



WILDLIFE CRIME AND DETECTION IN BERBAK

Maintaining and Promoting Wildlife Crime Action
Network in Berbak National Park

2nd Six-Monthly Interim Report to 21st Century Tiger

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A. Executive Summary

The Wildlife Conflict and Crime Response Team (WCCRT) formerly known as the “Unit Penanggulangan Konflik dan Kejahatan Lingkungan” (UPKKL) has been designed to deal with tiger poaching, illegal trading and other human-wildlife conflict in the Berbak Ecosystem, Province of Jambi, Sumatra. It is a multi-stakeholder that has now consolidated its position within Jambi by including a stronger legal basis, under Memorandum of Understanding that now exists between ZSL Indonesia with Natural Resources Conservation Agency (BKSDA) Jambi. This MoU was further supported with the issue of a Decree from Head of BKSDA to the various Department heads of the each team member. This has cemented the role of the team and promoted joined-up management of the team. This will further elevate the position of WCCRT politically with other groups involved with dealing of human-wildlife conflict and environmental crime issues in Jambi Province.

In this reporting period, the WCCRT has been informed of and dealt with nine cases of wildlife-human conflicts, regarding Sumatran tigers. They have demonstrated their abilities as a rapid response team, investigating the causes of these conflicts and taken steps to mitigate and resolve any further human-wildlife conflicts.

B. Current Status of Work

1. Strengthening support for the Wildlife Conflict and Crime Response Team

During the ‘Conflict Management Unit and Environmental Crime (UPPKL)’ first year of operation in Berbak Ecosystem in 2010, it worked as an informal multi-stakeholder-based team with each of the member having individual legal basis to conduct the wildlife conflict and crime activities. In order to strengthen the legal aspects of the Wildlife Conflict and Crime Response Team (WCCRT), on the 23 August 2011 an Memorandum of Understanding between the Head BKSDA (Natural Resources



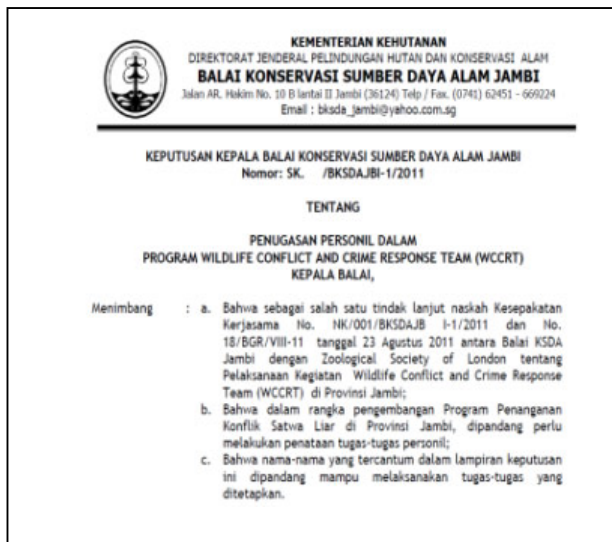
Picture 1. MOU signing ceremony on the Implementation of Wildlife Conflict and Crime Team between ZSL Indonesia and BKSDA Jambi Province on August 2011

Conservation Agency) for Jambi Province Ir. Tri Siswo Rahardjo M. Si with Dolly Priatna MSI representing the Zoological Society of London, Indonesia Programme was signed regarding the implementation of Wildlife Conflict and Crime Response Team (WCCRT). This legal recognition of the WCCRT as an entity is essential to promoting the smooth operation of the team in the field and to increase the support for team members in undertaking their roles in the WCCRT. This MoU also strengthens the position of WCCRT with other parties that deal with management of wildlife conflicts.

