

THE SYSTEM OF WILDLIFE MANAGEMENT AND CONSERVATION IN JAPAN, WITH PARTICULAR REFERENCE TO THE ASIATIC BLACK BEAR

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In many countries, the legislative and administrative system dealing with wildlife management has developed over many decades, often in an ad-hoc and piecemeal manner, and often driven by objectives not necessarily conducive to wildlife conservation. Japan is certainly no exception in this respect, and its system for managing wildlife has attracted considerable criticism from Japanese wildlife conservation organisations and wildlife management specialists for being ineffective in protecting endangered species and their habitat. Certainly, the Japanese system is likely to appear complex and difficult to comprehend to the non-specialist: it is one in which a number of laws overlap, and several government departments, often with conflicting interests, have a role.

An understanding of the legislative and administrative frameworks by which administrators dealing with wildlife management are constrained is vital in order to elucidate the current approach to wildlife management and conservation in Japan. Administrators are not only limited by the legislation, but the lack of resources, personnel and expertise to perform this function, which is often given lesser priority than other functions of government. This article will provide an introduction to the legislative framework regulating wildlife management in Japan and outline some key issues relating to wildlife management in Japan today.

The key laws which will be discussed are the Wildlife Protection and Hunting Law, the Natural Parks Law, and the Law for the Conservation of Endangered Species of Wild Fauna and Flora. In examining this subject, the

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article will also make reference to how the legislative and administrative framework for wildlife management relates to the Asiatic black bear (*Ursus thibetanus [japonicus]*), a species which is experiencing increasing fragmentation in many of its regional populations.² In Kyūshū, it is now thought to be extinct, while in Shikoku it is facing imminent extinction.³

The Wildlife Protection and Hunting Law

One of the key laws regulating wildlife management is the Wildlife Protection and Hunting Law 鳥獣保護及び狩猟の適正化に関する法律 (see Table 1 for an overview of key laws and developments relating to nature conservation in Japan). Its stated purposes are ‘to protect birds and mammals, to increase populations of birds and mammals, and to control pests through the implementation of wildlife protection projects and hunting controls’.⁴

As its original name suggests, the law’s initial purpose was the regulation of hunting and this continues to be its predominant function. The law gives the Ministry of the Environment the authority to designate game species, of which there are currently about 50. The game species include the brown bear (*Ursus arctos*), the Asiatic black bear, the wild boar (*Sus leucomystax*), deer (*Cervus nippon nippon*), the fox (*Vulpes vulpes*), the hare (*Lepus brachyurus*), the squirrel (*Tamias sibiricus*), the badger (*Procyon lotor*), the raccoon dog (*Nyctereutes procyonoides*) and the mink (*Mustela vison*).⁵ All other animals are designated as protected species under the law. The law also designates areas in which hunting is prohibited, regulates hunting periods, harvest rates and hunting methods. One key characteristic of the legislation is that it designates *non*-hunting zones, as opposed to *hunting* zones: thus, in Japan hunting is permitted in any area which is not specifically designated as a non-hunting zone.

There are two key issues regarding the function of this law in protecting animals. Firstly, while it is illegal to hunt all non-game species under the law, this does not mean that these animals are comprehensively protected. Inadequate monitoring means that poaching is relatively common, and that poachers are rarely apprehended. For example, in the case of the

² While it is generally believed, particularly among wildlife management experts and conservationists, that the bear’s overall population is decreasing, accurate national population figures, either historic or current, are not known. Thus, categorical claims of an overall decrease in population cannot be substantiated statistically.

³ Note that, while another species of bear, the brown bear (*Ursus arctos*), inhabits Hokkaidō, this article focuses on the Asiatic black bear, which inhabits Honshū and Shikoku. Any references to ‘the bear’ in this article refer specifically to the Asiatic black bear.

⁴ Ministry of the Environment, *Wildlife Protection and Hunting Law* <http://www.env.go.jp/en/nature/biodiv/law.html>, Accessed 13 May 2006.

⁵ Hatakeyama Takemichi 畠山武道, *自然保護法講義 [Nature Conservation Law]*, 2nd ed., Sapporo, 2005, 253.

Asiatic black bear, poaching is known to be common place, primarily owing to the value of the bear's gall-bladder, which is used throughout many parts of Asia as medicine. Furthermore, and more importantly, though protected from hunting, these species are not protected from the threat of habitat destruction, and it will be this, rather than over-hunting, which will lead most endangered species further towards extinction. In the case of the bear, for example, it is thought to be the destruction of its broadleaf forest habitat, dominated by nut-bearing species such as beech and oak, that has led to the unprecedented number of bear incidents in the last few years. As natural food sources grow scarce, bears venture into human-populated areas where they are then killed as pests. For instance, in 2006, a year of high bear incidents, over 3000 bears were culled.⁶ Given that the estimated number of bears nationally is between 10,000 and 15,000, this is a substantial proportion of the bear population.⁷

Secondly, some species are designated as game species despite the fact that they are highly endangered over a substantial part of their range. The Asiatic black bear is a case in point. The bear has five isolated populations extending over the west of Japan which are designated as either extinct or endangered according to the Ministry of Environment's own criteria (see Figure 1), but under the law the bear is designated as a game species. In prefectures where it is either designated as endangered or thought to be extinct, prefectural regulations prohibit or limit hunting. However, if the bear is thought to present a risk to human safety or to be responsible for pestilence, it can be culled (control-killed) as a pest.

