RECOMMENDATIONS TO REVERSE TRENDS IN THE AMUR TIGER POPULATION

The wild population of tigers, estimated at 100,000 tigers around 1900, has declined to as few as 3,000 individuals today, with four of the eight originally designated tiger subspecies having become extinct in the wild. While numbers plummeted almost everywhere else in the vast range of tigers in Asia, the Russian population showed a remarkable opposite trend. At the start of the 1940's the Amur tiger had been almost hunted to extinction in Russia with as few as 30 animals remaining. At this critical juncture the situation changed for the better when in 1947 Russia became the first country in the world to ban hunting of tigers. Hunting of the main prey species – ungulates – became restricted by an annual quota system. As a result of effective law enforcement, poaching of tigers became relatively rare and the Amur tiger made a remarkable recovery. In 2005 a full-range survey in Russia showed that the population had recovered to between 428 and 502 individuals (up from 415 to 476 in the previous 1996 count). Moreover, approximately 95% of the Amur tigers are part of one contiguous population, probably the largest in the world.

Amur tiger monitoring results

Due to the Amur tiger's extensive distribution, it is impossible to conduct range-wide surveys with sufficient frequency to effectively monitor changes in tiger abundance. Therefore a standardized annual monitoring program was designed, which is intended to act as an "early warning system" to signal rapid changes in population numbers.

This monitoring program includes 16 sample sites dispersed across the entire range of tiger habitat in Primorsky and Khabarovsky Provinces, totaling 23,555 km^2 (approximately 15-18% of suitable tiger habitat). Twice each winter 246 routes with a total length of 3,057 km are surveyed to assess changes in tiger numbers, cub production and relative prey densities. The program provides a statistical basis to assess trends in populations of both tigers and their prey.

Since the last full range count in 2005, the results of the annual monitoring program show alarming downward trends for both tigers and prey that can be summarized as follows:

- 11 of 15 (73%) sites show declining trends for red deer.
- 12 of 16 (75%) sites show declining trends for roe deer.
- 13 of 16 (81%) sites show declining tiger track densities.
- 13 of 16 (81%) sites show declining tiger densities based on expert assessments.

Factors leading to the decline in tiger numbers

Tiger and prey numbers are declining simultaneously and this indicates that shortage of prey is not the main factor driving the drop in the tiger numbers. Most likely both ungulates and tigers suffer directly from the same factor; increased poaching. Research over the past 15 years in Sikhote-Alin Nature Reserve has shown that natural deaths are rare among Amur tigers and that in fact approximately 60% - 85% are killed by poachers. It appears that poaching levels have now reached a point where tiger reproduction is no longer able to compensate for the losses.

Another threat to the stability of the population is the reduction in size and quality of habitat for tigers and their prey. This is largely due to logging in forests with high conservation value, and to fires and development projects, such as the construction of oil and gas pipelines.

The Amur tiger population reached its peak in the mid-1980s when all suitable habitat was occupied. A die-off of wild boar due to disease in 1983 and a fall in red deer and roe deer numbers due to exceptional snowfalls in 1985-1987 led to food shortages for tigers, forcing them into settllements in search of food, and of course also into confrontation with humans (according to official data alone 48 conflict tigers were shot). The population quickly began to recover, but opening of the border with China (1989-1991) led to intensive poaching to satisfy the demand for tiger parts in traditional Asian medicines (approximately 60 tiger skins and skeletons were confiscated during this period). Establishment of the anti-poaching brigade "Inspection Tiger" and provision of massive funding by conservation NGOs resulted in a stabilization of the population at 450-500 individuals.

During this time law enforcement agencies received a percentage of the fines and damage payments that resulted from their work from the State Ecology Funds, thus providing an effective incentive for good performance. Unfortunately, these State Ecology Funds were abolished in 2002.

Inspection Tiger lost its enforcement function in 2003 and in 2005 the Hunting Department was closed, resulting again in epidemic poaching in the forests.

Harsh winters with deep snow led to high ungulate mortality in south Khabarovsky Krai in 2006 and in northeast Primorye in 2009, resulting in increased human-tiger conflicts, more frequent poaching of tigers and even tiger mortality as a result of collisions with vehicle traffic. Annually up to 10 cases of human-caused tiger deaths or orphaned tiger cubs are being recorded.

In 2002 more than 1400 people were directly or indirectly involved in the protection of Amur tigers, their habitat and prey base. The provincial branch of the federal Ministry of Natural Resources employed 35 inspectors and Nature Reserves (zapovedniks) employed 100 inspectors. The Wildlife Management Agency of the Ministry of Agriculture employed 240 inspectors who were assisted by 200 game wardens from private hunting leases. In addition there were more than 1000 forest service inspectors and police officers assisted in forest patrols.

In 2009 funding and the number of inspectors was almost reduced by half – to 760 inspectors. In the Wildlife Management Agency 140 inspectors remained, including enforcement staff of provincial wildlife refuges. Game wardens of privatized hunting leases lost their enforcements rights, including the right to write up citations. Forest service field staff was reduced to 480 people – without the right to carry weapons or enforce the law.

Government wildlife management agencies suffered from three reforms with a peak in 2007-2008 when no more than 10-15 inspectors remained for the protection of wildlife in the Amur tiger's range, an area 20 million ha.

In 2009 the situation started to improve, but a new hunting law coming about to come into effect will lead to a prolonged period of reorganisation of wildlife management.

Logging rates in the Amur tiger's range have increased from 3 to 7 million cubic meters between 2000 and 2008. Control of logging operations by government agents is almost completely absent after 7 years of continuous forestry reforms, resulting in an increase of illegal logging 50%-60% above legal levels. "Sanitary" logging operations have been turned into massive commercial logging that destroys some of the forests most valuable in terms of biodiversity and watershed protection.

New demands have resulted in intensive logging of oak trees, depriving wild boar and sika deer of their staple food - acorns. The past 5 years have also shown an increase in logging of Korean pine

(with official exports growing from 130,000 to 186,000 cubic meters), because logging of this species is not prohibited and the limitations that were imposed in 1989 have been reversed by new forest management guidelines. Moreover, it is estimated that in reality more than 500,000 cubic meters of Korean pine is being logged annually, resulting in a decrease of the remaining volume by 27%. Because pine nuts are a primary food resource for many species of wildlife, including key prey species of tigers such as wild boar, these changes are of great concern.

Recommendations

To reverse the negative trends in tigers, their prey, and in habitat quality in the Russian Far East, a number of actions are recommended:

1. Resolve organizational and funding issues related to Amur tiger conservation
   - Speed-up the revision of the federal Amur Tiger Conservation Strategy and develop a federal program for its implementation.
   - The Administrations of the Primorsky and Khabarovsky provinces should develop concrete plans for the conservation of the Amur tiger and its habitat.
   - Solve organisational and financial issues that frustrate adequate functioning of Inspection Tiger, establish under Inspection Tiger a governmental Amur tiger monitoring center and allocate annual government funding for monitoring.
   - Funding by the Primorsky and Khabarovsky provinces for the conservation of Red Book species should be increased from the present hundred thousand roubles to a level required (millions of roubles).
   - Initiate talks for the development of a Russian-Chinese Amur tiger conservation program, including the establishment of a transboundary nature reserve in the Strelnikov Mountain Range in Russia and nearby Wandashan Mountains in China.

2. Facilitate the protection of Amur tiger habitat
   - Immediately return Korean pine to the list of tree species for which logging is prohibited.
   - Limit logging of mature oak stands.
   - Federal agencies should strictly supervise planning and implementation of sanitary logging in Amur tiger habitat, with a full logging ban in protected forests, especially in pine nut production zones.
   - Logging plans should include a road management plan and after logging operations have been discontinued the logging companies should be obliged to close logging roads that do not connect villages or towns.
   - Establish a full logging ban in wildlife refuges (zakazniks) in Amur tiger range (namely the Birskiy, Mataiskiy, Taezjniy, Upper-Bikin and Leopard Wildlife Refuges).

3. Complete the development of a network of protected areas in Amur tiger range
   - Establish a federal territory for traditional resource use on the Bikin river and provide UNESCO *World Heritage* status to the system of protected areas on the Bikin and Khor rivers in the Primorsky and Khabarovsky Provinces.
   - Create a protected buffer zone along the border of Ussuriisk Nature Reserve that includes the adjacent multiple-use area "Orlinoe" and the Scientific-Experimental Forestry area of the Russian Ministry of Agriculture and obtain UNESCO Biosphere status for the reserve and this buffer zone.
   - Establish a wildlife refuge (zakaznik) in the Strelnikov Mountain Range in Primorsky Krai as compensation for construction of the East-Siberian–Atlantic Ocean oil pipeline

and the Khabarovsk-Vladivostok gas pipeline, and use the refuge as a starting point for an agreement with China on the foundation of a transboundary protected area.

- Urgently facilitate adequate functioning of the combined protected area that consists of the Kedrovaya Pad Nature Reserve and the federal Leopard Wildlife Refuge, and subsequently use it as a basis for development of a Russian-Chinese-Korean transboundary reserve.

4. Make the following modifications to Russia's federal legislation in order to strengthen the fight against poaching:
   - Make possession and transport of tiger derivatives illegal and punishable (i.e. add to article 8.35 of the Administrative Code of the Russian Federation "Destruction of rare and endangered fauna and flora" after "or capturing, collecting, keeping, obtaining" the words "possession and transport").
   - Develop and approve regulations that stipulate that illegal storage and transport of skins and other parts of tigers in the territory of Russia will be treated the same as illegal hunting of species in the Red Data Book of the Russian Federation
   - Make the illegal export of wildlife derivatives a criminal offense. (Expand paragraph 2 of article 188 of the Criminal Code of the Russian Federation on Contraband and include derivatives of Red Book species in the contraband list presently consisting of weapons, narcotics, and goods of strategic importance and cultural value).
   - Increase the administrative punishments for poaching of Red Book species. (Make amendments in article 8.35 of Administrative Code of the Russian Federation "Destruction of rare and endangered fauna and flora", to increase the maximum fine for private citizens from 200,000 to 500,000 roubles and also add a provision for the confiscation of transport means (vehicles) used for transport of illegal goods).
   - Increase to the level of criminal offense illegal hunting of rare and endangered species. Include this change and add to article 258 of the Criminal Code of the Russian Federation "Illegal hunting" as a separate adequate cause for increasing fines for illegal hunting of birds and animals, including illegal hunting on protected territories, and during periods of ecological catastrophes.
   - Return to game wardens of hunting leases the right to draw-up citations for hunting violations. .
   - Institute a buffer zone of no less than 1 km. around nature reserves (zapovedniks) within the range of Amur tiger's and restrict natural resource use in this zone.
   - The minimum fine for poaching of ungulates should be considerably increased.
   - Firearms (including registered ones) that are used for poaching ungulates, rare and endangered species, as well as firearms that are illegally carried into protected areas, should be confiscated permanently.
   - Institute strict measures for multiple violations of hunting regulations, including rescinding permits for hunting and possession of firearms. Maintain a database of poaching that is effectively exchanged between appropriate governmental agencies to assist in apprehending offenders with multiple violations

Note: These recommendations have been developed and agreed upon by the following organizations and individuals:

World Wide Fund For Nature (WWF)
Wildlife Conservation Society (WCS)
Phoenix Fund
International Fund for Animal Welfare (IFAW)
Zoological Society of London (ZSL)