The Memorandum of Understanding states the scope of cooperation between the two parties (BKSDA Jambi and ZSL) in the implementation of Wildlife Conflict and Crime Response Team, includes the following aspects:

- a) Implementation of WCCRT operational activities carried out in the Berbak Ecosystems and Jambi Province;
- b) Developing a system to address wildlife conflicts and other environmental crimes, especially in the Berbak Ecosystem;
- c) The design and implementation of a pilot project for creating "Conservation-friendly Electric Fencing System" to create a way in which farmers can protect their crops from raining pigs but at the same time minimize potential risk to wildlife especially the Sumatran tiger;
- d) To address the capacity building of all members who joined in WCCRT through training related to wildlife conflicts field operations;
- e) Development of a MIST (*Management Information System for Tigers*) database management system for process and data analysis from patrol work results.

At the national policy level, this Memorandum of Understanding is legally supported by Ministry of Forestry Regulation No. 48/ 2008 on Guidelines for the Wildlife Conflict Management.



Picture 2. Decree of Head of BKSDA regarding the personnel assignment of the WCCRT

This MoU was followed up in early October 2011 by a Decree from the Head of the BKSDA Jambi concerning 'The Assignment Personnel of Wildlife Conflict and Crime Response Team'

The authority, responsibilities and duties of the WCCRT under the Decree are as follow:

- a) To fall under the over all responsibility of the Head of the Natural Resources Conservation Agency Jambi Province;
- b) To coordinate the cooperation of the wildlife conflict management between the WCCRT with relevant institutions;
- c) Provisioning the WCCRT with training related to wildlife conflict and investigation capacities, particularly the Sumatran tiger;
- d) The preparing of Standard Operating Procedures (SOP) documents for Tiger handling operations human -tiger conflict, which include inspection and risk assessment of human - tiger conflict, flow and analysis information, victim compensation, legal process, procedures for handling conflict, wildlife conflict handling equipment and supplies;

- e) To manage a database of environmental crime and conflict handling wildlife, particularly the Sumatran tiger using Data Base System - MIST (Management Information System of the Tiger);
- f) To respond and follow up rapidly wildlife conflict in the Berbak Ecosystem and surrounding areas;
- g) To create, strengthen, the function of local-level intelligence information networks throughout the Berbak ecosystem;
- h) To promoting and implement a pilot project ' low voltage and wildlife conservation-human friendly electric fence' to reduce or stop the wildlife conflict in agriculture areas, particularly for the Sumatran tiger;
- i) To undertake forest patrolling regularly in vulnerable areas of wildlife conflicts and potential threats
- j) To develop campaign materials on the existence and work results of WCCRT to disseminate the general public;
- k) To investigate wildlife crime, particularly the Sumatran tiger;
- l) To coordinate with the relevant parties in response to information about environmental crime that is received during the period of the project;
- m) To coordinating with other organizations dealing with wildlife conflict management operations

2. WCCRT Works in Responding Wildlife Conflicts

From February 2011 to the second reporting period, the WCRT has conducted nine cases of wildlife handling conflict activities these are described below chronologically.

February

From the 5th February 2011, the WCCRT attended a case where human victims were/ preyed upon Sumatran tigers in the Sungai Gelam Village Muaro Jambi District. The village is bordered by a single Acacia Timber Forest Plantation with several other companies working in Bayung Lincir South Sumatra Province.

The WCCRT Team found that on Wednesday February 2, 2011 a 52-year-old man (a forestry worker) was killed by a Sumatran tiger. Eye witnesses who saw the incident said that tiger appeared frightening the victim so he ran away from the tiger, the tiger pursued victim pounced on him killing him, once dead the victim was mauled by the tiger. The incident happened across the River Pering in a timber logging concession. Local residents reported people have regularly observed the presence of tigers here but few of these were reported. In January 2011, at least three encounters occurred with an adult tiger and two juvenile tigers seen together, passing around the village and surrounding agriculture areas.