The Wildlife Protection and Hunting Law has its origins in the hunting controls which were established to protect the hunting grounds used by the feudal lords in medieval Japan. In 1873, the first hunting regulations were enacted, primarily to control the use of guns. Subsequently, the regulations were revised a number of times, each time increasing the number of protected species, of which there were 60 by 1910. In 1918, the Hunting Law was enacted and for the first time specific species were designated as 'game species', as opposed to the previous system whereby all species were regarded as 'game' unless otherwise designated. The Hunting Law was further revised numerous times in an effort to strengthen its protective functions for non-game species. A major revision took place in 1963, in which a greater emphasis was placed on wildlife protection, reflected also in a change of name to the Wildlife Protection and Hunting Law. However, the *prima facie* strengthening of the law's protective functions was to prove little match for the threats posed by the destruction of habitat in subsequent decades. The clearing of indigenous forest, extensive afforestation with coniferous species, dam and road construction, reclamation of wetlands and bays, resort building, and the construction of golf courses and other facilities

⁶ Anon., クマ狩猟自粛を申し入れ... 捕殺すでに3000頭 [A call for a self-imposed ban on hunting, as bear culling numbers reach 3000], <http://hochi.yomiuri.co.jp/topics/news/20061109-OHT1T00178.htm>, Accessed 14 November, 2006.

⁷ Hazumi, 'Status and Management', 209.

have all destroyed or degraded important habitats for wildlife. The Resort Law, enacted in 1987, only compounded the problem of disappearing wildlife habitat. As an example, during the 1980s and early 1990s, 26.7 per cent of Kyūshū was incorporated into plans for 135 resorts, including 100 golf courses.⁸ This period also saw the building of more than fourteen ski-fields on the Iwate side of Ōu Mountains alone, an important habitat for bears. As a consequence of this rapid loss of natural habitat, the threat posed to populations of many species of wildlife continued to increase.

Ironically, this rapid loss in wildlife habitat was to lead to a policy shift from wildlife 'conservation' to 'management'—in other words, the control of certain 'problem' wildlife species through culling. As habitat decreased or became more fragmented, the incidence of agricultural and forestry pestilence and human injury caused by wildlife such as bears, serow (*Capricornis crispus*), deer, and monkeys (*Macaca fuscata*) increased exponentially, becoming particularly marked in the 1980s. This led to calls to weaken the restrictions on hunting and reduce the populations of the wildlife causing these problems. As a consequence, the Wildlife Protection and Hunting Law was again revised in 1999, when the Wildlife Planning System was introduced. This allowed for the regulation of populations of wildlife species causing pestilence, and the devolution of the wildlife management function to prefectural governments.⁹

Beyond its designation of wildlife as non-game species, the Wildlife Protection and Hunting Law provides for some additional, if limited, protection for wildlife. The law gives the Minister of the Environment or the relevant prefectural governor the authority to designate areas as 'wildlife protection zones' 鳥獣保護区, in which game hunting of wildlife is prohibited. (Note that the control-killing of wildlife considered to be pests is still permitted in these areas.) As of 2003, there were 56 nationally designated wildlife protection zones and 3796 prefecturally designated zones.¹⁰ Wildlife in these zones are protected from hunting, but not from habitat loss or degradation: land-reclamation, forestry and other forms of industrial activity are still permitted.

Additional protection against habitat destruction is provided by 'special protection zones' 特別保護地区, which may be designated within the 'wildlife protection zones'. In these zones, all construction, land-development, reclamation projects, cutting of forest, mining and other industrial activities require the prior consent of the Environment Minister or

⁸ Gavan McCormack, *The Emptiness of Japanese Affluence*, St Leonards, N.S.W., 1996, 88.

⁹ Ministry of the Environment, 特定鳥獣保護管理計画制度の概要 [An outline of the Wildlife Management Planning System], in 人と自然との共生をめざして環境省自然環境局 [Aiming for Coexistence between People and Nature: The Natural Environment Division, The Ministry of the Environment] (A promotional pamphlet produced by the Ministry of the Environment), www.env.go.jp/nature/pamph/50.html, Accessed 6 September, 2005.

¹⁰ Hatakeyama, *Nature Conservation*, 263.

the respective prefectural governor. However, the Minister or prefectural governor can only withhold consent where the action(s) in question ‘will bring about serious harm to wildlife or to wildlife habitat’ (though it is not clear from the legislation by whom, and by what criteria, this is judged). In all other cases, the minister or prefectural governor is obliged to give his or her consent. Because the ‘special protection zones’ involve relatively stringent restrictions on the use of land, land-owners and users tend to oppose any applications for their designation. Consequently, as of 1999, only about 23 per cent of national wildlife protection zones had been designated as special protection zones, while only six per cent of prefectural wildlife protection zones had been designated as special protection zones.¹¹ This leads to the role of natural parks in wildlife management and conservation, an aspect which will be examined below.

Laws Governing the Establishment and Management of National Parks

As of 2002, there were 28 national parks, 55 quasi-national parks and 308 prefectural nature parks, constituting a total area of 5,367,000 hectares, or about 14 per cent of Japan’s national land area.¹² The key law regulating the establishment, administration and use of natural parks in Japan is the Natural Parks Law 自然公園法 (1957), which superseded the National Parks Law 国立公園法 (1931). The original law, the National Parks Law, was the first law relating to national parks in Japan and aimed to ‘preserve areas of outstanding beauty, while contributing towards the health, recreation and cultural education of Japanese citizens’ (Article 1, National Parks Law).¹³ Japan’s first national parks were established in 1934, closely followed by several others, and by 1936 twelve parks had been established. While the objective of these parks was, ostensibly, to preserve nature, they were for the most part selected for their general appeal as places of scenic beauty and their potential to contribute to national prestige and tourism, as opposed to their ecological value. The two exceptions to this general rule were the Akan and Daisetsuzan Parks of Hokkaidō, which were selected because they were places characterized by primeval nature worthy of preservation.¹⁴

After the Second World War, a system was adopted whereby nationally designated ‘quasi-national parks’ could be established, particularly near the main cities, for the primary purpose of recreation. These became officially recognised by law in 1957, when the Natural Parks Law came into effect. This new law provided for three types of park: national parks 国立公園, quasi-national parks 国定公園, and prefectural nature parks 都道府県立

¹¹ Hatakeyama, *Nature Conservation*, 263–4.

