Ministry of Natural Resources and Environment
of the Russian Federation

STRATEGY

FOR CONSERVATION OF THE AMUR TIGER IN THE RUSSIAN FEDERATION

2010

Strategy for conservation of the Amur Tiger in the Russian Federation approved by the Ministry of Natural Resources and Environment (order No. 25- p of 2 July 2010)

The Strategy has been formulated in line with the recommendations given in the Strategy for Conservation of Rare and Endangered Animal, Plant and Fungi Species that was approved by the Russian Ministry of Natural Resources, Order No. 323 of 6th April 2004.

The Strategy was developed by a working group that comprised V. Rozhnov (Chairman), T. Aramileva, V. Gaponov, Y. Darman, Y. Zhuravlev, A. Kostyria, V. Krever, V. Lukarevsky, S. Naydenko, D. Pikunov, I. Seryodkin, J. A. Hernandez-Blanco and V. Yudin.

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The draft of the Strategy was approved by the participants of the International Science and Practice Conference The Amur Tiger in North-East Asia: Conservation Issues in the 21st Century that took place in Vladivostok on 15th-17th March 2010 and the Mammal Section of the Commission on Rare and Endangered Animal, Plant and Fungi Species of the Ministry of Natural Resources and Environment (order No. 11 of 7 June 2010).

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INTRODUCTION

The Amur tiger (Panthera tigris altaica) is the world's northernmost subspecies of tiger. It is the largest cat species in Asia and, at one time, was widely distributed throughout the continent. Most of the other tiger subspecies are endangered, but thanks to measures taken during the second half of the 20th Century, particularly from 1993 to 2003, the Amur tiger is not threatened with imminent extinction. Nevertheless, continued habitat degradation caused by human activity, together with poaching and the illegal trade in tiger parts and derivatives, are grounds for serious concern for the destiny of the subspecies. Approximately 95% of the entire Amur tiger population lives within the Russian Far East, in particular in the Primorsky Region and the southern part of Khabarovsk Region. Russia, therefore, shoulders the main responsibility for conserving this large predator species.

The tiger is at the peak of the food web, a key element of which is the coniferous/broadleaf forest that is found in the southern part of the Russian Far East. Preserving viable populations of the Amur tiger in its natural habitat is integrally linked to the conservation of complete natural forest ecosystems that are in themselves essential to the survival of mankind itself.

The need to protect the Amur tiger in the Russian Far East is provided for in current legislation. The Amur tiger is listed in the Red Data Book of the Russian Federation. Its protection is enshrined by a number of federal laws (eg. Law On Environmental Protection, Law On Wildlife and Law On Specially Protected Natural Areas) and also by international agreements (ie. Convention on Biological Diversity (CBD) and Convention on International Trade in Endangered Species, (CITES)). The Russian Federation is party to both of these international conventions. In addition, tiger conservation measures are listed in, amongst other documents, the Decree of the Government of the Russian Federation On the Conservation of the Amur Tiger and Other Rare and Endangered Wildlife Species within Primorsky and Khabarovsk Regions, No. 795 of 7 August 1995, and the Ministry of Natural Resources' Conservation Strategy for Rare and Endangered Species of Animals, Plants and Fungi, No. 323 of 6 April 2004.

The first Amur Tiger Conservation Strategy for Russia was approved by the Ministry of Environmental Protection and Natural Resources more than 14 years ago on 24 June 1996. It was aimed at summarizing half-a-century's experience in protection and research, formulating key principles and outlining a comprehensive set of activities for the long-term conservation of the tiger.

The implementation of the above-mentioned strategy from 1997 to 2008 resulted in the retention of the general trend in the Amur tiger population. This was similar to the mid-1990s when the number of animals was generally stable, but experiencing a gradual growth in number and expansion in the tiger's range. At present, the tiger occurs over a large part of the forested areas of Primorsky and southern Khabarovsk Regions. The peripheral areas of tiger habitat on the left bank of the Amur River, which includes the Lesser Hingan and the area of land to the north-north-west and upriver to the Zeya Reservoir, began to recover. Nowadays, two to three tigers are encountered each year in the Jewish Autonomous and Amur Regions.

Compared to the situation that existed in the 1990s, the status of the Amur tiger population has changed in several ways. Relatively flat areas with little forest cover that were developed for agriculture have been lost from the tiger's range, the Sikhote-Alin and Eastern Manchurian mountains have effectively become separated from one another and the overall tiger population is declining. The socio-economic situation within Russia has also changed. Together, these changes all lead to the necessity for developing an updated conservation strategy for the Amur tiger in Russia.

In this updated version of the strategy, special attention is being paid to the following areas:

- extending the set of activities that will effectively protect the Amur tiger, its habitat and its main prey species (the set of activities is not limited to just the protection of the tiger itself)
- reducing the degradation of Amur tiger habitat by introducing best practices and improving forest and wildlife management
- strengthening civil and criminal penalties for poaching and the illegal possession of and trade in Amur tiger parts
- providing incentives to encourage small businesses within local communities that support tiger conservation
- improving population monitoring systems for the Amur tiger.

In order to secure the long-term conservation of the Amur tiger, therefore, special measures are required to ensure the well-being of the tiger population and to take into consideration the increasing level of human impacts on ecosystems in the Russian Far East.

1. GOAL AND OBJECTIVES OF THE STRATEGY

1.1 Overall goal of the Strategy

The overall goal of this new strategic document is to identify mechanisms which help to conserve a viable population of Amur tigers within the Russian Federation that numbers no less than 500 individual animals and which possesses the maximum genetic diversity possible.

1.2 Principal objectives of the Strategy

To achieve the goal of this Strategy, the principal objectives are:

- to conserve the existing Amur tiger population
- to identify mechanisms which conserve the Amur tiger population whilst taking into account the growing impact of humans on the ecosystem
- to minimize the negative impacts of humans on the Amur tiger population.

2. SYSTEMATICS OF THE AMUR TIGER

2.1 Russian, English and systematic nomenclature

Amur or Ussuri Tiger, Siberian or Amur Tiger, Panthera tigris altaica Temminck, 1844.

2.2 Taxonomic status

Class Mammalia

Order Carnivora

Family Felidae

Genus *Panthera*

Species *Panthera tigris* Linnaeus, 1758

Subspecies *Panthera tigris altaica* Temminck, 1844.

3. DISTRIBUTION OF THE AMUR TIGER IN RUSSIA

The former range of the Amur tiger in Russia extended up to the 50°-51°N latitudes. In the early-19th Century, one could encounter tigers in the Amur, Jewish Autonomous, Primorsky and Khabarovsk Regions. Intensive and unregulated hunting resulted in a decline in the total population number from the early-19th Century to the late-1930s. This was accompanied by a fragmentation of its range. On the left bank of the Amur River, the core area of its permanent range remained only in the Lesser Hingan. By 1916, tigers had disappeared from the eastern slopes of the Sikhote-Alin. Small groups of tigers still occurred along the western macro-slopes of the Sikhote-Alin in the Khor, Bikin, Greater Ussurka and Ussuri River basins, as well as in some parts of the Black Mountains and on the left bank of the Amur River within the Kyra and Urmi River catchments. In the 1940s, the distribution of the tiger within the Sikhote-Alin, its main habitat, became fragmented.

In 1947, a blanket ban on the hunting of the Amur tiger was introduced. It succeeded in halting the long-lasting decline in numbers of tigers and stabilizing the population. Isolated population groups gradually began to recolonise suitable available habitats, but the distribution of the tiger remained scattered. From the mid-1960s until the mid-1980s, population numbers increased steadily in all areas south of the Amur River. The tiger recolonised almost all of the suitable habitats within its former range and the population in Sikhote-Alin consolidated into one unified population. The population of tigers in the Eastern Manchurian Mountains, however, remained cut off. From the mid-1980s until the early-1990s in the northern Sikhote-Alin, tigers settled within habitats in which they either didn't occur before, or were formerly extremely rare, such as the Samarga, Nyelma, Botchi and Kopi River catchments. The recolonisation by tigers over the larger part of its range remained relatively stable.

The results of the censuses conducted in 1996 and 2005 showed that tigers occurred within all of the forested area within its range. The largest part of the tiger's range in Sikhote-Alin recovered its contiguity and is now no longer fragmented.

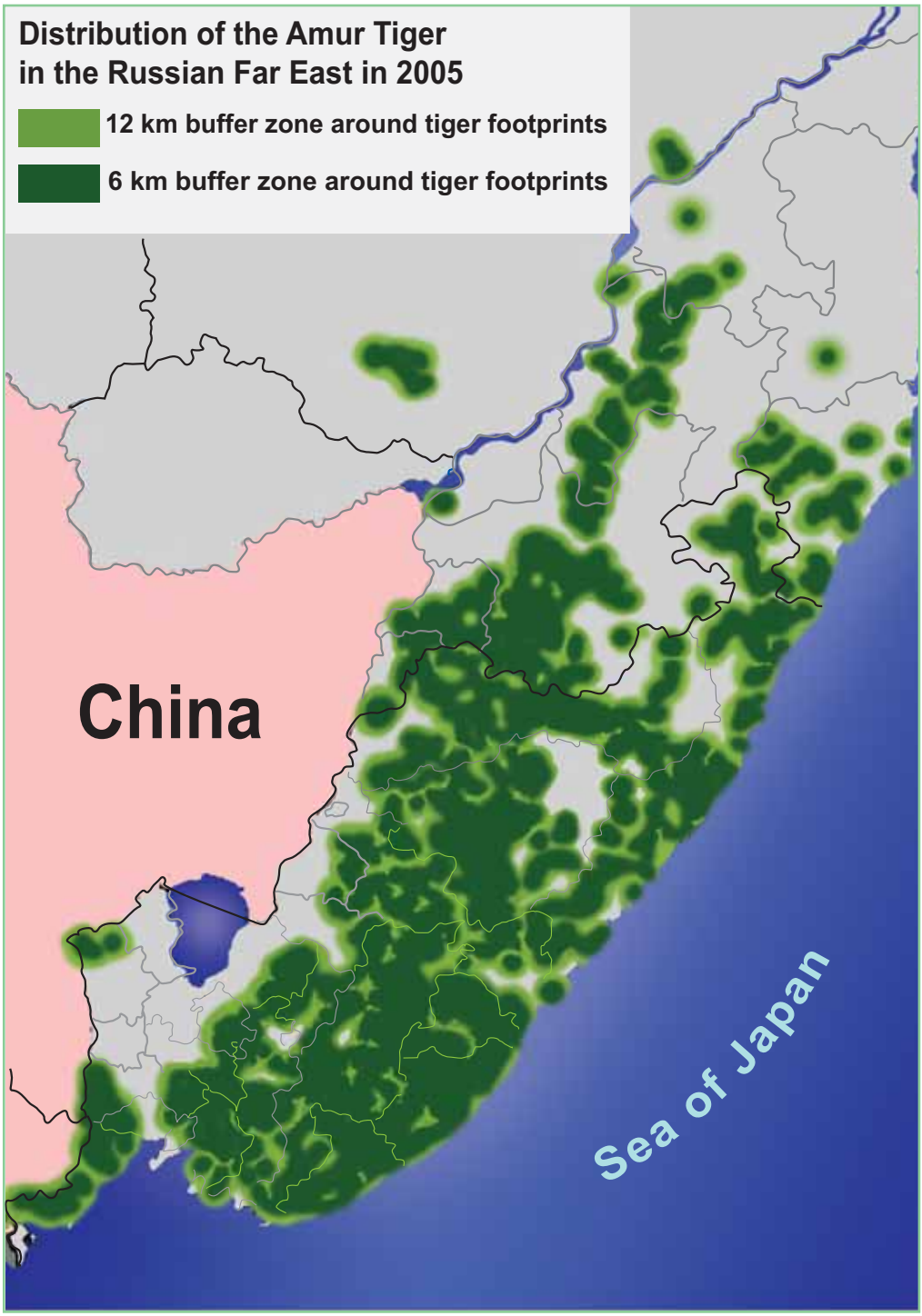

Figure 1: *Distribution of the Amur tiger in Russia as indicated in the 2005 Census.*

Since 2000, the range of the Amur tiger has begun to extend northwards and westwards. Evidence suggests that an independent population is currently establishing itself within the Jewish Autonomous Region. The population that established itself in the north-eastern part of Sikhote-Alin and in neighbouring areas of the Botchinsky Nature Reserve is becoming increasingly stable.

At present, the total size of the Amur tiger range in Russia approaches 180,000 km^2.

From the south-western Primorye, tigers gradually spread into the neighbouring provinces of Jilin and Heilongjiang in China and helped to stabilize the third main grouping of tigers, namely, that living in the Eastern Manchurian Mountains. Research conducted for many years in the western and south-western parts of the Amur tiger's range suggests that, in recent years, the movement of tigers between the mountainous forests in Russia and China has become regular. The protection of the south-western and western populations of the tiger and wild ungulates, along with their habitats, therefore requires special attention.

4. NUMBER OF AMUR TIGERS IN RUSSIA

Since the early-1940s, the number of Amur tigers has been recorded in a special register. In 1959, the first field census of Amur tigers was undertaken and followed a specially-developed methodology. This methodology was later improved and used during the 1978/79, 1984/85 and 1995/96 censuses. It was also used during a monitoring program that was undertaken in specific pilot areas from 1997 to 2004.

At the same time, with every new census, coverage improved and methods for data collection and processing were standardized. Identification of footprints was carried out by experienced trackers drawn from wildlife managers, foresters, rangers and professional hunters, each of whom had monitored their areas for a long time. This allowed for the collection of objective information on Amur tiger population numbers.

In order to design, standardize and implement state censuses for the Amur tiger in its natural habitat and for the long-term monitoring of the sub-species at federal and regional levels, the Methodical Recommendations for Conducting and Organisation of the Amur Tiger Census in the Russian Federation, No. 63, was approved by the Ministry of Natural Resources on 15 March 2005. This document, which was based on methods that were tested during previous censuses and monitoring programs, helps guide the annual monitoring undertaken in selected areas and the full census of tigers that is conducted every 10 years.

Over the last century, the population number of Amur tigers in the Russian Far East has exhibited a variety of trends, with population decline, stabilization and growth occurring over different periods of time and at varying rates. Analysis of the population dynamics of the Amur tiger operating over the last 150 years shows that the most important factor affecting tiger numbers is human impact (Figure 2).

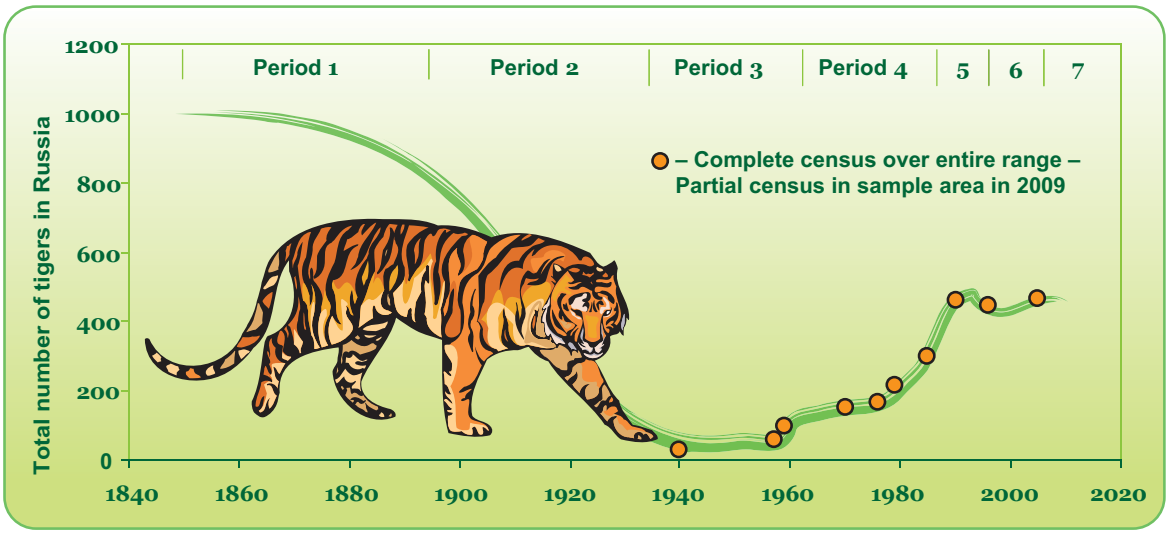

Figure 2: *Amur tiger population numbers from 1850. Full censuses conducted from 1940 are shown. Before 1940, estimates of population number have been made based on the size of suitable habitat and the presumed density of prey species at the time.*

At the end of the 19th Century in the southern region of the Russian Far East, the Amur tiger was a commonly-hunted species. Intensive hunting, accompanied by the destruction of its habitat, resulted in a sharp decline in numbers during the first half of the 20th Century. This decline and the fragmentation of the tiger's range continued until the late-1930s when the subspecies teetered on the edge of extinction. After the introduction of the hunting ban in 1947, as well as the partial then full prohibition on the removal of live kittens from the wild, the predators started to reappear in remote and undeveloped areas and population numbers began to gradually recover.

Analysis of the censuses carried out in 1970s showed that population growth and colonization of new habitats by tigers occurred mostly in peripheral areas in the northern part of its former range. The results of the censuses conducted in the 1980s and early-1990s confirmed a further growth in population numbers and the size of the tiger's range. The 2005 census indicated that during the beginning of the present century the population number stabilized somewhere between 428 and 502 individuals, including between 97 and 109 kittens (comprising 71 to 77 tigers in Khabarovsk Region and 357 to 425 individuals in Primorsky Region).

5. BIOLOGY OF THE AMUR TIGER AND PREREQUISITES FOR CONSERVATION

5.1 Biology and reproduction rate

Tigers evolved in tropical Asia and gradually spread northwards. Settling in the area now found in the Russian Far East, a separate sub-species, the Amur tiger, evolved. The Amur tiger lives on the northern boundary of the species' range where it experiences extremes in natural conditions. Together with human impact, these determine the tiger's relationship with the environment and limit its number and distribution.

The Amur tiger is one of the largest subspecies of tiger and only the Bengal tiger competes with it in size and weight. A male Amur tiger can measure up to 220 cm in body length, while a female varies in body length from 165 to 182 cm. The heaviest tiger recorded living in the wild was 250 kg. The average weight of adult females is 120 kg, while that of males is between 165 and 180 kg. Compared to other subspecies, the Amur tiger has dense and relatively long hair.

Genetic analysis of the Amur tiger population shows that, in Russia, the minimal genetically effective population size is low and amounts to only 35 animals. This is 14 times smaller than the actual population number. Research has shown that two genetically distinct groups of Amur tigers exist within the Russian part of its range. These are the Sikhote-Alin and south-western population groups, both of which are separated from one another by extensive development along the Razdolnayar River. Individual tigers, however, cross over from one group to another. Although low genetic diversity is common in large cat populations, this fact requires special attention with the conservation of the Amur tiger. This is largely because a significant decline in population number can result in considerable genetic loss and irreversible degradation of the subspecies. The south-western population of the Amur tiger in particular requires special attention because of its small size.

The Amur tiger exhibits both solitary and group behaviour (eg. females with cubs). Adult individuals are territorial and mark their territories to indicate their presence. Radio-tracking has shown that the average-sized territory for a male tiger is 1,380 km^2, while that for a female is 400 km^2. Up to six adult female territories can be found within one resident male's territory, while the territories of same gender adults usually overlap slightly. Frequenting permanent trails and possessing the habits of returning to their kills and revisiting territorial marks, as well as other territorial behavioural traits, make the Amur tiger vulnerable to poaching. The Amur tiger possesses the largest territories of all tiger subspecies, largely due to the low density of prey within its range. Growth in Amur tiger populations, therefore, is impossible without increasing the density of prey species.

The Amur tiger census that was conducted in 2004/05 indicated the following population structure. Approximately 39% of all the tigers counted were adult males, while 25% were adult females. Twenty-two percent (22%) were cubs under the age of 1.5 years, while 6% of tigers were adolescents aged from 1.5 to 3 years. Another 7% of the tigers could not be classified as belonging to any of the above groups and were either adult or adolescent females, or cubs of indeterminate gender.

The lifespan of the Amur tiger is usually no longer than 20 years. The tiger can breed when it reaches 3.5 to 4 years old and pregnancy normally lasts 95 to 20 days. Cubs can be born during any season, but most often in summer. Litter size is from 1 to 5 cubs, while the average litter numbers 2.5 cubs. For the first 1 to 2 months, cubs do not leave their den. A den usually consists of a hollow in a rocky slope and is located on the upper portion of a north-facing slope. This slope is usually no less than 20%, making it difficult for humans to reach. How well the female tiger selects the den site often determines how safe the litter will be and the subsequent breeding success. The identification and protection of such sites, therefore, is especially important in conserving the Amur tiger.

Young tigers start to become independent from 15 to 22 months (the average is 18.8 months). After the family group breaks up, young males disperse and can move long distances. Young females, on the other hand, usually remain within their mother's territory or in a neighbouring area. As a result of this dispersal, the Amur tiger is able to settle in vacant territories. This plays an important role in the subspecies' distribution and expansion of its range.

The average interval between litters is 26.5 months. If females lose their litter during the first few months, this average drops to 11 months. The reproductive rate, which also takes into account cub mortality, is 0.6 to 0.7 cubs for each female per year. If one takes the reproductive age of females as being from 3.5 to 14 years, the average female reproductivity during its whole lifespan is 12.1 cubs, while only 6.5 to 7.3 cubs reach the age of one year.

Relatively late reproductive age, low fecundity, a long interval between litters and a high mortality rate amongst young and breeding adults all make the Amur tiger a vulnerable subspecies that is not able to restore its population size following any significant decline in numbers. Furthermore, adverse changes in the condition of the tiger's habitat can also result in a sharp decline in population number. Providing conditions are favourable, however, reproduction can allow for growth in population numbers as well as permit, as has happened in the past, the gradual recovery of populations following significant declines.

The only natural enemy of the Amur tiger is the brown bear. Adult male brown bears can attack female and young tigers with the intention of eating them. Brown and Himalayan bears also scavenge on tiger kills and can chase tigers off their kill. This means that tigers have to kill additional prey.

Understanding the causes of tiger mortality is central to the formulation of an effective conservation strategy for the Amur tiger. Research indicates that a large proportion of deaths amongst Amur tigers is due to human-related causes. The presence of roads within tiger territories represents a particularly serious threat as the majority of animals killed are shot by poachers travelling along the roads in vehicles. It is also a common occurrence for tigers to be run over by vehicles. Natural mortality amongst Amur tigers is not commonly recorded. Data clearly demonstrate that one of the first priorities to be addressed in Amur tiger conservation must be the combating of poaching.

5.2 Habitat requirements

Within the Russian part of its range, the Amur tiger prefers cedar pine/broad-leaf forest and oak forest and, to a lesser extent, broad-leaf and riparian forests. The principal parameters that determine the quality of Amur tiger habitat are the suitability of the habitat for the tiger's main prey items and the degree of human impact. The most suitable habitats for ungulates in the southern part of the Russian Far East are the same types of forest that are favoured by the tiger. Therefore, taking into consideration the close link between predator and prey, the most effective way of conserving the Amur tiger is to manage ungulate habitats on a scientific basis.

The key locations for Amur tiger conservation are clearly those selected from areas that are favoured by both the tiger and its prey. Conservation of forests where Korean cedar pine and Mongolian oak occur will help to stabilize the tiger's existence in Russia. Over-exploitation of these forests and their destruction through wildfires will result in the loss of feeding grounds for those animals that are potential prey for Amur tigers. It will also lead to further contraction and fragmentation of the tiger's range and seriously threaten the existence of the predator itself.

The other important factor in the tiger's conservation is the preservation of those riparian forests that have been affected most by humans. Tigers regularly use forested rivers and mountain valleys as migration corridors and hunting grounds. This is because such areas are important for concentrations of prey species during winter, especially during those winters when high snowfall is experienced.

In general, relatively low biotopic selectivity amongst Amur tigers has allowed for a contiguous spatial distribution of the tiger throughout highly varied forest mosaics.

5.3 Diet and predatory behaviour

The Amur tiger feeds on a wide range of species. However, the tiger prefers ungulates whose size is equal to or exceeds that of itself. Four species of ungulates, namely, wild boar, red deer, roe deer and sika deer, are the main prey items for tigers. In different parts of the tiger's range, the proportion of these prey species in the tiger's diet depends on their population density. In addition, and especially during periods when there is no snow, the Himalayan and brown bear also contribute significantly to the tiger's diet, as do badger and raccoon dog. The fact that the Amur tiger does not have a limited hunting preference means that it can switch between prey items and has a greater ability to survive in different habitats.

To satisfy its energy needs and depending on its geographical location, the Amur tiger requires between 50 and 70 large ungulates per year, along with other smaller prey items and bears. The reproductive capacity of the majority of tiger prey species does not exceed 15 to 25% a year. Therefore, exploitation of ungulates as game species should take into consideration the needs of tigers that live within hunting management units. The well-being of the Amur tiger is considered to be secure if the number of large ungulates occurring within the tiger's range is between 400 and 500 individuals. Such a density of ungulates does not occur everywhere. Monitoring data shows that population numbers of all tiger prey species are declining and that carrying capacities are steadily decreasing. This is because, among other reasons, natural habitats are being degraded.

Additional factors that negatively affect ungulate population numbers include the unpredictability of pasture production prior to winter and the fact that more and more winters now experience abnormal amounts of snowfall. Populations suffer the most damage when these events occur together.

If the Amur tiger experiences a shortage of natural prey, it can supplement its diet by killing and eating livestock. It does this by leaving the forests and entering human settlements. This situation leads to conflict between tigers and humans that can result in tigers being shot illegally and/or the need to catch and remove them.

This confirms the need for proactive measures to be taken to stabilize and then significantly increase the number of prey items for the Amur tiger.

5.4 Interaction with humans

Compared to other species, the Amur tiger is not as aggressive towards humans. Usually, a tiger that comes across a human will try to avoid direct contact and leave. Even 'problem' tigers that have lived close to human settlements for a long time and regularly visit them to take livestock normally try to avoid people. Humans encountering tigers is not common, but when they do it is very rare for the predator to show aggression. Nonetheless, a potential threat does exist and in some cases tigers do attack.

Most tigers that attack people are either injured by humans, or are sick or emaciated. A study on tiger attacks on people showed that 57% of attacks involved tigers that had been injured by humans, 14% related to tigers sporting injuries of uncertain cause and 21% involved tigers that were sick or emaciated. Amur tiger poaching, therefore, is not only the main cause of the predator's mortality, but is also one of the main causes of conflicts between the tiger and humans.

The Amur tiger can become aggressive when it has been chased or when it encounters a human unexpectedly, but also when it defends its prey or cubs. Human death from Amur tigers occurs very rarely. In the last 40 years within Russia, 16 fatal cases have been recorded. Between 2001 and 2010, 19 cases of tiger attack were recorded that resulted in two people dying and 12 people being injured. The majority of these attacks were as a result of people provoking tigers to attack.

The most common type of conflict, representing 57% of total recorded conflicts, is when tigers attack livestock. On average in Russia, 30 head of livestock and domestic animals are killed each year by tigers, the majority of these being dogs and about five cases involving large horned livestock. This is about ten times less than in other countries.

Other conflicts arise as a result of poaching, vehicles colliding with tigers and people coming across orphaned cubs in the wild. Every year, especially during winter, a number of cubs lose their mothers and are unable to live independently. Some of them fall into the hands of humans. Consequently, the issue of reintroducing tigers that have been raised by humans back into the wild becomes very problematic.

Only if proactive measures aimed at providing favourable natural conditions are in place and if local residents are given guidance on how to behave within the predator's home range, it should be possible to ensure a sustained and peaceful coexistence between the Amur tiger and humans and to minimise conflict situations and their negative consequences.

6. LIMITING FACTORS

The occurrence of the Amur tiger is determined by both natural (abiotic phenomena, natural enemies and competitors and prey availability) and human factors. Human factors and impacts on the Amur tiger can be divided into two main groups, namely, direct (eg. poaching and the necessary removal of tigers) and indirect (eg. forest fires, logging, extension of road networks, increase in human population density, hunting activities, etc).

6.1 Direct factors and impacts

Direct impacts include the killing of Amur tigers by poachers, the need to shoot tigers when they attack and also general disturbance to the tiger in its habitat.

The most significant factor threatening the existence of the Amur tiger in Russia is its direct destruction. As studies have shown, 72 to 83% of tiger deaths are caused by humans, most of those by poaching, while natural mortality contributes only 17 to 28% of total deaths.

6.1.1 Retrospective review of Amur tiger removal from the wild in Russia

Data on the removal from the wild of the Amur Tiger in the Russian Far East are limited and patchy and of an ad hoc nature.

At the end of the 19th Century in the southern Far East of Russia, the Amur tiger was the usual animal hunted and up to 100 individuals were shot each year. This intensive hunting of tigers, resulting from the desire for hunting trophies, led to a sharp decline in the population number during the early-20th Century. At that time, only about 60 individuals were shot each year. At the same time, uncontrolled hunting resulted in the disappearance of the Amur tiger from a larger part of the southern Primorye. Between 1920 and 1945, encounters with the Amur tiger became very rare. In 1947, a full ban on Amur tiger hunting was introduced. Even after the ban, however, the shooting of tigers continued. Up until 1957, between 7 and 8 tigers were shot each year, the majority of them being females defending their cubs and those that were killed when cubs were removed live.

6.1.2 Removal of animals from the wild for educational and scientific purposes

After the introduced of the hunting ban in 1947, the capture of cubs only took place to satisfy the needs of zoos, circuses and zoological experts. Up until 1955, between 7 and 11 tigers were captured. The total number of captured cubs between 1947 and 1956 was 41, but only in the Primorsky Region. In 1956, a full ban was introduced on the removal of young tigers from the wild, including for expert purposes. After that, orphaned tigers were removed from nature and placed in zoos much less often.

At present, the use of wildlife species listed in the Russian Red Data Book, including the Amur tiger, is regulated by two Decrees of the Government of the Russian Federation, namely, On Approval of the Regulations of Removal from the Wild Animals Species listed in the Red Data Book of the Russian Federation, excluding Aquatic Animals, No. 13 of 6 January 1997 and On Issuing Licences for Trading Animal Species listed in the Red Data Book of the Russian Federation, No. 156 of 19 February 1996.

Decree No. 156 states, among others things, that keeping Red Data Book-listed animals in captivity is only permitted for purposes of conservation and reproduction in artificial habitats and for scientific and educational reasons. Their release back into the wild is also allowed for conservation purposes and/or for replenishing natural populations.

Removal of animals from the wild can only be carried out after permission has been granted by the Federal Supervisory Natural Resources Management Service. This permission is in line with the Administrative Regulation of the Service that carries out the State's function relating to the removal of wildlife species listed in the Red Data Book. This was approved by the Order of the Ministry of Natural Resources, No. 123 of 30 April 2009, which was registered (Registration No. 14115) by the Ministry of Justice on 22 June 2009.

6.1.3 Illegal removal of animals from the wild

Up until the late-1980s in the Russian Far East, illegal removal of Amur tigers from the wild took place only occasionally, usually when animals approached human settlements or attacked domestic animals, but also by hunters during the normal hunting season. At the same time, trading in tiger skins and other tiger products was either very difficult or practically impossible. From the early-1990s, however, the illegal removal of tigers became much larger in scale. This was due to reduced control by policing organisations, borders opening, firearms becoming more accessible, the illegal trade in tiger parts increasing to satisfy a greater demand from Chinese traders and wealthy Russians and a difficult economic environment that caused people to look to other sources of income. Nowadays, the reasons for the illegal removal of tigers remain much the same. The exact number of animals removed, however, is not really known, but in the opinion of experts the actual number is still quite significant and will affect the tiger's ability to survive.

In addition to the removal of the Amur tiger from the wild for trade purposes, there are other reasons for its illegal shooting.

- Intentional shooting of tigers to be rid of a competitor within hunting grounds. When hunting for ungulates, hunters commonly consider the Amur tiger to be a direct competitor and therefore view the predator as an enemy. After fear for their own safety, the concern that tigers will adversely affect ungulate populations is the second reason given by respondents when answering the question "why tigers do not need protection". Although the presence of the Amur tiger helps keep the wolf population from expanding and limiting the ungulate population further, hunters still consider tigers in their hunting grounds to be a direct threat to their source of income. Up until the 1990s, a dead tiger did not have any monetary value and if a hunter shot a tiger for any reason the carcase would most likely be left in the forest.

- Intentional shooting of tigers when they attack domestic animals. Although Amur tigers are sometimes shot in response to them killing livestock, this is not a major problem in the Russian Far East as most livestock is kept indoors overnight. At the beginning of the present century, no more than about five head of livestock being killed by tigers each year was recorded in Primorsky Region. Most often than not, tigers kill domestic dogs, this making up 55% of all attacks on domestic animals. When an injured or problem tiger enters a village looking for food, chained dogs offer very easy prey.

- Unintentional shooting of tigers when people accidentally encounter them and view them as a threat. The number of accidental encounters with Amur tigers gives an indication of the risk posed to local communities. Nevertheless, the total number of cases of attack on humans by tigers remains low. During a 40-year period, tigers injured less than one person a year and caused one human death every two years. Even these figures are considered too high as a large number of incidents that took place during the 1990s resulted from unsuccessful poaching attempts that caused tigers to attack humans. Around 60% of those tigers attacking people carried old injuries, mostly bullet wounds, inflicted earlier by humans. Consequently, more than half of the incidents in which people were either killed or injured by tigers were, in effect, caused by humans themselves.

6.1.4 Necessary shooting of problem Amur tigers

Between 1985 and 2005, special permission was granted to shoot 58 tigers, an average of 2.8 tigers per year. The reasons for issuing such permission were mostly linked to tigers taking livestock or attacking people. Between 1985 and 1990, the number of tigers shot for these reasons was much higher – during the winter of 1986, for instance, 15 tigers were shot. Following the establishment in 1999 of the "problem tiger group" within the Tiger Special Patrol Team, the number of permissions given for shooting troublesome tigers dropped.

6.1.5 Disturbance factors

The Amur tigers that are most susceptible to disturbance factors are those living in areas where there is intensive logging of forests all year round. Clear-felling is normally accompanied by the blazing of an extensive network of roads and tracks that deliver plant and equipment to loggers and transport out the felled trees. Consequently, these areas become accessible to people who visit the forests to collect various natural products and to hunt and fish. These forest tracks are also willingly being used by Amur tigers. In doing so, however, they put themselves at risk of being shot by vehicle-borne poachers. The situation is aggravated by the fact that tigers, but especially males, commonly throw caution to the wind when they encounter people and come out into the open. Extension of such road networks, therefore, sharply increases the risk of tigers being killed. Furthermore, the extension and improvement of the road networks help large numbers of hunters to gain access to their hunting grounds during winter. In some areas in the south of Primorsky Region, the number of people hunting ungulates is so high that it doesn't give the tiger much chance to remain unnoticed and undisturbed.

People in the area commonly remove tiger kills that they come across. This means that the tiger has to expend more energy on hunting. In areas of low ungulate population density during winter, this can lead to tigers starving. This is of particular danger to female tigers with cubs.

During autumn, a serious disturbance factor for the Amur tiger is posed by people collecting Korean cedar pine cones. In years of good harvest, such people enter the forests in their thousands, including specially protected natural areas.

Local development, forest logging and the expansion and improvement of road networks, therefore, open up access to remote habitats and significantly increase the disturbance factors for Amur tigers.

6.1.6 Spread of contagious diseases

A number of contagious diseases can cause deaths amongst both adult and young tigers and also decrease fertility amongst breeding pairs. Considering the low genetic diversity within the Amur tiger population (and consequently its high vulnerability to various diseases) as well as the low reproduction rate, the spread of viral and protozoan diseases can represent a threat to the secure existence of the Amur tiger. Tigers can contract a number of contagious diseases through both

contact with other tigers and by eating infected animals, especially other predators such as badgers, raccoon dogs, bears and lynx. A threat to the Amur tiger also exists through contact with dogs and, to a lesser extent, cats. Both can act as carriers of a number of diseases that are dangerous to tigers.

6.2 Indirect factors and impacts

Among the forms of indirect human impact affecting populations of the Amur tiger, the most significant are those relating to the reduction in size of habitats that results from economic development, including clear-felling, and to inappropriate game management that undermines the food resource for tigers. The effect of adverse factors can be aggravated by unfavourable climatic conditions, such as occasional heavy snowfalls that force ungulates to migrate in large numbers up and down slopes. During years of heavy snowfall, the food resource for Amur tigers declines sharply and it may take many years for it to recover. As a result, tiger mortality from starvation and poaching increases and in some years can reach catastrophic levels.

6.2.1 Changes in natural habitat

One of the main reasons why the population status of the Amur tiger is worsening is the loss and transformation of its habitats that has mainly resulted from economic development within the area. During the 20th Century, however, habitat degradation was apparently not the most important factor affecting the Amur tiger population. The main period when the population was recovering (ie. from the 1950s until the 1980s) coincided with the intensive logging of forests within Sikhote-Alin. However, this logging did not have much impact on the population recovery process. Nowadays, the influence of habitat degradation on tigers is becoming more significant because road networks are being extended, Korean cedar pine nuts are being extensively harvested, Mongolian oak is being logged and ash and other tree species within key riparian forests are being intensively cut. As a result, the size of habitat suitable for the Amur tiger is contracting and the quality of the habitat for ungulates is declining. This means that the habitat supports fewer animals. Because habitat degradation is taking place, the importance of those protected areas in which ungulate densities are high and poaching is under control has increased significantly. Sufficient size of protected areas and the existence of ecological corridors between them are important prerequisites for ensuring the conservation of healthy tiger populations with minimal negative impact from poaching and habitat degradation.

6.2.1.1 Economic development impacts

Russia's economic development programs for the foreseeable future pay special attention to the Russian Far East. In particular, these include the Socio-Economic Development Strategy for the Far East and the Baikal Region for the Period Up Until 2025, No. 2094-r, which was approved by the Decree of the Russian Government on 28 December 2009, and the Federal Special Purpose Program Economic and Social Development of the Russian Far East and Trans-Baikal Region for the Period Up Until 2013, No. 480 of 15 April 1996.

Primorsky Region, which comprises 2.7% of the entire area of the Russian Far East and which contains most of the Amur tiger range, is home to 30% of the entire human population in the Russian Far East. According to the census conducted in 2002, the human population density within the region at the time was 12.2 persons per km^2, while the average population density in the Russian Far East was 1.1 persons per km^2. Compared with other regions within the overall tiger range in Asia, however, the habitat of the Amur tiger within the Primorsky and Khabarovsk Regions remains much less populated by humans.

A large portion of the river valleys and plains where the Amur tiger and ungulates were most abundant before development took place is now occupied by human settlements and farmland. As a result, the Amur tiger has been forced to move to less suitable habitats which are also less productive for ungulates. This makes the tiger even more susceptible to adverse human impacts.

At the same time, the Amur tiger can adapt to practically all forms of development within an area, providing the natural resources are managed sustainably. An exception, however, is where mining is involved.

The main reason for deterioration in habitat quality for the tiger caused by development is the accompanying reduction in food availability. Within Primorye and Priamurye, tracts of forest where Amur tiger habitat still exist are repeatably affected by the clearing of trees and forest fires. With every year, the food resource for ungulates subsequently declines. To maintain the number of Amur tigers as well as of other large predators, a high and stable number of wild ungulates is required. This can only be assured if sufficient food resources are available.

Several existing and planned large development projects could affect the status of the Amur tiger's habitat.

One of them is the construction of the Eastern Siberia – Pacific Ocean oil pipeline. This is planned to pass through Amur tiger habitat in the southern part of Sikhote-Alin. The pipeline itself, its associated infrastructure and the oil refinery, as well as the immediate areas around them, will adversely affect the territories of between 35 and 40 adult tigers.

Another project is the construction of the Sakhalin-Khabarovsk-Vladivostok gas pipeline and refinery. The pipeline will adversely affect tiger habitats along its entire length, but primarily in the south-western part of Priamurye. The entire project was given the 'green light' by a State Environmental Impact Assessment. However, the pipeline's route will cut through the Leopardovy Federal Nature Refuge and the Strelnikov Ecological Corridor, a protected area of regional importance in the Khabarovsk Region.

Road construction projects are of distinct danger to tiger populations as they cause fragmentation of their habitats, raise the disturbance factor and increase the number of tiger deaths on highways. Elevated and unvegetated road embankments and 1.5 to 2.0 m-high safety barriers on both sides of the roads will make such highways impassable for most animals.

Thus, the planning and implementation of socio-economic development projects and programs in the Russian Far East, all necessary to improve the quality of life and welfare of people in the region and the country as a whole, must take into account the need to minimise negative impacts on the Amur tiger and its habitats (ie. preventing habitats from fragmenting and contiguous populations from breaking up into small isolated groups that are not able to survive for long).

6.2.1.2 Hunting and game management impacts

The larger part of the Amur tiger's range is located in areas where hunting is permitted and where game species are managed for the purposes of hunting. At the same time, the most important factors in such areas for maintaining healthy populations of Amur tigers are keeping the number of ungulates at a certain level and meeting the legislative requirements on the protection of Red Data Book-listed animals. This is only possible when hunting resources, together with their habitats, are sustainably managed and protected. However, the following issues run counter to this:

- Management of hunting and the protection of hunting resources are seriously hampered by the current restructuring of relevant state institutions. State supervision and the control of hunting are made difficult because the number of hunting management units has risen sharply, while at the same time the number of state hunting inspectors remains critically low.

- The provisions within existing legislation on hunting and the protection of hunting resources make it very difficult for state inspectors to lodge violations and provide the necessary evidence. Control of hunting, as provided for in Article 41 of the Federal Law On Hunting and Protection of Hunting Resources, does not take place because staff members in hunting management units have not been granted the legal right to lodge violations. Consequently, they are not adequately able to legally protect the resources they are responsible for.

- When regulations and by-laws on hunting and the protection of hunting resources are being drafted and/or offtake quotas are being set, the food requirements of the Amur tiger, the necessity to maintain healthy populations of ungulates and the changes that occur in ungulate habitats due to forest fires and logging activities are all not taken into account. There is an urgent need to introduce a new approach to regulating the use of wildlife resources.

- When effective wildlife management takes place within hunting management units, the carrying capacity of habitats increases. This results in an increase in ungulate numbers. Being the main prey items for the Amur tiger, this has a beneficial effect on the predator. However, when effective wildlife management is not forthcoming, the stability of ungulate populations is not assured. The number of ungulates fails to satisfy the food requirements of tigers and the predator begins to counter the objectives of hunting management units, thereby causing hunters to become more opposed to tigers.

6.2.1.3 Forest management impacts

Forest management is aimed primarily at increasing the productivity of forests and also at improving the quality of habitats for animals living in them, including ungulates and the Amur tiger. At the same time, however, the intensity of forest logging has increased significantly and has resulted in growing negative impacts on the Amur tiger and its habitat.

- The largest impact on the tiger and its prey from forest management makes itself felt through the construction of forestry infrastructure, such as roads, tracks, storage areas, etc. Networks of forest tracks help poachers gain better access to tigers and their prey. In areas with dense forest track networks, hunting pressure is higher and both ungulate and tiger densities are lower. The mandatory closing of such roads once logging operations have been completed is one of the most important steps to achieving effective tiger conservation.

- In areas where Korean cedar pine and mature oak trees are cut, ungulates find much less food. This is because both cedar pine nuts and acorns are important food items. Logging must only be allowed if some areas of old-growth forest within each forestry unit are left untouched and if a full ban on the logging of Korean cedar pine is imposed.

- The level of illegal logging has grown significantly. The quantity of illegally-cut timber logged over the last seven years was between 50 and 60% of the amount of timber that was cut legally. Over the same period, however, the number of staff responsible for controlling and supervising state forests decreased significantly.

- The incidence of forest fires has increased, this being the result of not following fire safety and prevention measures during and after logging operations. The following factors contribute to increased incidence of forest fires:

  · tailings and waste material resulting from logging operations are not removed, so providing additional combustible material

  · after logging operations, more sunlight let into the lower forest strata leads to the drying out of forest floor cover and topsoil

  · forest roads and tracks provide easier access to humans, thereby increasing the risks of accidental and deliberately-lit forest fires.

- Protection against forest fires is no longer adequately carried out by forest logging companies.

7. STATUS OF AMUR TIGER PROTECTION

The Amur tiger is one of the most valuable animals in Russia's genetic diversity. Russia was the first country to develop a legislative base for Amur tiger conservation. A complete ban on hunting the tiger was introduced in 1947. The Amur tiger was listed in the USSR Red Data Book back in 1978 and again in the Russian Red Data Book in 1997.

To both protect rare and endangered wildlife species, including the Amur tiger, within Primorsky and Khabarovsk Regions and fulfil Russia's obligations to the 1992 Convention on Biological Diversity, a Decree (No. 795) On the Conservation of the Amur Tiger and Other Rare and Endangered Species within Primorsky and Khabarovsk Regions was approved by the Russian Government on 7 August 1997. At about the same time on 8 July 1997, the Federal Special Purpose Program on the Conservation of the Amur Tiger was also approved by the Government. Earlier, in 1996, the first Amur Tiger Conservation Strategy for Russia was approved by the Ministry of Natural Resources.

7.1 Conservation legislation

7.1.1 Principal international agreements and conventions

The Amur tiger is an endangered subspecies belonging to the VU A3c category in the Red Data Book of the International Union for the Conservation of Nature (IUCN). This means that the subspecies belongs to a vulnerable taxon whose population number within three generations (45 years) will drop by 30% due to contraction of its range and a decline in the quality of its habitat.

The following international agreements exist to help conserve and reestablish rare and endangered species, including the Amur tiger:

- Convention on Biological Diversity (Rio de Janeiro, 5 June 1992) – ratified by Russian Federal Law (No. 16-FZ) on 17 February 1995. This Convention provides for the conservation of biological resources, both in situ and ex situ, as well as for their sustainable use.

- Convention on International Trade in Rare and Endangered Species (CITES) (Washington, 3 March 1973) – the Amur tiger is listed in Annex 1 of CITES. This provides for strict regulation on the export and import of the tiger for commercial purposes.

- The Protocol between the Russian Federation and People's Republic of China on Protection of the Tiger (Beijing, 10 November 1997).

7.1.2 National legislation

7.1.2.1 Listing in Red Data Books

The Amur tiger is listed in the Russian Red Data Book as a Category 2 subspecies, ie. a species continually declining in number which can become endangered if unfavourable factors continue as they are.

The removal from the wild of animals listed in the Russian Red Data Book, including the Amur tiger, is regulated by the Decree of the Russian Government On Approval of the Regulations of Removal from the Wild Animals Species listed in the Red Data Book of the Russian Federation, excluding Aquatic Animals, No. 13 that was approved on 6 January 1997.

According to the above-mentioned regulations, the removal of the Amur tiger from the wild is allowed for purposes of their conservation, monitoring of their population status, regulating their population number, ensuring the health of their population, maintaining human health safety, removing threats to human life and preventing epizootic diseases from spreading to livestock and other domestic animals.

The Administrative Regulation of the Federal Supervisory Natural Resources Management Service was approved by the Order (No. 123) of the Ministry of Natural Resources on 30 April 2009 and registered (Registration No. 14115) by the Ministry of Justice on 22 June 2009.

The trade in animals listed in the Russian Red Data Book, including the Amur tiger, is regulated by the Decree (No. 156) On Issuing Licences for Trading Animal Species listed in the Red Data Book of the Russian Federation that was approved on 19 February 1996.

The trade in Amur tigers is only allowed based on permission being granted by the Federal Supervisory Natural Resources Management Service and is in line with the Administrative Regulation of the Service that carries out the State's function relating to the issuing of licences for trading in animal species listed in the Red Data Book. This was approved by the Order (No. 4) of the Ministry of Natural Resources on 15 January 2008, which was registered (Registration No. 11154) by the Ministry of Justice on 13 February 2008.

Guidelines for Calculating the Monetary Value of Damage to Animal Species Listed in the Russian Red Data Book and to Other Animal Species Not Subject to Hunting or Fishing and Their Habitats were approved by the Order (No. 107) of the Ministry of Natural Resources on 28 April 2008 and registered (Registration No. 11775) by the Ministry of Justice on 29 May 2008.

The Amur tiger is listed in the Red Data Books of four Russian provinces, namely, the Primorsky, Khabarovsk, Amur and Jewish Autonomous Regions.

7.1.2.2 Legislation in the Russian Federation

In Russia, the conservation and use of animal species, including the Amur tiger, and their habitats are covered by a number of laws and by-laws, the most important of these being:

- Federal Law On Environmental Protection, No. 7-FZ of 10 January 2002
- Federal Law On Animal Species, No. 52-FZ of 24 April 1995
- Federal Law On Specially Protected Natural Areas of 14 March 1995.

The conservation and use of animal species and their habitats are also covered by a number of other acts and decrees of the Russian Government and departmental sub-laws relating to natural resource use, as well as by acts relating to other branches of law (eg. civil, criminal and administrative legislation).

The most important act relating to the conservation of animals is the Federal Law On Animal Species. It covers conservation and use of animal species in general, as well as more specifically the protection and rehabilitation of their habitats to ensure conservation of biological diversity, the sustainable use of its components, the provision of conditions for the long-term survival of animals, the conservation of the genetic diversity of wild animals and other forms of protection for animal species as a part of nature. This Law states that wild animal species within Russia are the property of the State. The Law also defines a list of measures to be carried out to conserve the habitats of wild animals, including rare and endangered species (particularly through establishing protected areas), and provides for the protection of areas that are necessary for animals to complete their life cycles (ie. breeding, raising young, feeding, resting, migrating, etc.). In such areas, certain types of economic development and activities can be banned or restricted in both time and nature of implementation.

The Law specifies the responsibilities and powers of state authorities in wildlife conservation, including those responsibilities that have been delegated by federal authorities to regional authorities and the specific powers of regional authorities and local governments. The Law provides for the rights of individuals and legal entities to question how the responsibilities are being implemented, to undertake their own conservation activities and to assist in the implementation of relevant state programs. The Law identifies the agencies responsible for the state administration of the conservation of animals and the conservation and rehabilitation of their habitats and defines the main principles.

To ensure the conservation of animal species and their habitats, the Law established the requirement to conduct state censuses of wild animals and record how the animals are used, to maintain a state inventory and conduct state monitoring of animal species and to implement state conservation programs.

In addition, the Law states that it is an obligatory requirement to conduct a state environmental impact assessment prior to any development decision being taken that may affect animal species and their habitats.

The Law states that rare and endangered animal species must be listed in the Russian Red Data Book and respective regional Red Data Books. Any activities that can lead to their death, decline in their numbers or damage to their habitats are prohibited. Legal entities and individuals who carry out economic activities within areas where such animals occur are responsible for their conservation. The Law also states that the use of and trade in listed rare and endangered animal species, as well the keeping of them in captivity and their release back into the wild, can only be legally done if the required permission has been granted.

Numerous by-laws and departmental regulations make up a considerably well-developed legal base for administrative authorities and law enforcement agencies to work in the field of conservation of rare and endangered animal species. They also provide a regulatory mechanism with relatively well-defined jurisdictions and separation of duties between federal and regional authorities.

The effectiveness of this generally well-developed system, however, is hindered by the low efficiency in law enforcement and by gaps and deficiencies in some areas with regards legal instruments and regulations.

For example, the Russian Administrative Code sets out the penalties for destroying rare and endangered animals and plants that are listed in the Russian Red Data Book, or which are protected by international agreements. In addition, any action or inaction that leads to the death, decline in numbers or damage to habitats of animals, as well as to the destruction of plants, collection, removal and keeping in captivity, purchase, sale and postage of rare and endangered animals without the necessary permission being obtained or the conditions being complied with, or if other required procedures have not been followed, will be punished under administrative law.

At the same time, there are no legal provisions to penalise legal entities or individuals for assisting in the placement of announcements on the Internet relating to the sale of tiger skins or purchasing the products of illegal hunting.

Article 20 of the Federal Law On Animal Species requires a state environmental impact assessment to be carried out prior to a decision being made on whether or not any development project that may affect animal species and their habitats goes ahead. Article 24 of the same Law states that actions that may lead to the death, decline in numbers or damage to habitats of animals listed in the Red Data Book are prohibited.

However, as stated by the Federal Law On Environmental Impact Assessment, No. 174-FZ of 23 November 1995, if any development project which may affect the environment is planned to take place outside of protected areas, the continental shelf, exclusive economic zones, inland seas, Russian territorial waters and their adjacent zones, or if such projects do not fall within a special purpose program, a state environmental impact assessment is not required. Consequently, there are no legal grounds to prohibit such developments even if they may negatively affect the habitat of the Amur tiger.

Taking into account the requirements of the above-mentioned Law On Animal Species, it is necessary that the documentation relating to any construction project that is planned to take place within Amur tiger habitat must be subjected to an environmental impact assessment to ensure that it complies with environmental requirements.

7.2 Protected area conservation

At present, an area of approximately 36,000 km^2 within the range of the Amur tiger (ie. 20% of its total range) falls within protected areas. Ten percent (10%) of this area consists of protected areas of federal importance (Table 1).