In response to this incident and the subsequent stories that appeared in the local press on 10 February, the WCCRT and BKSDA Jambi facilitated a wildlife conflict prevention event to public audience in Jambi. The purpose of the activity was to conveying information about human wildlife conflict, highlighting to the wider community that this conflict was being addressed and to improve the reliability of information on how to deal with human wildlife

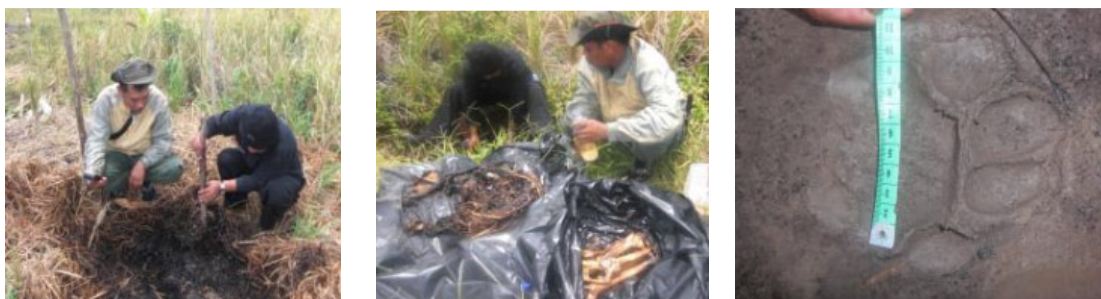
conflict thus reducing sensationalist press stories. Participants who attended the event included journalists from the press and electronic media, international and local NGOs and local government.

The results of the meeting and discussion forum are following:

1. The main cause of human wildlife conflict is the loss of the tiger's natural habitat for foraging, shelter and mating place for wildlife species. In Jambi Province, the are key drivers of human wildlife conflicts are Illegal logging, forest fire, forest encroachment, forest area conversion to subsistence and commercial agriculture both legal and illegal.
2. Steps need to be taken to proactively address the destruction and deforestation of natural forest. Solutions proposed included construction of Wildlife corridors to link forest areas through production landscape such as in palm oil concessions, government supported logging concessions and timber plantation; improved law enforcement; increased forest fire prevention and increasing local community participation for forest and wildlife conservation.

On 22ND February 2011, the WCCRT received the report that a tiger had died in the Air Hitam Laut Village, Tanjung Jabung Timur District, located in east coast of Berbak National Park. The Tiger death occurred on 16th February was a direct result of the tiger being electrocuted by a high voltage electric wire fence erected in the plantation area owned by local residents. As with other villages in the area Air Hitam Laut is heavily reliant on agriculture, including small scale palm oil and coconut plantation, so to protect their crops from pest such as wild pigs a 1.500 watt high voltage electrical wire fence was erected, to deter or kill these pests. This form of deterrent is extremely dangerous, for both humans and incidental wildlife. The use of electrical fences is increasing by farmers in the Sadu District in order to prevent pest pig attacks. Tiger that was killed was identified as approx 7-year-old adolescent weighing 70 kg and death was instantaneous from the electric shock received from the fence. This incident was the first of it's kind and due to the villagers in Air Hitam Laut knowledge of the penalties relating to tiger deaths from previous work with ZSL farmers, led to them trying to dispose of the corpse. other villager informed the WCCRT hotline what had happened.

On attending the scene WCCRT found tiger bones scattered across the field showing evidence of predation on some of the tiger bones by lizards (Biawak). The main body of the tiger had been burnt and left exposed in the field, this resulted in member of the community collecting body parts from the remains especially sections of the skin. Many of tiger bones were not found by WCCRT, including tiger's head. After conducting in-depth investigation, the missing tiger body parts were collected from the village including the head of a tiger which was buried under the house of the farmer, whose fence resulted in the tiger death.



Picture 3. The WCCRT was collected a field evidence of tiger killed by a high-voltage electric fence.