¹² Japan Statistics Bureau, *Statistics Handbook of Japan*, Tokyo, 2006, 74, 19.

¹³ Hatakeyama, *Nature Conservation*, 205.

¹⁴ Hatakeyama, *Nature Conservation*, 205.

自然公園, and became the basis of the current park system.¹⁵ The Natural Parks Law was enacted against a background of government initiatives and policies to encourage the development of the tourism and leisure industry. Natural parks were seen as an important aid in the development of tourism, particularly during this post-war period when a key priority was the rebuilding of the economy.

The emphasis on scenic beauty and recreational value in the legislative framework governing natural parks is underlined in the selection criteria for parks set out in the Natural Parks Law. For example, Criterion One of the law requires areas to ‘be representative of Japanese scenic landscapes, while at the same time boasting outstanding natural scenery of a world class standard’. Criterion Four states: ‘The area must be suitable for utilization by a large number of people, as judged by its accessibility; capacity to accommodate a large number of visitors; variety of uses; and its special characteristics’.¹⁶ As can be seen, therefore, the legislative framework is geared for the utilization and development of nature, as opposed to its conservation and protection. Many areas, such as the Shiga Heights National Park, have undergone unprecedented development, including the building of numerous hotels and ski resorts, since being designated a national park.¹⁷ Attempts to strengthen the conservation function of the national parks with revisions modelled on the United States’ Wilderness Act 1964—which would have seen greater protection from development and industrial activity for national and natural parks—were for the most part thwarted by vigorous opposition from the Ministry of Agriculture, Forestry and Fisheries and the Ministry of Construction.¹⁸ A further weakness of the Japanese natural park system is that the Ministry of the Environment (formerly the Environmental Agency) does not have sole jurisdiction over these areas. Areas designated as national or natural parks may include private land, or areas over which the Ministry of Agriculture, Forestry and Fisheries or the Ministry of Construction have primary jurisdiction. Conflicts of interest between the Ministry of the Environment and agencies which have an economic interest in a park (for example, through mining and forestry) are common, further compromising the conservation function of natural parks.¹⁹

There are a number of problems relating to the designation of natural parks, particularly in relation to their potential to support wildlife conservation. Firstly, as has been seen from the wording of the law and the

¹⁵ Mary Sutherland and D. Guyvor Britton, *National Parks of Japan*, Tokyo, 1980, 6; Hatakeyama, *Nature Conservation*, 207–8.

¹⁶ Hatakeyama, *Nature Conservation*, 209.

¹⁷ Jo Stewart-Smith, *In the Shadow of Fuji-san: Japan and its Wildlife*, Harmondsworth, 1987, 68–9.

¹⁸ Hatakeyama, *Nature Conservation*, 8.

¹⁹ See, Ishikawa Tetsuya 石川徹也, *日本の自然保護* [Nature Conservation in Japan], Tokyo, 2001, 58–66; Cath Knight, *Veneration or Destruction? Japanese Ambivalence Towards Nature*, with special reference to Nature Conservation, M.A. thesis, University of Canterbury, 2004, 56–9 for a discussion of this issue.

criteria it sets out for natural parks, the scenic beauty of an area is the foremost consideration when selecting a candidate for designation. If this criterion is applied strictly, an area which is valuable from an ecological point of view but which is not perceived as 'scenic' is unlikely to be selected as a natural park. Secondly, natural parks are expected to fulfil two primary, but conflicting, demands: utilization on the one hand and preservation of 'nature' on the other. In fact, as discussed above, one of the main criteria for the selection of a natural park encompasses such considerations as its accessibility from the main urban centres, capacity to accommodate a large number of visitors, and its suitability for recreational use. This clearly demonstrates the emphasis placed on utilization, and the potential for conflict with the nature conservation function.

This aspect has particularly serious implications for potentially dangerous species such as the bear. Because parks exist primarily for the purpose of tourism, the visitor's pleasure and safety is considered tantamount. Where a bear is observed, and believed to have the potential to threaten visitor safety, it will be the bear, rather than the visitors which will be removed (its 'removal' usually involving culling).

Another issue is the prevalence of industrial activity which takes place in or near natural parks. It is not uncommon for clear-cutting of forest, land reclamation and quarrying to be carried out on land immediately adjacent to natural parks, and these activities have adversely affected Rishiri-Rebun-Sarobetsu, Kushiro Marshlands and Iriomote National Parks.²⁰ Even within the parks themselves, there are only limited controls on industrial activities such as forestry, mining and quarrying. On the contrary, the building of infrastructure such as roads or the development of leisure and tourist facilities has been actively encouraged by the government, because they encourage the utilization of the parks.

