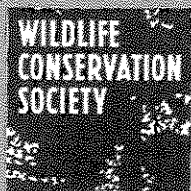




HUNTING AND WILDLIFE TRADE IN ASIA



*Proceedings of a strategic planning meeting of
The Wildlife Conservation Society (WCS) and TRAFFIC*

TRAFFIC

*Bali, Indonesia
August 2004*

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Back cover: Orchids for sale, Sunday market, Sabah, Malaysia; Siamese crocodiles *Crocodylus siamensis*, Vientiane Zoo, Lao PDR; Red-flanked lorikeets *Charmosyna placensis*, Medan, Sumatra, Indonesia; and Sumatran Tiger *Panthera tigris*, Medan Zoo, Medan, Sumatra, Indonesia (all by Chris R. Shepherd/TRAFFIC Southeast Asia)

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Each of these authors has contributed to the process of compiling the report; neither the workshop itself, nor the report, could have been done without the sterling efforts of every participant. I would like to thank them for their cheery and positive participation and collaboration throughout. Moving from a single-organization process to a dual-organization one inevitably presents challenges, but everyone saw that the problem of unsustainable wildlife trade in Asia is far bigger than all of us, that the opportunities presented by working together are considerable, and it is essential if we are ever to achieve successful conservation in the region. I thank everyone for their highly positive contribution to this process, and look forward to working together to developing these ideas further and implementing the action plans contained herein.

I would also like to thank warmly Rob Lee, R. Wianasari, Harry Alexander and Dwi A. Nugroho of the WCS Indonesia Program for organizing the meeting so well and efficiently, and with such good humor at all times.

Elizabeth L. Bennett
October 2004.

PREFACE

In April 2002, WCS staff working on hunting issues across Asia had a retreat outside Khao Yai National Park, Thailand, to discuss the escalating levels of hunting and wildlife trade across Asia, and WCS's responses to it. The meeting was highly successful, the core output being that we devised a strategy to address potential needs within each of the countries in which we work (focused on legislation, research, education and awareness, and capacity building), and also across the region. The resulting report was widely circulated (Bennett and Rao, 2002), and each of the WCS country programs across Asia has succeeded in implementing most of the recommendations contained therein in an extremely exciting way. We have also followed up on two other recommendations from the meeting: hiring a full-time person to work on turtle trade issues, and liaising more closely in the region with TRAFFIC.

These have all resulted in some major local successes, both in WCS's traditional realm at critical sites and, increasingly with partners, along core trade routes and in markets. International awareness of the problems is increasing, as illustrated by the recent resolution at the IUCN World Conservation Congress (Appendix I). In spite of that, the scale of the trade is increasing. The opening up of formerly-closed countries to become global market leaders is continuing, with resultant increases in wildlife trade across Asia. Traditional use of wildlife has turned into fashion, especially as urban wealth across the region continues to rise. Any of us who have lived and worked in the region for any length of time have seen wild areas which we know and love increasingly becoming silent as the wildlife disappears. The "empty forest syndrome" is now a reality in many forests across the region.

Thus, it was clearly time for WCS staff working on hunting in Asia to meet again, to build on the process started in 2002, and to devise a strategy for the next three years, within countries where we work and, increasingly, on a much more significant regional scale. In line with the thinking at the last meeting, we invited key staff from TRAFFIC working on wildlife trade issues within Asia to join us. We were delighted that they did so and contributed so positively to all aspects of the meeting. The meeting was held in Bali, from 21st to 27th August 2004. We re-visited the action plan tables from the last meeting to update them, and had wide-ranging discussions on other topics relevant to developing a strategy to work with governments and other partners to tackle wildlife trade more effectively throughout the region.

This report summarizes the discussions held at the meeting, and the strategy developed therein. Once again, this is but one stage in a dynamic and ongoing process, and the report should be read in that context. But hopefully it will be a crucial stage in moving our programs forward, and ultimately ensuring that Asia's wildlife is conserved in places where healthy wildlife populations still exist, and starts to recover to re-vitalize the silent forests in which it has declined.

Elizabeth L. Bennett.

I. OBJECTIVES OF THE MEETING

The crisis facing wildlife across East and Southeast Asia as a result of unsustainable hunting and trade is acute. The previous meeting, held in April 2002, aimed to review the current status of hunting and trade in tropical and subtropical Asia on a national and regional basis in countries where WCS has a program; to review past and ongoing projects by WCS and others to address the issues in each country; to identify gaps which need to be filled; and to determine how WCS should tackle the issues in each country and regionally, identifying clear actions and players.

The current meeting was intended to build on this, to re-visit strategies in relation to our actions, and also external changes, within the past two years since the previous meeting. Central to this process was to incorporate the regional expertise of TRAFFIC into our strategic planning, to take account of their own programs, and to assess how the programs of WCS and TRAFFIC can act synergistically in the region to have a greater influence on the issue than either organization can alone.

Thus, the aims of the current meeting were:

- to review what WCS has achieved, with its partners, to manage hunting and wildlife trade in the past two years;
- to review what TRAFFIC is doing in the region;
- to update our knowledge of hunting and wildlife trade issues in each country in the region where we work, and also of the situation regionally;
- to develop an action plan for WCS, and for WCS collaborations with TRAFFIC, for the next three years to address hunting and wildlife trade issues across the region.

In the context of this meeting, we defined “wildlife” as terrestrial vertebrates.

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	Chris Shepherd (TRAFFIC)
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Thailand	Petch Manopawitr (WCS)
Vietnam	Scott Robertson (WCS Associate)

3. ORGANIZATION OF THE MEETING

The meeting lasted for four-and-a-half days. It started with a summary of the results and recommendations of the previous WCS meeting on hunting and wildlife trade in Asia, and the aims of this meeting. This was followed by a series of presentations giving overviews by WCS staff of the current position on hunting and wildlife trade issues in each of the countries where they worked, focusing especially on changes which have occurred in the two years since our previous meeting. An additional presentation reviewed health issues and the implications for wildlife trade, given the SARS and avian influenza outbreaks which have occurred since the previous meeting. Following this, the TRAFFIC staff gave overviews of their programs in each of the regions in which they worked.

We then reviewed and updated the tables which we constructed two years ago, on the current status and gaps which needed filling in the realms of education, research, levels of education and awareness, and government capacity.

The remainder of the meeting comprised a series of discussions which, between them and the review tables, aimed to develop a strategy to determine what WCS, in partnership where appropriate with TRAFFIC, should do to address hunting and wildlife trade issues in East and South-east Asia over the next three years.

It should be noted that:

- the discussions focused specifically on countries where WCS has, or soon plans to have, programs within the region. It was not intended to be a comprehensive review of wildlife trade issues of the whole region, which would include many countries where WCS does not currently work. Instead, this meeting was intended to guide WCS's own current programs, in collaboration, where appropriate, with TRAFFIC;
- TRAFFIC has an Oceania Programme which was not involved in this meeting. Further effort is required in future to coordinate the work of this program with that of WCS's work in Papua New Guinea and other parts of Oceania.

4. PROGRAM SUMMARIES

4.1 WCS OVERVIEW OF PAPUA NEW GUINEA (PNG)

- Despite the rarity of large animals in the Papuan region, hunting remains a major source of protein for a large proportion of Papua New Guineans. Additionally, many people still use wildlife for a variety of traditional purposes.
- WCS research shows that the largest species are among the first to be over-exploited and depleted. These include tree kangaroos, long-beaked echidnas, wallabies, megapodes and cassowaries. These taxa are extirpated from many areas and several species appear to be vulnerable to extinction.
- Birds are hunted more than are mammals for ceremonial purposes. Bird species taken included birds of paradise, cassowaries, vulturine parrots, other parrots, and harpy eagles.
- WCS is studying social and spatial components of hunting activities near Crater Mountain, to learn the basics of who is hunting what and where. The long-term goal is to design protocols for sustainable use, and to reduce hunting's negative effects. Interviews of hunters and their families are the main sources of data. Preliminary results showed that 95% of hunting is done by men. Over half the people who hunt make specific hunting trips more than once a month, and over 75% hunt at least every other month.
- In the Crater Mountain area, there is no correlation between the amount of coffee sold by a hunter in the previous year and number of hunting trips. Thus, income from coffee and other sources appears not to reduce hunting effort or offtake.
- Wildlife is a vital component in the livelihoods of rural people around Crater Mountain and probably a crucial component of the diet of hundreds of thousands to millions of Papuans.
- Hunted animals in PNG generally do not make their way into a wild meat trade, so the issues here are different from those in much of South-east Asia and Africa. Most of the trade in live animals and animal parts is domestic for traditional uses. Trade of this magnitude is unlikely to have a dramatic impact on most species, although important exceptions include harpy eagle and vulturine parrot plumes. The most heavily-traded species (birds of paradise) are relatively unaffected by low levels of trade-hunting.
- Some illegal wildlife trade occurs via foreign logging companies in PNG, with live animals exported on timber barges by sea. This trade needs to be assessed and controlled.
- At present, there is not a significant export market to China, as occurs in other countries in the region. It is likely, however, that trade pressure will soon infiltrate PNG, particularly the turtle trade. Careful monitoring and decisive action are needed whenever illegal trade is detected.
- In PNG, conservation is tightly linked with poverty avoidance (as opposed to poverty alleviation) and health. Thus, wildlife management should incorporate the dietary needs of rural people, and development planning should include wildlife management.

4.2 WCS OVERVIEW OF INDONESIA

- The illegal wildlife trade causes huge ecological, economic, and social losses in Indonesia. Factors that lead to the uncontrolled wildlife trade include: low capacity, an ineffective judicial system, little awareness by the general public and decision makers, lack of data, lack of funding both by government and non-government, lack of coordination between all parties (government and non-government), and lack of market controls.
- Factors that help to control wildlife trade are: strong laws and regulations concerning wildlife protection and natural resource management, an increasing awareness by younger generations and the government on environmental/conservation issues, and a strengthening of civil society development and presence in conservation. One significant improvement in the past two years has been in the legislative framework, with efforts underway to create new laws at provincial and regency levels to fit with administrative decentralization.
- The Wildlife Crimes Unit (WCU) is a program developed by WCS, the national and local governments, other NGOs, and media, aims to address current weaknesses and gaps, and take advantage of the civil society movement in Indonesia. Its aims are to: reduce wildlife crimes; increase technical and legal capacity by local constituents; strengthen monitoring, law enforcement, and inter-sectoral coordination; build awareness on wildlife protection policies and laws; and assess the effects of management. To date, some of our aims have been achieved in three provinces: Gorontalo and North Sulawesi, Sulawesi, and Lampung, Sumatra. This should now be scaled up to national level.

4.3 WCS OVERVIEW OF MALAYSIA

- In Malaysia the three distinct regions (Sabah, Sarawak, and Peninsular Malaysia) each have their own laws for wildlife protection. These are, respectively, the Sabah Wildlife Conservation Enactment 1997, the Sarawak Wild Life Protection Ordinance 1998, and the Protection of Wildlife Act 1972.
- In Sabah, indications of progress in addressing hunting and wildlife trade in the past two years include the Sabah Wildlife Department stating that they now monitor hunting levels, and village hunting licenses are now being tested in two areas. Trade figures are difficult to obtain, but media coverage of an attempt to export 11 pygmy elephants indicates that the sale of large animals continues.
- Sarawak has the most stringent wildlife protection law in Malaysia. The size and number of confiscations of illegal wild meat and turtle eggs in Sarawak dropped precipitously from 2001-2004. Since enforcement effort in towns is still high, this indicates a considerable slowing of trade in urban areas. Hunting of totally protected and protected species and commercial trade still occur, especially in rural areas where enforcement is slack.
- A major change in the past two years has been that wildlife management has largely been transferred from the Sarawak Forest Department to the Sarawak Forestry Corporation, which

has a much more utilitarian focus for wildlife. As a result, more commercial wildlife farms are developing.

- Policy and legislation in Peninsular Malaysia support controlled hunting and wildlife trade. Each state in Peninsular Malaysia has the right to issue licenses to hunt and trade in wildlife. Licenses to import and export wildlife are also issued by the state.
- Between 2000 and 2003, licenses issued for hunting wildlife in all the states of Peninsular Malaysia declined, except for Johore. In the same period, the total number of licensed wildlife dealers also decreased, with the exception of Pahang. The total number of licenses issued to import and export wildlife fell dramatically from a high of over 3,500 licenses in 2000, to about 1,000 licenses in 2002. In all cases, however, actual figures on the numbers of animals hunted, trade, exported and imported are difficult to obtain since the reports do not give such details.
- In Peninsular Malaysia, wildlife offences as reported in the government annual reports dropped between 1999 and 2003.

4.4 WCS OVERVIEW OF THAILAND

- Thailand is a hub of international wildlife trade. Traded wildlife is hunted in Thailand's forests, in neighboring countries and imported to Thailand, or imported from afar (e.g., Africa, Australia). Levels of hunting in Thailand appear to be declining, but imports from Myanmar, Cambodia, and Lao PDR increasing. Transborder wildlife trade occurs at night when customs offices are closed.
- Trade includes: Mammals (for the restaurant, pet, skin, trophy and medicinal trades), birds (native and exotic species for the pet trade, with up to one million birds traded annually), and reptiles (for the restaurant, pet, skin and medicinal trades). Of special note is the major role which Thailand plays in the trades of pangolins and freshwater turtles to overseas markets, especially China. Ivory is imported from Africa in large quantities, facilitated by a loophole in Thai law which allows domestic ivory to be used.
- Thailand has been a signatory to CITES since 1973, and ratified it in 1983; the Royal Forest Department (RFD) is responsible for management of fauna. Comprehensive domestic wildlife legislation was passed in 1992, and revised in 2003 to provide legal protection for most species (e.g., for more than 940 bird species). A new amendment, passed in 2004, allows for commercial breeding of 59 species of protected species, to boost the economy. These comprise sambar deer, 42 species of birds, six reptiles, two fish and one amphibian. This makes enforcement of trading laws more problematic; some fear that it could lead to the extinction in Thailand of some endangered species.
- A further problem is that the Department of National Park, Wildlife and Plant Conservation (DNP, formerly RFD) issued a 120-day amnesty, ending on 9th September 2003, for owners of wild animals to register them. The aims were to obtain an accurate picture of the number of wild animals in captivity, to identify wildlife owners, and to promote commercial breeding of

the 59 protected species. 1.1 million animals were registered. The majority were caged birds, but others included endangered species e.g., tiger, golden cat. Some owners exaggerated the numbers of animals which they reported, to enable them to acquire more animals. Wildlife officials now face an enormous task of verifying if the animals exist, and inspecting holding facilities.