The WCCRT collected and confiscates 110 parts of bone, 8 dried sections of liver, 2 eye-teeth, 1 small sheet of tiger skin and 7 further pieces of tooth. All of which were deemed to have some form of medicinal or mythical properties. The WCCRT has also found Sumatra tiger footprints and observed an adolescent tiger in agriculture areas.

March

On 28th March 2011, the WCCRT responded to a second human wildlife conflict again in the Air Hitam Laut Villlage, Sadu Sub district. A second juvenile male Sumatran Tiger had been

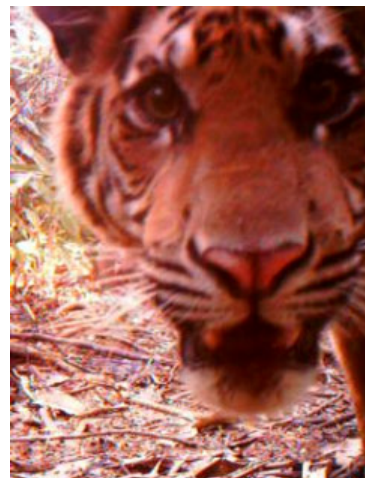


killed by a high-voltage electric fence in agriculture areas owned by local residents. As a result of the socialism after the first killing the WCCRT were immediately informed of the second incident. WCCRT personnel then evacuated the tiger to the Animal Laboratory in Jambi for an autopsy to confirm cause of death. Laboratory results confirmed that the Sumatran Tiger was killed by electrocution

Picture 2. Sumatran Tiger died by 1500 watt high voltage electric fence in

community agriculture areas.

Photo's and evidence from the laboratory allowed ZSL's Field Survey coordinator and tiger officer to confirm that the dead tiger was a 4 year old male tiger 'King Arthur'. This young tiger was one of the first tigers to be captured by ZSL's long term tiger intensity monitoring camera traps in Berbak National Pak in June 2010, video footage also recorded this young male on the hunt.



Since the tragic loss of these two young tigers WCCRT has met with a local resident to discuss alternative methods of pest control in avoiding similar incidents. Local residents

claimed that the use of high-voltage electric fence is the most cost effective and successful method and currently there is no alternative other way to prevent severe pig's pest attacks. Only in use the last 16 month it is being rapidly adopted by farmers in the Air Hitam Laut Village and by several others nearby villages experiencing similar problem pig's pests killing about 50 pigs per week. The meeting recorded at total of 13 farmers in Air Hitam Laut Village using these high voltage electric fencing wire.

The WCCRT, Berbak National Park Office and local community representatives in the meeting further agreed to investigate and promote implement a new methods in order to anticipate human-tiger conflict such as the installation of 'low-voltage and wildlife conservation and humans friendly electric fence wire . This electric fence has a pulsed electrical charge and only shocks the pigs. Therefore if the wire comes in to contact with the wildlife the contact will be unpleasant, but does not injure or cause fatalities for most wildlife. This method is quite effective, and less harmful to humans and wildlife.



Picture 4. The WCCRT was found part of Sumatran tiger body who killed by electric fence includes head, tooth, skin pieces, bones.

These cases have clearly demonstrate the need for further community conservation awareness activities to socialize and implement a pilot project 'wildlife conservation friendly electrical fence' and to address the issues of minimizing the use of these fencing and reduce human-tiger conflict in community agriculture areas. Sadly only a week after this meeting a local mother and daughter were walking in the fields and also received fatal injuries from coming into contact with these fences.

April and May

As well as patrolling activities the WCCRT responded to a report from a company on the presence of a tiger in their oil palm concessions, adjacent to the Grand Forest Park in Mekar Sari Village Kumpeh Ulu District. On 28th March 2011 a harvester saw a tiger running in the oil palm. On 29th March another female farm woman worker had a direct sighting of an adolescent tiger, when she was clearing in the oil palm plantation.