There is provision under the Natural Parks Law to designate areas of natural parks as 'special protection zones',²¹ or type one, two or three 'special areas', designations which offer greater protection for wildlife and wildlife habitat. About 13 per cent of the total park area of national parks (not including quasi-national parks) is designated as 'special protection zones', the zoning which offers the highest level of habitat protection. However, this area is for the most part made up of high altitude areas above forest cover. Few areas of higher biodiversity, such as wetlands or lowland forest have been designated.²²

²⁰ Hatakeyama, *Nature Conservation*, 213.

²¹ Although the same in name, the 'special protection zones' designated under the Natural Parks Law are distinct from those which can be designated under the Wildlife Protection and Hunting Law, the main difference being that the 'special protection zones' designated under the former law are within the boundaries of national, quasi-national, or prefectural parks, while the latter are designated within nationally or prefecturally designated wildlife protection zones.

²² Hatakeyama, *Nature Conservation*, 217.

The Law for the Conservation of Endangered Species of Wild Fauna and Flora

The Law for the Conservation of Endangered Species of Wild Fauna and Flora 絶滅のおそれのある野生動植物の種の保存に関する法律 was introduced in 1992. This law has two main purposes: to regulate trade in wildlife in accordance with the Convention on International Trade in Endangered Species (CITES, otherwise known as the Washington Treaty), and to conserve endangered species within Japan by way of the preservation of habitat. The law was hastily passed in 1992 in anticipation of the Earth Summit and the CITES conference, both held that year in Kyōto. Until that time, Japan had no legislation concerning the management of endangered species. In terms of its species protection functions, the law allows for the designation of ‘natural habitat conservation areas’ 生息地等保護区 and establishes guidelines for the rehabilitation of endangered natural habitats.²³

To date, only eight habitat conservation areas have been designated: for a species of snake, salamander, fish and two species of plants and insects respectively.²⁴ For larger species such as mammals and birds, no areas have yet been designated. One primary shortcoming of the current system is that of all the 1567 species (both animals and plants) designated as endangered in the Ministry of the Environment ‘Red Data List’, only 62 have been designated as endangered species under this law, and only two of them mammals—the Tsushima cat (*Felis euphilura*), and the Iriomote cat (*Mayailurus iriomotensis*). Even in the case of these two species, their designation as endangered is nominal only, as they are offered no additional protection over and above that provided by their status as ‘non-game species’ under the Wildlife Protection and Hunting Law. For instance, the Iriomote cat has an estimated population of fewer than 100 individuals, limited to the forests of Iriomote Island.²⁵ However, as its habitat has not been designated as a ‘natural habitat conservation area’ under the law, there is currently no legal barrier to its continued development and degradation.

Additionally, the law is criticized by nature conservation groups for not offering any protection for species whose regional populations have become isolated and which are in real danger of becoming extinct, such as is the case with bear populations in western Japan.²⁶ Furthermore, the system

²³ Organisation for Economic Cooperation and Development [OECD], *Environmental Performance Reviews: Japan*, Paris, 2002, 58.

²⁴ Hatakeyama, *Nature Conservation*, 270.

²⁵ Kristin Nowell and Peter Jackson, *Wild Cats: Status Survey and Conservation Action Plan*, Gland, 1996, 89.

²⁶ Nogami Fusako 野上ふさ子, 野生動物を絶滅から守るためにはどうしたらいいのか—「種の保存法」の抜本的見直しが必要 [What should be done to protect wildlife from extinction? A fundamental revision of the Endangered Species Protection Law is

of designating natural habitat conservation areas for the conservation of individual species rather than ecosystems has been criticized by conservationists for placing too much emphasis on protecting individual species as opposed to ecosystems as a whole, which support many species.²⁷

This law has no relevance to the management of bears, because they are not designated as nationally endangered species under the law. Even if they were to be, the implementation of the law to date is such that it has been ineffective in securing habitat conservation areas for mammals or other larger species of wildlife. It is therefore unlikely that an animal with as big a range as the bear will ever be subject to the provisions for habitat conservation that this law, in theory, can make.

The Specific Wildlife Management Planning System

In 1999, a new system was established within the framework of the Wildlife Protection and Hunting Law, known as the Specific Wildlife Management Planning System 特定鳥獣保護管理計画制度. The system was established against the background of a general policy shift towards decentralisation driven by central government, in this case by allowing each prefectural government to formulate and implement plans for wildlife management in their region. A Specific Wildlife Management Plan is a plan targeting specified species, the regional populations of which are displaying either marked increases or decreases. (In the former case, the species often becomes a pest, while in the latter case the species can become endangered, and in some cases, such as that of the Asiatic black bear, simultaneously becomes a pest.) The overall objective of the plan is the long-term stability and viability of regional populations. The plan is to be formulated by each administrative district (prefecture), and is intended to regulate hunting, incorporate measures to preserve natural habitat, and prevent wildlife conflict and pestilence. The establishment and implementation of such plans is entirely voluntary and is not mandated by central government.²⁸

As noted, the system is intended to target species which are experiencing either extreme increases or extreme declines in their population in a given prefectural area. However in reality, the majority of plans established so far are for species which are experiencing increases in populations, or which are the cause of pestilence. In the latter case, while

required], <http://www.alive-net.net/wildlife/syunohozon/houkaisei-2.html>, Accessed 13 May 2006.

²⁷ For instance, see Yoshida Masahito, pers. comm., [email], 26 August, 2004; Domoto Akiko, *Report on biodiversity submitted to Rio+5 Summit*, 1997, Accessed 18 March 2004 from <http://www.globeinternational.org/archives/earthsummit/earth5rio-biodiversity.html>.