- Two new initiatives include: (i) the draft National Masterplan for Wildlife Conservation in Thailand; and (ii) the draft Masterplan for Elephant Conservation in Thailand. Both were developed in 2003 by DNP and the Ministry of Natural Resources and Environment (MoNRE), although neither yet has official approval.
- New enforcement initiatives are promising. In May 2003, Thailand established a special Wildlife Enforcement Task Force, in response to CITES, to re-gain credibility for Thailand's enforcement efforts, and prevent the country being blacklisted by CITES. The new Forestry Police Commissioner, appointed in September 2003, has come down strongly on the wildlife trade, with political support from the Prime Minister. Many animals have been seized, charges brought, and calls for stiffer penalties for wildlife crimes made, including use of the death penalty. Wildlife authorities are coordinating the Anti-Money Laundering Office in the hope that, in future, anti-money laundering laws will be invoked for the illegally-gained income of illegal wildlife traffickers.
- The level of awareness of hunting and trade problems appears to be increasing. A phone-in poll run by a popular television talk showed strong support for the death penalty for wildlife crimes (93% of callers).
- Remaining challenges include weak law enforcement, inadequate training of police, customs and wildlife officials, weak enforcement especially in protected areas, and a lack of knowledge of wildlife needs and threats in trans-border areas.

4.5 WCS OVERVIEW OF MYANMAR

- Hunting for subsistence and trade in Myanmar, as elsewhere, is influenced by a complex array of biological, socio-economic, political and institutional factors. Understanding the multi-dimensional context is critical to designing effective conservation solutions.
- Hunting occurs in most protected areas and is driven by a number of factors relating to nutrition, income, sport/trophy hunting, human-wildlife conflicts, culture, and traditional medicine. A number of groups are involved in hunting and wildlife trade, including ethnic groups, armed insurgent groups, national and international traders, missionaries, and logging and mining company employees.
- Nutritionally, it is important to distinguish between dependence and opportunistic use, to determine the extent to which communities depend on wildlife as food. In general, people consume wild meat when it is available (mostly in the dry season) and other forms of meat including fish and livestock at times when it is not.

- An expansive, informal and largely illegal parallel economy exists, in which wildlife trade plays a part. Hunting for trade in the Hukaung Valley and Hkakaborazi National Parks, northern Myanmar, is economically significant, ranking within the top three most lucrative livelihood options that include paddy cultivation and gold mining.
- Challenges to addressing the problems of wildlife trade include the lack of political transparency, lack of technical and financial government capacity, and weak, ambiguous legislation.
- Since 2002, changes to the legal and institutional framework affect environmental conservation in general, but their impacts on the management of hunting and wildlife trade are as yet unclear. Changes include creation of an Environmental Conservation Committee, chaired by the Prime Minister, and deployment of specific wildlife police force in the Hukaung Valley Tiger Reserve.
- The state of knowledge on the problem has changed considerably since 2002. WCS has collected significant information in and around Hkakaborazi National Park and within the Hukaung Valley Tiger Reserve on hunting patterns, nutritional and economic importance of hunting, trade routes, and targeted species. This should be used in management plans for parks in northern Myanmar.
- The state of awareness of the issues is mixed. World Environment Day was celebrated for the first time in 2004, indicating increased environmental awareness in the country, but it is unclear if this includes awareness of hunting and wildlife trade issues. For example, missionaries still request hunters to bring meat for church use. Political will and capacity to move awareness into action is also limited.
- The capacity to manage hunting and trade has not changed significantly in the past two years.

4.6 WCS OVERVIEW OF CAMBODIA

- For most of the past 30 years, much of Cambodia has been inaccessible to outsiders due to internal security problems. In the late 1990s, peace was restored to the country, allowing WCS to begin a long-term wildlife conservation program.
- The effects of three decades of armed conflict are significant. Automatic weapons and mines are widely available and, until recently, were openly used throughout the country. Fundamental challenges still remain in combating the threats posed by unsustainable hunting and wildlife trade, including weak governance and lack of capacity to prevent hunting at the site-level and trade at the international level, both of which often involve powerful groups, including the military and police. Other factors include: land grabbing and human migration driving forest loss throughout the country, the long reliance by the government on extraction and trade of natural resources for income generation, and a high human population growth rate.
- Positive changes in recent years include:
 - legislation has been strengthened with the passing of improved land and forestry laws, including adequate provisions for wildlife;

- understanding of hunting and trade has improved, although detailed studies have not yet been completed;
- The number and presence of international and national conservation NGOs have increased significantly;
- the first generation of wildlife biologists are starting to be promoted within government to positions of relative influence;
- a CITES office has been established and, with TRAFFIC's help, is finalizing appropriate CITES legislation;
- site-based protection has improved, reducing hunting and illegal trade in localized areas;
- general awareness of hunting and trade issues has increased within the government, and with donors and some sections of society;
- dissemination of wildlife information, including the laws, has improved with the production of local language materials;
- the government continues to be open to NGOs, and allows exceptional access and influence;
- the government's gun reduction scheme has been effective and rates of gun use are lower than they have ever been;
- regional training programs have begun to train customs and law enforcement officials.

WCS Cambodia's current activities include: initiation of conservation management strategies at seven sites across the country; supporting the government to establish armed law enforcement patrol teams at three of the sites where hunting is most serious, to enforce laws at the international border with Thailand, and to establish two new conservation areas; piloting community hunting contracts; initiating studies of hunting and consumption patterns at two sites; and, with TRAFFIC, publishing Khmer language CITES wildlife identification guides.

- Gaps still include: no detailed research on hunting patterns or trade trends, no unified vision across conservation NGOs and Government on how to tackle trade at national level, and little improvement in knowledge of the extent of trade across certain borders and through certain ports (e.g., Sihanoukville).

4.7 WCS OVERVIEW OF LAO PDR

- In the past two years, there have been positive changes relating to management of hunting in Lao PDR. Wildlife management is now identified at the highest national policy level as an important part of national development, and hunting regulations were recently updated and will be updated to national law. The government is actively working on gun collection and control, when WCS research has shown that ready availability of guns is the greatest threat to large mammals.

- Management of wildlife trade has also had some positive developments, including: increasing political will to implement legislation prohibiting wildlife trade, Lao PDR becoming a party to CITES in 2004, and orders from the governors of some districts and provinces for stricter controls on wildlife trade.
- Conversely, there has been a lack of progress in some areas. The lists of legally protected species are not correlated with their threatened status on the ground, and no clear mechanisms exist for making amendments or for incorporating scientific input. Amendments to regulations (Ministry of Agriculture 0360) include loopholes for captive breeding and trade of “managed species”, which could lead to facilities being a front for trade in wild-caught animals. Legally mandated hunting seasons are not appropriate to rural hunting practices, and zoning of hunting in most protected areas has not been implemented. The result is that harvest rates in most areas are probably unsustainable, and management lacks scientific input.
- Research information on hunting and trade has increased through WCS studies on rural hunting and trade in villages around Nam Ha National Protected Area (NPA), on tigers and prey in the Nam Et-Phou Louey NPA, on wildlife trade and effectiveness of patrolling efforts in market, restaurants, bus stations and airports in Vientiane municipality, and on wildlife trade levels and compositions along national roads.
- In addition to increasing awareness of the issues at top levels of government, urban awareness of negative impacts of wildlife trade in Vientiane municipality has increased, and urban efforts are having knock-on effects on awareness in rural areas.
- Capacity to manage hunting has increased, especially the capacity to: measure animal abundance, engage in protected area zoning for hunting management, enforce regulations, and disseminate information on regulations. These efforts, however, still largely depend on international support. In addition, capacity to manage domestic trade has improved in some areas through market patrols, sting operations, devising and following a confiscation protocol, and completing standardized monitoring forms.
- International trade is still difficult and dangerous to control, while domestic trade is now moving underground because of the increased enforcement.
- The recent provincial-level agreement between Lao PDR (Khammouane and Bolikhamxay) and Vietnam (Ha Tinh and Quang Binh) might allow for increased control of cross-border trade in those areas.

4.8 WCS OVERVIEW OF VIETNAM

- In Vietnam, the Species Protection Law (Decree 18/48 2002) lists animal and plant species into two groups: “no exploitation” and “controlled exploitation.” There are also regulations on hunting common species, trade, placement of confiscated animals, captive breeding, import, export and transport. Vietnam is a signatory to CITES and has passed implementing legislation. A national action plan to control illegal wildlife trade is in preparation, and was approved by

Decision of the Prime Minister in September 2004. Legislation is not implemented, however, sufficient funding, equipment and ranger training are not available.

- Enough information exists for the Forest Protection Department (FPD) to control some aspects of the wildlife trade, more detailed information is needed for targeted enforcement, and baseline data required to monitor success. No reliable long-term systems exist for monitoring the wildlife trade. Trade seizures give some information on the species in the trade, but the low effectiveness of FPD means that the data do not accurately reflect the actual trade.
- Generally, public awareness of the illegal wildlife trade is improving. The number of wildlife trade related newspaper articles has risen 400% from 2002 to 2003, and the legal and planning changes within the government indicate high level increases in awareness. Behavior is not changing, however, with increases in awareness being outpaced by the growing demand for wildlife.
- Although there are highly competent individuals at each level in FPD, they are a minority. FPD rangers have little capacity to control the illegal wildlife trade due to poor education, little relevant training, weak discipline, and low morale. The range of training programs conducted to date has been limited in coverage, and there is no sustained institutionalized training. This is recognized by the government, which has a high interest in increased, institutionalized capacity building.
- The illegal wildlife trade operates in an uncontrolled, criminal and unsustainable manner. Driven by domestic and international demand for wildlife products and fueled by the country's recent shift to market-oriented economic policies with the growing wealth and an emerging middle class society, wildlife trade has expanded vastly in recent years. Although wild meat is still important for nutrition in some rural areas, most wild meat is now commercially sold, not locally consumed.
- Wildlife trade threatens almost all species in Vietnam, driving some to the verge of extinction. Civets, muntjac, hard-shell turtles, bears, pangolins and snakes comprise the majority of the wildlife trade, with primates, sambar deer, small cats, otters, and serow also under serious threat.
- In recent years, Vietnam has become a major center for illegal wildlife trade in South-east Asia. Vietnamese hunters and traders source wildlife throughout Vietnam, as well as from Cambodia and Lao PDR to be consumed in Vietnam and also exported. Reports suggest that Vietnamese traders have stretched their reach to sources in Malaysia, Thailand, Myanmar and even Africa to supply domestic and international demand. Vietnam has made strong legal wildlife trade links around the world, sending wildlife to South Korea, Japan, China, North America, and Europe.
- The rapid development of illegal private zoos and commercial breeding farms in Vietnam is spreading across the whole country. Facilities source the majority of their animals from the illegal wildlife trade, offer poor welfare for the animals, and threaten conservation efforts.
- Enforcement is slowly improving each year, although the ability of FPD to confiscate more animals is severely constrained by limited knowledge, finances, and equipment. NGOs and specialist groups have an important role to support FPD to improve this situation.

- Forest Rangers are responsible for controlling and enforcing the illegal wildlife trade in Vietnam. It is critical, therefore, that all work with the wildlife trade imparts knowledge, motivation, skills and experience to Forest Protection Department rangers and managers.

4.9 WCS OVERVIEW OF INDIA

- Hunting in India is not an issue of food security. It caters instead to a traditional appetite for wild meat, to supply trade in high value by-products, or is a desperate response to wildlife-human conflict.
- There has been strong nationwide legislation against hunting and wildlife trade since 1972. Although the law is national, its enforcement is the responsibility of regional governments. Thus, the prevalence of hunting is highly variable, and depends on regional history, culture and political factors.
- In the North-western Plains, hunting is less than in other regions, with a strong local cultural tradition for wildlife protection. Occasionally, commercial or sport hunting occurs.
- In the North-eastern Hills, much wildlife occurs outside protected areas, but hunting pressures are enormous. Hunting plays a dominant role in local culture and tradition. The demand for wildlife is from both local consumers and regional markets. Hunting also occurs in retaliation for livestock and crop losses.
- In Peninsular India, most wildlife habitat is under State ownership and control. Protected areas are in relatively good condition compared to surrounding reserved forests and private lands. Here, the demand for wildlife comes from different sources: local sport and traditional demand for wild meat, and retaliation for farming losses.
- In the Coastal and Marine regions, ownership and control of resources remains unclear. These production systems are still considered beyond the purview of conservation, and threats are mostly from trade-related exploitation. Many slow-breeding species are believed to be under serious threat, e.g., sharks, dugong, cetaceans, turtles and sea-snakes.
- Recent changes in legislation include the 2002 amendment to the Wildlife Act. This resulted in virtually no change with regard to hunting, but trade controls were tightened. The legislative changes were poorly informed, particularly regarding marine environments and legal classification of species. Loopholes also exist, such as a lack of legal protection for newly discovered or previously unreported species.
- Recent changes in the state of knowledge include a recent questionnaire survey of the hunting in Western Ghats, and new descriptive surveys of hunting in North-east India. However, rigorous assessments of impacts are still absent and understanding of linkages between hunting and other legally authorized activities in parks is poor.
- In many places in India, hunting is still not seen as a problem. In the Peninsula, governments are often reluctant to accept that hunting still goes on, and is a serious conservation threat. WCS

and our partners have made efforts in North-eastern India to augment awareness about hunting among hunting communities and wildlife managers.

- In the government, there is administrative capacity in some areas of Peninsular India, but in other areas staff are poorly motivated and numbers are insufficient. Capacity is low in North-east India, due mainly to local cultural constraints. Across the country, NGOs have technical capacity, but are reluctant to apply it for fear of souring relations with managers and, more recently, of being victimized.
- WCS and our partners have initiated community-based conservation efforts in the north-east to dissuade locals from hunting. We have also developed and distributed educational materials to improve awareness about hunting. WCS continues to advocate for improved protection in Peninsular India and to support partners in related research and conservation.
- Hunting impact assessments are required in all regions.
- Given the lack of previous attention to hunting issues in North and North-east India, in those areas we need to develop a long-term vision and culturally-sensitive strategy to draw away local communities from hunting. This requires continuous engagement.

4.10 WCS OVERVIEW OF HEALTH ISSUES IN RELATION TO WILDLIFE TRADE

- Diseases such as severe acute respiratory syndrome (SARS) and avian influenza are economic as well as health issues. In 2003, more than 8,450 cases of SARS occurred globally, with death toll of 800. Costs are estimated at \$100 billion, due to many factors including, in Hong Kong in May 2003, a reduction of 49% in Hong Kong's airport traffic and 83% in hotel occupancy, and Singapore Air's cancellation of 50% of their spring 2003 flights. Avian influenza H5N1 killed 23 people, relatively few compared to SARS, partly due to its low rate of transmission to humans. However, the disease can evolve rapidly to increase its infection rate. Costs have not yet been assessed, but by August 2004, more than 200 million chickens were killed.
- Contact with wildlife and wet markets played a role in transmission of both diseases. Live fowl and wildlife are sold for consumption in wet markets, where they are packed closely together in multi-species groups. This creates the opportunity for pathogens to spread between domestic animals, wildlife, and humans. The larger the market and the more species therein, the better the conditions for pathogens to spread. Bangkok Chatuchak Market can contain up to 70,000 birds at a time, one survey recording 276 species from across Asia, Australia, Africa and South America.
- Wildlife probably played a role in the transmission of SARS, but the evidence for its origin being in civets is circumstantial. Genetic evidence suggests a single source of the SARS virus, possibly civets. A SARS-like corona virus (CoV) was isolated in Guangdong in the masked palm-civet, raccoon dog, ferret-badger, fruit bats, rhesus monkey, Chinese water snake, Chinese pangolin, domestic cat, and humans. However, no SARS-like CoV was found in a study in southern China which sampled 732 individual animals: 54 wild species and 11 domestic species, including palm civets.