Picture 5. A community meeting in Air Hitam Laut Village to discuss for resolve human-tiger conflicts

Tiger sightings were also report in another concession from 30th April to 3rd May located Puding Village, Muara Jambi Sub-district. Located only 4 km from Berbak National Park, it has been has been operating since 2004. This concession boundary overlaps with the concession, where 'Salma' an alleged conflict tiger and man killer was caught in 2009. Tiger pug marks are regularly seen in this area .

As a result of this continued and high level of presence the likelihood of THC in high, so as to anticipate this WCCRT recommended to the plantation owners that an awareness campaign be started. This would socialise

human-tiger conflict management to employees, increasing awareness and alert employees on how to mitigate human-tiger conflicts.

The WCCRT concluded that it is highly likely that the tigers are coming from Berbak national park, as the high rain and water levels condition of the swamp in the park may have results in reduced hunting capabilities for the tigers. This lack of resource availability may have caused tigers to move towards the palm oil plantation, for foraging in the drier concession



Another WCCRT conclusion is facilitating the role of the private sector, as well as local community in human-tiger conflict prevention is essential, since many conflicts occur close to plantations, mining, agriculture land as well as close to human settlements.

June

The WCCRT attending no incidents of wildlife conflict but undertook regular patrolling activities.

July



On 14th to 16th July, 2011, the WCCRT undertook human-tiger conflict management socialization to palm oil plantation workers in plantation location nearby conservation area, such as Berbak National Park and Tanjung Grand Forest Park, results often is find wildlife species in the palm oil plantation, i.e. tigers and Sunbear. Agricultural workers are very vulnerable party to be victim in human-tiger conflicts and they have a great possibility to meet tiger in the company concession areas.

In socialization meeting, the field employees gained improved understanding about tiger and bear behaviour, way of determining and differentiates animal footprint, effort performed within avoiding conflict and procedure what which must followed in

August and September

In mid August until 22 September 2011, all members of WCCRT joined forces with fire fighting activities in the forested areas in Jambi Province, including key tiger habitat area in Berbak National Park.



Forest fire disaster in Jambi Province. All members of WCCRT involves in combating forest fire in key Sumatran tiger habitat, particularly in Berbak National Park

The wild fires surrounded one of Sumatra's key tiger habitats in Berbak National Park, Jambi, Sumatra, during August and September. They began with first hotspot being recorded in the 15th August 2011 in a small provincially protected conservation area called Grand Forest Area (TAHURA), situated in Sempojen Areas on the western boarder of the national park. In September, the forest fires included three hotspot locations inside Berbak National park, including Rantau Rasau Area, Cemara Area and ex-forest fire in 2007. However, fighting fires in and around Berbak was not as straight forward as other fires as the fighters had to deal with mostly peat fires. BKSDA Jambi Province, Berbak National Park Agency and community-based fighter's fire dedicated fires fighting team were on site and continued to fight the fires.

Because peat fires do not just burn like other forest fires, where trees and lianas provide most of the fuel for other forest fires, the peat itself burns with the fire moving underneath the forest and deep underground making it extremely difficult to extinguish. Underground fires are very hard to predict where the fire is moving, often with fires reappearing on the surface hundreds of meters away from the original fire hotspot. The combination of these factors make peat fires one of the most difficult types of fires to combat, often resulting with them burning out of control for several months. Fire fighting through the spraying water over the surface is less effective, because fire fighting must ideally be done through injection of water into the peat soil to reach the smouldering fire.