²⁸ Ministry of the Environment 環境省, *人と自然との共生をめざして：環境省自然環境局* [Aiming for Coexistence between Humans and Nature: the Natural Environment Division, Ministry of the Environment], Tokyo, 2003, 31.

populations may in fact be in decline, they are often *perceived* as increasing, particularly by those engaged in forestry or agriculture, because the incidence of sightings and pestilence is increasing. The bear is a case in point, particularly in western Japan, where forestry damage is prevalent.

The Specific Wildlife Management Planning System has been criticized by non-government organizations (NGOs) for a number of reasons. As has been noted, the system is voluntary and there is no penalty for failing to put a plan in place. There is also the perception that by establishing this regional system, central government is devolving the problem of wildlife management to prefectural authorities and thereby absolving itself of responsibility.²⁹ In addition, prefectural authorities are not equipped with additional budgets, training, or resources to effectively implement a plan. This means that while many prefectures may have established plans, they may not necessarily have the resources to effectively execute them. In addition, Hatakeyama (2005) notes that lack of research, scientific data or common understanding among researchers and government officials regarding aspects such as the minimum viable populations (MVP) of species—a concept fundamental to a wildlife management system—also undermines the effectiveness of the system.³⁰

A further barrier to effective wildlife management systems is the lack of understanding of wildlife management among the general populace. As Hatakeyama points out, wildlife management is concerned with balancing the ecological needs of a species against the economic and social needs of society. But given the current level of understanding among the general public, there is a danger that the public demand for the culling of certain species may continue until the species falls below the MVP, particularly in the case of potentially dangerous animals such as the bear.³¹ Another problem often raised by wildlife experts is that the current approach to wildlife management is limited to one strategy: that of culling (or control-killing).³² As yet, there are no integrated strategies which encompass approaches such as population management, habitat management, pestilence prevention measures and compensation systems.

Wildlife Management in Practice—Legislation and Reality

Of all issues faced by wildlife management practitioners in Japan, perhaps the most fundamental is the gap between legislation and practice. As stated above, the Law for the Protection of Endangered Species of Flora and Fauna designates species which are endangered and sets out measures for their

²⁹ Hazumi Toshihiro, pers. comm., Tokyo, 1 June, 2005.

³⁰ Hatakeyama, *Nature Conservation*, 261.

³¹ Hatakeyama, *Nature Conservation*, 261.

³² See, for instance, Tsubota Toshio in [岐阜] クマ出没増加 [The increase in bear incidents in Gifu], *Yomiuri Shinbun*, <http://chubu.yomiuri.co.jp/tokushu/dounaru/dounaru0608302.htm>, Accessed 9 October 2006.

protection. However, in reality, there is little or no action taken to protect these species. For example, as was seen, only a handful of the species designated as endangered under the law actually have any legal protection for their habitats. Many more species, such as the bear, are not designated as endangered under the law, though wildlife conservationists argue that they should be.

The Wildlife Hunting and Protection Law sets out what forms of hunting and what types of traps are legal, and prohibits the use of other hunting methods and traps. However, the government does not provide prefectural or municipal governments with either the budget or staff to carry out patrolling and monitoring activities to ensure the law is abided by. Effectively, therefore, a person can flout the law (by using illegal traps, hunting outside the hunting season, hunting non-game species and so on) with little fear of prosecution, as highlighted in the case of bear poaching.

Furthermore, as was discussed above, the Ministry of the Environment has delegated the responsibility for the management of wildlife to prefectural governments, but prefectures only have jurisdiction to manage populations 'within their prefectural borders'. This is clearly problematic because wildlife is oblivious to administrative boundaries, and the range of a larger species such as the bear may extend over two or more prefectures. While one prefecture may be proactive in its management of a species, its efforts may be compromised by a neighbouring prefecture which has no management strategy or a different management approach. Crucial aspects of habitat protection such as green corridors³³ are limited in their effectiveness without inter-prefectural cooperation.³⁴ The effect of this localized approach on wildlife management is that a species may on the one hand be recognized as endangered, but little is actually done to prevent the further decline of the species. These shortcomings in the present system are a source of criticism from wildlife conservation organisations within Japan. For example, in October 2004, ALIVE, an NGO concerned with wildlife conservation, petitioned the Ministry of the Environment, urging it to adopt a national approach to the conservation and management of bears. Their proposal included the establishment of a 'national conservation and management plan'

³³ A green corridor is defined as 'strips of semi-natural habitat connecting wildlife sanctuaries, along which plants and particularly animals can disperse'. Alan J. A. Stewart and Michael J. Hutchings, 'Conservation of Populations', in Ian F. Spellerburg, ed., *Conservation Biology*, Harlow, 1996, 123.

³⁴ This situation may change in the near future, with the introduction of a new administrative system which would see the merging of the current prefectures into several regional 'states', a system referred to as *dōshūsei* 道州制 in Japanese. For example, under this new system, the six Tōhoku Prefectures and Niigata Prefecture would merge to form one new state. The new system has the potential to facilitate the establishment of a more regionally integrated system for wildlife management, crucial for larger species such as the bear which have more extensive ranges.

in place of its current approach of delegating this responsibility to prefectural governments.³⁵

The fissure between legislation and reality is also reflected in the Specific Wildlife Management Planning System. When this system was first introduced, prefectural governments were in some cases provided with considerable outside expertise and input (both from the Ministry of the Environment and other organisations) to assist with the management plan formulation process. As a result, many prefectures produced wildlife management plans. However, when faced with the implementation of the plans, they found that they were provided with no further outside expertise or assistance, and had neither the budget nor the staff with specialist expertise to facilitate the implementation process.³⁶ For example, fundamental to implementing a plan is ascertaining the population of a particular species within a particular region. This involves making an informed estimate based on sampling and other available data, a process requiring a sizeable team of staff with scientific and practical expertise, equipped with the required equipment and facilities. However, many prefectures do not have the resources to complete even this most rudimentary process, which is vital for obtaining a baseline for subsequent monitoring and management. Furthermore, the successful implementation of a plan involves population monitoring, necessary to ascertain the effectiveness of measures in reaching the prescribed targets. So dire is the lack of resourcing for these fundamental wildlife management tasks, one expert has suggested that rather than attempt to make population estimates, prefectural governments should instead focus what meagre budget and resources they have on pestilence prevention measures.³⁷ Given these circumstances, the planning system is falling well short of its legislative goals.