- Captive breeding of civets in South China is significant. If SARS did originate with civets, it might have been passed among and between captive and wild animals. The assumption is that the disease originated in South China, but major wildlife trade routes from South-east Asia might have brought the disease to China.
- Avian influenza also has links to wildlife. It has been declared endemic in duck farms in southern China. Thailand, Vietnam and Indonesia are all experiencing outbreaks in poultry farms. It has also been found in dead wild birds in Hong Kong (seven individuals: peregrine falcon, little egret, grey heron, feral pigeon, tree sparrow, black-headed gull). It is unknown, however, if these species were victims or vectors of the disease. Because outbreaks occur in winter, it is possible that migratory birds could be transmitting the disease. Alternatively, transmission of the disease could be due to compression of domestic flocks.
- A common response to wildlife-linked disease management is to kill the wildlife. The Chinese Government stated that "There is an urgent need to evaluate the human animal habitat in southern China and to remove animal reservoirs [for SARS] if found". Thai Prime Minister Thaksin Shinawatra initially ordered the Ministry of Natural Resources and Environment to kill all wild storks, which he blamed for the latest H5N1 outbreaks, although this was later revoked in response to public outcry. In spite of such responses, the impact of wildlife slaughter is not clear. It could be ineffective or even counter-productive. E.g., during a rabies outbreak in Alberta in the 1950's, the government killed 50,000 red foxes, 35,000 coyotes, 7,500 lynx, 4,200 wolves, 1,850 bears, 500 skunks and 164 cougars, but the outbreak was not stopped. In an outbreak of tuberculosis in badgers in the UK, from 1975 to 1997, 20,000 badgers were killed to control its spread to cattle. This cost more than £75 million, but did not stop the outbreak. Experimental culling of huge areas (100 km² blocks) cost £30 million and resulted in an increased incidence of tuberculosis in cattle.
- Another disease management option is to curb wildlife consumption. Forced temporary market closures and raids stop trade for a short time, but trade resumes once markets re-open because demand is not reduced.
- A third disease management option is physically to isolate domestic and wildlife populations from one another. This requires removing wildlife from markets or separating wildlife and domestic markets, or killing wildlife in markets, or improving barriers that separate wild species from domestic production facilities. Immunological isolation is desirable as well. This involves vaccinating all domestic animals.
- Thus, emerging diseases have positive and negative impacts on wildlife in Asia. The benefits are few, since trade resumes when markets re-open. The negative impacts are high when wildlife is slaughtered because it is viewed as the enemy. Despite both high social and economic costs, data are lacking. We need better monitoring of markets, better enforcement of current laws in the region, significant investment in conservation activities and integrated studies of wildlife ecology, migration, and disease.

4.11 TRAFFIC IN ASIA

- Globally, TRAFFIC has more than 20 offices and almost 100 full time staff. TRAFFIC uses a strategic “network approach” in which offices coordinate work plans through a global four-year program. The current program cycle runs from FY05 to FY08. TRAFFIC’s program for East Asia is served through offices in China, Japan, Taiwan, and Hong Kong, while the program for Southeast Asia is served through offices in Malaysia, Vietnam, and Cambodia. TRAFFIC’s program for South Asia will be strengthened by opening a regional office in Sri Lanka in 2005, which will cover six countries (Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka). Partnerships with other organizations are important for successful delivery of TRAFFIC’s global program.
- The four key result areas of TRAFFIC’s FY05-08 program are:
 - Early warning: catalyzing responses to emerging or poorly understood wildlife trade issues and trends;
 - Trade flagships: interventions focused on selected threatened species that act as flagships for wider trade and conservation challenges;
 - Resource security: supporting trade measures that help to improve the legal and sustainable use of key wildlife resources;
 - Wildlife trade hotspots: addressing threats from wildlife trade through focused action in priority trade centers and along key trade routes.
- Wildlife trade in Asia is a threat to a wide range of terrestrial and marine species, causes depletion and loss in value of important natural resources, and has direct and indirect impacts on centers of high biodiversity value.
- Over the past 15 years, government and civil society have significantly increased their understanding of, and actions to address, wildlife trade issues in Asia. Wildlife trade is still often treated as a low priority by governments, however, and civil society actions have tended to be fragmented, short-term and under-resourced. There is little clarity about the needs for a strategic approach to wildlife trade issues in Asia, both within priority areas and across the region as a whole, and little cohesion between activities proposed by different NGOs and other actors.
- Wildlife trade is a commodity business, with many of the same characteristics of other areas of commerce, driven by a wide variety of socio-economic and cultural forces. Its implications vary. It is sometimes supportive of economies and livelihoods. It can also be a threat to wildlife conservation, but potentially provides an incentive for conservation through sustainable use.
- Wildlife trade is like other trade in that trade patterns and trends are affected by transport infrastructure development, market access, geo-political change, national and regional economic development, and industry structure.

- Trade is dynamic, both legal and illegal traders adapt to changing circumstances. When supplies become depleted or access restrictions are imposed, traders may target new source countries for a species, transfer production to captive-breeding/artificial propagation, target new species within a commodity group, or employ synthetic substitutes.
- In the case of illegal trade, traders develop new smuggling methods and routes to avoid detection. Particular problems arise, owing to poor awareness about regulations, disagreement with the purpose or design of regulations, relatively low risk of detection (enforcement is a low priority and technically difficult), and relatively weak penalty structure.
- A large proportion of the world's wildlife trade does not cross international borders, including medicinal plants, timber, charcoal, wild meat, fisheries products, pets and ornamental plants, and is therefore not regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- Southeast Asia plays a tripartite role in the legal and illegal international wildlife trade. It acts as a source (producer) and exporter, as a re-exporter of wildlife from other countries, and as an importer (consumer) for domestic market demand, which is increasing with economic growth.
- Interventions should be made locally in priority landscapes and ecoregions, at trade bottle necks/hotspots, and with key stakeholders such as consumers and professional bodies (e.g., traditional medicine associations). Regulatory interventions include local and national laws and policies, harvest and trade quotas, and CITES. Non-regulatory interventions include fiscal measures such as green levies, dissuading unsustainable and illegal trade, and encouraging sustainable consumer behavior, for example through certification.
- Management of wildlife trade in Asia requires an understanding of the driving forces of trade. For producers, these include resolving human-wildlife conflicts, and obtaining income and employment. For traders, driving forces are obtaining income and employment, and market speculation. For consumers, driving forces are need, image and interest, health concerns, and obtaining income and employment.
- Key challenges for the regulation of wildlife trade in Asia are: a poor understanding of trade trends and dynamics, which make it difficult to prioritize actions and assess their impact; fragmented, piecemeal regulation which is under-resourced and often poorly designed, incentives that are poorly understood and seldom harnessed for positive conservation impact; and low awareness and recognition of impacts. Conservation methods, therefore, include increasing knowledge, establishing positive economic incentives for conservation, aiding effective regulation and promoting sustainable consumer behavior.

4.12 TRAFFIC SOUTHEAST ASIA: SOME CASE STUDIES AND EXAMPLES

- Southeast Asia is a major producer, exporter, re-exporter, and consumer of wildlife products. Wildlife is traded for five main purposes: trophies and decorations, traditional medicines, pets, meat, and live collections.

Freshwater turtles and tortoises

- In recent studies, TRAFFIC found that more than 20 tonnes per week of wild caught freshwater turtles and tortoises were being exported from northern Sumatra to China in 1999 and 2000. They were largely transported by air, and were for human consumption. The amounts have since declined to approximately seven to ten tonnes per month in 2003, and continue to decline as turtles are becoming more difficult to find.
- Virtually all species of freshwater turtles and tortoises found in Southeast Asia are collected for consumption, and exports are predominantly destined for southern China. Many species are becoming locally scarce, or are disappearing altogether. The vast majority of freshwater turtles and tortoises being traded are from the wild. Turtles are flown in large quantities from Indonesia and Malaysia. Shipments are taken over land in trucks from Thailand, Laos, Vietnam, Myanmar and Cambodia. Very few seizures have been made, and those that have are just the tip of the iceberg. Increased enforcement and cooperation between enforcement agencies and between countries are essential if Southeast Asia's freshwater turtles are to persist.
- The international trade in tortoises and freshwater turtles involves millions of specimens each year. In 2000, it was estimated that more than 10 million turtles were traded from South-east Asia.
- Wild populations of tortoises and freshwater turtles are generally vulnerable to overexploitation, because of biological characteristics such as late maturity, limited annual reproductive output, and high juvenile mortality. Habitat degradation and loss contribute to the declines.
- The pet trade in reptiles, including tortoises, is growing rapidly in Southeast Asia, which is increasing demand for exotic species from other regions of the world. For example, Indian star tortoises are smuggled into Malaysia, largely from India (other range States are Pakistan and Sri Lanka). Loopholes in Peninsula Malaysia's legislation allow this trade to continue. These loopholes have been highlighted in reports and the media, and the Malaysian authorities are now under pressure to complete a comprehensive review of legislation which is mandated under the CITES National Legislation Project.

Mammals

- Recent studies by TRAFFIC have found that more than 50 Sumatran tigers were killed in Sumatra each year between 1998 and 2002. Tiger parts were openly for sale in 20% of the 423 shops surveyed. Killing by professional and semi-professional hunters continues on a large scale.
- TRAFFIC is currently analyzing the hunting and trade of orang-utans and gibbons in key locations in Indonesia and Malaysia.
- Pangolins are traded live for meat and medicine. The source of the supply has been moving further south over past 5 years, to Sumatra and Borneo, presumably as supplies in continental Southeast Asia decline. Vietnam remains the major gateway to southern China for pangolins.

and other live-traded species. Pangolins are the most visible mammal in trade in Southeast Asia: more than 15,000 individuals were seized in Thailand alone in 2002, and one shipment of 4.5 tonnes (containing pangolins as well as freshwater turtles and monitor lizards) via Malaysia and Singapore were stopped in Hanoi in March 2003 gives an indication of the volume of trade that is occurring. Very little knowledge on the habitat and population status of pangolins is available, and monitoring and enforcement at the source is negligible.

4.13 TRAFFIC SOUTHEAST ASIA -- INDOCHINA PROGRAM (VIETNAM, LAO PDR AND CAMBODIA)

- Indochina's overall program goal from 1999 to 2004 has been to strengthen the capacity of Indochina's governments to curb illegal wildlife trade to China, and to other international markets.
- The methods for doing this were based on recommendations from trade surveys undertaken by TRAFFIC and others in the late 1990s. For 1999, objectives included establishing an office and partners, including donors, and continuing to gather knowledge on trade. From 2000 to 2004, objectives included establishing a foundation for the Vietnam government to implement and enforce CITES. Other aims were, as much as TRAFFIC's capacity and resources allowed, establishing a project office in Cambodia in 2001 to strengthen CITES implementation, and addressing CITES issues in Lao PDR later that same year.
- TRAFFIC addressed four themes in its activities in Indochina from 2000 to 2004: capacity building of CITES authorities, awareness, research, and international cooperation.
- Building capacity in CITES included: establishing a dedicated CITES office for Vietnam's CITES management authority, including equipping the office, hiring support staff, and designing software for trade statistics and reports; providing resources to Cambodia's CITES office, including equipment, staffing, and technical resources; providing ongoing technical and financial support to CITES in Vietnam and Cambodia; supporting the development of CITES enabling legislation in both Vietnam and Cambodia; and supporting participation of the CITES management authorities at the 12th and 13th Conferences of the Parties to CITES.
- Increasing knowledge on CITES and wildlife law enforcement included national training on CITES and species identification for: Vietnamese enforcement agencies (police, customs, border control officials and Forest Protection Department) and international airport cargo handlers; Lao senior government officials, and trainers of Laos' provincial wildlife managers; wildlife enforcement personnel at the tri-border of Lao PDR, Vietnam and Cambodia, and wildlife managers from southern China. In addition, a tri-national workshop was held on CITES and tiger enforcement.
- Increasing general awareness included: a national "Buyer Beware" campaign in Vietnam (e.g., airport billboards, brochures, brochure holders, posters), the TRAFFIC Indochina web-site, and a brochure in Vietnamese and English for enforcement and traders on the laws prohibiting the trade in marine turtles and their products.

- Research included: a marine turtle trade survey in Vietnam, elephant and rhino trade surveys in Lao PDR and Cambodia, a review of legal and regulatory procedures governing production of and trade in Siamese crocodiles in Cambodia, ivory trade in Vietnam, and a study of traditional medicine systems in Vietnam and Cambodia.
- To improve international cooperation, the office provided support to strengthen dialogue and action between Vietnam and China.
- To encourage efficiency in addressing the illegal wildlife trade, from 2003 to 2004 it facilitated Vietnam's "National Action Plan to Strengthen Control on Trade in Wild Fauna and Flora to 2010", addressing the roles and responsibilities of decision makers and law enforcement agencies; promoting a comprehensive legal system; strengthening law enforcement capacity strengthening scientific support; evaluating captive breeding; and strengthening international cooperation. During this same period it also worked together with IUCN, WWF, and the Ministry of Fisheries in developing a national action plan for marine turtles.
- TRAFFIC Indochina's future plans include increasing political and donor support, and implementing activities of the various national action plans and agreements it and other agencies have helped to develop. Of particular importance are strengthening border controls (e.g., Customs) and implementing a standardized wildlife trade monitoring program in Indochina.

4.14 TRAFFIC EAST ASIA -- CHINA

- The use of traditional medicine is a key focus of TRAFFIC in China. An example of this is the musk deer trade, since trade is a major threat to the species, with musk deer hunting being a serious problem.
- In China, all harvest of musk deer from the wild is banned, but harvest continues due to the demand from the traditional Chinese medicine (TCM) industry. Hunting occurs in remote areas of preserves where the ban is hard to enforce. Much of the hunting is done by plant collectors. Hunting methods are moving from guns to snares, resulting in a non-specific catch.
- TCM shops are now widespread in forest areas, selling a wide variety of TCM products from the forest nearby sell to tourists.
- Musk deer are distributed across central and eastern Russia, south and south-west China, and neighboring countries. The decline in musk deer numbers has been drastic. In the 1950s, there were an estimated three to four million animals, but now only about 50,000 to 100,000 remain.
- Russia, Mongolia, India, Pakistan and Nepal produce musk, whereas China, Korea and Japan both produce and consume musk. Malaysia and Singapore are additional consumer countries.
- There have been attempts to shift to musk deer farming, but captive breeding has been unsuccessful. Capture of wild animals for farms results in mortality of six animals for every one which makes its way to a farm; this is a serious drain on the wild population.

- Artificial musk can be produced successfully, but neither producers or consumers like the product, so its use is severely limited.

5. STRATEGY

5.1 INTRODUCTION

The strategy discussion starts with an assessment of how and where WCS and TRAFFIC can act synergistically to enhance control of wildlife trade across Asia. It continues with an update from the previous meeting of still-outstanding gaps in legislation, research, management capacity, and education and awareness. As part of the research discussion, we also discussed methods used to survey wildlife markets, and how these might be improved.

The strategy then goes far beyond that of the previous meeting, by addressing how we can be much more effective than at present in influencing policy, in reducing major markets in net wildlife consuming nations, and in controlling carriage of wildlife along main transportation arteries.

5.2 MISSIONS AND STRENGTHS OF WCS AND TRAFFIC, AND AREAS OF MUTUAL INTEREST

5.2.1. Missions

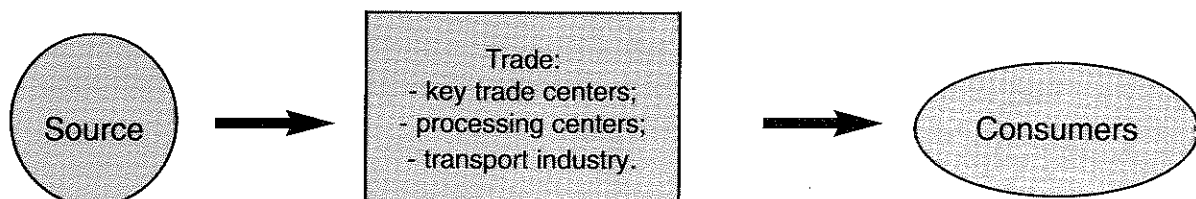
WCS-International's mission is to: "save(s) wildlife and wild lands by understanding and resolving critical problems that threaten key species and large, wild ecosystems around the world. WCS believes this work to be essential to the integrity of life on earth."

TRAFFIC's mission is: "To ensure that trade in wild plants and animals is not a threat to the conservation of nature."

Both are thus mutually compatible. Moreover, both organizations operate through information-based strategies to inform the most appropriate conservation actions.

5.2.2 Traditional core strengths

Hunted wildlife moves along a spectrum, from its source in the wild, along routes and chains of varying lengths and complexities, to consumers. In a subsistence hunt, the source to consumer chain is extremely simple, usually only involving the hunter and his family. In Asian commercial trade, routes are often long, and can be extremely complex, involving major players in the middle of the chain:



Traditionally, WCS's strengths lie in working at the source end, through our site-based conservation programs. Increasingly in Asia, our programs are also including the trade and the consumer end, through market surveys and working with governments to reduce consumption; WCS is doing this extensively in its programs in Indonesia, Sarawak, Lao PDR, and China.

TRAFFIC's strengths lie in monitoring the trade, assessing trade trends to inform policy and enforcement, and in addressing the consumer end of the spectrum.

Outside of TRAFFIC's engagement with CITES and its role in the management of international trade, and of both WCS and TRAFFIC in building the capacity of national government departments to develop policy and enforce domestic market regulations, neither organization to date has been very active in effecting good management in the middle, trade, part of the spectrum.

5.2.3 Identifying potential areas for enhanced collaboration

Given our mutually-compatible missions and philosophies, collaboration between WCS and TRAFFIC is not a conceptual problem although it might be a logistical one in certain realms. However, communication between WCS and TRAFFIC in the region has been increasing greatly, and moving from this to increased practical cooperation was a core aim of the current meeting. The two organizations converge most where we work at the levels of policy makers and policy enforcers. We agreed that the best way to proceed to ensure smooth collaborations would be at the national level. All WCS staff at the meeting were keen to collaborate at that level.

Within the area of interest to this meeting, WCS has programs and offices in: India, PNG, Indonesia, Malaysia, Thailand, Cambodia, Lao PDR, Myanmar and Shanghai, and staff starting to work on wildlife trade issues in Vietnam. TRAFFIC has offices in Malaysia, Cambodia, Vietnam, Hong Kong, Taiwan, and Japan, and will soon open an office in Sri Lanka. Hence, this provides opportunities for in-country collaboration, as well as a mutually more extensive influence than either of us can individually provide.

We decided that we should select a few areas of mutual interest for trial collaborative projects, initiating this by writing joint funding proposals. Areas for which this would be feasible include:

- Training, building on already-successful joint training programs at the International Law Enforcement Academy (ILEA) in Bangkok (September 2003) and for enforcement officers in Sarawak (2004). Core groups whom we would both be interested to train together include:
 - (i) enforcement agencies, cargo handlers, and customs agents. The World Customs Organization can be approached to leverage greater impact;
 - (ii) CITES and other enforcement officers, in the laws and in identification of key traded species and species groups. Preliminary discussions for this have already been held between relevant WCS and TRAFFIC staff. Key country targets are Indonesia, Malaysia, Cambodia, and Lao PDR;
 - (iii) If the opportunity to conduct another ILEA course is forthcoming, we should conduct this jointly again.

- Furthering efforts to incorporate science into CITES management. This is an on-going TRAFFIC initiative; TRAFFIC has already completed two workshops for the 10 ASEAN countries. We agreed to incorporate WCS into these efforts where opportunities present themselves for effective collaboration;
- Providing input to formal education systems and, especially, raising the capacity of educators to teach students about wildlife trade issues;
- Conducting joint programs on certain key species and species groups especially threatened by trade. Initial ones on which we would like to collaborate are:

(i) pangolins. TRAFFIC's data highlight the major threat which they are facing, yet we know little about them, even how to survey them in the wild. WCS is developing proposals for field programs to address this. We agreed to develop joint funding proposals and a joint program to address the pangolin trade;

(ii) tortoises and freshwater turtles. WCS's person dedicated to this issue and TRAFFIC have already had discussions about preparing joint action plans, but no further joint steps have been taken. Both organizations shall try to rectify this and work closely on this issue. WCS will share draft action plans with TRAFFIC. WCS should start systematically surveying for tortoises and turtles at key field sites, to determine the impacts of trade on wild turtle populations, and feed these data to both organizations for their action plans. Both organizations will work together to develop a joint proposal for studying cross-border trade of Malaysian giant turtle, *Orliti borneensis*;

(iii) other species. Possible ones to be considered are Asian big cats, and certain bird species. With all species-directed work, we should work together to use the data effectively, linking our various datasets on wild populations and market trade statistics to evaluate sustainability and impacts of trade;

- Developing CD/DVD/online materials on species identifications for CITES-listed species and those most commonly found in trade, and supporting dedicated computer at airport customs offices as a cost-effective and low-maintenance way of providing information accessibly;
- Sharing data. We should use the combined results of our field, trade and market data in all of our separate and joint awareness raising, policy and capacity building programs to make them more effective. The utility of wildlife trade observations from WCS field projects informing TRAFFIC's regional database (e.g., for Southeast Asia) is a practical way for the organization to collaborate on developing more accurate understanding of regional wildlife trade patterns. In addition to governments, this should include disseminating information to potential donors and development agencies;
- Conducting a joint workshop on developing statistically-robust methods to assess trade and market volumes (see 5.4.2);

- Opening up our offices within the region for each other to use when needed. Given that we do not have significant geographical overlap in our offices, this will help increase work efficiency and collaboration, and reduce our mutual costs, within the region.

5.3 LEGISLATIVE FRAMEWORK

In spite of some improvements in laws in the past two years, no country discussed yet has perfect legislation for managing hunting and wildlife trade. But once again, we reviewed whether current legislation is adequate to allow hunting and wildlife trade to be managed effectively in each country, or if it is a major factor limiting what can be done.

PAPUA NEW GUINEA (PNG): Legal changes are needed. In particular, protected areas legislation is weak, wildlife trade is legal except for protected species, import and export of wildlife are only controlled by customs regulations, and the list of protected species is inadequate.

Action required: WCS and TRAFFIC to continue to build capacity in the Department of Environment and Conservation to improve regulations, including making amendments to import and export regulations, and improving the list of protected species.

INDONESIA: The legislative framework has improved in the past two years, with efforts underway to create new laws at provincial and regency levels to fit with administrative decentralization. Improvements are still needed, including removing ambiguities about the legality of hunting outside protected areas.

Action required: At local levels, no WCS action is needed since others are working to consolidate laws. At the national level, WCS to provide input to legal changes to Act No. 5 of 1990.

MALAYSIA: In Peninsular Malaysia, laws are still inadequate, allowing for uncontrolled sales of all but protected species, and listings of some endangered species (e.g., elephants, gaur) as “game animals” which can be hunted under license. Laws on possible sales of wildlife by Orang Asli are ambiguous. In Sabah, the new law makes control of hunting more difficult than previously, although CITES-implementing legislation is the best in Malaysia. In Sarawak, a 2004 amendment to the Wild Life Protection Ordinance now makes it illegal to sell all wildlife, whereas previously this only applied to mammals, birds, amphibians and reptiles. The new provision makes a mockery of the law, since it is now illegal to sell fish and other seafood.

Action required: In Peninsular Malaysia, WCS and TRAFFIC to work with the government to advise them on necessary changes in species listings and, if appropriate, wider legal changes to control wildlife trade. In Sabah, TRAFFIC to work with the government to follow up on recent changes in legislation on parts and derivatives. In Sarawak, WCS to work with the government to advise on revoking the recent change to the wildlife trade legislation.

THAILAND: No improvements are needed to protected area legislation, and in 2003, the list of protected species was improved. Major legal loopholes now exist, however, due to the new laws allowing for captive breeding of 59 species, the 1.1 million captive animals registered under the

2003 amnesty, loopholes for ivory under draught animal laws which include elephants, and the fact that wildlife derivatives such as shahtoosh are not covered by existing legislation.

Action required: WCS to provide input into the National Wildlife Master Plan, which will include legislative recommendations.

MYANMAR: Current legislation is weak. No CITES-enabling legislation has been passed, due in large part to CITES being perceived as a trade ban. The result is largely unregulated international wildlife trade.

Action required:

(i) TRAFFIC to take the initiative, with WCS support, to approach and advise the government on CITES implementing legislation and, beyond that, on reviewing the legal framework on wildlife conservation in general, and hunting in particular.

(ii) TRAFFIC and WCS to hold a workshop on how CITES works.

(iii) WCS to advise the Forest Department on updating the protected species list. The first step for WCS to hold a workshop for the Department.

CAMBODIA: Recent legal changes mean that the laws are now adequate, although the list of protected species is inadequate, and the agency responsible for management of certain species unclear. CITES enabling legislation is being developed, and passage by the national government is expected in 2005.

Action required:

(i) TRAFFIC to support the government to draft CITES enabling and ratification legislation, and WCS to provide support to ensure passage of the law in unweakened form.

(ii) WCS to work with the government to develop an appropriate list of protected species.

LAO PDR: Some improvements to legislation are needed, especially improving the list of protected species, and clarifying legislation relating to wildlife trade, especially of animals from captive breeding facilities. Even though Lao PDR is now a signatory to CITES, implementing legislation needs to be developed and passed into law, and agency responsibilities need to be confirmed for CITES Management and Scientific Authorities.

Action required: WCS to provide recommendations to TRAFFIC on protected species lists, and on legal changes suggested on wildlife trade and captive breeding. TRAFFIC will work to support the government in drawing up legislation to consider these recommendations, and also to implement CITES. WCS and TRAFFIC to work to identify funds for translations of relevant documents.

VIETNAM: Legislation is sufficient to allow hunting and wildlife trade to be controlled; the problem is lack of enforcement of existing legislation. Some improvements to laws in the future would be beneficial, but the immediate need is enforcement of existing laws.

Action required: WCS and TRAFFIC to try to see if they can work with the legislative section of the Forest Protection Department, to improve existing laws.

INDIA: Legislation on hunting and wildlife trade is good, and no improvements are needed.

Action required: None.

CHINA: Legislation is not the limiting factor preventing good management; enforcement of existing laws is. Legislation does need to be improved and updated, to bring it in line with the conditions of a modern economic state.

Action required:

- (i) TRAFFIC to review draft revised legislation.
- (ii) WCS to continue to liaise with the government, including on legislative issues.

5.4 RESEARCH

5.4.1 Research Needs

The problems posed by unsustainable hunting and wildlife trade in the region are so acute, action is needed immediately on many fronts. It is still imperative that actions are based on sound information, and that monitoring is conducted to assess the effects of management. Thus, we reviewed what information should be collected to ensure this.

PAPUA NEW GUINEA (PNG): Data on how much is hunted, the biology of hunted species, and the sustainability of much of the hunting, is inadequate.

Action needed: Research on hunting sustainability, to recommend local best practices. This should be linked to development planning.

INDONESIA: Knowledge of the scale of the trade and its impacts is greater than it was two years ago, especially for certain key species most notably turtles, tigers, apes, and the bird trade through markets in Medan, North Sumatra. Subsistence hunting data are available for ten sites countrywide. Data on overall trade volumes, and the economic value of the trade, are still lacking, as is information on many other species hunted and traded.

Action required: TRAFFIC to continue monitoring trade routes, dynamics and volumes, and trade in key species.

WCS to:

- (i) conduct an economic analysis of the overall scale of the trade, to determine its economic value, to be able to use this for political leverage;
- (ii) continue ongoing monitoring;
- (iii) conduct ecological and conservation studies of freshwater turtles;
- (iv) for Sulawesi, conduct a study on the sustainability of hunting of small mammals.

MALAYSIA: In Peninsula, the only significant data on levels of hunting and trade are from government license data, which give no indication on levels of illegal trade. In Sabah, a recent report

by DANIDA gives some data on the scale of subsistence and commercial hunting, updating work done ten years ago; data on the scale of illegal hunting and trade are sparse. In Sarawak, detailed state-wide data are available from the mid-1990s, and have continued at one site until now; data on the scale of illegal trade are sparse.

Action required: In Peninsula:

- (i) WCS and TRAFFIC to quantify legal licenses issued to hunters, through the universities and government;
- (ii) TRAFFIC to continue monitoring wildlife passing to and through airports;
- (iii) WCS and TRAFFIC to liaise on collecting information on cross-border trade. In Sabah, TRAFFIC to continue to monitor overall trade trends. In Sarawak, WCS to work with the Sarawak Forestry Corporation to monitor airport export points.

THAILAND: Good data are available on hunting and trade in certain key field sites and cross-border areas, and on the bird trade in Bangkok's Chatuchak market. Information on animals registered under the recent amnesty is scarce, as are data on trade across many borders. Information on the impacts of hunting and trade on populations of many species are also lacking.

Action required: WCS to work with:

- (i) Department of National Park, Wildlife and Plant Conservation to compile current information including animals registered under amnesty;
- (ii) Customs and Border Patrol Police to monitor borders, including checking transponder numbers on animals;
- (iii) local NGOs to initiate long-term monitoring of the bird trade, in key markets e.g., with Bird Conservation Society of Thailand (BCST).

MYANMAR: Data on subsistence hunting and trade dynamics are now available from two WCS sites. Wider data on the scale of the trade nationwide are not available.

Action required: WCS to:

- (i) conduct joint surveys with the Nature and Wildlife Conservation Division to assess trade volumes at key points, including across the borders with Thailand and China;
- (ii) liaise with TRAFFIC to compare with knowledge gained from other, importing, countries;
- (iii) continue field surveys to address livelihood use of, and dependence on, wildlife at key WCS sites, and feed the results into management plans for the areas;
- (iv) develop field monitoring protocols for populations of targeted and threatened species at key WCS sites;
- (v) extend existing research to identify the primary drivers of unsustainable hunting, and seek ways to use the results to address those drivers.

CAMBODIA: Some localized data on who hunts what are available and, although all evidence suggests that levels are unsustainable, no empirical studies have yet been conducted. Trade routes are known, but not on the scale of the trade although it is known to be large. Data on seizures have been collected by WildAid, but are not widely available.

Action required:

- (i) WCS and TRAFFIC to liaise with the Forest Administration or CITES office to access data on seizures;

- (ii) WCS to conduct site-based hunting studies in several sites;
- (iii) TRAFFIC to conduct more regular monitoring of exit routes, in liaison with other, site-based NGOs.

LAO PDR: Data on subsistence hunting are now available from two WCS sites, although they have not yet been analyzed to evaluate the sustainability of hunting. Information on the scale of openly-traded species is now quite good, although less so for most high value, undercover species.

Action required: WCS to:

- (i) analyze data on animal abundance and offtakes to evaluate the sustainability of hunting, and disseminate this information and the importance of wildlife in rural nutrition and livelihoods;
- (ii) continue to collect and summarize systematic and anecdotal trade data, to inform management, and provide to TRAFFIC.

VIETNAM: Some data exist on subsistence hunting, and considerable recent information is now available on the scale and price structures of trade, although information from different studies needs compiling. Information on the large-scale import and export trade is also good.

Action required: WCS and TRAFFIC to establish long-term monitoring systems of domestic consumption, markets, and sources of wildlife in Vietnam markets. (The latter is difficult, since permissions for work along the Vietnam/Lao border have not been forthcoming to date.) Research is also required on attitudes and consumer behavior, and on the risks associated with the development and management of commercial breeding farms; programs to do this are being developed by TRAFFIC.

INDIA: Good data on subsistence hunting are available from two sites, but are still lacking in North-east India. Data on illegal domestic and international trade are scrappy, except for shahtoosh, ivory and tiger bone trades, although again almost no data exist for north-east India.

Action required: WCS to:

- (i) conduct population monitoring at important sites, particularly for species which are intensely hunted and traded. NB. Direct monitoring of hunting and trade is important, but is extremely difficult due to its illegal nature and strict enforcement regimes;
- (ii) in North and North-east India, coordinate efforts with the Myanmar and China Programs to understand trans-boundary hunting and trade issues.

CHINA: Subsistence hunting data are available from one site. Government records on legal imports and exports, and on seizures, are extensive, but publicly-available information on illegal trade is sporadic and generally poor.

Action required: TRAFFIC to:

- (i) monitor cross-border wildlife trade, including of tigers, pangolins, elephants and turtles;
- (ii) analyze previously-collected data on captive breeding of bear, musk deer, sika deer and tiger in ten provinces. WCS and TRAFFIC to investigate possibilities of monitoring markets, and conducting attitudinal surveys.

5.4.2 Market survey methods

The session aimed to discuss methods for surveying markets: what we currently do, where potential shortcomings, and what might we do to make survey methods more robust in the future.

Core outcomes of the discussion were:

- All agreed that Shelley Clarke's protocol (Appendix III) was an excellent basis on which to base planning.
- Market surveys have different aims in different circumstances. The core aim of all surveys is to provide information on which to base better management actions. Within that, we need to decide what types of data are needed to make management decisions: on mere species presence and absence from trade, on relative abundances, or absolute abundances. Methods vary radically, depending on which is required.
- Another major variable affecting choice of appropriate market survey methods is the legality or illegality of trade, and presence of any enforcement. This affects whether it is largely an open or an underground trade.
- To date, we have very few long-term, reliable market data to allow quantification of wildlife trade volumes and trends across the region.
- A first step is to determine, in each study, what we want to know. Then we can assess whether we can obtain it, given the practical circumstances in the study site.
- Types of market data useful for management planning which can be collected include: Numbers of trader; species in trade and taxonomic shifts over time; sources and destinations of traded animals; prices; seasonality; and quantities sold (turnover rates) to allow at least some assessment of sustainability.
- No standard methods exist for collecting such data, except in certain very specific cases (e.g., TRAFFIC's standard form for recording ivory sales). Moreover, there is no manual for collecting such data. Although methods inevitably have to vary somewhat according to circumstance (e.g., on type of product, on whether the trade is underground or not), much effort might be wasted if methods are not well designed, and results statistically robust. A set of comparable survey methods are crucial to obtain results that are comparable across space and time, and to assess the impacts of different management actions.
- In addition, some more "quick and dirty" methods are important to detect early warning signs of problems, e.g., new species entering trade.
- Investigating methods from other disciplines might be useful, e.g., fisheries.
- Linking market data (mainly but not exclusively from TRAFFIC) with field data on wildlife populations (mainly but not exclusively from WCS) would be extremely helpful in determining what is happening in trade, and its effect on wildlife populations.

- Obtaining input from a statistics expert in designing market survey methods would be invaluable.
- Given all of the above, we all agreed that a workshop should be held to develop robust survey methods. In addition to appropriate WCS and TRAFFIC project staff, the workshop should include:
 - (i) an expert statistician;
 - (ii) representatives from programs which have collected large quantities of data in African bushmeat markets and used them to assess sample sizes needed to obtain accurate pictures (e.g., D. Wilkie);
 - (iii) others skilled in developing sampling methods (e.g., J. Nichols).
- A further point of discussion was the risks to which project staff might be exposed when trying to collect data on an illegal and underground trade, sometimes involving dangerous and unsavory characters. We agreed that project managers had to ensure that all data collectors were locally extremely experienced, and knew how to recognize risk and sensible ways to avoid it.

5.5 EDUCATION AND AWARENESS

Across the whole region, awareness of the problems posed by hunting and wildlife trade varies between countries and categories of people, but is generally low (Appendix II). Overall, it is still higher in government field staff than at more senior levels. Even though there has been some improvement in the past two years, lack of awareness amongst senior decision makers and donors is still a serious concern. Exceptions are Sarawak where decision makers are aware of the concerns, and Thailand, India and, to a lesser extent, China, where donors are aware of it. Unless awareness of the magnitude and repercussions of the issue increases vastly across the region, and amongst the international donor community, it will not be addressed on the scale critical to prevent major extinctions across the region.

Actions required:

- (i) **Papua New Guinea (PNG).** WCS to: work to increase awareness of the importance of hunting to rural livelihoods among donors and the government, to help drive policy improvements; and strive for greater coordination with other NGOs and government offices.
- (ii) **Indonesia.** WCS to: continue and expand current activities; work more with local governments to raise understanding; continue working with many local NGOs to enhance speaking with one voice; continue working with media, especially local newspapers and radio, and national media; and continue working with academic institutions, helping to teach undergraduate and graduate courses. TRAFFIC to work more closely with the CITES Management Authority; and to disseminate present and future reports in bilingual versions, and work with government agencies and NGO partners to implement recommendations on policy change and enforcement actions.
- (iii) **Malaysia.** In the Peninsula, WCS to work with the government in the long term to develop education modules, and improve policy awareness and input. In Sabah, no actions planned. In

Sarawak, WCS to continue its current multi-faceted program, working closely with TRAFFIC and the Sarawak Forestry Corporation (SFC) to continue to train and increase awareness at all levels, and to liaise with SFC's education unit.

(iv) Thailand. WCS to: work more closely with government staff, and promote interagency collaboration to maximize the impact of actions; seek ways to maintain momentum after CITES CoP13; review how to raise awareness amongst tourists and others of captive breeding and trade issues.

(v) Myanmar. WCS to: conduct targeted awareness raising amongst policy makers, local authorities and civil society on specific hunting issues, especially species; continue to publish materials; and conduct site-based outreach. TRAFFIC and WCS to galvanize awareness raising, capacity building, and training with relevant government agencies and scientific institutions regarding CITES implementation.

(vi) Cambodia. WCS to: keep as a priority the increase in site-based campaigns; continue to publish materials; support television programs on Cambodia's wildlife; and liaise with RARE on a potential campaign for one site. TRAFFIC to disseminate information compiled from its study on traditional medicine; and create awareness of CITES and the need to address CITES issues. WCS and TRAFFIC to revise the wildlife trade guide, and to liaise on a potential awareness campaign as part of a customs training project at Phnom Penh and Siem Reap airports.

(vii) Lao PDR. WCS and TRAFFIC to: continue to educate international donors and the NGO community on the linkages between hunting, trade and poverty; continue to conduct rural outreach programs, in liaison with RARE. WCS to: communicate results from our hunting studies to the government (including at sites where we work), international agencies and the public; continue to implement and evaluate the effectiveness of public awareness campaigns in Vientiane and at the national level. TRAFFIC to translate CITES materials; and produce a local language field guide on wildlife species in trade.

(viii) Vietnam. WCS and TRAFFIC to: conduct research into consumer attitudes and behavior that links to targeted awareness/media campaigns; create Vietnamese-language species and product identification guides; conduct more widespread environmental education programs, including through supporting ENV¹. WCS to: investigate whether WCS materials from other countries could usefully be translated into Vietnamese; and place PDF files of local language turtle guides onto the turtle website (copyright issues permitting). TRAFFIC to revise its wildlife and trade guide, and plan other activities to follow the National Action Plan.

(ix) India. WCS to: conduct more media campaigns; work more on local-level outreach, particularly among illiterate audiences; continue to oppose the dilution of protection in protected areas; in Peninsular India, conduct awareness and outreach programs to foster greater acceptance of the law among local hunting communities; in North and North-east India, improve awareness of hunting issues among local people and government and, with other organizations, conduct a workshop on hunting and wildlife trade.

¹ A Vietnamese conservation NGO specializing in environmental education.

(x) **China.** TRAFFIC to: conduct a study, in liaison with a consumer marketing firm, of consumer attitudes and behavior study; form partnerships for advocacy and public messaging; liaise with senior officials on the Advisory Group on Traditional Medicines; conduct training on ETIS and other CITES issues, including translating modules for customs officials; and develop a conservation curriculum for traditional medicine practitioners. WCS to continue some aspects of our current work with traditional medicine practitioners, and to conduct a major review of our China activities once our new country director is appointed.

5.6 BUILDING GOVERNMENT CAPACITY

Capacity in this context was defined as having two components:

- (a) technical: staff having the necessary knowledge and skills to do their job effectively;
- (b) physical: the government management agencies having the necessary numbers of staff and equipment to allow the job to be done effectively.

PAPUA NEW GUINEA (PNG): Government capacity in all relevant areas is extremely low, but the core need is for capacity to be built in local communities who manage wildlife resources. Capacity building here needs to recognize the highly variable cultural and biogeographic contexts across the country.

Action required: WCS to: try to stimulate widescale studies and synthesis of anthropological data, to devise appropriate management recommendations which subsistence hunters can and will use; and try to stimulate donors to support research and management as a food security issue. TRAFFIC to work with the PNG CITES authorities to improve implementation of trade monitoring systems.

INDONESIA: Government capacity across the board continues to be low, the only exception being the physical capacity to enforce trade regulations in markets which is medium.

Action required: WCS to:

- (i) continue training of relevant groups, including the police, forestry, marine, customs, the judiciary, local government officials, NGOs and the media;
- (ii) encourage and mentor graduate students and university staff to conduct research on hunting and trade;
- (iii) work with the relevant local governments to extend the Wildlife Crimes Unit (WCU) program across the country. This would consist of key government agencies and NGOs coordinating to monitor and patrol trade "hot spots" and key national and international ports and airports, identify key traders and their wildlife sources, monitor and patrol key protected areas, develop and maintain a national wildlife crimes database, and establish national and provincial judicial committees to oversee wildlife cases.

TRAFFIC to continue training on CITES implementation, law enforcement assistance and begin working with the judiciary.

MALAYSIA: As previously, physical capacity to enforce trade regulations in Peninsular Malaysia and Sabah is relatively high, but technical capacity low. In Sarawak the reverse is true: technical capacity is medium to high, but physical capacity is low across the board. In all three regions, physical capacity to enforce protected area regulations is medium to low.

Action required: *Nationwide*, WCS to:

- (i) conduct training courses with universities to promote understanding of how to conserve wild in the face of hunting and trade;
- (ii) establish mentorship and small grants programs;
- (iii) work with others to develop partnerships to monitor trade, e.g., between the Sabah Wildlife Department and WWF Malaysia, Sarawak Forestry Corporation and WCS, and Federal Department of Wildlife and National Parks and TRAFFIC. TRAFFIC to work with the CITES Scientific Authority at the Ministry of Natural Resources and Environment to increase the availability and of scientific information and methodology in setting harvest and export quotas, and influence management decisions.

Peninsular Malaysia: WCS to:

- (i) conduct five sets of workshops with rangers, trainee teachers, and communities;
- (ii) work with TRAFFIC to build enforcement capacity at airports.

TRAFFIC to:

- (i) provide enforcement assistance, including at airports and to multiple government departments;
- (ii) conduct training for those agencies in species identification;
- (iii) put science into CITES, through determining realistic quotas.

Sabah: TRAFFIC to put science into CITES, through determining realistic quotas.

Sarawak: WCS to:

- (i) conduct wildlife identification training for enforcement staff;
- (ii) train airport staff in wildlife enforcement training;
- (iii) continue to provide conservation education training and lectures to undergraduates and postgraduates at Universiti Malaysia Sarawak;
- (iv) develop modules on conservation education for teachers.

TRAFFIC to work with WCS on enforcement training.

THAILAND: Technical capacity continues to be low except in protected areas where it is variable but physical capacity to enforce regulations in protected areas and markets and to conduct research is high to medium.

Action required: WCS to:

- (i) work with local staff in key protected area to improve their skills to address hunting and wildlife trade issues, e.g., monitoring local restaurants around protected areas;
- (ii) continue to train and work with the Border Patrol Police (BPP) to monitor trade and enforce regulations at key transborder sites;
- (iii) coordinate the efforts of enforcement agencies, including the BPP, Forestry Police, and Department of National Park, Wildlife and Plant Conservation;
- (iv) develop and distribute wildlife identification guides to enforcement and airport staff.

TRAFFIC to:

- (i) conduct training with airport cargo handlers and relevant law enforcement authorities, including training focused on better engagement with the Elephant Trade Information System (ETIS) by the Thai CITES authorities. Some of this training, including preparation of resource materials into Thai language, may be done in collaboration with WCS;

(ii) put science into CITES, through determining realistic quotas.

MYANMAR: Technical and physical capacity in all sectors continues to be low.

Action required: WCS to:

- (i) enhance the physical infrastructure at key WCS sites;
- (ii) develop a training program for staff of key WCS sites in monitoring of hunting, relevant laws, and park management;
- (iii) support the government in implementing laws related to hunting and trade;
- (iv) support the government in improving land use planning, with clear demarcation of protected area boundaries and clarification of use restrictions;
- (v) initiate a pilot project, at one site, to reduce dependence on hunting and wildlife trade. TRAFFIC to continue to work on building capacity with the Myanmar CITES authorities, including possible facilitation of bilateral meetings between Myanmar and its neighbors (including China), which could be a medium for various other activities. (NB: Myanmar and China delegations apparently met at the CITES CoP13 in Bangkok and discussed the possibility of holding a bilateral meeting.)

CAMBODIA: Technical and physical capacity to enforce regulations in protected areas and markets is low outside a few sites.

Action required: WCS to continue to train government staff at central and site-based levels; target groups include customs at airports, forestry, protected area staff, police, military police, and border police, and military.

TRAFFIC to:

- (i) working with WCS on training airport authorities, develop a pilot scheme with the ultimate aim of a national training program for customs staff;
- (ii) continue to strengthen the capacity of the CITES office;
- (iii) put science into CITES, through determining realistic quotas.

LAO PDR: Capacity in certain areas has improved significantly in the past two years, especially to manage hunting in two key sites, and to monitor and enforce trade regulations in Vientiane.

Action required: WCS to:

- (i) continue to build capacity at all levels, except in logging concessions;
- (ii) work with the government and villages in key WCS sites to test and evaluate models for hunting management;
- (iii) continue to test and evaluate models for management and monitoring of wildlife trade in Vientiane;
- (iv) work with international agencies to incorporate wildlife management components in rural development projects;
- (v) as requested, assist government to train and support forest police and border patrol units;
- (vi) train trade enforcement officers in identification of animal parts.

TRAFFIC to:

- (i) explore the option of conducting training on species identification in markets, and develop a wildlife trade guide;
- (ii) strengthen the operations of the CITES authorities.

VIETNAM: Technical capacity is low, except in some isolated protected areas and also in markets where it is higher. Physical capacity is medium to high in protected areas and town markets.

Action required: WCS to work with others to:

- (i) develop institutional long-term training programs using ASEAN standards, starting in priority source and demand areas, for forestry rangers, police, and related enforcement agencies;
- (ii) provide assistance to the National Forest Protection Department to develop Wildlife Crimes Unit and a National Wildlife Trade Investigation Unit;
- (iii) produce species and product identification handbooks in Vietnamese.

TRAFFIC to:

- (i) implement recommendations on capacity building from the National Action Plan;
- (ii) conduct training programs for airport staff;
- (iii) work more closely with TRAFFIC East Asia to strengthen border controls with China.

INDIA: Technical and physical capacity are both variable, although technical capacity tends to be quite high in protected areas and town markets.

Action required: WCS India to:

- (i) focus on building capacity in North-east India, with the government and NGOs;
- (ii) work with the WCS Education Department to run environmental education courses;
- (iii) continue to support the graduate program for Indian students in Bangalore;
- (iv) assist WCS programs in other countries in the region to build capacity, especially in protected area management;
- (v) in North and North-east India, design interventions to reduce human-wildlife conflict, and build linkages with other strong social and cultural institutions to moderate hunting;
- (vi) in Peninsular India, support voluntary relocation of villages from parks to increase the spatial separation between people and wildlife. Establishment of a regional TRAFFIC office for South Asia is likely to happen soon; this will be based in Colombo, and will operate in six countries including India.

CHINA: Physical capacity is generally medium, as is technical capacity except in markets and in the ability to monitor hunting and trade where it is low.

Action required: WCS to determine this, once a new country director has been appointed.

TRAFFIC to:

- (i) conduct training courses in CITES at national and provincial level, emphasizing regional issues. Such training aims primarily to enhance cross-border collaboration;
- (ii) put science into CITES, through determining realistic quotas.

5.7 INFLUENCING POLICY MORE EFFECTIVELY

At present, WCS, TRAFFIC and other conservation organizations have extensive, long-term programs on hunting and wildlife trade in Asia, and globally. We are having significant local successes in improving management and reducing hunting and trade. Overall, however, we are not doing so as effectively as we need to if many species are to survive in Asia well into the

millennium. A central discussion of this meeting, therefore, was how do we use our data and expertise to influence policy more effectively.

5.7.1 Government officials

These are the people who ultimately make and implement policies and laws across Asia, so they are fundamental to implementing conservation strategies. Thus, informing them of the issues, working to advise them on policies and laws, and supporting them in whatever ways they need to implement such policies and laws, are critical. Ways in which we can do this include:

- Approaching the highest possible level. This requires: long-term presence, commitment, relationships, and deep understanding of the system; scientific and professional credibility, integrity and discretion; use of the highest officials in our organizations; ensuring that we do not "blow our own trumpet"; giving consistent, clear messages with evidence to back them up; making this a top priority; and investing considerable time. Cautions required include: not abusing this approach and only using it when essential; and being mindful of potential political changes at the top so keeping the civil service executive on board for sustainability. Also, the approach might not be optimal in all countries; in Thailand, obtaining leverage through garnering widespread support amongst middle management which then feeds both up and down within the system is likely to be more effective;
- Creating interest and support for conservation amongst senior officials. Potential options for this include organizing and accompanying key officials for field visits to important sites, supporting their participation in critical meetings, and being willing and committed to support them, even in the long-term, when they seek assistance in implementing conservation plans;
- Producing user-friendly and engaging information for people who are extremely busy, and for whom this is often not their top priority;
- Stimulating positive national public pressure. This is not an option in many countries where we work, and would be counter-productive. It is an option in other countries, through carefully-targeted education and public awareness campaigns, and through working with local NGO partners.

5.7.2 Donors and development agencies

Bilateral and multilateral donors and development agencies are highly influential in policy making in many countries in Asia, in ways which can be positive for, or highly damaging to, wildlife conservation. For example, roads are generally considered highly beneficial for development yet, without proper controls, are a potential disaster for enhancing hunting and wildlife trade. Incorporation of hunting and wildlife trade considerations is critical if large development projects, especially those involving major infrastructure, are not to have detrimental effects on wildlife. Ways in which agencies can be approached include:

- Creating donor awareness of the major problem of unsustainable wildlife trade in Asia. This can be done in multiple ways, including: through international conferences and agreements

(e.g., CBD, CITES, IUCN); by producing and disseminating user-friendly publications and other materials. These can be on the overall problem, or specific issues (e.g., on the problem caused by roads); by attending relevant social events in capital cities; by engaging in dialogues during mission visits, especially when projects are being explored and established; and by giving presentations at relevant meetings in the region and outside it;

- Engaging proactively with donors on project planning. Actions include: compiling and disseminating information on the potential links between particular types of development programs and wildlife trade; compiling as much relevant data as possible on the potential project, and disseminating the results through publications, presentations and other appropriate channels; engaging with the economists and development specialists in the agencies in addition to the environmental specialists, and seeking their help in understanding their modus operandi and how we can most effectively engage with them; investigating possibilities of mutual strategic exchanges; working with donors to improve the environmental conditionalities of their grants and loans;
- Identifying the key relevant donor and development agencies relevant to each country where we work, and engaging with them as much as possible both in country and at headquarters. In India and Lao PDR, the World Bank is a major player. In much of the rest of Asia, the Asian Development Bank (ADB) is key; places where we can seek dialogue with them are through their in-country offices, at their headquarters in Manila, and through their main donors in Japan.

5.8 ADDRESSING MAJOR MARKETS IN NET WILDLIFE CONSUMING NATIONS

5.8.1 The problem

Certain countries in East Asia are major net consumers of wildlife, rapidly draining wildlife from across the whole region and, as wildlife populations of targeted species plummet, moving onto other species and also other continents to seek supply. Unless we can address this demand, conservation programs across the continent will continue to face an uphill battle and, potentially, failure. Aspects of the problem include:

- Stockpiles of certain products occur in the region, e.g., rhino horn, tiger bones, saiga horns, musk;
- High pressure is exerted from tiger farmers to open up the trade for tiger bone products;
- Strong personal economic interests drive much of the legal and illegal trade;
- Uses of certain wildlife products by the TCM industry is at odds with CITES and with many national legislations;
- In some countries, sentences are so lax that the law is not respected, while in others, penalties for minor infringements are so severe that enforcement agencies are reluctant to enforce the laws;

- In almost all countries, the political will and capacity to enforce existing laws are extremely low;
- Cultural preferences for consuming wildlife are re-emerging and becoming fashionable;
- The expansion of within-region tourism is increasing the demand for wild meat. E.g., the most numerous tourists in Vietnam are Chinese, and their demand for wildlife might be driving the expansion of wild meat markets and restaurants; Russian tourists in Southeast Asia are also creating increased demand for wild meat;
- The TCM industry is becoming increasingly globalized. For example, interest in selling TCM products to the USA and Canada has greatly increased in recent years, with TCM companies sending people to find a way to sell products in the USA. In the other direction, residents of North America are returning to China (including Taiwan) for training on traditional cooking and recipes which use wildlife as a key ingredient;
- The relationship between uses of animals for TCMs, food, and other by-products, and which of these is the primary driver of trade, is not always clear. For example, pangolin scales are used in TCM, the meat is a food, and the leather is sent as a luxury product to Mexico and other countries.

5.8.2 Recommended actions

We need long-term sustainable solutions to address the trade. By the time these take effect, however, many wildlife populations across Asia will have been extirpated, so short-term palliative actions are also required.

Potential short-term actions are:

- Working with the appropriate local government agencies in China to influence the issuing of government licenses for markets and restaurants selling wildlife, and shops selling TCMs;
- Liaising with law enforcement agencies in countries to ensure that legal penalties are appropriate to ensure respect for the law, while not so severe that they are never enforced;
- Greatly expanding training programs for enforcement staff in key consuming nations;
- Working in all of the ASEAN countries where we have good working relationships with the governments (which, between WCS and TRAFFIC is almost all of them) to give technical support to their implementing the recent ASEAN Statement on CITES agreement declared at the 13th Conference of the Parties to CITES, Bangkok, October 2004, which includes the development and implementation of an "ASEAN Regional Action Plan on Trade in Wild Fauna and Flora, 2005-2010";
- Addressing wildlife trade along major transport arteries (see Section 5.9).

Potential longer-term actions are:

- Approaching China's State Administration of TCM to discuss potential approaches which are acceptable within the TCM frame of reference, but not detrimental to wildlife conservation;
- Conducting multi-faceted, long-term education programs for TCM practitioners, TCM students, and hospital staff;
- Exploring options to include wildlife considerations in bi-lateral and regional trade agreements;
- Conducting a study of attitudes of young consumers in China and Vietnam, to obtain a greater understanding of their preferences and ways in which these might be influenced. We should approach major commercial companies (e.g., Coke, Pepsi, McDonalds) for advice on the best ways to do this;
- Conducting major education and public relations campaigns directed at East Asian communities in North America and Europe.

NB. Wildlife farms are not considered a solution to the problems of unsustainable use of wildlife products in China, Vietnam and other East Asian countries. See Appendix II.

5.9 ADDRESSING WILDLIFE TRADE ALONG MAIN TRANSPORT ARTERIES

The current scale of the wildlife trade throughout Asia, and to and from Asia from the rest of the world, is feasible only because of the extreme ease with which large quantities of animals and animal products can be transported cheaply over long distances. Air transport has vastly increased in recent years with new routes and hubs continually opening, road networks are expanding across the region (e.g., greatly increased road systems inter-linking Thailand, Lao PDR, Vietnam and China), and the Mekong River is being made much more navigable to larger vessels. One major short-term way of reducing trade is to control such transport. When doing so, we must be aware that plugging one route is likely to cause another to be developed, so a multi-faceted strategy is necessary.

By far the majority of the long-distance live animal trade goes by air (e.g., the vast trade in turtles from Indonesia to China). Much of this would not readily be transported by other means since the animals would not reach their destination alive. Even strict airline bans on the carrying of drugs and guns do not totally stop the trade – but at least they are not being loaded openly onto planes across the region with forklift trucks! Thus, controlling transport of wildlife on airlines would greatly reduce much of the overall volume of trade, and would almost close down some aspects of it. TRAFFIC is already conducting programs to assist authorities in enforcement at airports, including in Singapore, Thailand and Malaysia. Additional measures needed include:

- Engaging the airlines to refuse to carry illegal shipments of wildlife. This would involve working through IATA; discussions here have been started by the US State Department in collaboration with TRAFFIC, WCS, WildAid and others, and this momentum should be

continued. Individual airlines should be approached to find industry leaders. Options include Lufthansa (who has shown leadership in refusing to carry illegal wildlife in the past), United Airlines (with whom CI has close links), Delta Airlines (the official airline of WCS), and Singapore Airlines (a major Asian carrier with an excellent reputation of which it is very proud). Emerging regional budget airlines should also be approached. Angles for discussion include the illegal nature of and damage caused by the trade, the possibilities of disease transmission, and company image;

- Bringing different agencies together with the airlines so that both can work together as a team to control illegal airline shipments of wildlife. These include some agencies with which WCS and/or TRAFFIC is already working in many countries in the region, notably customs agents, cargo handlers, airport management authorities, and wildlife enforcement agencies. This is likely to work more smoothly in countries where the airlines are government-owned;
- Conducting multi-agency training courses for the different staffs in airports. This should be long-term, with continual support provided for the airport-based agencies. This would include continuing provision of identification manuals and other supporting materials, including:
 - CITES updates;
 - establishment of interactive databases for use by all airport staff;
 - the latest information on species in trade;
 - providing CDs and links to relevant web-based materials;
- Approaching the Pilot Association to gain their support. Pilots are influential, and some of them are birders so might be supportive;
- Investigating the possibility of ISO 14000 certification for airports with wildlife-friendly practices. This might be especially effective at new airports, e.g., Bangkok, Hi Chi Minh City, Mandalay.

Other general actions proposed for supporting the control of wildlife trade along all transport routes (land, sea and air) are:

- TRAFFIC Southeast Asia will investigate developing a dynamic report to summarize what is known about the latest trade routes and significant entrepôts across Asia, specifically identifying new routes and emerging trends;
- Trying to influence governments, donors and development agencies on the need to implement wildlife conservation measures when planning improved transportation systems (Section 5.7).

APPENDIX I:

IUCN WORLD CONSERVATION CONGRESS RESOLUTION WCC3.076 "ILLEGAL AND UNSUSTAINABLE INTERNATIONAL TRADE IN THE ASSOCIATION OF SOUTHEAST ASIAN NATIONS (ASEAN) AND MEKONG RIVER RIPARIAN STATES"

RECALLING IUCN's commitment to the goal of controlling the unsustainable trade in wildlife species occurring among and from the Mekong riparian states (Resolution 2.63 *Illegal and unsustainable trade of wildlife species among and from the Mekong riparian countries*) and managing the unsustainable commercial trade in wild meat (Resolution 2.64 *The unsustainable commercial trade in wild meat*), both adopted by the 2nd Session of the World Conservation Congress (Amman, 2000);

COGNISANT of IUCN's Mission which includes the statement that any use of natural resources should be equitable and ecologically sustainable;

NOTING ASEAN's commitment through the *Yangon Resolution on Sustainable Development* "sustainably manage the rich biodiversity resources of ASEAN";

HIGHLY SUPPORTIVE of ASEAN's efforts in addressing regional wildlife trade problems at the 13th Conference of Parties to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) in Bangkok, October 2004;

CONCERNED that there is a rapidly increasing unsustainable and illegal international commercial trade in wildlife and products derived from wild animals throughout ASEAN (Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam) and the Mekong River riparian states (China, Myanmar, Laos, Thailand, Cambodia and Vietnam);

UNDERSTANDING that:

- (a) this trade is a significant immediate threat to wildlife populations across ASEAN and the Mekong River riparian states;
- (b) a very wide range of species are at risk of local extinction across wide areas; and
- (c) several species are already presumed extinct in some countries across the region as a result of this trade; and

ALSO UNDERSTANDING that the depletion of wildlife resources across ASEAN and the Mekong River riparian states is negatively affecting human livelihoods in many rural areas;

The World Conservation Congress at its 3rd Session in Bangkok, Thailand, 17-25 November 2004.

1. ADVOCATES an immediate, collective international effort to identify and implement the most appropriate solutions to control the illegal international trade in wildlife and wildlife products throughout ASEAN and the Mekong River riparian states;

2. URGES governments of all affected nations to recognize the increasing and devastating impact of the illegal international trade on the conservation of critical biodiversity, the loss of natural patrimony, and the depletion of natural resources;

3. URGES all states to enforce legislation to control the illegal international trade in wildlife and wildlife products throughout ASEAN and the Mekong River riparian states, and the other regions focusing especially on strict enforcement of CITES regulations through establishing appropriate national legislation and its implementation by the relevant Management Authorities;

4. URGES all members and States to collaborate towards establishing appropriate information exchange regarding the illegal trade in wildlife by establishing a regional working group comprising representatives of the governments of ASEAN and the Mekong River riparian states, and to use that information to formulate and implement action programmes where needed;

5. URGES donor and lending organizations to provide additional resources to support appropriate and necessary programmes to control the illegal international trade in wildlife and address its root causes, especially actions taken in relation to 3. and 4. above; and

6. REQUESTS the Director General and the IUCN Species Survival Commission, in collaboration with relevant IUCN State members, agencies, organizations, and local stakeholders to:

(a) request that the International Air Transport Association (IATA) implements its own regulations concerning the transport of illegal wildlife cargoes; and

(b) urge all member states of ASEAN, and Mekong River riparian states, to improve the effectiveness of wildlife law-enforcement through ensuring that CITES and its essential domestic implementation legislation is strictly respected and enforced, including through customs and other controls on land borders, especially where roads and railways cross international borders, and at airport export and import facilities, including through training and the provision of resources to officers and border officials who control wildlife trade.

The Ministry of Foreign Affairs, China, provided the following statement for the record:

1. The Chinese Government supports controlling illegal international trade of wildlife and international cooperation in this regard.

2. China strictly controls commercial use and illegal trade of wildlife species.

3. To effectively combat wildlife-related crimes, China set up a forest police force in the 1980s and a special police unit to crack down on smuggling of wildlife species. Perpetuators are robustly prosecuted and sentenced to maximum terms of punishment according to Chinese Criminal Law.

4. China is also a strong supporter and active player in international cooperation. China hosted a series of international meetings and workshops, the recent example being the workshop on CITES Implementation in the Mekong River Riparian States co-sponsored by China and the CITES Secretariat.

APPENDIX II: COUNTRY NEEDS TO ESTABLISH AN EFFECTIVE SYSTEM TO MANAGE HUNTING AND WILDLIFE TRADE

I. LEGISLATION

PA= protected area

* = CITES legislation under review

COUNTRY	Does legislation need to be improved to allow us to do our job?	(a) Has the country signed CITES ? (b) Has it passed enabling legislation?	Is hunting legal?	Is hunting legal inside PAs? What are the legal controls?	Are certain hunting technologies legally controlled? (a) In PAs (b) Elsewhere	Is sale of wildlife legal?	Apart from CITES, are there import and export laws?	Are there closed seasons and/or bag limits?	WHAT DO WE NEED TO DO, IF ANYTHING?
PNG	Yes.	(a) Yes *(b) Yes, and recently updated, 2004	Yes.	Few true PAs. Some PAs are designated for managing wildlife consumption, but legal controls are few, and largely unenforceable.	(a) Not applicable (b) No. Some regulations are devised and implemented by consensus in particular wildlife management areas, especially on outside hunters; hunting with guns is sometimes banned, hunters; hunting with guns is sometimes banned, but not easily enforced. Outside small areas of management, there are no other real controls.	Yes, except for some protected species (although little enforcement occurs.).	Yes, under Customs Act. This includes tariffs.	Some controls on crocodile management and some fisheries (e.g., beche de mer). No such regulations exist for wildlife.	WCS and TRAFFIC to continue to build capacity in Dept of Environment and Conservation to: (i) improve regulations, including making amendments to import and export regulations, and improving protected species list. (ii) implement Conservation Areas Act; (iii) assist management at the community level.
INDONESIA	Yes. Efforts underway to create new laws at provincial and regency levels to fit with administrative decentralization	(a) Yes *(b) Yes	Yes, except for protected species and inside PAs. Outside PAs, law unclear even for protected species.	Yes, in hunting reserves. Not legal in any other protected area categories.	(a) Yes. No snares, no semi-automatics. (b) Yes. Illegal to use semi-automatics.	Yes, except for protected species.	Yes. This includes tariffs.	No.	At local levels, no WCS action needed (others are active). At national level, WCS should give input to any legal changes to Act No.

COUNTRY	Does legislation need to be improved to allow us to do our job?	(a) Has the country signed CITES? (b) Has it passed enabling legislation?	Is hunting legal?	Is hunting legal inside PAs? What are the legal controls?	Are certain hunting technologies legally controlled? (a) In PAs (b) Elsewhere	Is sale of wildlife legal?	Apart from CITES, are there import and export laws?	Are there closed seasons and/or bag limits?	WHAT DO WE NEED TO DO, IF ANYTHING?
MALAYSIA Peninsula	Yes. PAs cannot be protected while sales outside them are largely legal. Also, licenses are given for species whose numbers are now very low, e.g., flying foxes.	(a) Yes (b) Yes, but currently contains loopholes.	Yes, except for protected species which can only be hunted under license. List of protected species is large, but hunting licenses are granted for some.	Orang Asli can hunt in PAs, and legal ambiguity means that they can sell such wildlife.	(a) Yes. Traditional weapons only. (b) Gun laws very strict.	Yes, except for protected species which can only be sold under license.	Yes. Under quarantine regulations (Agriculture Dept.), licenses needed for import and export of all species.	Closed seasons for all except hunting by Orang Asli. Bag limits stipulated in licenses for certain species.	WCS and TRAFFIC to work with government to advise on necessary changes in species listings (e.g., gaur and elephants still considered "game").
Sabah	Yes. Many parts of new law enhance ability to hunt, and make control more difficult, especially in commercial wildlife hunting areas.	(a) Yes (b) Yes - on paper, the best CITES implementing provisions in Malaysia.	Yes, except for protected species.	In certain reserves, some legally specified indigenous groups have rights to hunt for subsistence.	(a) and (b) Possession and use of guns very strictly controlled.	Yes, except for protected species which can only be sold under license.	Yes, for protected species.	Closed seasons and bag limits.	TRAFFIC has recommended changes in legislation on parts and derivatives, which were rapidly adopted. TRAFFIC will follow up.
Sarawak	Yes. 2004 amendment passed to make it illegal to sell ALL wildlife. This needs revoking to allow sales of fish, prawns etc.	(a) Yes (b) Yes	Yes, except for protected species.	In certain reserves, some legally specified indigenous groups have rights to hunt for subsistence.	(a) Yes. No snares. (a) and (b) Possession of guns and issuing of cartridges strictly controlled. Mist nets only for research under license.	No if animal is from the wild. Only legal sales: F2 generation from licensed breeding facility.	Yes. All wild animals, parts and derivatives imported or exported must have license.	No.	WCS to work with govt to advise on revoking recent amendments.

COUNTRY	Does legislation need to be improved to allow us to do our job?	(a) Has the country signed CITES? (b) Has it passed enabling legislation?	Is hunting legal?	Is hunting legal inside PAs? What are the legal controls?	Are certain hunting technologies legally controlled? (a) In PAs (b) Elsewhere	Is sale of wildlife legal?	Apart from CITES, are there import and export laws?	Are there closed seasons and/or bag limits?	WHAT DO WE NEED TO DO, IF ANYTHING?
THAILAND	No for PAs. Improvements needed for wildlife outside PAs. 2003 improvement in protected species listing, but allows commercial breeding of 59 species, and 120-day amnesty for keeping protected species. Complex laws give legal loopholes for ivory under draught animal laws which includes elephants. Derivatives and products not covered e.g., shaltooish.	(a) Yes (b) Yes, good CITES implementing legislation, but it is contradicted by some domestic laws (e.g., on draught animals).	Yes, except (i) inside PAs and temples, and (ii) protected species.	No, except in self-defense.	(a) Yes. (b) Only restriction - cannot shoot at night	Yes, except for protected species.	Yes, for protected species	No.	WCS to provide input into National Wildlife Master Plan, which will include legislation recommendations, e.g., on need to change burdens of proof.
MYANMAR	Yes. Current legislation weak.	(a) Yes (b) No	Yes, for some species but only with license.	No, except with special permission for research purposes.	(a) Not applicable - no hunting in PAs. (b) Controlled under terms of license.	No	No	Yes - closed seasons. No - bag limits	TRAFFIC, with WCS support, to advise government on CITES implementing legislation. TRAFFIC and WCS to hold workshop on how CITES works. WCS to advise Forest Dept. (FD) on updating list of protected species, with a first step: of holding a workshop for FD.

COUNTRY	Does legislation need to be improved to allow us to do our job?	(a) Has the country signed CITES? (b) Has it passed enabling legislation?	Is hunting legal?	Is hunting legal inside PAs? What are the legal controls?	Are certain hunting technologies legally controlled? (a) In PAs (b) Elsewhere	Is sale of wildlife legal?	Apart from CITES, are there import and export laws?	Are there closed seasons and/or bag limits?	WHAT DO WE NEED TO DO, IF ANYTHING?
CAMBODIA	No. Laws now adequate. CITES legislation now passing.	(a) Yes *(b) Passing	Yes, for some species.	Some is, as defined under forestry law.	(a) Yes (guns) (b) Yes (guns)	Under license	Not specific to wildlife.	Yes but not defined.	TRAFFIC to support drafting enabling legislation and ratification of CITES; WCS support needed to ensure passage of draft in unweakened form. WCS to develop an appropriate protected species list. Legislation needed to specify which agency responsible for freshwater turtles, crocodiles, and water snakes.
LAO PDR	Yes; helpful to improve lists of protected species, clarify trade rules, tighten conditions for captive breeding licenses for trade.	(a) Yes *(b) No.	Yes, except for restricted species.	Yes. 4 types of control: (i) only village residents can hunt; (ii) no hunting in core areas and corridors; (iii) hunting off-takes should be sustainable; (iv) no hunting of pregnant animals or those with offspring.	(a) Yes. (b) Yes	Historically, no. Recent legislation makes legality of selling animals from a licensed breeding facility unclear.	Yes, for restricted and controlled species.	Yes- 6 month closed season. Yes - harvest rates should be sustainable.	TRAFFIC to help develop CITES implementing legislation. WCS to provide recommendations to TRAFFIC on lists of protected species, and potential regulations for managing trade and captive breeding facilities.

COUNTRY	Does legislation need to be improved to allow us to do our job?	(a) Has the country signed CITES ? (b) Has it passed enabling legislation?	Is hunting legal?	Is hunting legal inside PAs? What are the legal controls?	Are certain hunting technologies legally controlled? (a) In PAs (b) Elsewhere	Is sale of wildlife legal?	Apart from CITES, are there import and export laws?	Are there closed seasons and/or bag limits?	WHAT DO WE NEED TO DO, IF ANYTHING?
VIETNAM	No. It is not the limiting factor preventing good management, though future improvements are needed.	(a) Yes (b) Yes	Yes, for some species.	No.	(a) No. (b) No.	Yes. (i) Captive bred animals can be sold with license. (ii) Some other common species can be sold, although laws ambiguous.	Yes, tariffs on goods. International trade ban on rare species. Ban until 2005 on export of all terrestrial species.	No.	Implementing existing laws is more important than changing legislation. But opportunity exists for assisting legislative revision being carried out by the legislation dept of National FPD.
INDIA	No.	(a) Yes * (b) Yes	No. (Kashmir now has laws in line with rest of country).	No.	Not applicable, as all hunting illegal.	No	Yes.	Not applicable for most of country.	Nothing needed.
CHINA	No. But future improvements are needed to bring old laws in line with modern economic state.	(a) Yes * (b) Yes	Yes, for some species but need license.	No.	(a) Not applicable. (b) No gun, poisoning, explosives or military weapons.	Government listed 54 species which can be traded legally, if from a licensed breeding facility.	Yes, for protected species. Quarantine regulations for imported animals.	No.	TRAFFIC to review draft revised legislation. WCS to continue to liaise with Govt of China.

2. RESEARCH

COUNTRY	Subsistence hunting: Do we know (a) Who hunts? (b) How much? (c) Why? (d) Sustainability?	Sport hunting: Do we know (a) Who hunts? (b) How much?	Professional/commercial/ non-resident hunters: Do we know (a) Who hunts? (b) How much? (c) Sustainability? (Professional=hunting species with high commercial value)	Do we know the scale of the domestic trade? i.e. how much is sold? What species? Where? Price structures of trade?	Do we know if there are significant exports and/or imports? What species? Scale of trade?	Do we know trade routes (internal and international) and ultimate destinations?	WHAT DO WE NEED TO DO?
PNG	(a) Somewhat, depends on location. (b) Quantitative data are still inadequate. (c) Yes- subsistence and some traditional use. (d) Data on population biology of hunted species are inadequate.	Not an issue.	Not an issue, certainly compared to other hunting issues.	Mostly no; domestic trade not a major issue, except for a few key species, e.g., sea turtles.	Scale unknown. At present, scale is small, but need to watch, especially for turtles.	Not major issue yet, except turtles to Indonesia, and some species for traditional use.	Research what is sustainable, to recommend best practices on local use. Need to link wildlife use with rural development issues.
INDONESIA	(a), (b), (c) and (d) For about 10 sites- not country-wide.	(a) Yes, but data limited. (b) No data (c) Uncertain.	(a) In some cases, but data limited. (b) and (c) Not much data; some is illegal so data hard to collect.	Yes- for 5 locations. Information stronger than 2 years ago.	Some data on legal turtle trade, Medan bird trade, Sumatran tiger, hawksbill turtle, orang-utan and gibbon trades. In past 2 years, more seizure data from rescue centers, and significant improvement on data collection and publications.	Yes, good information on export destinations, and internal trade routes in and between major islands including Sumatra, Java, Sulawesi, Bali.	WCS to: (i) conduct economic analysis of scale of trade, to know its economic value, to use for political leverage; (ii) continue ongoing monitoring; (iii) conduct ecological and conservation studies of fresh water turtles; (iii) for Sulawesi, to conduct sustainability study for small mammals.

COUNTRY	Subsistence hunting: Do we know (a) Who hunts? (b) How much? (c) Why? (d) Sustainability?	Sport hunting: Do we know (a) Who hunts? (b) How much?	Professional/commercial/ non-resident hunters: Do we know (a) Who hunts? (b) How much? (c) Sustainability? (Professional=hunting species with high commercial value)	Do we know the scale of the domestic trade? i.e. how much is sold? What species? Where? Price structures of trade?	Do we know if there are significant exports and/or imports? What species? Scale of trade?	Do we know trade routes (internal and international) and ultimate destinations?	WHAT DO WE NEED TO DO?
MALAYSIA Peninsula	(a), (b), (c) and (d) Small amount of data for one site (Krau).	(a) and (b) Data on legal licenses from Govt. records. No data on illegal hunting. (c) No data.	(a) Yes (b) and (c) No data. No information on Thai hunters entering Malaysia, except from recent press reports.	No.	Uncertain, as most data are from govt. records for legal trade. No data on illegal trade.	Some information.	WCS and TRAFFIC: To quantify legal licenses issued to hunters, through universities and govt.. TRAFFIC to continue monitoring wildlife passing to and through airports. WCS and TRAFFIC to liaise on info on cross-border trade.
Sabah	(a), (b), (c) and (d) Detailed State-wide data from mid- 1990s. Needs to be updated.	(a) and (b) Data on legal licenses from govt. records. No data on illegal hunting. (c) No data.	(a) Yes. (b) and (c) Not known, but for rhinos and banteng at least, assumed to be unsustainable.	Recent DANIDA report on domestic subsistence and commercial hunting.	Govt. records for legal trade. No data on illegal trade.	Reasonable knowledge of import and export points.	No recommended action in short term.
Sarawak	(a), (b), (c) and (d). Detailed State-wide data from mid- 1990s, and continuing data from one area.	(a), (b) and (c) No data, but overall control of weapons and possession of wild meat means likely to be low.	Professional hunting not known to occur. (Highly valuable species - rhino and banteng - already extinct.)	No legal trade, except for edible swiftlet nests where details of trade well recorded. Recently, sales occurring of 6 species being "captive bred", but no data on this.	Govt. records for legal trade. No data on illegal trade.	Knowledge of import and export points, although little information on some illegal trade, e.g., orang-utan exports.	WCS to work with Sarawak Forestry Corporation to monitor airport export points.

COUNTRY	Subsistence hunting: Do we know (a) Who hunts? (b) How much? (c) Why? (d) Sustainability?	Sport hunting: Do we know (a) Who hunts? (b) How much?	Professional/commercial/ non-resident hunters: Do we know (a) Who hunts? (b) How much? (c) Sustainability? (Professional=hunting species with high commercial value)	Do we know the scale of the domestic trade? i.e. how much is sold? What species? Where? Price structures of trade?	Do we know if there are significant exports and/or imports? What species? Scale of trade?	Do we know trade routes (internal and international) and ultimate destinations?	WHAT DO WE NEED TO DO?
THAILAND	(a) Yes, for 4 sites, not country-wide. (b) and (c) Yes, for 2 sites. (d) Yes, for 1 site.	No legal sport hunting. Illegal: (a) Yes, roughly. (b) and (c) No data.	No legal, professional hunting. For illegal: (a) Yes, roughly (b) and (c) No data - hard to obtain because of illegality.	Some data on: (a) scale of trade in Bangkok market; (b) cross-border trade with Myanmar; (c) swiftlet nests in 1 location (Phu Kheio). Much data from seizures in past 2 years.	Some data on legal and illegal exports. No good data on imports.	Yes, good knowledge on routes, destinations.	WCS to work with: (i) Department of National Parks to compile current information, including animals registered under amnesty; (ii) Customs and Border Patrol Police to monitor borders, including checking transpondered animals; (iii) local NGOs to initiate long-term monitoring of bird trade, in key markets e.g. with Bird Conservation Society of Thailand (BCST)
MYANMAR	(a) Yes for 2 WCS sites (b) No (c) Yes (d) No	No legal sport hunting. No data on illegal.	(a) Yes (Lisu); (b) and (c) No data	Some data on species sold and price structures. No data on scale of trade.	No data.	Some trade routes known.	1. Joint WCS-Nature and Wildlife Conservation Division surveys to assess trade volumes at key points (including across Thai and China border). WCS to liaise with TRAFFIC to compare with knowledge gained from other (import) countries. 2. WCS to continue field surveys to address livelihood and use vs. dependence issues at key WCS sites. 3. WCS to develop field monitoring protocols for populations of targeted and threatened species at key WCS sites.

COUNTRY	Subsistence hunting: Do we know (a) Who hunts? (b) How much? (c) Why? (d) Sustainability?	Sport hunting: Do we know (a) Who hunts? (b) How much?	Professional/commercial / non-resident hunters: Do we know (a) Who hunts? (b) How much? (c) Sustainability? (Professional=hunting species with high commercial value)	Do we know the scale of the domestic trade? i.e. how much is sold? What species? Where? Price structures of trade?	Do we know if there are significant exports and/or imports? What species? Scale of trade?	Do we know trade routes (internal and international) and ultimate destinations?	WHAT DO WE NEED TO DO?
CAMBODIA	Baseline data on (a), (b), (c) and (d). Knowledge of who hunts, but not quantities. No data on sustainability, although all data suggest not sustainable.	(a) Yes, approx. (foreigners and senior Cambodians). (b) Probably very little. (c) On its own, probably sustainable.	(a) Yes, for tigers and elephants. (b) No.	No data, even though scale of trade known to be large.	Few known imports. Data on legal exports especially of reptiles, and some data on illegal exports of crocodiles and macaques.	Yes, good knowledge.	WCS/TRAFFIC: Through Forest Dept or CITES, access data on seizures, to know what is available. WCS to do site-based hunting studies in several sites. TRAFFIC to do more regular monitoring of exit routes, in liaison with other, site- based NGOs.
LAO PDR	(a), (b), (c) Yes - 2 locations. (d) Analysis not done yet.	(a) Some reports (b) Anecdotal reports. (c) No data.	(a) Little information. (b) Anecdotal reports; likely small. (c) No data.	Yes - relatively good idea on openly traded species. Less data on high value animals.	Anecdotal reports (e.g., import of rays and skates from Vietnam; pangolin transport from Malaysia through Lao to Vietnam. Tiger bones to Vietnam). Ivory and rhino info available from TRAFFIC.	Yes, some knowledge	WCS to: (i) evaluate sustainability of hunting of managed species; (ii) evaluate wildlife in rural nutrition/livelihoods; (iii) continue to collect and summarize trade data on trends to inform management, and provide to TRAFFIC; (iv) compile and share anecdotal trade data as possible, and provide to TRAFFIC.

COUNTRY	Subsistence hunting: Do we know (a) Who hunts? (b) How much? (c) Why? (d) Sustainability?	Sport hunting: Do we know (a) Who hunts? (b) How much?	Professional/commercial / non-resident hunters: Do we know (a) Who hunts? (b) How much? (c) Sustainability? (Professional=hunting species with high commercial value)	Do we know the scale of the domestic trade? i.e. how much is sold? What species? Where? Price structures of trade?	Do we know if there are significant exports and/or imports? What species? Scale of trade?	Do we know trade routes (internal and international) and ultimate destinations?	WHAT DO WE NEED TO DO?
VIETNAM	(a) Yes (b) Yes, some (c) Yes (d) Not really, although increasingly info that hunting is unsustainable, and commercial.	Illegal, sporadic, not much info, but not yet a major issue.	Yes. We know who hunts and that scale large, although largely anecdotal, no systematic data. Site- based data from different NGOs not compiled.	Data on species traded, and some good recent data on volume of trade and price structures. Data and reports need synthesizing.	Scale of imports and exports large. Some data on legal and illegal imports and exports from seizures and under-cover work. Good data on legal imports/exports, and limited by increasing data on illegal imports/exports.	Excellent knowledge of legal import and export routes. Reasonably good knowledge of illegal routes (goes on any road possible).	WCS/TRAFFIC to establish long- term monitoring systems of domestic consumption, markets, monitoring of sources of wildlife in Vietnam markets. Research on attitudes and consumer behavior, and on captive breeding facilities, required.
INDIA	Not much true subsistence hunting country-wide. Detailed data on (a), (b) and (c) from 2 sites. Some new anecdotal information from NE India	Almost no legal sport hunting (except in Kashmir?). Few data on illegal: (a) available; (b) & (c) not available Scale is likely to be small.	No legal professional hunting. Some information on scale of illegal commercial hunting, particularly for elephants (a) and (b). No data on (c).	No legal trade. Very few data on illegal trade; very scrappy and scattered.	All are illegal, but some illegal exports occur, and some data exist. Some data on illegal imports of shahtoosh from Tibet.	Some data on routes and destinations, particularly for ivory, tiger-bone and shahtoosh trade. Nothing known about NE India.	WCS to conduct population monitoring, particularly for intensely hunted/traded species at important sites.
CHINA	(a), (b), (c) and (d) Data from 1 site, maybe 2. No new data available because most hunting is illegal.	(a) and (b) Yes, approx for one province (foreigners). (c) No data. Sport hunting only for foreigners (only blue sheep). Very few licenses have been issued to date.	(a) Yes, for some species, e.g., Chinese water deer, musk deer in some places. (b) and (c) No data, but scale of hunting known to be high.	Government records for all of wildlife trade before 1993. No data available after that because the wildlife trade market deregulated. National govt has large amounts of seizure data.	Imports and export volumes large. Govt. has records for legal imports and exports. Data on illegal imports and exports patchy.	Good knowledge of main domestic and international trade routes.	TRAFFIC to conduct border / trans-border monitoring, including of tigers, pangolins, elephants and turtles. TRAFFIC to analyze captive breeding data for four species (bear, musk deer, silk deer, tiger) in 10 Provinces. WCS to investigate options for monitoring markets, conducting attitude surveys.

Regional research issues for consideration by WCS and TRAFFIC:

- (1) Possible monitoring of wildlife trade along Mekong River/along Myanmar-China border;
- (2) Investigation of options for cross-border checking of import/export data across borders;
- (3) Regional compilation of data on sustainability of hunting as a lever to influence policy;
- (4) Economic analysis of scales of hunting and trade, and its implications for national economic losses;
- (5) Monitoring of wildlife trade through Singapore.

3. EDUCATION AND AWARENESS

Awareness broken into two components: of hunting being a problem for wildlife, and of trade being a problem for wildlife.

COUNTRY	Is awareness of the issue among senior Govt. officials	Is awareness of the issue among ground staff	Is awareness of the issue among rural communities	Is awareness of the issue among urban communities	Is awareness of the issue among International/in-country donors	What is WCS doing to increase awareness on this issue?	What are others doing to increase awareness on this issue?	WHAT SHOULD WE DO?
	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable			
PNG	Hunting: Low Trade: Low	Hunting: Medium Trade: Low	Hunting: Medium Trade: Low	Hunting: Low Trade: Low	Hunting: Low Trade: Low	Intensive work in project areas; need to expand. WCS planning to do research widely, raising issues with govt officials and other NGOs to build awareness.	Some NGOs with programs, but hunting usually low priority and taken for granted except for key taxa.	WCS to work to increase awareness of the importance of hunting among donors and government to help drive policy improvements. WCS to strive for greater coordination with other NGOs and govt offices.
INDONESIA	Hunting: Low Trade: Medium	Hunting: Low Trade: Medium	Hunting: Low Trade: Low	Hunting: Low Trade: Low	Hunting: Medium/Low Trade: Medium/Low	Working with donors, Govt, decision makers, religious institutions, urban campaigns, local NGOs. Conducting media events (press conferences, interviews), producing articles, guides and manuals, and working with school teachers to develop curricula.	TRAFFIC: compiling database, producing reports, Others: awareness brochures, guides to protection and protected areas.	WCS: (i) to continue and expand current activities; (ii) to work more with local govts to raise understanding; (iii) to continue working with many local NGOs so speaking with one voice; (iv) to continue working with media, especially local newspapers and radio, and national media; (v) to continue working with academic institutions, helping to teach undergraduate and graduate courses. TRAFFIC: (i) to work more closely with CITES management authority; (ii) to disseminate tiger report, and work with others to implement its recommendations.

COUNTRY	Is awareness of the issue among senior Govt. officials (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among ground staff (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among rural communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among urban communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among international/in-country donors (a) High (b) Medium (c) Low (d) Variable	What is WCS doing to increase awareness on this issue?	What are others doing to increase awareness on this issue?	WHAT SHOULD WE DO?
MALAYSIA Peninsula	Hunting and trade: Medium/ low	Hunting and trade: Medium/ Low	Hunting and trade: Low	Hunting and trade: Low	Hunting and trade: Low	Working low-key with the govt. to raise awareness - starting with the tiger conservation education modules (five workshops). Workshop with 18 universities.	Little being done. WWF and Malaysian Nature Society (MNS) do some low-key publicity on trade. TRAFFIC has produced star tortoise report. General high level of media coverage. Raising awareness in DWNP and other govt depts (e.g., agriculture, customs) by frequent meetings and information dissemination.	In the longer term, producing and working with govt. to develop hunting and trade conservation education modules, and increased policy input.
Sabah	Hunting and trade: Medium	Hunting and trade: Medium/ Low	Hunting and trade: Medium	Hunting and trade: Low	Hunting and trade: Variable - e.g. DANIDA initiated a hunting study	Nothing.	WWF: very minor information dissemination (they do not see it as a major issue). TRAFFIC: working with govt, to sensitize them to issues, including discussions on movement of Appendix I species for zoos.	Nothing planned.
Sarawak	Hunting and trade: High	Hunting and trade: High	Hunting and trade: High	Hunting and trade: High	Medium as more donors are coming into the state and some of them have concerns about hunting and trade.	WCS Working with govt. to implement major, State-wide education and awareness campaign at all levels. WCS and TRAFFIC working on ranger training, and holding wildlife ID courses for enforcement staff. WCS gives lectures at under- and post-graduate levels at Universiti Malaysia Sarawak.	Govt.: major program throughout town and rural areas, and all schools. MNS: small-scale awareness campaigns in Kuching and Miri. SFC is providing funds to publish conservation education manuals written by WCS. Press continues to give airtime about trade and hunting problems. TRAFFIC working with WCS on training, education, awareness raising.	WCS to continue current activities.

COUNTRY	Is awareness of the issue among senior Govt. officials (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among Govt. ground staff (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among rural communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among urban communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among International/in-country donors (a) High (b) Medium (c) Low (d) Variable	What is WCS doing to increase awareness on this issue?	What are others doing to increase awareness on this issue?	WHAT SHOULD WE DO?
THAILAND	Hunting: Low Trade: Medium	Hunting: High Trade: Low	Hunting: High Trade: Low	Hunting: Low Trade: Medium	Hunting: NGOs - Medium; Donors - High. Trade: NGOs - High; Donors - