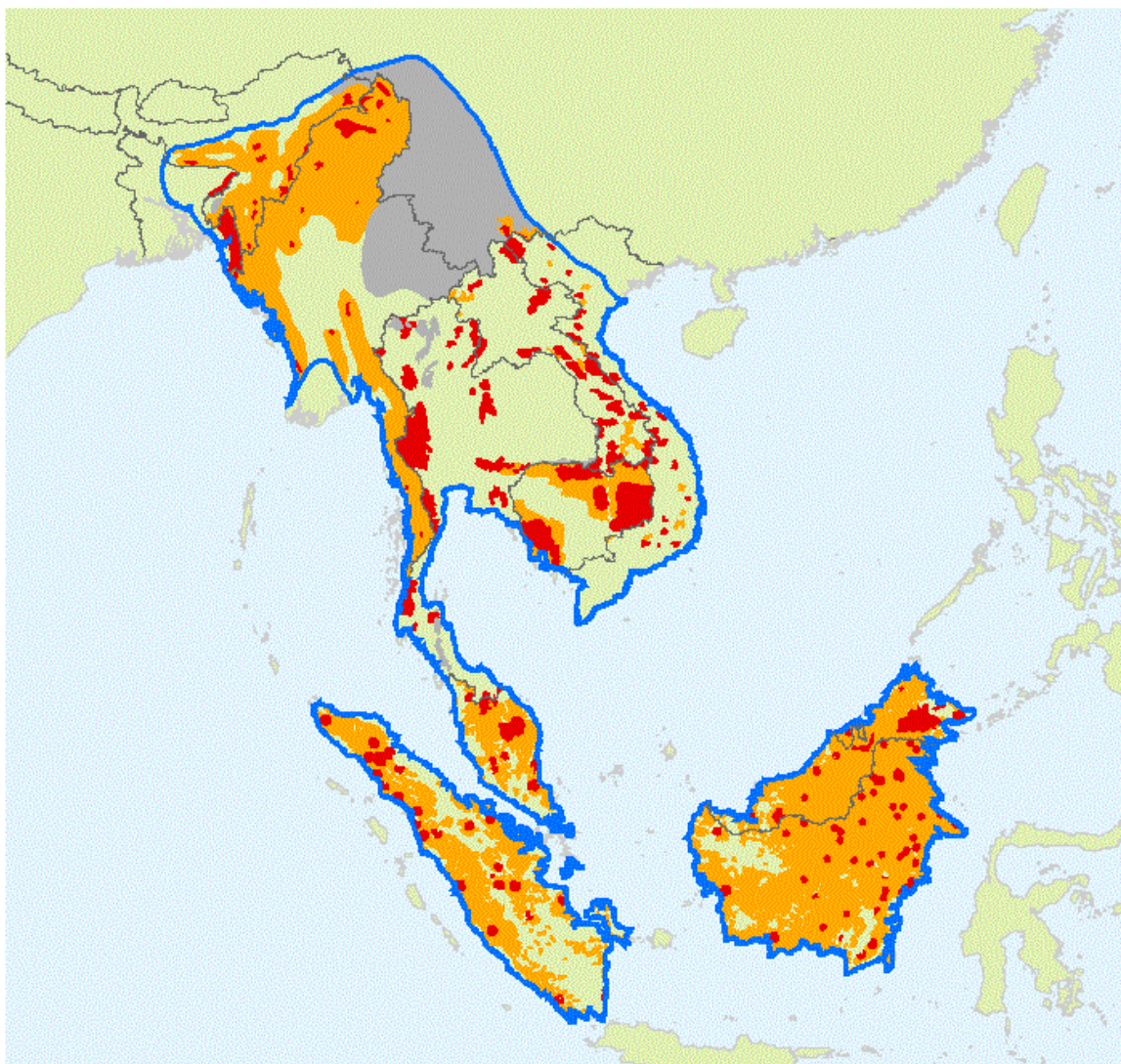
- Native Extant
- Possibly Present
- Unknown
- Historical range limits



- national boundaries
 - subnational boundaries
 - lakes, rivers, canals
 - salt pans, intermittent rivers
- elevation meters
- | | |
|--|------|
| | 5000 |
| | 4000 |
| | 3000 |
| | 2000 |
| | 1000 |
| | 0 |
- 0 680 km
- Map created 10/31/2007



IV. Sun Bear



Helarctos malayanus

range type

- Native Extant
- Possibly Present
- Unknown
- Historical range limits



- national boundaries
 - subnational boundaries
 - lakes, rivers, canals
 - salt pans, intermittent rivers
- elevation meters
- 5000
 - 4000
 - 3000
 - 2000
 - 1000
- 0 640 km
- Map created 10/31/2007



Appendix II

CITES Convention Treaty Articles II-IV (CITES 1973)

Article II

Fundamental Principles

1. Appendix I shall include all species threatened with extinction which are or may be affected by trade. Trade in specimens of these species must be subject to particularly strict regulation in order not to endanger further their survival and must only be authorized in exceptional circumstances.
2. Appendix II shall include:
 - (a) all species which although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival; and
 - (b) other species which must be subject to regulation in order that trade in specimens of certain species referred to in sub-paragraph (a) of this paragraph may be brought under effective control.
3. Appendix III shall include all species which any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation, and as needing the co-operation of other Parties in the control of trade.
4. The Parties shall not allow trade in specimens of species included in Appendices I, II and III except in accordance with the provisions of the present Convention.