The establishment of transboundary migration corridors with special protection regimes to ensure free movement of animals is being planned. In addition, planning is also being directed at establishing protected areas where traditional forms of natural resource use are to be maintained. These areas will be developed and managed along with local communities in order to reach a compromise between tiger conservation and sustainable community development.

At the same time, however, an integrated spatial system of protection for the whole Amur tiger habitat, which takes into consideration the important ecological role of the tiger, is not yet in place. Up until now, when a particular category of protected area was selected and the regime for tiger protection was put in place, the importance of habitats for Amur tiger conservation was not always taken into account.

The conservation of the tiger inside protected areas within its key habitat range, in particular the Leopardovy Federal Nature Reserve and the Birsky, Mataisky, Taezhny and Verkhnebikinsky Regional Nature Refuges, is inefficient. This is because clear-felling operations are still taking place within these areas.

One of the key issues for the conservation of the Amur tiger is the optimization of land use in areas lying beyond protected areas.

Table 1. *List of protected areas where key tiger habitats are protected*

Name of Protected Area	Area (hectares, 000)	Regions and districts of Russia
FEDERAL NATURE RESERVES (Zapovedniks)		
		Primorsky Region
Kedrovaya Pad	18,045	Khasansky
Lazovsky	120,998	Lazovsky
Sikhote-Alinsky	401,428	Terneisky, Dalnegorsky, Krasnoarmeisky
Ussuriysky	40,432	Ussuriysky, Shkotovsky
		Khabarovsk Region
Bolshekhekhtsirsky	45,439	Khabarovsky
Botchinsky	267,380	Sovetsko-Gavansky
Komsomolsky	64,413	Komsomolsky
NATIONAL PARKS		
		Primorsky Region
Zov tigra (Call of the Tiger)	82,152	Chuguevsky, Olginsky, Lazovsky
Udege Legend	88,600	Krasnoarmeisky
		Khabarovsk Region
Anyuisky	429,370	Nanaisky
FEDERAL NATURE REFUGES (Zakazniks)		
		Primorsky Region
Leopardovy	169,429	Khasansky, Nadezhdinsky, Ussurysky
		Khabarovsk Region
Khekhtsir	56,000	
REGIONAL NATURE REFUGES (Zakazniks)		
		Primorsky Region
Berezovyi	60,000	Chuguevsky
Vasil'kovsky	34,000	Olginsky
Verkhnebikinsky	746,482	Pozharsky
Poltavsky	119,000	Ussuriysky, Oktyabrsky
Taezhny	29,000	Krasnoarmeisky
Black rocks	12,400	Dalnegorsky
Losiny	26,000	Terneisky
Goraly	4,749	Terneisky
Tikhy	12,600	Anuchinsky
		Khabarovsk Region
Mataisky	114,400	Im. Lazo
Birsky	53,300	Bikinsky
Chukensky	219,700	Im. Lazo
Mopau	54,000	Vaninsky
NATURE PARKS		
		Khabarovsk Region
Vyazemsky	33,000	Vyazemsky
Khoso Khoso	123,100	Komsomolsky
ECOLOGICAL CORRIDORS OF REGIONAL IMPORTANCE		
		Khabarovsk Region
Strelnikov	8,100	Bikinsky
Manominsky	34,300	Nanaisky
Nelminsky	36,700	Sovetsko-Gavansky
Khutinsky	77,480	Vaninsky

7.3 Captive breeding

Zoos play an invaluable role in attracting broad public attention to issues relating to tiger conservation. They also raise awareness about the need to protect these animals in the wild.

A significant proportion of funds generated by zoos goes towards the conservation of tigers around the world.

Zoos are sources of valuable scientific data and practical experience. New combinations of anaesthetics were developed and tested in zoos, after which they could then be used in research studies on tigers in the wild. Some important indicators that assist in determining the age of animals, such as the condition of teeth and the weight of individuals, were first studied and then later used in the field. Photographs of tiger skin patterns and blood samples taken from captive zoo animals are being used in taxonomic research studies. Studying DNA taken from the faeces of captive tigers helps to develop methods for counting tigers in the wild. Zoo-based training programs have been of great help to local veterinarians, especially when they work with wild tigers that have to be placed in captivity or conduct post mortems.

Tigers were amongst the first animals for which special captive management programs were developed. These include the Tiger Species Survival Plan (SSP) in North America, which was developed in 1982, and the European Program for Amur Tiger Breeding (Tiger Europäische Erhaltungszucht Programme (EEP)), which was established in 1985 in both Europe and Russia. The EEP has been jointly coordinated by Moscow Zoo and the Zoological Society of London (ZSL). Analysis of the present-day situation was conducted to determine whether or not Russia and other post-Soviet countries have sufficient numbers of Amur tigers to independently manage their collective zoo population. It showed that the successful implementation of a long-term project on breeding the Amur tiger requires one overall management program covering all captive tigers.

The present-day captive population of Amur tigers was formed during the early-1950s and originates from 57 founder individuals. As of now, the combined population of tigers housed in the 91 zoos that make up the EEP numbers 268 tigers (127 males and 141 females). Of this total, 67 tigers (31 males and 36 females) are being kept in 29 zoos that belong to the Euro-Asian Regional Associations of Zoos and Aquariums (EARAZA). Many Russian and other post-Soviet zoos are members of this Association. The combined zoo population falling under the North American Tiger SSP of the American Zoo and Aquarium Association (AZA) presently consists of 131 Amur tigers (54 males and 77 females) housed within 48 zoological institutions within North America.

The total number of Amur tigers in captivity is comparable to the present number of tigers living in the wild. Whether or not all these captive tigers are of pure genetic stock, however, has still to be determined. If need be, captive tigers can be used to reinvigorate the genetic stock of the wild population. Among all the countries falling within the tiger's range, Russia has the best and most efficient system in place for regulating the interface between captive and wild populations. From the mid-1990s, Russia has followed a

principle of determining if any orphaned or injured tigers can be released back into the wild, or if they have to be incorporated into the zoo population. Only those individuals whose condition does not allow them to be released into the wild and who are young enough to be able to adapt to captive conditions become candidates for inclusion in the international breeding program for tigers. Zoos that participate in Amur tiger breeding programs provide the facilities necessary to look after them. Present policy favours placing tigers removed from the wild in Russian zoos, providing these zoos have the required facilities. If this is not possible, the tigers are shipped to other zoos participating in the EEP, with Moscow Zoo and the EEP coordinator for the Amur tiger being involved in the process.

Since the zoo population was founded, the inflow into zoos of tiger orphans from the wild has expanded the founding genetic stock and increased the genetic diversity of the captive population. Indeed, some genetic lines that have disappeared entirely from the wild genome are now only preserved within the zoo population. This makes the importance of captive populations even greater.

At present in Russia, there is no necessity for reintroducing captive-bred Amur tigers back into the wild. In the future, however, replenishment of the wild population and the reintroduction of lost genes may become desirable. Such activities are not of first priority in the short-term conservation plans for the Amur tiger, but they can be considered as options if there is evidence of genetic weakening through inbreeding within the existing wild population. The Amur tiger is characterized by having the lowest genetic diversity of all tiger subspecies remaining in the wild. Therefore, there is a continuous need to monitor and assess the genetic wellbeing of the wild population.

Using all ways and means available, the management of zoo populations of the Amur tiger will continue to provide as much support as possible to those projects aimed at conserving populations of the subspecies in the wild. It will also continue to maintain a genetic reserve of the subspecies in case a need to use it arises in the future.

8. PRIORITIES FOR CONSERVING THE AMUR TIGER

Conservation of the Amur tiger population can only be assured by implementing a set of activities that are aimed at conserving the animal itself, protecting its habitat and protecting the animals that make up its food source. These activities must take into account the special biological features of the subspecies' boreal existence as well as the lessons learnt from past years.

There are two main tasks necessary for conserving the Amur tiger population. These are removing the causes of the decline in population number and minimizing the negative impacts that lead to the contraction and degradation of those habitats that are suitable for tigers. It is in these two areas where priority activities must be focused.

8.1 Developing international collaboration

Although the Russian Federation presently carries the main responsibility for the conservation of the Amur tiger in the wild, the future of this sub-species also depends on the status and condition of the tiger population and its habitat in neighbouring countries, specifically the People's Republic of China and North Korea. Small populations of Amur tigers in border areas of China are apparently supplemented by individuals who cross over from Russia. Appearances of tigers in the northern parts of North Korea have also been recorded. Without uniting the

efforts of neighbouring countries, it is not possible to assess the level of habitat degradation and the potential for restoring the Amur tiger's natural range. It is also not possible to determine a size for the entire Amur tiger population that can be sustained in the wild. Uniting global efforts will help foster the exchange of information and ideas and increase the possibility of being able to conserve not only the subspecies but also the entire tiger species.

The necessity of enhancing international collaboration in conserving and studying the Amur tiger is governed by a number of factors, first and foremost of which is the trans-boundary nature of human-related impacts.

Inter-state cooperation, both within the region and beyond, is worthwhile developing in the following directions:

- Participation in the Global Tiger Initiative which was announced by the World Bank provides a platform for international collaboration. Coordinated planning of activities in tiger conservation is a task that requires concentrating the efforts of all tiger range countries. The main objectives of the Global Tiger Initiative are:

· to increase the effectiveness of tiger conservation activities through the exchange of experience and information

· to improve the enforcement of conservation law through exchanging experience and international cooperation in combating the illegal cross-border trade in products derived from tigers and other rare and endangered animals species

· to decrease the demand for tiger products by inter alia conducting public awareness campaigns amongst consumers in those countries where tiger products are being used in traditional medicine and where there is also a demand for tiger skins

· to raise the effectiveness of tiger habitat protection

· to develop incentives for supporting tiger conservation at local level

· to develop and improve innovative mechanisms for funding tiger conservation activities, eg. developing mechanisms for joint funding of conservation projects by using carbon credits to compensate for carbon retention, or by paying for environmental services.

- Establishment of international transboundary protected areas for the conservation of the Amur tiger and the Far East leopard.

- Coordination of activities to stop the illegal export and trade of products that are derived from the illicit hunting of tigers and other rare animals. Of special importance is collaboration with China. On a local level, it is worthwhile for the customs services of the Russian Federation and neighbouring provinces in China to work together and exchange information on the cross-border movement of illegal animal products. It is also worthwhile for the respective state institutions to exchange information on illegal international trading routes in both countries.

• Coordination of research programs and cooperation between Amur tiger experts from different countries. Of special importance is the development of a joint methodology for monitoring Amur tigers in Russia and China. This will enable study results from both countries to be properly compared.

• Continuation of collaboration in the management of captive Amur tiger populations within the EEP, European Association of Zoos and Aquaria (EAZA) and the North American Tiger SSP of the AZA.

It is important to collaborate with international non-government conservation organisations, charitable foundations and other non-government bodies. Such collaboration helps to raise additional funding, exchange ideas, draw on best international experience and undertake joint work between Russian and foreign experts in the fields of conservation and research within the entire range of the Amur tiger.

8.2 Improving legislation

To increase the effectiveness of Russian conservation law and law enforcement for the conservation of the Amur tiger, it is recommended:

• ensuring that the provisions of Russian law are used to penalize individuals for processing illegally-obtained Amur tiger skins

• formulating regulations to penalize individuals and legal entities for providing Internet space to place announcements relating to the sale of Amur tiger skins and body parts and for purchasing illegally-obtained Amur tiger parts, as well as to penalize those individuals who place such announcements

• enhancing administrative penalties for killing Amur tigers by introducing amendments to Article 8.35 of the Russian Administrative Code (ie. Removal of Rare and Endangered Species of Animals and Plants) by adding the storage and transportation of the Amur tiger, its body parts and derivatives to the list of activities subject to penalty. The severity of the penalty for individuals must be increased – instead of "from 1,000 to 2,500 roubles", it should read "from 2,000 to 5,000 roubles." Confiscation of any vehicle used for transporting tiger parts must also be provided for

• enhancing penalties for the illegal removal and transportation of the Amur tiger, its body parts and derivatives over the Russian customs border by introducing the following amendments and additions to the Russian Criminal Code:

· in Part 2 of Article 188 on smuggling, extend the term "Contraband" and the list of items and objects for which the transport across customs borders are prohibited by adding the words "animals and plants listed in the Russian Red Data Book, their body parts and derivatives" immediately after the words "strategically important goods and valuable cultural objects which are subjected to special regulations for transporting across Russian customs borders"

· in Article 258, introduce penalties as for illegal hunting for the illegal transport of animals that are subject to a full hunting ban, as well as their body parts and derivatives. Such an amendment would be entirely in line with the

requirements of Part 2 of Article 57, entitled On Penalties for Violating the Law Relating to Hunting and Conservation of Hunting Resources, of the Federal Law On Hunting and Conservation of Hunting Resources and on Introducing Amendments into Some Russian Legal Acts, No. 209-FZ of 24 July 2009

- introducing amendments and additions to the Federal Law On Environmental Impact Assessment, No. 174-FZ, and ensuring that the documentation relating to any construction project planned to take place within Amur tiger habitat is subjected to an environmental impact assessment

- formulating and approving Regulations of Trade of Products Derived from Hunted Animals

- adding Korean cedar pine to the List of Tree and Bush Species Prohibited for Logging, No. 162, approved by the Russian Government on 15 March 2007

- restricting logging in Amur tiger habitats within those forests containing Korean cedar pine by introducing amendments to:

· Paragraph 12 of the Regulations for Logging that were approved by the Order of the Ministry of Natural Resources, No. 184 of 16 July 2007, by changing the part referring to the Korean cedar pine to the following wording: "With the exception of cutting down dead or damaged trees, it is not permitted to log those forests that consist of 30% or more Korean cedar pine trees, or those forests that consist of 20% Korean cedar pine trees in case of equal or less presence of each of any other dominant tree species in the stand's composition"

· Paragraph 51 of the Regulations for Logging by adding the following wording: "When clear-cutting is conducted, Korean cedar pine and Manchurian nut trees should be left within seed stock trees, tree groves and forest strips"

· the Forest Management Guidelines that were approved by Order No. 31 of the Ministry of Natural Resources on 6 February 2008 by inserting guidelines on identifying nut forests, ie. those forests containing one or more Manchurian nut trees, forests that consist of 30% or more Korean cedar pine trees, or those forests that consist of 20% Korean cedar pine trees in case of equal or less presence of each of any other dominant tree species in the stand's composition"

- reducing the logging quota in mature oak forests found within Amur tiger habitats by updating the valuation of forests containing Mongolian oak, updating permitted quotas on logging Mongolian oak and incorporating the relevant changes in forest management plans and forestry regulations in Primorsky and Khabarovsk Regions

- setting aside specially protected forest areas within Amur tiger key habitats that are in line with Paragraph 3b of Article 102 of the Russian Forest Code and which are based on recommendations on how to exploit forests within tiger habitats that were developed by the Far East Forestry Research Institute

- introducing a ban on all forms of logging in the Leopardovy Federal Nature Refuge by amending the Refuge's proclamation which was approved by the Order (No. 110) of the Ministry of Natural Resources on 22 April 2009

- introducing a ban on all forms of logging in the Birsky, Mataisky, Taezhny and Verkhnebikinsky Regional Nature Refuges by amending their respective proclamations

- introducing necessary amendments to forest management plans in Primorsky and Khabarovsk Regions that relate to the ban on all forms of logging within the Birsky, Mataisky, Taezhny and Verkhnebikinsky Regional Nature Refuges and reconsidering the forest lease agreements that have been entered into with companies conducting logging operations within these protected areas, as well as assigning to those companies instead forest plots located outside the nature refuges

- assigning legal status to categories of regional protected areas, thereby ensuring their special protection and restricted landuse for purposes of protecting Amur tiger habitats and optimizing the protected area system in Russia

- amending hunting regulations and quotas to take into account the need to maintain healthy populations of prey items for tigers and the changes that take place in ungulate habitats that are linked to forest fires and logging

- extending rights and responsibilities of local governments to ensure forest fire prevention and to regulate those periods when individuals can visit forests

- envisaging further improvement in federal and regional legislation and the development of departmental regulations relating to the conservation of the Amur tiger.

8.3 Improving the protected area network

A large number of activities relating to protected area establishment that were in line with the earlier Amur Tiger Conservation Strategy for Russia (approved by the Ministry of Natural Resources in 1996) was accomplished within the Federal Special Purpose Program Conservation of the Amur Tiger. This Program was approved by the Decree (No. 843) of the Russian Government on 8 July 1997.

The protected area network within the range of the Amur tiger is made up of protected areas of various categories and importance. These include state nature reserves (zapovedniks), national parks, state nature refuges (zakazniks) of federal and regional importance and other types of protected area with specially designated landuses, such as buffer protection zones, protection forests and ecological corridors of regional importance. The protected areas help to guard the Amur tiger against poaching and to maintain high densities of ungulates. They also help tigers of all ages to survive and assist in raising their breeding success rate. Nevertheless, taking into account that individual Amur tigers need large territories, protected areas need to be increased in size as much as possible. In addition and to increase the effectiveness of protected areas, they should be connected by ecological corridors where possible.

To optimize the protected area system, it is necessary:

- to ensure the effective functioning of the Kedrovaya Pad Federal Nature

Reserve and the Leopardovy Federal Nature Refuge by:

· developing management plans for both protected areas with the necessary funding being allocated from the federal budget

· taking steps to establish a single protected area (called the 'Leopard Land National Park') that would incorporate both the Kedrovaya Pad and Leopardovy protected areas, as well as a necessary expansion in size of the total area under protection

• to establish a Russia-China transboundary protected area that would on the Russian side incorporate the 'Leopard Land National Park', formed through the fusion of the Kedrovaya Pad and Leopardovy protected areas, and on the Chinese side incorporate the Hunchun protected area

• to enhance protection in the Ussuriysky Federal Nature Reserve by:

· granting to its rangers all the rights of state inspectors

· establishing a buffer zone adjacent to the Reserve that restricts certain types of land use

· securing UNESCO Biosphere Reserve status for both the core Ussuriysky Federal Nature Reserve and the adjacent buffer zone that would also incorporate parts of the Orlinoye State Experimental Hunting Management Unit and the Training/ Experimental Forestry Management Unit belonging to the Ministry of Agriculture

• to establish a federal protected area that would preserve traditional forms of land use along the Bikin River

• to establish a regional nature refuge (zakaznik) within the Strelnikov mountain range in Primorsky Region by way of compensating for the building of a pipeline between Khabarovsk and Vladivostok

• to establish ecological corridors of regional importance linking protected areas in the key tiger habitats that have management regimes that reduce the negative impacts on tiger habitats, such as clear-felling and road construction

• to incorporate within federal and regional protected area spatial plans all the proposed protected areas of varying categories and importance, so ensuring that the most important habitats for both the Amur tiger and its food source are protected.