The lack of financial resources is clearly a major problem preventing prefectural governments from effectively carrying out wildlife management in their jurisdiction, however even this is outweighed in magnitude by the lack of specialist personnel available to carry out wildlife management functions. According to a survey of prefectural governments, this was the key problem highlighted by prefectural governments in respect to their wildlife management responsibilities.³⁸ Few wildlife specialists (individuals qualified or trained in wildlife biology, wildlife management or related

³⁵ ALIVE, 環境省へツキノワグマの保護管理対策を求めて要望 [A Petition to the Ministry of the Environment Requesting Provisions for the Conservation and Management of the Asiatic Black Bear], 2004, www.alive-net.net/wildlife/bear/kuma041021.html, Accessed 13 April, 2004.

³⁶ Yoshida and Hazumi, submissions to the 第164回国会環境委員会第10号 [Committee of Environment, from the Transcription of Proceedings of the 10th Meeting of the Committee of Environment, 164th Session of the National Diet], Tokyo, 2006. This meeting of the Committee of Environment concerned a Bill that was at that time being considered by Cabinet for the Revision of Part of the Wildlife Protection and Hunting Law 鳥獣の保護及び狩猟の適正化に関する法律の一部を改正する法律案.

³⁷ Hazumi, in Committee of Environment.

³⁸ Yoshida, 2006, in his submission to the Committee of Environment Tokyo, 2006.

fields) are employed by prefectural offices dealing with wildlife issues. Staff who deal with wildlife management are by and large untrained in the field, and are, like other government employees, rotated to other roles within a few years. This does not fit well with the wildlife management function, which requires long-term research, planning and focus, and the input of specialists. As a result, valuable experience tends to be lost and there is a lack of continuity in management and planning. In addition, officials entrusted with wildlife management tasks tend to lack authority and are therefore limited in what they can achieve, especially if it is beyond the framework of existing policy and practice. This situation has only been exacerbated by the recession of the 1990s, and the trend towards 'downsizing' and 'rationalising' of administrative bodies in an effort to cut costs.

Inadequately staffed, prefectural and municipal governments rely on volunteers and NGOs to fulfil fundamental wildlife management functions. These functions include trapping and culling (hunters' associations); data-collection and research such as tracking and population studies (NGOs and research bodies such as universities); and public awareness and educational programmes (NGOs, zoos, etc.).³⁹ For instance, hunters are provided only a small sum as remuneration for call-outs, insufficient to cover lost income, transport and other related costs. Volunteers and other organisations are normally not remunerated for tasks they fulfil.

Hunters are integral to the wildlife management operations of municipal governments. In the case of bears, for instance, they are called on by the local authorities to track, trap, and cull 'problem' individuals.⁴⁰ Hunters are also called on to remove bears killed by vehicles or trains from roadways or railway tracks.⁴¹ Hunters also tend to hold a wealth of knowledge about wildlife, its behaviour and ecology, and can advise both citizens and local authorities on how to deal with wildlife issues. However, this pool of expertise is declining rapidly. Since peaking in the 1970s at 500,000, the number of licensed hunters had fallen to just over 200,000 in 2000 (see Figure 2).⁴² In addition, as can be seen from Figure 2, the overwhelming majority of hunters (about 90 per cent) are aged 40 years or above, and very few people of younger age groups are taking up hunting. One wildlife management expert predicts that in ten years there will be very few hunters for municipal governments to call on to deal with problem

³⁹ Nature Conservation Society of Japan [NACSJ], 国立公園における鳥獣保護は国の役割であるというのが国際的常識、我が国もそれにならうべき [It is International Practice for the National Government to be responsible for the Protection of Wildlife in National Parks: Japan should follow this practice also], 1999. http://www.nacsj.or.jp/old_database/tyojuhogoho/tyoju-990921-iken.html, Accessed 8 June 2005; Hazumi Toshihiro, pers. comm., Tokyo, 1 June, 2005.

⁴⁰ Note that it is rarely possible to determine whether the individual trapped or culled is in fact the animal responsible for pestilence, but despite this ambiguity, in most cases it is assumed to be the culprit and culled.

⁴¹ Kikuchi, Takeshi, pers. comm., Tōno, Iwate, 19 May, 2006.

