



**Progress report to**

**21st Century Tiger**

**for the project**

**Amur tiger conservation in China**

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***Introduction***

This report describes the progress made with conservation activities implemented by WCS China in co-operation with the Hunchun Reserve, Jilin Province, China. The contents of the report are:

1. Equipment purchased
2. Social Survey
3. Education and awareness
4. Compensation of livestock kills
5. Conservation network
6. Population monitoring
7. Discussion

The report includes information on related activities by WCS China that were not financed by 21st Century Tiger.

The paragraph on livestock kills is based to a large extent on an unpublished paper by Liu Yu who made a study of the subject with assistance and financial support from WCS. We also used information from an unpublished paper Liu Yu on tiger monitoring and a paper by Wu Yue on ungulate monitoring. We would like to thank Liu Yu and Wu Yue for allowing us to use information from their papers.

The photographs in the report were made by WCS and the Hunchun reserve staff.

***1. Equipment purchased***

The following purchases have been made (as described in the project proposal):

- A digital camera. Photos made with this camera will be provided by e-mail to 21st Century Tiger.
- A multi-media projector which is now used by the reserve for education purposes and during meetings, such as the official launch of the compensation project<sup>1</sup>.
- 20 sets of performance clothes used for education activities in villages

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<sup>1</sup> WCS China did not receive 21st CT promotion materials. Stickers with the 21st CT logo could be put, among other things, on the projector.

## 2. Social Survey

In spring 2004 WCS China had a social survey conducted in villages inside and near the Hunchun reserve. The survey was designed and carried out with the assistance of university staff and students. The survey provided a number of striking results. The overall conclusion is that a lot of work still needs to be done to improve the attitude of the local villagers towards the reserve and the large cats that inhabit it. In various villages between 62% and 73% of people that participated agreed with a statement that tigers and leopards need to be protected so that our children can still see them. But at the same time a majority (51%-56%) state that they are not *at all* proud of living in a reserve with tigers and leopards. Seventy-five percent fully agree with a statement that the reserve was established without considering the interests of local people, and 49%-54% (strongly) agree with a suggestion to abolish the reserve while only 24%-25% (strongly) disagree.

We hope that the awareness projects and the compensation payments for livestock kills will help to improve the attitude of local people. The survey will be repeated at least once every two years to measure changes in the attitude and opinions of the local population.

## 3. Education and awareness

The following activities included in the proposal were organised with funds provided by 21st CT:

1. Five issues (2000 copies per issue) of a black and white conservation newsletter were distributed in villages in and around the reserve. The newsletters are written, designed and printed by the reserve. WCS assisted only in the development of the first issue.
2. WCS and the reserve organised a training workshop for village leaders on 24 October 2004 in the office of the reserve. More than 50 leaders from various villages attended. During the workshop information about tigers, leopards and their conservation was provided to the village elders, who also discussed possible methods of diminishing wildlife-human conflicts with WCS and the reserve staff.



3. A training workshop for local teachers has not yet been organised. WCS is presently preparing this and it should take place in 2005. Two teachers from Hunchun attended a WCS teachers' training workshop in Shanghai from 4 to 8 December 2004; these two teachers will assist in organising the local workshop and will help to promote and assist conservation education activities in schools in Hunchun.

WCS organised a number of additional activities (not included in the project proposal) with the funds provided by 21st CT:

1. A “Model School” conservation education program. Schools that join the programme have to promise to organise a number of conservation activities and integrate conservation education into their daily lessons. WCS provides support in the form of information on conservation topics, education materials and teacher’s instructions and suggestions. WCS held a meeting recently in the Hunchun reserve office with the teachers from schools that participate in the programme. During the meeting the conservation education activities of teachers, the assistance the teachers require, and their plans for 2005 were discussed. Teachers who did very good work received rewards (about 20-40 dollars). Five schools have joined this programme so far.



2. WCS China translated the WCS education manual “Teachers for Tigers” into Chinese and requested funds from the WCS New York office for printing. Certain changes were made in the handbook to make it more suitable for a Chinese cultural context: a few education methods were removed or revised, and information on the important role of tigers in Chinese culture, and Chinese myths and legends about tigers, was included. WCS China plans to use the textbook during the teacher’s workshop in 2005 in Hunchun.