8.4 Increasing the effectiveness of Amur tiger conservation outside of protected areas

The effectiveness of Amur tiger conservation outside of protected areas, including success in preventing and combating poaching, depends considerably on state support from federal and regional authorities, as well as action from non-government organisations.

Strengthening of Amur tiger conservation outside of protected areas can only be effective if it is conducted in a systematic way and in line with the laws of the Russian Federation. It must also be based on the joint and coordinated activities of the Ministry of Natural Resources, the Federal Supervisory Natural Resources Management Service as well as the Service's regional offices, Federal Security Service including the 'border guard service', transport police and other authorized regional bodies and interested authorities, as well as local communities.

To raise the effectiveness of Amur tiger conservation and to ensure the protection of its habitats outside of protected areas, it is advisable:

- to develop and implement an integrated system of protecting Amur tiger habitats that takes into account their ecological importance to the tiger population
- to introduce restrictions on some forms of economic activity within the most important tiger habitats. This includes restricting forest logging by introducing a moratorium on the logging of Korean cedar pine, limiting logging in other forests containing Korean cedar pine and restricting the logging of mature oak trees
- to reduce negative impacts of forest logging on Amur tiger and ungulate populations by making it obligatory for lessees of forest plots (specifically unlimited lease agreements) to include a special section, entitled "managing forest tracks", within the construction and exploitation of forest infrastructure part of their forest development plans. This is to ensure that forest tracks are blocked off with barriers and are closed down after logging has been completed
- to enhance the control and supervision over the implementation of responsibilities that have been delegated to regional authorities concerning forest utilisation, protection, conservation and the planting of forests
- to undertake activities aimed at avoiding the creation of 'problem' tigers and the subsequent necessity to shoot them
- to provide for the effective tiger conservation operations of special authorities responsible for the protection and the control and regulation of the use of wild animals and their habitats, including the Tiger Special Patrol Team, by allocating sufficient funding from the federal budget
- to develop and implement long-term federal and regional programs on restoring populations of wild ungulates within the Amur tiger range that would include inter alia providing special care to ungulates during extreme winters with high snowfall and outbreaks of disease
- to develop a strategy and action plan for game management within Russia, as well as specific game management strategies and action plans for Primorsky and Khabarovsk Regions
- to provide economic incentives for hunting management units where Amur tigers occur, including attracting investment and raising other non-budget funding
- to conduct thorough control over the status of wild populations and domestic animals and to screen all dead and captured Amur tigers and other predators for various diseases
- to minimize the uncontrolled movement of domestic animals
- to conduct thorough veterinary examinations of animals intended for release back into the wild that also include detailed risk assessments
- to oblige road construction companies to build tunnels, overpasses and underpasses for wild animals in order to reduce the chances of them colliding with vehicles

- to ensure that perishable information on the illegal trade in tiger skins and body parts is collected timeously and with the help of local residents
- to identify instances of transporting illegally-obtained Amur tiger parts and to establish control over the illicit markets by locating offers for Amur tiger skins on the Internet and through other media
- to block channels of illegal trade and export in Amur tiger skins and other body parts
- to significantly increase the level of fines for transporting and storing Amur tiger body parts
- to inform local residents of the fact that the Amur tiger is a Red Data Book-listed animal and about the consequences to individuals for illegally obtaining and trading in the species and its body parts
- to help attract investment in order to develop small businesses within the settlements located in taiga and to create jobs for unemployed local residents, thereby removing some of the economic causes of poaching.

When regional socio-economic development programs are prepared, preference should be given to those initiatives and projects that have minimal impact on the environment and the Amur tiger.

8.5 Scientific research

The conservation of biological diversity, including rare and endangered species, requires up-to-date scientific knowledge and the innovative application of that knowledge. Although up until now the biology and ecology of the Amur tiger have been studied well enough, many specific features of the tiger's biology within the

Russian Far East have still to be studied in detail. This includes cub mortality, distribution, tiger ecology in peripheral areas of its range, disease, interaction with ungulates, etc.

Research on the Amur tiger can involve a variety of costly activities that utilise, for example, aircraft, satellite tracking, remote sensing, etc. The whole issue of Amur tiger conservation also impinges upon the interests of all users of natural resources. It is therefore necessary to ensure that collaboration takes place between ministerial and academic scientific research institutes and their branches within the Russian Far East. Effective implementation of scientific research programs should be based on international partnerships. These will help to ensure that scientific ideas and current experience are exchanged, the implementation of joint research programs involving Russian and foreign expertise takes places and that a certain level of funding is secured.

The development and implementation of scientific research programs on the Amur tiger must take into account the following focus areas of research:

- the present-day distribution of the Amur tiger, its population dynamics and the mapping of tiger distribution to produce a baseline database
- the role of natural and human-related factors on the population dyna-mics and changing habitats of the Amur tiger
- the identification of key breeding sites for the Amur tiger
- to define the population structure of the Amur tiger using molecular genetics and other modern methods
- the gender, age structure and other demographic indicators of a population and also the spatial and temporal distribution of animals relating to gender, age and environmental factors (eg. studying spatial population structure, movement and spatial behaviour)
- the interaction between the Amur tiger and other predators
- the diet, food availability and sufficiency and the distribution and population dynamics of principal prey items in different parts of the Amur tiger's range
- the reproductive biology of the Amur tiger
- the veterinary examination of individual Amur tigers from the wild
- the development of scientific-based methodology and a program for the rehabilitation and future release back into the wild of orphaned tiger cubs.

Special attention must be paid to developing approaches aimed at minimizing the risk of conflict between Amur tigers and humans.

It is also necessary to create a bank of genetic material. Tissue samples should be taken from every dead or captured tiger in both the wild and in zoos and stored in this bank. It is advisable that the sex organs of recently deceased tigers be collected and that gametes (ie. sperm and eggs), skin and muscle tissue be taken

from live animals. This requires developing and improving low-impact methods of sampling (eg. endoscopy, electroejaculation, biopsy), creating a centralized store for samples and ensuring the sustainable funding of the genetic material bank.

8.6 Monitoring the Amur tiger population

Monitoring of the Amur tiger population involves undertaking a program of long-term observations on the distribution, number and other population characteristics of the tiger, as well as the condition of the tiger's habitat, in order to identify, analyse and forecast possible changes in the tiger population caused by both natural and human-related factors.

The Amur tiger is a rare and secretive animal living within a huge area in the Primorsky and Khabarovsk Regions. The combination of these factors makes reliable counting of the animal extremely difficult.

According to existing legislation, state censuses and the monitoring of animal species are to be conducted by relevant regional authorities. An exception applies to those animals that occur within federal protected areas.

The state census of the Amur tiger in the wild and its long-term monitoringat federal and regional levels are conducted according to the Methodical Recommendations for Conducting and Organisation of the Amur Tiger Census in the Russian Federation that was approved by the Order (No. 63) of the Ministry of Natural Resources on 15 March 2005.

The following methods are used to monitor the Amur tiger population:

- a complete census is conducted within the Russian part of the tiger's range once every 10 years. If necessary, such as when there is an abrupt change in the status of habitats or when other threatening factors emerge, more frequent censuses are carried out. The main objectives of a complete census are to identity the total population number of the tiger, its range boundary, the distribution and density of the population in different parts of the tiger's range, the gender and age structure of the population and the condition of the tiger's food supply

- a partial census (ie. a monitoring program) is conducted annually along selected routes within sample areas that represent the whole system of enumeration areas used during complete censuses. Since the winter of 1997/98, partial censuses have been conducted in 16 sample areas within Primorsky and Khabarovsk Regions. The main objective of a partial census is to identify the principal parameters of the tiger population living within sample areas to provide annual indicators of population number dynamics, reproductive status and condition of the food supply and habitat for the whole tiger population. Data collected during a partial census constitute the core component of long-term monitoring programs and provide the basis for making conservation decisions and for selecting the time when full censuses are conducted.

Complete and partial censuses are based on a similar methodology. Partial censuses include a longer and more detailed list of parameters necessary to identify trends within the Amur tiger population, the tiger habitats and food resources and other influencing factors.

The fundamental principle of census design and implementation is continuity and consistency in methodology and the analysis of the data obtained.

Monitoring of the Amur tiger population addresses the following parameters:

- population number dynamics and its annual trends
- gender, age, spatial and social structure of the population and trends
- reproductive rates and trends
- spatial distribution and population density
- seasonal and daily migrations
- physiological condition of individuals, including physical and reproductive parameters.

The monitoring of Amur tiger habitats includes not only the recording of environmental factors but also the forecasting of possible habitat changes at ecosystem level. Such changes should be monitored in the following way:

- recording changes that affect habitats
- recording the contraction and/or transformation of habitats resulting from economic activities.

Over the last 12 years, the monitoring program has proved how effective it is in gathering unique and objective information on the Amur tiger population. The information collected is essential for developing adequate and practical activities for long-term tiger conservation. As such, the monitoring program needs to be continued.

Present experience suggests, however, that the monitoring of the Amur tiger population can be improved in the following ways:

- improving the methodology for conducting censuses within the entire tiger range by using innovative methods that allow for more precise assessment of population numbers
- adding the health condition of the population and the population's genetic structure to the list of parameters to be monitored
- standardizing the methodology for counting ungulate populations within the tiger's range
- providing access through the Internet to the results of the monitoring programs.

8.7 Prevention and resolution of conflicts

The Amur tiger range in Russia incorporates large areas that are under economic development. Tiger habitat frequently lies adjacent to settlements, industrial areas and other economically developed land. Intensive economic development taking place within tiger habitat requires measures to be undertaken that prevent or resolve conflicts arising between tigers and humans.

An important factor in successfully resolving conflicts between tigers and humans is how quickly an expert can reach the place where the conflict has arisen. After assessing each conflict, decisions made on how to resolve them must take into account the type of conflict involved, the tiger's gender and age and the animal's condition and behaviour. The main and most preferable methods of resolving a conflict are closely monitoring the situation, chasing the animal away, keeping it in captivity for some time and translocating it to a suitable habitat and location elsewhere. The possibility of capturing and radio-tagging individual tigers opens up the options available for resolving the conflict. Putting down a problem animal can only be considered when a real threat to human life arises that cannot be avoided in any other way.

In order to prevent conflicts, it is advisable:

- to maintain the population number of tiger prey items at a stable level that supports both the predators and the needs of hunters, whilst still remaining within the limits of maintaining a sustainable and healthy prey population

- to develop a mechanism for compensating owners of domestic animals (including reindeer farmers) for damage caused by tigers in those cases where the loss of domestic animals was not related to them being kept in unsafe conditions

- to prepare an information handout that recommends certain human behaviour to follow when entering or living within Amur tiger habitats and when encountering a predator. Also, to ensure that local residents and hunters (eg. when issuing hunting licences) are informed about recommended behaviour to follow when encountering a tiger in order to avoid conflicts from arising.

To resolve conflicts in a timely and effective manner, it is advisable:

- to ensure effective operations of special authorities responsible for the protection and the control and regulation of the use of wild animals and their habitats, including the Tiger Special Patrol Team, by providing necessary equipment and training programs and by securing sufficient funding from the state budget

- to develop a mechanism of decision-making and responsive action for resolving conflicts that takes into account the type of conflict involved, the tiger's gender and age and its condition and behaviour, as well as other circumstances. In such a mechanism, it is advisable to consider handing animals deemed not suitable for release back into the wild over to the European Program for Amur Tiger Breeding (EEP)

- to identify and introduce in practice the most efficient methods for driving tigers away

- to undertake radio-tagging and satellite-tracking of 'problem' tigers

- to ensure the establishment of an Amur Tiger Rehabilitation Centre that would look after and raise orphaned tiger cubs with the intention of eventually releasing them back into the wild and that would temporarily house captured tigers. As a first step, a project concept, workplan and budget need to be formulated

- to ensure that veterinary examinations are carried out on captured problem tigers, that uniform post-mortems are conducted on deceased animals and that standardized methods of collecting biological samples from captured and deceased animals and analysing them for possible diseases are employed.

8.8 Public awareness and education

One of the most important elements in Amur tiger conservation is developing amongst local residents and the public-at-large an understanding and acceptance of the tiger being part of our national heritage and a unique natural feature of world importance. In addition, it is important to elevate personal responsibility of people to follow relevant recommendations and necessary restrictions and raise personal aspirations to willingly take part in conservation activities.

The principal criteria for evaluating the effectiveness of working with local residents and the public-at-large are the harbouring of a positive attitude towards Amur tiger conservation and the willingness amongst people to support and take part in conservation activities. A decline in the number of cases of poaching relating to tigers, a growing number of volunteers taking part in conservation campaigns and limiting economic development in order to meet the conservation needs of tigers would all help to testify to the success of Amur tiger conservation activities.

To ensure effective long-term conservation of the Amur tiger, it is necessary:

- to instill amongst local residents an understanding of the important role that Russia plays in conserving the world's population of the Amur tiger
- to promote amongst people living within the Amur tiger's natural range a tolerance towards the tiger and an understanding of the need for its conservation
- to develop and carry out promotion campaigns for different target groups within the tiger range that are aimed at creating a positive image of the predator as a symbol of nature in the region
- to help raise the level of professional knowledge amongst decision-makers and natural resource managers, including hunting management unit staff
- to ensure wide distribution amongst local communities of information handouts on behaviours to be followed when people are within the tiger range and what to do when a tiger is encountered
- to help preserve the spiritual and cultural traditions of indigenous peoples and to promote traditional knowledge, rituals and practices that support conservation and which show a respectful attitude towards the Amur tiger
- to help local residents recognise the need for protecting large tracts of cedar pine/broad-leaved forests and the importance of nature reserves and national parks in conserving tigers and other unique natural values in the Russian Far East, as well as develop in peoples' minds an aversion towards poaching
- to help develop public oversight and ensure that reliable information is disseminated to the public-at-large

- to help support those hunting management units that manage their ungulate populations whilst taking into account the needs of the Amur tiger, as well as those other nature management operations that use natural resources in an environmentally-sustainable manner and help conserve both tiger habitats and food resources

- to popularize to the public-at-large the results of current scientific studies on Amur tiger ecology.

9. PARTNERS IN THE IMPLEMENTATION OF THE STRATEGY

Effective implementation of the Conservation Strategy for the Amur Tiger in Russia requires continued collaboration between state authorities, research and other institutions relevant to wildlife conservation and the public sector. It also requires the active support and involvement of the public-at-large.

The main onus of responsibility for the effective conservation of the Amur tiger in Russia lies with state authorities.

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Severtsov Institute
of Ecology
and Evolution

ACTION PLAN

UP UNTIL 2020
STRATEGY FOR CONSERVATION OF THE AMUR TIGER IN THE RUSSIAN FEDERATION

2010

The Action Plan up until 2020 on the implementation of priority actions for the conservation of the Amur tiger, as defined in the Strategy for Conservation of the Amur Tiger in the Russian Federation.

The Action Plan was based on the Strategy for Conservation of the Amur Tiger in the Russian Federation that was approved by the Ministry of Natural Resources, Decree No. 25-r of 2nd July 2010. The Plan is a recommendatory document and reflects the opinions of experts on how to implement the Strategy.

The Action Plan incorporate proposals received from A. Alekseenko, V. Aramilev, S. Aramilev, T. Aramileva, V. Barduk, S. Bereznuk, A. Darensky, Y. Darman, Y. Dunishenko, P. Fomenko, V. Gaponov, O. Gunin, Y. Jouravlev, A. Kostirya, V. Krever, O. Krever, A. Kulikov, V. Lukarevsky, D. Mikuell, S. Naydenko, D. Pikunov, V. Roznov, I. Seredkin, V. Solkin, E. Khlinov, V. Yudin and A. Vrish.

The Action Plan was approved (Protocol No. 11) by the Mammal Section of the Commission on Rare and Endangered Animal, Plant and Fungi Species of the Russian Ministry of Natural Resources and Environment at a meeting that was held on 7th June 2010.

Translation: Yulia Kuleshova and Philip Johnson.

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Ministry of Natural Resources
and Environment
of the Russian Federation

Severtsov Institute
of Ecology
and Evolution

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ACTION PLAN UP UNTIL 2020
FOR THE STRATEGY FOR CONSERVATION
OF THE AMUR TIGER IN THE RUSSIAN FEDERATION

Priority actions for Amur tiger conservation	Outputs	Timeline	Responsible parties on the part of the Russian Federation *
1. Developing international cooperation			
1.1 To take part in the Global Tiger Initiative in order to improve coordination of international activities in tiger conservation.	• National program on recovering tiger population numbers that would be part of the Global Tiger Initiative.	2010	Ministry of Natural Resources and Environment (MoNR); Rosprirodnadzor; Ministry of Foreign Affairs (MoFA); Primorsky, Khabarovsk, Jewish Autonomous & Amur Regional Administrations; WWF; Russian Academy of Sciences (RAS)
1.2 To continue trans-boundary collaboration on Amur tiger conservation between Russia & China.			