⁴² Ministry of Environment 環境省, 狩猟者数の推移 [Changes in the numbers of hunters], 2001, <http://www.biodic.go.jp/cbd/5/tu3-2.PDF>, Accessed 14 June 2006.

animals, and suggests that central government should act immediately to avoid a crisis in a decade's time.⁴³

Wildlife experts express some frustration that the government seems reluctant to divert even a fraction of the immense amounts of money spent on public works annually to wildlife management, and in particular for the training and deployment of adequate staffing:

We only ask that a little of the budget that was in the past allocated to public works, such as roads and dams, may be diverted to this [wildlife management] field. Habitat and wildlife management are in fact 'public works' or what can be called 'fundamental social maintenance.' We have to build the kind of society which recognizes this and invests in this area.⁴⁴

Wildlife experts also call on the government to create a specialist wildlife position in the public service. Hazumi observes that there are many young people at tertiary institutions studying wildlife biology or in related fields, and wishing to work in the areas of nature and wildlife conservation, but as long as there are no positions in these fields, these students move on to other areas. He suggests that by creating these positions in the public service, young people attracted to these roles will act as conduits for the valuable local knowledge and know-how relating to wildlife which exists among farmers, foresters and hunters, particularly in upland areas where people have learnt to live with wildlife in close proximity.⁴⁵

Another problem highlighted by interest groups and wildlife management specialists is that under the current system, several laws and a number of government authorities (ministries and government offices) are involved in the wildlife management function, making it a convoluted system lacking transparency. These organisations call for the establishment of a new law which sets down fundamental government policy concerning wildlife management (similar in principle to the Basic Environment Law).⁴⁶

Conclusions

As the foregoing discussion has demonstrated, there are two key problems with the legislative and administrative system governing wildlife management and conservation in Japan: the inadequate provision for habitat protection, and the major fissure between legislation and practice, owing to a lack of resources and funding for the wildlife management function.

⁴³ Hazumi, in Committee of Environment.

⁴⁴ Hazumi, in Committee of Environment.

⁴⁵ Hazumi, in Committee of Environment.

⁴⁶ Yoshida and Hazumi, in Committee of Environment.

It is continued habitat degradation and destruction, rather than hunting, that poses the greatest threat to endangered species in Japan today. However, none of the key laws surveyed provides sufficient protection to halt the downward slide of many endangered species. From a practical standpoint, the law which relates most directly to wildlife protection and management is the Wildlife Protection and Hunting Law, one of the stated purposes of which is to protect, and indeed increase, populations of birds and mammals. However, despite the law's emphasis being on the control of hunting, very little provision is actually made for the protection of habitat. As noted, whereas under the law (though not necessarily in practice) a species such as the bear is protected from illegal hunting, no provision is made to protect its habitat. While the bear is facing increasing fragmentation (and imminent extinction) of many of its regional populations, this is not considered sufficient for it to be designated as an 'endangered species' under this (or any other) law. Areas can be designated as 'wildlife protection zones', but this only protects animals from game-hunting, not culling or habitat destruction. Additional protection can be provided through the designation of such 'wildlife protection zones' as 'special protection zones', but even in such zones, industrial, construction and forestry activity is not prohibited outright.

The second law fundamental to wildlife management and conservation is the Natural Parks Law. This law was designed primarily to facilitate the establishment of natural parks for the development of tourism and as a tool for the development of regional economies, rather than as a means to manage and protect wildlife and wilderness areas. In reality, this means that where the two key purposes of natural parks—utilization and conservation—compete, it is usually utilization which is prioritized. The conflict of these diametrically opposed interests is exacerbated by a system whereby parks are made up not only of land under the Ministry of Environment's jurisdiction, but also private land, and land under other ministries' jurisdiction, such as the Ministry of Agriculture, Forestry and Fisheries and the Ministry of Construction. The current law does not provide a high level of protection against environmentally destructive activities such as forestry, infrastructural development and mining, within, or adjacent to, parks, and this situation is unlikely to change significantly in the short or medium term, given the current natural park system. As discussed, wildlife habitat protection is not a major priority of the natural park system, and this is reflected in the statistics: only 13 per cent of total national park area is designated as 'special protection zones', the zones offering the highest level of habitat protection, and even this is for the most part made up of high altitude areas above the forest line, areas which support only a limited level of biodiversity.

The most recently enacted law relating to wildlife conservation and management is the Law for the Conservation of Endangered Species of Wild Fauna and Flora. As a tool for the conservation of endangered species, the law has been extremely limited in its effectiveness, due to the small number of habitats it has actually protected (eight so far), none of which were habitats for birds, mammals or creatures with larger ranges. The law provides no

additional protection for the bear, which is not designated as endangered under Japanese legislation.

The second problem highlighted in the foregoing discussion is the gap between legislation and wildlife management in practice. In recent years, the government has transferred much of the responsibility for wildlife management (other than that of the most endangered species) to prefectural governments, which are generally ill-equipped and poorly-resourced for this function. In the post-recession years of the late 1990s and early 2000s, characterized by administrative down-sizing and devolution, the situation has been exacerbated by dwindling budgets for anything but the most 'essential' government functions.

These shortcomings have serious implications for the bear. Having large ranges, bears require a regional, rather than a local approach to their management. Furthermore, bear monitoring, pestilence prevention measures, the policing of hunting activities, and public education initiatives all require substantial resources, both in terms of funds and personnel, resources which are completely inadequate at a prefectural level. Thus, this move towards administrative-downsizing and devolution, where no supplementary support for wildlife management is forthcoming from central government, may prove highly detrimental to the future viability of the bear population in Japan, as it will be for many other endangered species.