Article III

Regulation of Trade in Specimens of Species Included in Appendix I

1. All trade in specimens of species included in Appendix I shall be in accordance with the provisions of this Article.
2. The export of any specimen of a species included in Appendix I shall require the prior grant and presentation of an export permit. An export permit shall only be granted when the following conditions have been met:
 - (a) a Scientific Authority of the State of export has advised that such export will not be detrimental to the survival of that species;
 - (b) a Management Authority of the State of export is satisfied that the specimen was not obtained in contravention of the laws of that State for the protection of fauna and flora;

(c) a Management Authority of the State of export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment; and

(d) a Management Authority of the State of export is satisfied that an import permit has been granted for the specimen.

3. The import of any specimen of a species included in Appendix I shall require the prior grant and presentation of an import permit and either an export permit or a re-export certificate. An import permit shall only be granted when the following conditions have been met:

(a) a Scientific Authority of the State of import has advised that the import will be for purposes which are not detrimental to the survival of the species involved;

(b) a Scientific Authority of the State of import is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it; and

(c) a Management Authority of the State of import is satisfied that the specimen is not to be used for primarily commercial purposes.

4. The re-export of any specimen of a species included in Appendix I shall require the prior grant and presentation of a re-export certificate. A re-export certificate shall only be granted when the following conditions have been met:

(a) a Management Authority of the State of re-export is satisfied that the specimen was imported into that State in accordance with the provisions of the present Convention;

(b) a Management Authority of the State of re-export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment; and

(c) a Management Authority of the State of re-export is satisfied that an import permit has been granted for any living specimen.

5. The introduction from the sea of any specimen of a species included in Appendix I shall require the prior grant of a certificate from a Management Authority of the State of introduction. A certificate shall only be granted when the following conditions have been met:

(a) a Scientific Authority of the State of introduction advises that the introduction will not be detrimental to the survival of the species involved;

(b) a Management Authority of the State of introduction is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it; and

(c) a Management Authority of the State of introduction is satisfied that the specimen is not to be used for primarily commercial purposes.

Article IV

Regulation of Trade in Specimens of Species Included in Appendix II

1. All trade in specimens of species included in Appendix II shall be in accordance with the provisions of this Article.
2. The export of any specimen of a species included in Appendix II shall require the prior grant and presentation of an export permit. An export permit shall only be granted when the following conditions have been met:
 - (a) a Scientific Authority of the State of export has advised that such export will not be detrimental to the survival of that species;
 - (b) a Management Authority of the State of export is satisfied that the specimen was not obtained in contravention of the laws of that State for the protection of fauna and flora; and
 - (c) a Management Authority of the State of export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment.
3. A Scientific Authority in each Party shall monitor both the export permits granted by that State for specimens of species included in Appendix II and the actual exports of such specimens. Whenever a Scientific Authority determines that the export of specimens of any such species should be limited in order to maintain that species throughout its range at a level consistent with its role in the ecosystems in which it occurs and well above the level at which that species might become eligible for inclusion in Appendix I, the Scientific Authority shall advise the appropriate Management Authority of suitable measures to be taken to limit the grant of export permits for specimens of that species.
4. The import of any specimen of a species included in Appendix II shall require the prior presentation of either an export permit or a re-export certificate.
5. The re-export of any specimen of a species included in Appendix II shall require the prior grant and presentation of a re-export certificate. A re-export certificate shall only be granted when the following conditions have been met:
 - (a) a Management Authority of the State of re-export is satisfied that the specimen was imported into that State in accordance with the provisions of the present Convention; and
 - (b) a Management Authority of the State of re-export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment.

6. The introduction from the sea of any specimen of a species included in Appendix II shall require the prior grant of a certificate from a Management Authority of the State of introduction. A certificate shall only be granted when the following conditions have been met:

(a) a Scientific Authority of the State of introduction advises that the introduction will not be detrimental to the survival of the species involved; and

(b) a Management Authority of the State of introduction is satisfied that any living specimen will be so handled as to minimize the risk of injury, damage to health or cruel treatment.

7. Certificates referred to in paragraph 6 of this Article may be granted on the advice of a Scientific Authority, in consultation with other national scientific authorities or, when appropriate, international scientific authorities, in respect of periods not exceeding one year for total numbers of specimens to be introduced in such periods.

Appendix III

Timeline of important dates for bear conservation in China

1950 Measures on Protecting Rare Wildlife Animals (regulated hunting activities)

1957 Third National People's Congress, forest reserves established

1959 Several species declared "pests" and people were encouraged to exterminate them, including the Asiatic Black Bear, the tiger, and the leopard

1962 Government publishes "State Council Instructions on Actively Protecting and Reasonably Using Animal Resources." In addition, endangered species were listed for state protection and banned from being hunted, including pandas.

1963 Panda reserves established

1981 China joins CITES

1985 Xinhua announces that many wildlife species in China are becoming endangered, and that farms will be set up to breed these species (Mainka and Mills 1995)

1985-1991 123 cases of panda poaching and trading go through the courts, 278 people sentenced

1988 Wildlife Protection Law

1989 7th National People's Congress passes law that prohibits capturing, killing and trading any species nationally protected, including the panda, and Category I and Category II species are listed, making killing wild bears for their parts and selling parts of wild bears illegal

1993 Domestic trade ban on tiger products, ban on new bear bile farm, ban on exporting bear bile products

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