1.2.1 To maximize work under the Agreement between the Governments of Russia & China on Collaboration in Environmental Protection (Beijing, 27 May 1994) & the Protocol between the Russian Federation & the People's Republic of China on Protection of the Tiger (Beijing, 10 November 1997).	• Joint workshops, conferences & other meetings on tiger conservation. Resolutions of bilateral meetings attended by researchers & technical & other experts. • Exchange of information & data on research, technologies, practices, policy, legislation, regulations & other issues. • Exchange visits of researchers & other experts. • Agreed action plans for collaboration on various issues concerning tiger conservation.	2011-2020	MoNR; Rosprirodnadzor; Primorsky, Khabarovsk, Jewish Autonomous & Amur Regional Administrations; RAS, WWF and other NGOs
1.2.2 To enhance collaboration between state institutions at various levels & scientific, international & non-governmental organizations (NGOs) in order to facilitate finding mutuallyacceptable solutions to the most important tiger conservation issues & to establish a Russia-China expert working group on tiger conservation which would include representatives from state, research, international & NGOs that would be able to provide rapid responses to up-to-date information on changes taking place in tiger populations & habitats & suggest ways of resolving developing problems.	• Resolution on establishing a Russia-China expert working group on tiger conservation. • Annual scheduled meetings of the working group & extraordinary meetings if the need arises.	2011	MoNR; Rosprirodnadzor; Primorsky, Khabarovsk, Jewish Autonomous & Amur Regional Administrations; RAS, WWF and other NGOs

1.2.3 To ensure regular dialogue between regional authorities to effectively stop illegal trade in the tiger, its parts & derivatives as well as other animals, exchange perishable information on violations, abnormal weather climatic conditions & emergency situations caused by pollution that may lead to the death of wild animals, disseminate information & campaign.	• Agreements between regional authorities of Russia & China (Khabarovsk Region & Heilongjiang Province, Primorsky Region & Jilin Province) on conservation of the tiger, its habitats & food resources.	2011-2020	MoNR; Rosprirodnadzor; Primorsky, Khabarovsk, Jewish Autonomous & Amur Regional Administrations; RAS, WWF and other NGOs
1.2.4 To strengthen collaboration in studies on the tiger & other wild animals & their habitats by establishing direct scientific & technical links between Russian & Chinese organizations, research institutions, universities & applied research & manufacturing companies.	• Direct agreements between Russian & Chinese institutions on collaborating in science & technology that would allow for fundamental & applied research to be undertaken, results to be applied, environmental monitoring to be conducted & scientific & technical information to be exchanged, as well as joint Russia-China programs & projects with participating third-party countries to be initiated.	2011-2015	MoNR; Rosprirodnadzor; Ministry of Education & Science (MoES); universities; ministerial research institutes; IUCN Species Survival Commission (SSC); RAS, WWF and other NGOs
1.2.5 To establish a Russia/China trans-boundary protected area which would incorporate the Russian Kedrovaya Pad State Nature Reserve & Leopardovy Federal Nature Refuge.	• Inter-governmental agreement between Russia & China on the establishment of the trans-boundary protected area. • Additional entry in the List of Actions for the Concept of Cross-border Collaboration in the Russian Federation (No. 907-r) approved by the Government of Russia on 3 July 2003.	2013-2015	MoNR; Rosprirodnadzor; MoFA, Primorsky Regional Administration, RAS, WWF and other NGOs

1.2.6 To establish a Russia/China trans-boundary protected area which would include the projected Russian regional nature refuge on the Strelnikov mountain range in the Khasansky District of Primorsky Region & a protected area in Jilin Province in neighbouring China. This new protected area would assist tiger & other wild animals movement across the border.	• Inter-governmental agreement between Russia & China on the establishment of the trans-boundary protected area. • Additional entry in the List of Actions for the Concept of Cross-border Collaboration in the Russian Federation (No. 907-r) approved by the Government of Russia on 3 July 2003.	2012-2014	MoNR; Rosprirodnadzor; MoFA; Primorsky Regional Administration, RAS, WWF and other NGOs
1.2.7 To establish a Russia/China trans-boundary protected area in the Black Mountains-Chanbaishan area.	• Inter-governmental agreement between Russia & China on the establishment of the trans-boundary protected area. • Additional entry in the List of Actions for the Concept of Cross -border Collaboration in the Russian Federation (No. 907-r) approved by the Government of Russia on 3 July 2003.	2013-2015	MoNR; Rosprirodnadzor; MoFA; Primorsky Regional Administration, RAS, WWF and other NGOs
1.3 To strengthen collaboration between Khabarovsk Region & Heilongjiang Province in China on conservation of the Amur tiger, its food resources & habitats.	• Memorandum on cooperation between Khabarovsk Region & Heilongjiang Province in China.	2011-2015	MoNR; Rosprirodnadzor; MoFA; Khabarovsk Regional Administration, RAS, WWF and other NGOs

1.4 To create a mechanism of collaboration between Russia, China & North Korea in order to enhance collaboration on tiger conservation.	• Joint workshops & other meetings on tiger conservation; final documents of meetings held in which experts & representatives from Russia, China & North Korea participated.	2015-2020	MoNR; Rosprirodnadzor; MoFA; WWF and other NGOs
1.5 To strengthen coordination between the customs authorities of Russia, China, North & South Korea in order to stop illegal export & trade in tiger parts & derivatives, as well as body parts & derivatives of other rare & endangered animals.	• Appeal of the Ministry of Natural Resources to relevant customs authorities. • International seminar.	2011-2012	MoNR; Federal Customs Service (FCS); SSC; WWF and other NGOs
1.6 To ensure international cooperation in the conservation of the tiger & other wild animals & their habitats between research institutes, universities, applied research & manufacturing companies, public organizations & experts.	• International research program on the tiger, other wild animals & their habitats. • Conferences & other meetings on tiger conservation; final documents of those meetings. • Exchange of information & materials on research, technology, production, policy, legislation, regulation & other issues on tiger conservation. • Exchange visits of scientists & other experts.	2013-2020	MoNR; Rosprirodnadzor; MoES; universities; ministerial research institutes; SSC; RAS, WWF and other NGOs

1.7 To prepare & approve a program for exchanging experience in Amur tiger conservation between experts from Russia, China & North Korea.	• Program for international seminars to exchange experiences in Amur tiger conservation.	2015	MoNR; Rosprirodnadzor; Primorsky Regional Administration; SSC; WWF and other NGOs
1.8 To continue collaboration in the management of captive Amur tiger populations between the European Program for Amur Tiger Breeding (EEP), European Association of Zoos & Aquaria (EAZA) & the North American Tiger Species Survival Plan (SSP) of the American Zoo & Aqua-rium Association (AZA).	• Annual reports on activities completed under the EEP, EAZA & the North American Tiger SSP of the AZA.	2010-2020	MoNR; Rosprirodnadzor; Moscow Zoo
2. Improving legislation			
2.1 To develop, approve & implement regional programs on the Amur Tiger Conservation Strategy for Russia.	• Primorsky Regional Program for the Implementation of the Amur Tiger Conservation Strategy for Russia. • Khabarovsk Regional Program for the Implementation of the Amur Tiger Conservation Strategy for Russia.	2011-2015	Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs
2.2 To ensure legal protection of Amur tiger habitats within cedar pine/ broad-leaved & oak forests.			
2.2.1 To add Korean cedar pine to the List of Tree & Bush Species Prohibited for Logging.	• Draft decree of the Russian Government on introducing amendments & additions to Decree No. 162 that was approved by the Russian Government on 15 March 2007.	2010-2012	MoNR; Rosprirodnadzor; WWF

2.2.2 To restrict logging within Amur tiger habitats in those forests containing Korean cedar pine.	• Draft order of the Ministry of Agriculture on introducing amendments to Paragraph 12 of the Regulations for Logging that were approved by the Order of the Ministry of Natural Resources, No. 184 of 16 July 2007, by changing the part referring to the Korean cedar pine to the following wording: "With the exception of cutting down dead or damaged trees, it is not permitted to log those forests that consist of 30% or more Korean cedar pine trees, or those forests that consist of 20% Korean cedar pine trees in case of equal or less presence of each of any other dominant tree species in the stand's composition." • Draft order of the Ministry of Agriculture on introducing amendments to Paragraph 51 of the Regulations for Logging that were approved by the Order of the Ministry of Natural Resources, No. 184 of 16 July 2007 by adding the following wording: "When clear-cutting is conducted, Korean cedar pine & Manchurian nut trees should be left within seed stock trees, tree groves & forest strips." • Draft order of the Ministry of Agriculture on introducing amendments to Forest Management Guidelines that were approved by Order No. 31 of the Ministry of Natural Resources on 6 February 2008 by inserting guidelines on identifying nut forests, ie. those forests containing one or more Manchurian nut trees, forests that consist of 30% or more Korean cedar pine trees, or those forests that consist of 20% Korean cedar pine trees in case of equal or less presence of each of any other dominant tree species in the stand's composition.	2010-2012	MoNR; Rosprirodnadzor; WWF and other NGOs

2.2.3 To reduce the logging quota in mature oak forests found within Amur tiger habitats by updating the valuation of forests containing Mongolian oak, updating permitted quotas on logging Mongolian oak & incorporating the relevant changes in forest management plans & forestry regulations in Primorsky & Khabarovsk Regions.	• Forest management plans for Primorsky & Khabarovsk Regions. • Forestry regulations for Primorsky & Khabarovsk Regions.	2010-2012	Rosleskhoz; MoNR; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; WWF
2.2.4 To set aside specially protected forest areas within Amur tiger key habitats that are in line with Paragraph 3b of Article 102 of the Russian Forest Code & which are based on recommendations on how to exploit forests within tiger habitats that were developed by the Far East Forestry Research Institute.	• Set of documents required to set aside specially protected forest areas within key habitats of the Amur tiger. • Draft ministerial act regulating the setting aside of specially protected forest areas.	2010-2015	Rosleskhoz; MoNR; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; WWF
2.2.5 To extend rights & responsibilities of local governments to ensure forest fire prevention & to regulate those periods when individuals can visit forests.	• Amendments to the Federal Law On the General Principles of Organization of Local Government in the Russian Federation, No. 131-FZ of 13 October 2003, specifying the responsibilities of local governments to ensure the prevention of forest fires & to regulate those periods when individuals are allowed to visit forests.	2010-2015	Rosleskhoz; Primorsky & Khabarovsk Regional Administrations; WWF

2.2.6 To extend rights & responsibilities of local governments to ensure forest fire prevention & to regulate those periods when individuals can visit forests.	• Amendments to the Federal Law On the General Principles of Organization of Local Government in the Russian Federation, No. 131-FZ of 13 October 2003, specifying the responsibilities of local governments to ensure the prevention of forest fires & to regulate those periods when individuals are allowed to visit forests.	2010-2015	Rosleskhoz; Primorsky & Khabarovsk Regional Administrations; WWF
2.2.7 To establish a comprehensive list of regional protected area categories in the Russian Federation & their respective special protection regimes in order to ensure the conservation of Amur tiger habitats & to optimize the existing system of regional protected areas.	• Draft laws of Primorsky, Khabarovsk & Jewish Autonomous Regions on introducing amendments into their respective legal acts on protected areas of regional importance. • Draft laws of Primorsky, Khabarovsk & Jewish Autonomous regions providing for categories of protected areas, such as ecological corridors.	2010-2015	Primorsky, Khabarovsk & Jewish Autonomous Regional Administrations; WWF
2.2.8 To develop guidelines for calculating the monetary value of damage to animal species listed in the regional Red Data Books & their habitats.	• Draft Guidelines for Calculating the Monetary Value of Damage to Animal Species Listed in the Regional Red Data Books & Their Habitats.	2012-2015	Primorsky & Khabarovsk Regional Administrations
2.3 To ensure legal safeguards are in place in order to maintain healthy populations of tiger food prey items.			

2.3.1 To develop a strategy & action plan for game management within Russia.	• Draft strategy & action plan for game management within Russia.	2010-2013	MoNR
2.3.2 To develop strategies & action plans for game management within Primorsky & Khabarovsk Regions.	• Draft strategies & action plans for game management in Primorsky & Khabarovsk Regions.	2012-2015	Primorsky & Khabarovsk Regional Administrations
2.3.3 To ensure the maintenance of healthy populations of tiger prey items that take into account the needs of hunters.	• Amendments to regulations & quotas that take into account the need to maintain healthy populations of prey items for tiger.	2010-2012	MoNR; Primorsky & Khabarovsk Regional Administrations
2.3.4 To introduce a system of differentiated hunting quotas for ungulates.	• Amendments to relevant articles of the Russian Administrative Code.	2010-2013	WWF; Rosprirodnadzor
2.3.5 To introduce a ban on the hunting of ungulates within their breeding areas or in those areas where ungulate population numbers have declined drastically.	• Relevant draft decrees made by respective regional administrations.	2010-2013	MoNR; Primorsky & Khabarovsk Regional Administrations; WWF and other NGOs
2.3.6 To reduce negative impacts of forest logging on Amur tiger & ungulate populations by making it obligatory for lessees of forest plots (specifically unlimited lease agreements) to include a special section, entitled “managing forest tracks”, within the “construction & exploitation of forest infrastructure” part of their forest development plans. This is to ensure that forest tracks are blocked off with barriers & are closed down after logging has been completed.	• Relevant amendments to forest development plans. • Relevant amendments to plans for construction & exploitation of forest infrastructure that would ensure the inclusion of a special section on managing forest tracks & their closing down after logging has been completed.	2010-2020	MoNR; Rosleskhoz; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; WWF and other NGOs

2.3.7 To establish a buffer zone adjacent to the Ussuriysky Federal Nature Reserve that restricts certain types of land use from taking place within Amur tiger habitats.	• Draft Decree of the Russian Government on establishing a buffer zone adjacent to the Ussuriysky Nature Reserve.	2010-2015	MoNR; Ministry of Justice (MoJ); Primorsky Regional Administration; WWF
2.4 To strengthen the combat against poaching & the illegal trade in tiger skins & other derivatives.			
2.4.1 To ensure that the provisions of Russian law are used to penalize individuals for processing illegally-obtained Amur tiger skins.	• Results of checking up on how the relevant law provisions are being used.	2010-2020	Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; WWF and other NGOs
2.4.2 To formulate regulations to penalize individuals & legal entities for providing space on the Internet in order to place announcements relating to the sale of Amur tiger skins & body parts & for purchasing illegally-obtained Amur tiger parts, as well as to penalize those individuals who place such announcements.	• Amendments to relevant articles in the Russian Administrative Code.	2010-2012	MoNR; MoJ; Rosprirodnadzor; Primorsky & habarovsk Regional Administrations; WWF and other NGOs
2.4.3 To enhance administrative penalties for killing Amur tigers by adding the storage & transportation of the Amur tiger, its body parts & derivatives to the list of activities subject to penalty, & also by increasing the size of penalties & providing for confiscation of any vehicle used for transporting tiger parts.	• Draft Federal Law on introducing amendments to Article 8.35 of the Russian Administrative Code (ie. Removal of Rare & Endangered Species of Animals & Plants) that provides for the inclusion of storage & transportation of the Amur tiger, its body parts & derivatives to the list of activities subject to penalty & increases the size of penalties for individuals – instead of “from 1,000 to 2,500 roubles”, it should read “from 2,000 to 5,000 roubles” & also allow for the confiscation of any vehicle used for transporting tiger parts.	2010-2012	MoNR; MoJ; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; WWF and other NGOs

2.4.4 To enhance penalties for the illegal removal & transportation of the Amur tiger, its body parts & derivatives over Russian customs borders by introducing the following amendments & additions to the Russian Criminal Code: • extend the term "Contraband" & the list of items & objects for which the transport across customs borders are prohibited • introduce penalties as for illegal hunting for the illegal transport of animals that are subject to a full hunting ban, as well as their body parts & derivatives. The latter amendment would be entirely in line with the requirements of Part 2 of Article 57, entitled On Penalties for Violating the Law Relating to Hunting & Conservation of Hunting Resources, of the Federal Law On Hunting & Conservation of Hunting Resources & on Introducing Amendments into Some Russian Legal Acts, No. 209-FZ of 24 July 2009.	• Draft Federal Law on introducing amendments to Part 2 of Article 188 of the Russian Criminal Code on smuggling that provides for the extension of the term "Contraband" & the list of items & objects for which the transport across customs borders are prohibited by adding the words "animals & plants listed in the Russian Red Data Book, their body parts & derivatives" immediately after the words "strategically important goods & valuable cultural objects which are subjected to special regulations for transporting across Russian customs borders." • Draft Federal Law on introducing amendments to Article 258 of the Russian Criminal Code that provides for penalties as for illegal hunting for the illegal transport of animals that are subject to a full hunting ban, as well as their body parts & derivatives.	2010-2011	
2.4.5 To formulate & approve Regulations of Trade of Products Derived from Obtaining Species Listed in the Russian Red Data Book.	• Draft Regulations of Trade of Products Derived from Obtaining Species Listed in the Russian Red Data Book.	2010-2015	MoNR

2.4.6 To empower all rangers (regardless of whom they are employed by) to be able to enforce antipoaching regulations.	• Draft regional laws on introducing amendments into relevant regional laws on administrative violations relating to protection, control & regulation of wild animal species & their habitats covered by Paragraph 14, Part 5 of Article 28.3 of the Russian Administrative Code. • Lists of officials empowered to draw up charges on administrative violations in accordance with regional legislation.	2010-2013	MoNR; MoJ; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations
2.4.7 To increase penalties for the unauthorized entry into hunting grounds whilst in the possession of firearms, traps & other hunting equipment, or accompanied by hunting dogs or falcons, or in the possession of a kill. In order to do this, the listed actions should be defined by the law as being considered as a part of hunting per se. In 2009, changes made to the definition of the term “hunting” made the carrying of unloaded or cased firearms during unauthorized entry into hunting grounds, or entry into hunting grounds during periods when hunting was banned, not subject to prosecution. This fact severely hindered the work of rangers in combating the poaching of ungulates.	• To introduce amendments to Paragraph 5 of Article 1 of the Federal Law On Hunting & Conservation of Hunting Resources & on Introducing Amendments into Some Legal Acts of the Russian Federation by stating that entry into hunting grounds whilst in possession of firearms, traps & other hunting equipment, or whilst in the company of hunting dogs or falcons, or whilst in possession of a kill or carrying a cased firearm when travelling on a public road are all defined as hunting.		

2.4.8 To ensure enforcement of Article 41 of the Federal Law On Hunting & Hunting Resources on Introducing Amendments into Some Legal Acts of the Russian Federation, specifically that part which relates to initiating charges against suspected poachers by rangers on behalf commercial game farms acting as legal entities or by individual entrepreneurs (eg. lessees of hunting grounds).	• Amendments to the Russian Administrative Code & regional administrative codes to empower rangers working on commercial game farms to initiate charges against suspected poachers. • Amendments to the lists of officials empowered to initiate charges against suspected poachers that add to these lists rangers working on commercial game farms.	2010-2011	MoNR; MoJ
2.4.9 To ensure strict control is exerted over those individuals who are repeatedly charged with violations against hunting regulations, to withhold permission from such individuals to possess firearms or to hunt, to ensure the registration of such individuals in databases & to provide for the efficient exchange of information to track repeat offenders.	• Regional databases on those individuals who violate conservation laws.	2010-2012	MoNR; Rosprirodnadzor; Tiger Special Patrol Team; Primorsky & Khabarovsk Regional Administrations; WWF and other NGOs
2.4.10 To define the unauthorized possession of a firearm as a crime.	• Amendments to the Russian Criminal Code defining the unauthorized possession of a firearm as being a crime.	2010-2012	MoNR; MoJ; Rosprirodnadzor; WWF and other NGOs
2.5 To enhance the interaction between nature resource users & conservation organizations in order to efficiently address sustainable nature management issues within the Amur tiger range.			

2.5.1 To ensure permanent interaction & information exchange between nature resource users & conservation organizations.	• Multi-party agreements between nature resource users & conservation organizations.	2010-2020	Rosprirodnadzor; Primorsky Regional Administration; authorities responsible for the protection & the control & regulation of the use of wild animals & their habitats in Primorsky Region; WWF and other NGOs
2.5.2 To ensure that the documentation relating to any construction project planned to take place within Amur tiger habitat is subjected to an environmental impact assessment.	• Draft federal law on introducing amendments & dditions to the Federal Law On Environmental Impact Assessment, No. 174-FZ of 23 November 1995 that provides for the carrying out of an environmental impact assessment on documentation relating to any construction project that is planned to take place within Amur tiger habitat. • State environmental impact assessment reports.	2010-2020	MoNR; MoJ; Rosprirodnadzor; WWF and other NGOs
2.5.3 To provide for independent environmental impact assessments to be carried out for any development project or other project using nature resources that may affect the Amur tiger population & its habitat.	• Independent environmental impact assessment reports.	2010-2020	Authorities responsible for the protection & the control & regulation of the use of wild animals & their habitats in Primorsky Region; Rosprirodnadzor; WWF; RAS;

2.5.4 To establish a group of experts to undertake environmental impact assessments (EIAs), including independent EIAs, where they relate to tiger conservation – the group would also incorporate members of the Working Group on Amur Tiger Conservation.	• List of experts.	2010-2011	Rosprirodnadzor; Tiger Special Patrol Team; RAS, WWF and other NGOs
2.5.5 To prepare a draft proposal on how to provide tax advantages to those legal entities & individuals who make donations towards the conservation & rehabilitation of biodiversity within the Primorsky & Khabarovsk Regions.	• Draft proposal on providing tax advantages to legal entities & individuals	2010-2011	Primorsky & Khabarovsk Regional Administrations
3. Improving the protected area network			
3.1 To establish an effective & functional protected area system within the Amur tiger's range			
3.1.1 To incorporate proposed protected areas of varying categories within the Federal Protected Area Spatial Plan in order to ensure that the most important habitats for both the Amur tiger and its food source are protected.	• Draft Federal Protected Area Spatial Plan that incorporates both newly-proposed federal protected areas as well as extensions to existing protected areas within the Amur tiger's range.	2010-2012	MoNR; Rosprirodnadzor; WWF

3.1.2 To incorporate proposed protected areas of varying categories within regional protected area spatial plans in order to ensure that the most important habitats for both the Amur tiger & its food source are protected & to also incorporate tiger conservation objectives within the regional spatial development plans for Primorsky & Khabarovsk Regions.	• Draft regional protected area spatial plans that incorporate proposed regional protected areas falling within the Amur tiger's range.	2010-2011	Primorsky & Khabarovsk Regional Administrations; WWF
3.1.3 To ensure the effective functioning of the Kedrovaya Pad Federal Nature Reserve & Leopardovy Federal Nature Refuge by drawing up management plans for both protected areas, with the necessary funds being allocated from the federal budget.	• Management plan for Kedrovaya Pad Federal Nature Reserve. • Management plan for Leopardovy Federal Nature Refuge. • Necessary funding allocated from the federal budget.	2010-2012	MoNR; Kedrovaya Pad Federal Nature Reserve; WWF and other NGOs
3.1.4 To establish a single protected area (called the 'Leopard Land National Park') that would incorporate both the Kedrovaya Pad & Leopardovy protected areas, as well as a necessary expansion in size of the total area under protection.	• Draft set of documents necessary for establishing a single protected area (called the 'Leopard Land National Park') that incorporates both the Kedrovaya Pad & Leopardovy protected areas, as well as a necessary expansion in size of the total area under protection. • State Environmental Impact Assessment statement for the documentation on the proposed establishment of the 'Leopard Land National Park'. • Development & Management Plan for 'Leopard Land National Park'.	2012-2013	Kedrovaya Pad Federal Nature Reserve; WWF and other NGOs

3.1.5 To improve protection in the Ussuriysky Federal Nature Reserve by: • granting to its rangers all the rights of state inspectors • establishing a buffer zone adjacent to the Reserve that restricts certain types of land use • securing UNESCO Biosphere Reserve status for both the core Ussuriysky Federal Nature Reserve & the adjacent buffer zone that would also incorporate parts of the Orlinoye State Experimental Hunting Management Unit & the Training/Experimental Forestry Management Unit belonging to the Rosleskhoz	• Draft decree on establishing a buffer zone adjacent to the Ussuriysky Federal Nature Reserve. • Set of documents necessary for securing UNESCO Biosphere Reserve status for both the core Ussuriysky Federal Nature Reserve & the adjacent buffer zone that would also incorporate parts of the Orlinoye State Experimental Hunting Management Unit & the Training/Experimental Forestry Management Unit of the Rosleskhoz	201-2015	MoNR; Rosleskhoz, Ussuriysky Federal Nature Reserve; Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs
3.1.6 To establish a federal protected area that would preserve traditional forms of land use along the Bikin River.	• Set of documents necessary for proclaiming a federal protected area along the Bikin River. • Draft decree of the Russian Government on establishing a federal protected area along the Bikin River.	2010-2015	MoNR; Primorsky & Khabarovsk Regional Administrations; WWF
3.1.7 To establish a regional nature refuge (zakaznik) within the Strelnikov mountain range in Primorsky Region as a form of compensation for the building of a pipeline between Khabarovsk & Vladivostok.	• Set of documents necessary for proclaiming a regional nature refuge (zakaznik) within the Strelnikov mountain range in Primorsky Region. • Draft decree of the Governor of Primorsky Region on establishing a regional nature refuge (zakaznik) within the Strelnikov mountain range.	2011-2015	Primorsky Regional Administration; WWF

3.1.8 To establish the Solnechnye Gory & Yuzhno-Primorsky nature parks in Primorsky Region.	• Set of documents necessary for establishing the Solnechnye Gory & Yuzhno-Primorsky nature parks in Primorsky Region. • Draft decrees of the Governor of Primorsky Region on establishing the Solnechnye Gory & Yuzhno-Primorsky nature parks.	2011-2015	Primorsky Regional Administration; WWF
3.1.9 To establish regional protected areas (nature parks) in the Samarga River basin	• Set of documents necessary for establishing nature parks in the Samarga River basin in Primorsky Region. • Draft decrees of the Governor of Primorsky Region on establishing nature parks in the Samarga River basin.	2011-2015	Primorsky Regional Administration; WWF
4. Increasing the effectiveness of Amur tiger conservation outside of protected areas			
4.1 To develop an integrated Amur tiger habitat protection system takes into account their ecological importance to the tiger population.			
4.1.1 To identify the most important natural features for both the tiger and its prey (eg. natural salt licks) in order to give them protected status, eg. introduce land use restrictions within the most important tiger habitats, including logging restrictions amongst others.	• Analytical review of Amur tiger population status based on results of the 1995/96 & 2004/05 censuses. • Proposals for an integrated system for protecting Amur tiger habitats that takes into account the habitats' ecological importance to the tiger population.	2010-2012	MoNR; Rosprirodnadzor; RAS, WWF and other NGOs

4.1.2 To establish ecological corridors of regional importance that link those protected areas within key tiger habitats which employ management regimes that reduce the effects of negative impacts, such as clear-felling & road construction, on tiger habitats.	• Proposed system of ecological corridors of regional importance. • Set of documents necessary for establishing ecological corridors of regional importance linking protected areas in key tiger habitats. • Draft decrees of the Governors of Primorsky & Khabarovsk Regions on establishing ecological corridors of regional importance.	2011-2020	Primorsky & Khabarovsk Regional Administrations; WWF and other NGOs
4.1.3 To develop a management plan for an ecological corridor that links the main Amur tiger population in Sikhote-Alin with the isolated population in south-west Primorye.	• Draft management plan for the ecological corridor.	2011-2015	Primorsky Regional Administration; RAS, WWF and other NGOs
4.1.4 To develop a management plan for an ecological corridor that links the Amur tiger populations in south-west Primorye & the Pogranichny Range.	• Draft management plan for the ecological corridor.	2011-2015	Primorsky Regional Administration; RAS, WWF and other NGOs
4.1.5 To enhance the control & supervision over the implementation of responsibilities that have been delegated to regional authorities concerning forest utilisation, protection, conservation & the planting of forests.	• Results of auditing conducted by special authorities of Primorsky & Khabarovsk regions on the protection, control & management of wild animals & their habitats & on forest utilisation, protection, conservation & the planting of forests on how the responsibilities delegated to the regional authorities are implemented.	2010-2020	MoNR; Rosprirodnadzor

4.1.6 To enhance fire prevention the ability to combat forest fires within Amur tiger habitats.	• Alarm system is developed. • Local residents are trained. • Anti-fire infrastructure is improved.	2010-2015	Rosleskhoz; Ministry of Emergency (MoE); MoNR; Rosprirodnadzor; WWF and other NGOs
4.1.7 To ensure the rehabilitation of damaged Amur tiger habitats through a special program of forest restoration.	• Action plan on forest restoration.	2010-2020	Rosleskhoz; MoNR; Rosprirodnadzor; WWF
4.1.8 To provide for the construction of special wildlife crossings across highways to reduce incidences of wild animals being run over by vehicles.	• Projects for constructing wildlife crossings (underpasses & overpasses).	2012-2015	MoNR; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; WWF
4.2 To ensure non-destructive nature resource use within Amur tiger habitats that has minimal impact on the environment & the Amur tiger.			
4.2.1 To introduce through voluntary forestry certification, as stipulated by the Forest Stewardship Council (FSC), sustainable forestry practices within tiger habitat covering an area of no less than 3 million hectares and to add tiger conservation to the list of effectiveness indicators within the voluntary forestry certification scheme.	• Proceedings of workshops. • Mechanism for introducing sustainable forestry practices is developed. • Action plan to help introduce voluntary forestry certification.	2010-2012	Rosprirodnadzor; Primorsky Regional Administration; RAS, WWF and other NGOs
4.2.2 To implement pilot ecotourism projects within Primorsky & Khabarovsk Regions as alternatives to other forms of economic development.	• Pilot ecotourism projects in Primorsky & Khabarovsk Regions. • Tours developed & advertised.	2012-2018	Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs

4.2.3 To create a 'safari-park' within tiger habitat in order to help develop ecotourism & to conduct scientific research.	• Draft set of documents necessary for establishing a 'safari-park'. • Draft regional act for establishing a 'safari-park'.	2011-2015	Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs
4.2.4 To create incentives for small business development in order to combat unemployment & so reduce poaching.		2011-2020	Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs
4.2.5 To develop a program & action plans that encourage amongst local residents non-destructive uses of nature resources that have minimal impact on the environment & the Amur tiger by: • involving local residents in ecotourism development within Primorsky & Khabarovsk Regions • supporting local residents in the development of businesses relating to sustainable forestry & game farming.	• Actions plans on the involvement of local residents in ecotourism development in Primorsky & Khabarovsk Regions.	2011-2015	Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs
4.3 To maintain high population numbers of Amur tiger prey species			
4.3.1 To develop a long-term federal program on restoring populations of wild ungulates within the Amur tiger's range that would include inter alia the provision of special care to ungulates during extreme winters with high snowfall & outbreaks of disease.	• Draft long-term federal program on restoring populations of wild ungulates within the Amur tiger's range.	2010-2012	MoNR; Rosprirodnadzor; RAS, WWF and other NGOs

4.3.2 To develop regional programs on restoring populations of wild ungulates within the Amur tiger's range in Primorsky & Khabarovsk Regions.	• Draft regional programs on restoring populations of wild ungulates within the Amur tiger's range in Primorsky & Khabarovsk Regions.	2010-2012	Primorsky & Khabarovsk Regional Administrations; authorities responsible for the protection & the control & regulation of the use of wild animals & their habitats in Primorsky & Khabarovsk Regions; RAS, WWF and other NGOs
4.3.3 To provide economic incentives to hunting management units where Amur tigers occur, including attracting investment & generating other forms of non-budget funding. This should include the testing of special game management practices aimed at increasing ungulate population numbers within pilot hunting management units.	• Reports on special game management practices that have been undertaken.	2012-2020	Primorsky & Khabarovsk Regional Administrations; authorities responsible for the protection & the control & regulation of the use of wild animals & their habitats in Primorsky & Khabarovsk Regions; WWF and other NGOs
4.4 To ensure veterinary monitoring of the Amur tiger population.			
4.4.1 To conduct thorough monitoring of wild animal populations &domestic animals & to screen all dead or captured Amur tigers & other predators for various diseases.	• Monitoring activities.	2010-2020	MoNR; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; WWF and other NGOs
4.4.2 To conduct thorough veterinary examinations of animals intended to be released back into the wild that are also accompanied by detailed risk assessments.	• Veterinary examination reports.	2010-2020	MoA; Primorsky & Khabarovsk Regional Administrations

4.4.3 To undertake a vaccination program for domestic pets & feral dogs & cats to prevent possible outbreaks of disease. Vaccinations must be carried out against the following diseases: viral feline leukemia, caliciviral infection, herpes, chlamydiosis, feline panleukopenia, feline rabies, leptospirosis, canine distemper, canine parvovirus & canine rabies.	• Vaccination program.	2010-2020	MoA; Primorsky & Khabarovsk Regional Administrations
4.4.4 To establish a centre within the Primorsky Agricultural Academy for conducting post-mortem examinations of dead tigers.	• Legal act establishing the Primorsky Agricultural Academy as the only centre in which post-mortem examinations of dead tigers are conducted.	2010	Rosprirodnadzor; MoA; Primorsky & Khabarovsk Regional Administrations; WWF and other NGOs
4.4.5 To provide training for local veterinarians in order to expose them to modern veterinary techniques relating to wildlife conservation.	• Training programs. • Seminars. • Trained experts.	2011-2020	Rosprirodnadzor; MoA; Primorsky & Khabarovsk Regional Administrations; NGOs
4.5 To improve the effectiveness of anti-poaching efforts.			
4.5.1 To conduct annual training courses for state wildlife conservation & protected area inspectors on registering law violations, inspection procedures & drawing up charges according to the Russian Administrative Code & to provide necessary training for newly-enrolled state inspectors as well as improve the qualifications of other inspectors.	• Reports.	2010-2020	Primorsky & Khabarovsk Regional Administrations; WWF

4.5.2 To ensure that perishable information on the illegal trade in tiger skins & body parts is collected timeously & with the help of local residents.	• Up-to-date intelligence. • Reports.	2010-2020	Tiger Special Patrol Team; Ministry of Internal Affairs (MoIA)
4.5.3 To identify incidences of transporting illegally-obtained Amur tiger parts by monitoring illicit markets in order to locate offers for Amur tiger skins on the Internet & through other forms of media.	• Up-to-date intelligence. • Reports.	2010-2020	Tiger Special Patrol Team; FCS
4.5.4 To block channels of illegal trade in & export of Amur tiger skins & other body parts in conjunction with branches of the Customs service.	• Up-to-date intelligence. • Reports.	2010-2020	Tiger Special Patrol Team; FCS; Primorsky & Khabarovsk Regional Administrations
4.5.5 To conduct multi-stakeholder meetings, workshops & seminars, as well as to provide other forms of dialogue between authorities, commercial companies & conservation NGOs, in order to discuss economic development plans & spatial planning so that the conservation needs of the Amur tiger are taken into account.	• Proceedings of meetings.	2010-2020	MoNR; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; Tiger Special Patrol Team; RAS, WWF and other NGOs
4.5.6 To prepare reviews on applying Russian administrative regulation practices for state wildlife conservation & protected area inspectors in order to raise their professional level & to improve the effectiveness of their work. The reviews would take into account changes in the law & court procedures.	• Review documents.	2010-2020	MoNR; Rosprirodnadzor; Tiger Special Patrol Team; Primorsky & Khabarovsk Regional Administrations; protected areas; RAS, WWF and other NGOs

5. Scientific research			
5.1 To produce a baseline database with information on the present-day distribution of the Amur tiger, its population dynamics, biology, ecology & habitat condition, as well as information on populations of the tiger's main prey species.	• Database structure. • Database interface. • Data entered into database. * The Tiger Special Patrol Team was designated as being responsible for maintaining this database by a special order of Rosprirodnadzor.	2010-2020	Tiger Special Patrol Team; RAS, WWF and other NGOs
5.2 To develop & implement scientific research programs on the following focus areas: • present-day distribution of the Amur tiger, its population dynamics & the mapping of tiger distribution to produce a baseline database • role of natural & human-related factors on the population dynamics & changing habitats of the Amur tiger • identification of key breeding sites for the Amur tiger • definition of the population structure of the Amur tiger using molecular genetics & other modern methods • gender, age structure & other demographic indicators of a population & also the spatial & temporal distribution of animals relating to gender, age & environmental factors (eg. studying spatial population structure, movement & spatial behaviour) • interaction between the Amur tiger & other predators • diet & food availability & the distribution & population dynamics of principal prey items in different parts of the Amur tiger's range • reproductive biology of the Amur tiger • veterinary examination of individual Amur tigers from the wild to monitor for diseases (eg. distemper, toxoplasmosis, pyroplasmosis, etc) • development of scientific-based methodology & a program for the rehabilitation & future release back into the wild of orphaned tiger cubs.	• Scientific research programs. • Reports on results of scientific research.	2010-2015	Tiger Special Patrol Team, RAS, WWF and other NGOs

5.3 To continue studies on the spatial & behavioural structure of the population using modern technologies & methods, including satellite tracking & remote sensing.	• Reports on results of scientific research.	2010-2015	RAS, WWF and other NGOs , Tiger Special Patrol Team
5.4 To continue studies on the impact of wildfires on ungulate populations in areas where numbers have dropped significantly and also on the restoration of Amur tiger habitats.	• Reports on results of scientific research.	2010-2015	RAS, WWF and other NGOs , Tiger Special Patrol Team
5.5 To continue studies on the genetic status of Amur tiger populations within its range in Russia using molecular genetics.	• Reports on results of scientific research.	2011-2020	RAS, WWF and other NGOs , Tiger Special Patrol Team
5.6 To continue studies on how tiger behaviour develops so that they become part of a methodology for rehabilitating orphaned tiger cubs.	• Draft guidelines for the rehabilitation of orphaned tiger cubs.	2011-2015	RAS; NGOs
5.7 To continue to develop approaches aimed at minimizing the risk of conflict arising between Amur tigers & humans.	• Reports on results of scientific research.	2011-2020	RAS, WWF and other NGOs
5.8 To continue studies & work aimed at building up a bank of genetic material that includes: • the development of a method for collecting the sex organs of recently-deceased tigers • the collection of gametes (ie. sperm & eggs), skin & muscle tissues from live animals using low-impact methods of sampling (eg. endoscopy, electroejaculation, biopsy).	• Reports on results of scientific research.	2011-2020	RAS; NGOs

6. Monitoring the Amur tiger population			
6.1 To establish a single centre that is managed by the Tiger Special Patrol Team for the storage & processing of monitoring data on the Amur tiger population.	• The Tiger Special Patrol Team has responsibility for developing & maintaining the monitoring centre for the Amur Tiger as stated in Paragraph 3 of the Ministry of Natural Resources Order No. 63 of 15 March 2003.	2010-2020	Rosprirodnadzor; Tiger Special Patrol Team
6.2 To improve the methodology for conducting censuses within the entire tiger range by using innovative methods that allow for more precise assessment of population numbers by adding inter alia the health condition of the population & the population's genetic structure to the list of parameters to be monitored.	• Monitoring results.	2010-2020	Rosprirodnadzor; Tiger Special Patrol Team
6.3 To standardize the methodology for counting ungulate populations within the Amur tiger's range.	• Standardized methodology for counting ungulate populations.	2011-2015	MoNR; Rosprirodnadzor; Tiger Special Patrol Team
6.4 To ensure the monitoring of Amur tigers within selected areas.	• Monitoring results, including those obtained using a new method applied within selected areas.	2010-2020	MoNR; Tiger Special Patrol Team; RAS, WWF and other NGOs
6.5 To establish a working group on the monitoring of the Amur tiger that would fall under the auspices of the Far East Rosprirodnadzor.	• Decree issued by the Far East Rosprirodnadzor on establishing a working group on Amur tiger monitoring & listing its membership.	2011	Rosprirodnadzor

6.6 To provide access to results of the monitoring programs through the Rosprirodnadzor website.	• Information on Rosprirodnadzor website.	2011-2020	Rosprirodnadzor
7. Preventing and resolving conflicts			
7.1 To maintain the population number of tiger prey items at a stable level that supports both the predators & the needs of hunters, whilst still remaining within the limits of maintaining a sustainable & healthy prey population.	• Results of censuses of tiger prey species (winter migration counts etc.)	2010-2020	MoNR; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; Tiger Special Patrol Team
7.2 To develop a mechanism for compensating owners of domestic animals (including reindeer farmers) for damage caused by tigers in those cases where the loss of domestic animals was not related to them being kept in unsafe conditions.	• Draft guidelines on compensating owners of domestic animals for damage caused by tigers. • Application form to enable farmers to apply for compensation.	2011-2020	MoNR; Rosprirodnadzor; Tiger Special Patrol Team; Primorsky & Khabarovsk Regional Administrations; WWF
7.3 To prepare an information handout that recommends certain human behaviour to follow when entering or living within Amur tiger habitats & when encountering a predator and to ensure that local residents & hunters (eg. when issuing hunting licences) are informed about recommended behaviour to follow when encountering a tiger in order to avoid conflicts from arising. In addition, to recommend conditions in which to safely house domestic animals.	• Information handout. • Information disseminated through TV & other media. • Information materials.	2010-2015	MoNR; Rosprirodnadzor; Primorsky & Khabarovsk Regional Administrations; WWF

7.4 To provide necessary equipment for the Tiger Special Patrol Team to drive away or capture & immobilize large predators & to ensure that the qualifications of staff are improved through special training programs.	• Staff of the Tiger Special Patrol Team are trained & necessary equipment is provided.	2010-2013	Tiger Special Patrol Team; WWF
7.5 To identify & introduce in practice the most efficient methods for driving tigers away & to ensure local residents living within tiger habitats are provided with self-protection devices (eg. pepper sprays, signal flares).	• Local residents equipped with self-protection devices.	2010-2020	Tiger Special Patrol Team; WWF
7.6 To undertake the radio-tagging of tigers.	• Report containing information on tiger movements.	2010-2020	Tiger Special Patrol Team; WWF
7.7 To ensure the establishment of an Amur Tiger Rehabilitation Centre that would look after & raise orphaned tiger cubs with the intention of eventually releasing them back into the wild as well as temporarily house captured tigers.	• Concept, work plan & budget for the establishment of an Amur Tiger Rehabilitation Centre. • Decree on establishing an Amur Tiger Rehabilitation Centre.	2011-2020	Rosprirodnadzor; Tiger Special Patrol Team; Primorsky & Khabarovsk Regional Administrations; authorities responsible for the protection & the control & regulation of the use of wild animals & their habitats in Primorsky & Khabarovsk Regions; WWF
7.8 To ensure that veterinary examinations are carried out on captured problem tigers, uniform post-mortems are conducted on deceased animals & standardized methods of collecting biological samples from captured & deceased animals & analysing them for possible diseases are employed.	• Post-mortem reports. • Standardized methods of collecting biological samples from captured & deceased animals & analysing them for possible diseases.	2011-2020	Rosprirodnadzor; Tiger Special Patrol Team; Primorsky & Khabarovsk Regional Administrations; authorities responsible for the protection & the control & regulation of the use of wild animals & their habitats in Primorsky & Khabarovsk Regions; WWF

8. Public awareness and education			
8.1 To promote amongst local residents a tolerance towards the tiger & an understanding of the need for its conservation & also to instill an understanding of the important role that Russia plays in conserving the world's population of the Amur tiger.			
8.1.1 To develop & carry out promotion campaigns for different target groups within the tiger range that are aimed at creating a positive image of the predator as a symbol of nature in the region	• Information disseminated through the media.	2010-2020	MoNR; Rosprirodnadzor; Tiger Special Patrol Team; Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs
8.1.2 To undertake the following activities: • to publish information in regional & district media on the tiger & its biology, ecology & habitat • to produce environmental radio & television programs on the Amur tiger, conduct competitions within the media for the best program & produce a series of educational programs on rare plant & animal species in Primorsky & Khabarovsk Regions • to develop & maintain a regional website on Amur tiger conservation • to produce & broadcast televised musical promos on Amur tiger conservation	• Information presented or published.	2010-2020	MoNR; Rosprirodnadzor; Tiger Special Patrol Team; Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs

8.1.2 • to educate local residents through radio & television about the damage caused by poaching & the efforts being employed to combat it • to place in the children's sections of district newspapers quizzes & answers on conservation • to produce films & videos promoting the conservation of rare & endangered species & to persuade film crews from the best federal, regional & foreign film & television companies, as well as school film-making clubs, to make amateur & professional documentaries & show them on local television • to develop, produce & distribute information & promotional leaflets, brochures, field guides, badges, stickers, postcards, souvenirs & other materials with an Amur tiger theme • to develop, produce & erect billboards, information boards & banners featuring either pictures drawn by children from local neighbourhoods or photographs taken by professional photographers • to place conservation messages on aircraft, ships & vehicles used for transporting both local residents & tourists • to promote Amur tiger conservation by placing advertisements in shops, restaurants & other food outlets • to organize a handicrafts competition with an Amur tiger theme • to illustrate in comic strip form recommendations on behaviours to follow when encountering a tiger & giving phone numbers to call in case of incidents or environmental crimes.	• Information presented or published.		

8.1.3 To liaise regularly with the local media (municipal & district), including the electronic media, make available popularized information on a regular basis & provide opportunities for feedback by conducting discussions, surveys, contests, quizzes, etc.	• Information distributed through the media.	2010-2020	Rosprirodnadzor; Tiger Special Patrol Team; Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs
8.1.4 To inform local residents about the fact that the Amur tiger is listed in the Red Data Books of Russia & the Primorsky, Khabarovsk, Amur & the Jewish Autonomous Regions and of the penalties that apply for illegally obtaining Amur tigers and their body parts & derivatives.	• Information materials.	2010-2011	Tiger Special Patrol Team; WWF
8.1.5 To present information to local residents on tiger ecology, the conservation needs of the tiger & its prey, the inadmissibility of poaching, the behaviour that people should follow when within the tiger's range & what to do when a tiger is encountered. The information should be presented by the environmental education & communication departments of protected areas.	• Publication of information through various protected area media. • Information placed on protected area websites. • Information available in natural history museums, visitor centres, outdoor information boards, etc.	2010-2020	MoNR; federal & regional protected area administrations; Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs
8.1.6 To develop eco-trails ('tiger trails') within national parks & nature reserve buffer zones that help promote conservation awareness amongst people living within the tiger's range.	• Information placed along ecological trails (eg. information boards, handouts, etc).	2010-2020	MoNR; federal & regional protected area administrations; Primorsky & Khabarovsk Regional Administrations; RAS, WWF and other NGOs

8.1.7 To establish, replenish & update exhibitions in nature museums & libraries that take into account current developments in museum & library management and use such methods as mobile & static exhibitions of photographs, artwork, children's drawings & projects, posters, essays & school projects, all on the theme of Amur tiger conservation & the role that the tiger plays in the cultures of indigenous peoples living in the southern part of the Russian Far East. To improve ways of interacting with visitors. To establish groups of volunteer lecturers within museums & libraries in order to raise awareness amongst people about the conservation needs of the Amur tiger.	• Up-to-date exhibitions in nature museums & libraries. • Groups of volunteer lectures	2010-2020	MoNR; federal & regional protected area administrations; Primorsky & Khabarovsk Regional Administrations; Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments; RAS, WWF and other NGOs
8.1.8 To organize educational programs for various age groups that focus on recommended human behaviour & rules for keeping domestic animals within the ranges of the tiger & other large predators, on fire safety in the forest & on survival in the taiga.	• Public awareness & knowledge about human behaviour & rules for keeping domestic animals within the ranges of the tiger & other large predators, on fire safety in the forest & on survival in the taiga.	2010-2020	Primorsky & Khabarovsk Regional Administrations; Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments; WWF

8.1.9 To conduct seminars & round-table meetings aimed at raising public awareness about legal regulations, including the Russian Criminal Code, so helping to combat environmental crime, including the shooting of rare & endangered species; to hold meetings between conservation authorities & local residents living within the tiger's range in order to explain those areas of the Russian Criminal Code that relate to illegal hunting & the regulations governing the removal of animals listed in the Russian Red Data Book.	• Information handouts on the conservation of the Amur tiger & its habitat.	2020-2020	MoNR; federal & regional protected area administrations; Primorsky & Khabarovsk Regional Administrations; Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments; RAS, WWF and other NGOs
8.1.10 To conduct sociological surveys to identify the attitude of various population groups towards the Amur tiger & its conservation & to inform the public-at-large about the results.	• Questionnaires. • Publicising of survey results	2020-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments
8.2 To ensure that environmental education & awareness activities on Amur tiger conservation are conducted for children.			
8.2.1 To incorporate current environmental issues into mandatory training courses for teachers.	• Programs for mandatory teacher training courses that include current environmental issues.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments
8.2.2 To incorporate environmental education programs which explain the ecological role of tigers in Ussuri taiga ecosystems into school curricula in the Primorsky & Khabarovsk Regions.	• School curricula.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments

8.2.3 To include issues on recommended human behaviour to follow when within the tiger's range in 'life safety' lessons that are given at those secondary schools in Primorsky & Khabarovsk Regions that are located within tiger habitats.	• School curricula.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments
8.2.4 To produce special guidelines, textbooks, programs & training aids relating to tiger ecology & conservation for schools.	• Special guidelines, textbooks, programs & training aids.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments
8.2.5 To erect educational boards with information on the ecology of the Amur tiger within schools.	• Information boards.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments
8.2.6 To organize the following environmental education activities within schools: • arrange a schools contest to develop an Internet-based environmental newsletter • organize a trade-fair for children's works that are themed on the Amur tiger • arrange for children's presentations & the screening of films made by children to be given at parents' meetings held at schools • provide support for children's environmental theatre/studios • arrange for the screening of documentaries on the Amur tiger & other Red Data Book-listed species for children & follow these up with discussions.	• Information provided.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments

8.2.7 To organize extra-curricular environmental education activities for children, such as summer camps, research expeditions, field schools & various environmental education projects, & to use role playing, contests & other forms of games.	• Information provided.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments
8.2.8 To organize an annual regional Day of the Tiger, district, city & regional olympiads, children's art & photographic competitions, festivals, celebrations, gatherings, etc.	• Information provided	2010-2020	Primorsky & Khabarovsk Regional Administrations; Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments; RAS, WWF and other NGOs
8.2.9 To create, using the Primorsky Institute of Advanced Training for Educators as a base, regional audio & video libraries on tiger conservation that can be used to: • produce & broadcast children's radio & television programs • produce & broadcast environmental games, fairytales & plays with Red Data Book-listed animals (including the Amur tiger) acting as main characters • inform the public-at-large through radio & television about the current state of the Amur tiger population, emergencies relating to adverse impacts on tiger habitats & actions being undertaken by authorities to address emerging threats against the Amur tiger • produce & distribute bulletins providing information on the monitoring of tiger populations • produce & distribute educational materials, posters, children's comics & information handouts all about the Amur tiger.	• Information provided.	2010-2020	Primorsky & Khabarovsk Regional Administrations; Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments; RAS, WWF and other NGOs

8.3 To ensure that educational & awareness-raising activities on Amur tiger conservation take place amongst students.			
8.3.1 To develop & introduce environmental programs into the curricula of universities & other higher education institutions & to organize lectures by representatives from conservation authorities & NGOs. To incorporate information on the conservation of the Amur tiger & other wildlife species living in the southern part of the Russian Far East into the curricula of universities in Primorsky & Khabarovsk Regions & to show video documentaries to students.	• Curricula of universities & other higher education institutions.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments; RAS, WWF and other NGOs
8.3.2 To organize special seminars, training courses, round-table meetings & science-into-practice conferences.	• Proceedings of special seminars, training courses, round-table meetings & science-into-practice conferences.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments; RAS, WWF and other NGOs
8.3.3 To publish student newsletters & bulletins on tiger conservation.	• Student newsletters & bulletins.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments; RAS, WWF and other NGOs

8.3.4 To organize activities for student conservation movements & volunteers.	• Activity reports.	2010-2020	Department of Education in Primorsky Region; Ministry of Education in Khabarovsk Region; district education departments; RAS, WWF and other NGOs
8.4 To provide basic & advanced training courses for experts in Amur tiger conservation.			
8.4.1 To organize seminars & training courses for game farm managers & lessees of hunting grounds in order to share best practices from pilot hunting management units.	• Proceedings of seminars & training courses.	2010-2020	Primorsky & Khabarovsk Regional Administrations

* – Abbreviations used:

AZA – American Zoo & Aquarium Association;
EAZA – European Association of Zoos & Aquaria;
EEP – European Program for Amur Tiger Breeding (Tiger Europäische Erhaltungszucht Programme);
EIA – Environmental Impact Assessment;
FCS – Federal Customs Service;
FSC – Forest Stewardship Council;
IUCN – International Union for Conservation of Nature;
MoA – Ministry of Agriculture, MoE– Ministry of Emergency;
MoES – Ministry of Education & Science;
MoFA – Ministry of Foreign Affairs;
MoIA – Ministry of Internal Affairs;
MoJ – Ministry of Justice;
MoNR – Ministry of Natural Resources;
NGO – non-government organisation;
RAS – Russian Academy of Sciences;
Rosprirodnazor – officially known as the Federal Supervisory Natural Resources Management Service;
SSC – **IUCN** Species Survival Commission;
SSP – North American Tiger Species Survival Plan;
UNESCO – United Nations Educational, Scientific & Cultural Organization;
WWF – World Wide Fund for Nature.