WCS China also implemented other education activities with funds provided by other sources:

1. A conservation performance team was set up in Hunchun Reserve in August 2003 with all the members coming from Hunchun Nature Reserve Conservation and Management Bureau. The team members received training during several months. They have performed in the major villages and towns and wherever they go, they receive a warm welcome from local residents. The performances include singing, dancing, opusculum and comic opera, etc. The team has handed out 300 T-shirts and over 2000 copies of booklets about reserve and conservation to people who successfully answer questions raised during the performance. During 2004 the team performed not only in 3 small towns and villages, but also made 4 performances for border troops in Hunchun.
2. Staff from the reserve’s Education Centre visited villages in the reserve where they showed videos about tiger conservation and held discussion about issues concerning the reserve and conservation.



3. An essay contest for school children was organised between April 1 and July 5. A total of 350 essays were selected from all primary and middle schools in Hunchun to attend in this contest. Twenty children received a first prize, 40 a second prize, and 40 an encouragement prize, while 20 teachers/schools received a reward for their involvement in the organisation of the contest. An award



ceremony was also organised on July 5, 2004 in hall of Hunchun reserve office. The prizes were mainly books, and the average value of the prizes was about US\$ 6.

4. A "Green" summer camp for students was held in 2003, but unfortunately the camp did not take place in 2004 due to bureaucratic obstacles. WCS expects that the camp can be organised in 2005.

#### 4. Compensation of livestock kills

On 27 June 2004 a ceremony was held in Chunhua town in Hunchun Nature Reserve to launch the compensation programme. Government officials from Hunchun and Yanbian autonomous state in Northeast Jilin attended and made speeches during the ceremony. In the past, before the reserve was established, livestock kills were not compensated for and we hope that the compensation payments by the reserve will help to increase its popularity among local villagers. Not only the livestock kills that took place after the start of the programme, but also the kills that took place since the reserve started documenting livestock kills in May 2002, have been compensated. Some of the villagers that suffered from livestock kills are very happy with the compensation they received, especially those who lost livestock a long time ago. Many of them had lost hope of receiving anything. However, not all the people are satisfied with the level of the compensation payments: in general the reserve compensates 40% of the estimated value of the livestock killed. Initially we aimed to compensate 70% of the costs of attacks on livestock, but the reserve favoured lower compensations. The reserve thinks that it is unlikely that Chinese authorities will finance compensations at a higher level than 40% in the future. A significant drop in the level of compensations (when authorities take over the financial burden from 21st CT) would lead to dissatisfied villagers and that is the opposite of what we want to achieve. We will therefore urge the authorities not to lower the level of compensation.



Tiger eating a cow, Jan 2004. Reserve staff made the photo with a camera-trap provided by WCS.

Our initiative to start a compensation programme attracted attention from the public and led to discussions about livestock kills within the provincial government. We have made clear from the start that our financial support for compensation payments is only temporary and we have been very adamant in our requests that Chinese authorities continue to compensate livestock kills when our funds have been used up. We are therefore happy that the Jilin government plans to issue a new regulation concerning government compensation payments in the very near future, though we fear that that compensation payment standards will not be very high and will

not cover all areas of the reserve. It is at least a start and we hope the government compensation programme will improve over time.

The table below provides an overview of livestock kills and compensation data. A more detailed table is provided as an appendix to this report.

Livestock kills made by tigers in and around the Hunchun Nature Reserve						
Period	cows	horses mules	Total animals	Number of incidents	Value**	Compensat.**
15 July - 31 December 2002	12	2	14	9	25.750	11.000
1 January - 31 December 2003	15	4	22*	18	27.500	10.800
1 January - 15 December 2004	26	7	33	32	57.875	23.550
<b>Total</b>	<b>53</b>	<b>13</b>	<b>69</b>	<b>59</b>	<b>111.125</b>	<b>45.350</b>

\* 2003: 15 cows, 4 horses, 2 dogs, 1 sheep

\*\* amounts in Chinese yuan (1 US\$ is approximate 8 yuan)

Students travelled with reserve staff to sites where attacks on livestock took place from June 2002 to July 2003 and from December 2003 to May 2004. In these periods they documented 31 incidents. Claims where a single livestock animal died form the majority. The number of livestock involved in the attacks varied from 0 to 4 (0 refers to 1 incident where a tiger unsuccessfully tried to enter a pen with pigs). Of the 31 incidents, 0 animals were attacked in 1 incident (3.23%), 1 in 19 (61.29%), 2 in 9 (29.03%), 3 in 1 (3.23%) and 4 in 1 (3.23%). A single animal or two animals were attacked in 28 claims (90.32%), which is a large majority of the total claims. Of the 19 claims where 1 animal was involved, 18 (97.74%) were fatal. Of the 9 claims where 2 animals were involved, 9 were fatal, but in 7 (77.78%) of these cases only 1 of the 2 animals was killed and eaten. Only in 2 attacks both animals attacked were killed (in one case the 2 animals killed were dogs). Of the 31 claims, 1 (3.23%) caused no injury, 2 (6.45%) caused injuries but no animal was killed, while a single victim died in 24 cases (77.42%), 2 died in 3 cases (9.68%), 3 and or more died in 2 cases (6.45%).