Table 1. Summary of laws and developments relating to wildlife conservation in Japan

Year	Development
1918	<i>Hunting Law</i> (originally enacted in 1895) revised (designates game species; hunting districts managed by government established)
1931	<i>National Parks Law</i> comes into effect
1934	First national parks established
1947	<i>Hunting Law</i> revised (half of bird species and several mammal species removed from game list)
1957	<i>Natural Parks Law</i> comes into effect (regulates national and prefectural natural parks, and establishes a natural park system)
1963	<i>Hunting Law</i> renamed <i>Wildlife Protection and Hunting Law</i> (designates areas in which hunting is temporarily prohibited, introduces prefectural hunting license system)
1971	<i>Environment Agency</i> established
1972	<i>Nature Conservation Law</i> enacted (Establishes policy and framework for the preservation of natural areas, in conjunction with <i>Natural Parks Law</i> , <i>Wildlife Protection and Hunting Law</i> etc)
1992	<i>Law for the Conservation of Endangered Species of Wild Fauna and Flora</i> enacted
1993	Japan becomes signatory to the United Nations Convention on Biological Diversity
1995	National Biodiversity Strategy adopted (outlines basic principles for conserving biodiversity)
1999	<i>Environmental Impact Assessment Law</i> comes into effect <i>Wildlife Protection and Hunting Law</i> revised and Specific Wildlife Management Planning System introduced
2001	<i>Ministry of the Environment</i> established (restructured from the Environment Agency)

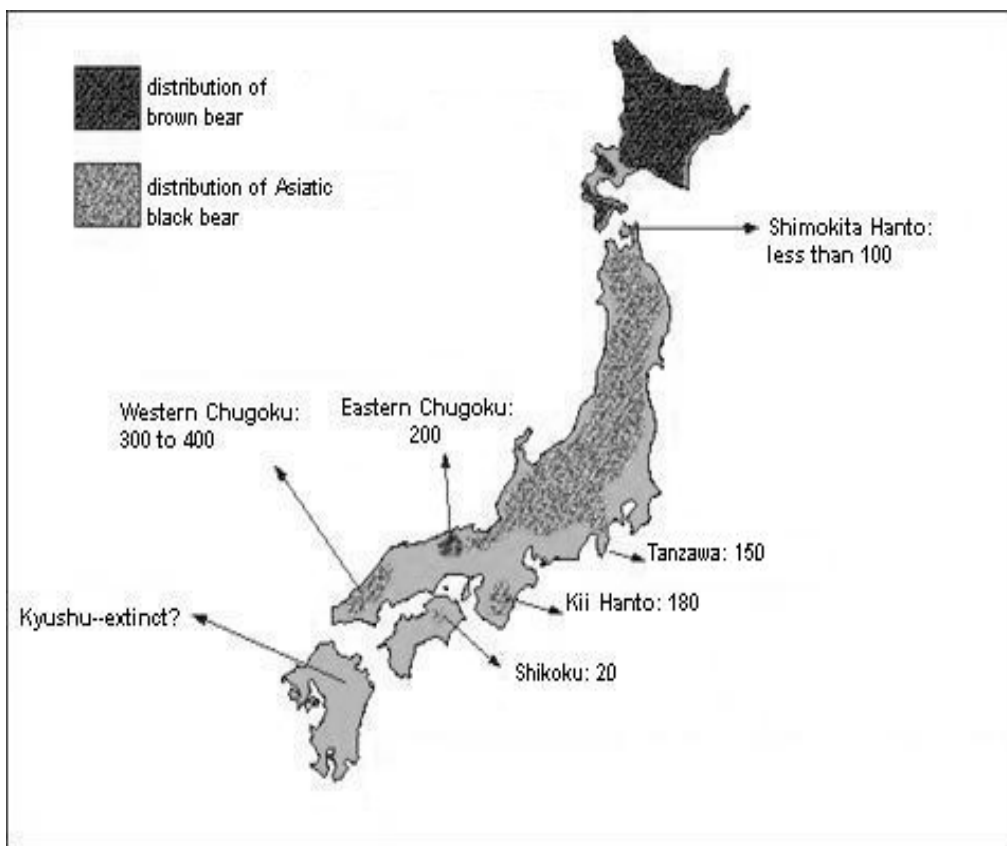


Figure 1. Distribution of bears in Japan, including figures for locally endangered populations of Asiatic black bear. Note: all figures are estimates only. Source: Maita Kazuhiko 米田一彦, *生かして防ぐクマの害* [Preventing bear damage], Tokyo, 1998, 32.

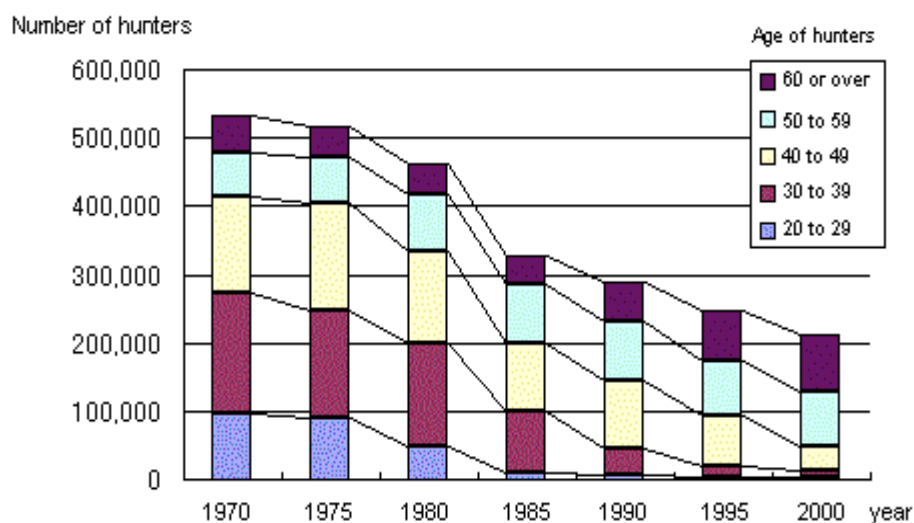


Figure 2. Hunters by age group.