The central government provided support by seeding clouds to create artificial rain in Jambi Province for 2 days also to fund the and deployed helicopters to drop water bombs on the burning forest. This rapid assistance by central government was carried out concurrently with the working visit of President of the Republic of Indonesia to the province on 22nd to 24th September. Three combating fire teams with ZSL/21st Century Fires appeal support consisting of national park officials, community-based fire fighters and ZSL team monitored and extinguish the fire with located and remote inside the Park

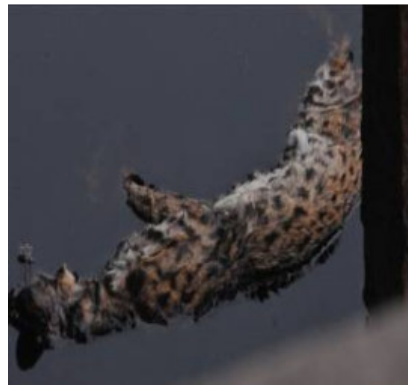
There were a total of 961 points hot spots in Jambi Province. While less the neighbouring provinces such as Riau and South Sumatra, the main focus of the Jambi fires was in the area closest to Berbak National Park. The WCCRT led by Mr. Nurazman had conducted monitoring of forest fires and their impact on wildlife in mid-September.

The WCCRT post-fire monitoring activities focused on areas around known tiger habitats Berbak National Parks and wildlife potential conflict areas, i.e. in palm-oil plantation owned, ex-timber concessions and Rantau Rasau Village. More than a thousand hectares of land were burned in a short-time period. The team reported that the underlying causes of forest fires is a long dry season and the culture of local people using slash and burn practices to open up agricultural land.

Prior to the occurrence of forest fires, these locations when there are being monitored by WCCRT often encountered wildlife species such as Sumatran tigers, jungle cat, clouded leopard and sun bear, through direct encounters, footprints or faeces. The ex-timber concession was the location where female tiger "SALMA" in 2009 was captured. Tiger habitat conditions in the area were destroyed by wild fire, except where the concession borders with palm-oil concession as a result of roads and canals forming a fire break.



Picture 8. Forest fire area during September 2011, include sumatran Tiger Habitat in palm oil concession



Picture 9. Member of WCCRT has found a leopard cat in the region where the Sumatran tiger habitat area was burned. This species is found dead and floating in a canal in the palm oil concession

Three surveyed sites were located 8-14 km Berbak National Park, approximated distance Sumatran tiger may move quickly to avoid the fires by moving towards the National Park. This was to determine if any Sumatran tigers were trapped by the fires and subsequently injured or killed. The team discovered the remains of a leopard cat or “Kucing Akar” (*Prionailurus bagelensis*) floating in the canal, which had been subject to such a fate. There have been concerns raised about the resulting long term damage that may have occurred to respiratory system of large wildlife, which may impair them well into the future after the fires have been extinguished.

Conclusion

Results and recommendation by WCCRT, that the forest fire in wildlife conflict vulnerable areas could increase the incidence of wildlife-human conflicts, due to the loss of key resources particularly

the Sumatran tiger, due to the decline in area and loss of habitat for foraging, mating and resting needs. Observation needs to be maintained in the former locations of fires, to detect the possibility of some wildlife species are burned to death, particularly Sumatran Tiger. Need for cooperation with the private sector and local community to participate in post-fire conflict prevention activities in Sumatran tiger habitat.

Appendix 1 - Table 1 details the case summaries of human- endangered species wildlife conflict from January until September on period 2011 in Jambi Province, including in Berbak Ecosystem Forest.

3. Develop and Review Standard Operating Procedure for WCCRT

Standard Operating Procedure (SOP) for WCCRT First draft SOP document has been compiled by WCCRT in this reporting period and is currently being reviewed by the line managers of each of the WCCRT members. The SOP document will detail comprehensively covers aspects inspection and risk assessment of the human - tiger conflict, flow and analysis information, database management, victim compensation, legal process, procedures for handling conflict, wildlife conflict handling equipment and supplies.

C. The Next Work Plan

The work plan will be finalized in the coming period include:

- a) Complete and publish Standard Operating Procedures on Human-Tiger Conflict Management
- b) Carry out community and government agencies workshops to build the Information and informants Berbak strengthened network across the region
- c) Facilitating the training for WCCRT members and community rangers (postponed due to fires)
- d) Continuing forest patrol the forest in the National Park Berbak
- e) Continuing actions necessary to respond to wildlife crime reports
- f) Conducting crime investigation

D. Expenditure

	Activities	Grant Allocation	Total spend Qtr 1 & 2	Money Remaining
Field responses	Berbak project Running motorbikes for ZSL team joining UPKKL	173	99	74
	Transport	188	107	80
	Investigation practice	375	200	175
	Detection equipment	406	250	156
	Field responses to information received	1050	700	350
Investigation work	Intelligence and information network costs	1469	839	629
	Coordination and institutional lobbying	179	100	79
	Sustained investigation /response costs	521	110	411
	Performance-related bonuses	625	119	506
Salaries	UPKKL team Wildlife crime / conflict liaison officer	1229	703	527
	Wildlife crime unit honorarium	3425	1957	1468
Training	Honarium during training	500	0	500
	Investigation review and training	174	0	174
	Support visits by PHSTKS rangers	285	0	285
	Training Community Ranger candidates	379	150	229
	Totals	10976	5334	5643

Please note all figures are in GBP

APPENDIX 1

TABLE 1. HUMAN – ENDANGERED SPECIES WILDLIFE CONFLICT IN JAMBI PROVINCE (JANUARY – SEPTEMBER 2011)

NO.	ANIMAL SPECIES	LOCATION	DATE	WILDLIFE CONFLICT DESCRIPTION	FOLLOW-UP EFFORT TO ADDRESS HUMAN-WILDLIFE CONFLICTS
1	Sumatran tiger	Air Hitam Laut Village, Tanjungbati District	16 February 2011	Tiger died by high-voltage electric fence.	Ground checks and evacuates carcass and conserves part of tiger body, takes geographical coordinate point and documentation of evidence. Proposal for implement 'low voltage and wildlife-human friendly electric fence' in agriculture areas. Tiger monitoring by camera trap in agriculture area
2	Estuarine Crocodile	Muara Danau Village Merlung District	21 February 2011	Crocodile into resident area in Muara Danau Village	Ground checks, takes geographical coordinate point and documentation of evidence. Planning and proposal for establishment a protected essential ecosystem areas.
3	Asian Elephant	PT. Timber Kerinci Agung, Palm Oil Plantation Bungo District	16 March 2011	Elephant into palm oil plantation	Chasing and coordination with local government
4	Sumatran tiger	Air Hitam Laut Village Tanjungbati District	21 March 2011	Tiger died by high-voltage electric fence.	Ground checks and evacuates carcass, visum et repertum, and conserves tiger body which still intact, takes geographical coordinate point and documentation of evidence. Tiger offset entrusted and secured in Berbak National Park office. Proposal for implement 'low voltage and wildlife-human friendly electric fence' in agriculture areas. Tiger monitoring by camera trap in agriculture area
5	Malayan bear	Lubuk Kambing Village Merlung District	28 March 2011	1 people local resident has injured. Bear pursues resident	Ground checks, but no found victim. Urge to resident in order not to alone if going garden
6	Cat leopard	Sungai tering Village Tanjungbati District	1 April 2011	Born child nearby resident settlement	Chasing and urge for resident to take a care
7	Sumatran tiger	PT. Puri Hijau Lestari Palm Oil Plantation.	1 April 2011	Tiger into palm oil plantation	Ground checks, tiger footprint exploring,, takes geographical coordinate point, documentation of evidence. Human-tiger conflict socialization

		Muara Jambi District				meeting with company employee. urge for worker to take a care in working
8	Sumatran tiger	PT. Ricky Kurniawan Kertapersada	1 May 2011	Tiger into palm oil plantation		Ground checks, tiger footprint exploring,, takes geographical coordinate point , documentation of evidence. Human-tiger conflict socialization meeting with company employee. urge for worker to take a care in working
9	Cat leopard	PT. Muaro Kahuripan Indonesia	14 September 2011	Cat leopard died caused by forest fire disaster.		Evacuates and documentation.