There are no livestock kill data available from the time before the establishment of the reserve, because these data were not systematically collected at the time. The reserve staff started to collect data on livestock kills in May 2002, about 5 months after the reserve was established in December 2001. Villagers were stimulated to report livestock kills, and we assume that the majority of kills found by villagers between had indeed been reported when the Jilin government authorities announced that compensation payments would be made shortly after the establishment of the reserve. However, the actual number of kills is probably considerably higher than the 69 kills included in the table, because some remains of kills may not have been found by villagers in time to prove the cause of death and because the motivation of villagers to report kills diminished when the government postponed compensation payments time and again until the first actual compensation payments were finally made in July 2004. No kills were reported from August to November 2003, whereas 15 kills were reported in the first 7 months of data collection between May and December 2002. This gap in reported kills does not mean villagers did not find kills; it is probably the result of a lack of willingness of villagers to report kills.



Reserve staff investigate every reported kill or attack on livestock. Staff members visit the site and take pictures of the site, pugmarks (if any), injured livestock and the remains of livestock killed. In many cases the staff determines the location with use of GPS (a map with livestock kill locations will be included in the final report).

All livestock are attributed to tigers. The most common livestock species are cattle and horses, and these animals are too large to be suitable prey for leopards. Pigs are held in pens close to houses, and sheep are not very common and are guarded by shepherds. Cattle are more common than horses and both livestock species are killed in correspondence to their availability (i.e. tigers do not seem to prefer one species to the other). Cattle and horses graze freely between March and November (when there is no snow cover, and the animals do not need to be fed) and often wander several kilometres from the nearest settlement. Tigers make few kills near settlements: of 22 livestock kills with exact known locations 17 occurred more than 3 km and only 2 less than 1 km from the nearest settlement.

The livestock kill data make clear that livestock form the main prey items for Amur tigers in and around the Hunchun reserve. It is difficult to determine exactly the ecological importance of livestock as tiger prey in this Russian-Chinese population, because the exact number of livestock kills and tigers is unknown and it is also unknown what percentage of time tigers spend on the Chinese side of the border. Based on the tiger monitoring data (see next paragraph) and livestock kill data we estimate that tiger food in this part of China consist for at least 60% of livestock kills. The large number of livestock kills is probably the result of very low densities of wild ungulates (see paragraph on population monitoring). Husbandry practices also play a major role: cattle and horses graze freely in forests and fields from March to November. During winter cattle and horses graze in large, unguarded fenced off fields and forest areas, to which tigers also have easy access.

## **5. Conservation network**

The reserve involves villagers from 13 villages in a “anti-poaching” team. In addition WCS and the reserve have involved villagers from 3 villages in education activities. The villagers from these 3 villages have been trained by both the reserve and WCS. The villagers involved in anti-poaching should report tracks of leopards and tigers and assist in the removal of snares. However, we do not have concrete information about activities and results of the AP activities of the villagers. We know that very few tracks have been reported by villagers to the reserve.



## **6. Population monitoring**

The livestock kills that villagers report to the reserve form a source of information on the presence of tigers. In addition the biology student Liu Yu has inspected reports of tiger tracks in snow. Based on this information he estimates that at least 5 tigers live at least part of the time on the Chinese side of the border. Encouraging was the discovery of tracks of a tigress with a single cub close to the Russian border in the central part of the reserve. Ungulate monitoring in the more remote northern part of the reserve, with similar methods similar to the methods used in Russia, indicate that ungulate numbers remain low and are much lower than on the Russian side of the border (unpublished paper by biology student Wy Yue). A map with livestock kill locations and track locations will be included in the final report.

## **7. Discussion and plans for the future**

WCS and the reserve have made good progress with the implementation of conservation projects in and around the Hunchun nature reserve. A positive sign the presence of a tigress with a single cub was documented in the reserve. It is worrying however that no tracks of leopards have been documented and that tigers seem to depend to a very large extend on livestock as a food source in and around the reserve. Wild ungulate populations remain suppressed and there is insufficient information available about the factors that cause this suppression. The low ungulate numbers are probably due to a combination of factors, including disturbances caused by logging and other human activities, competition for food with livestock and continued poaching, but additional research and information is needed.

WCS China would like to continue the education activities described in this report. Contributions to compensation payments will be discontinued when the funds made available for this purpose by 21st Tiger have been spent.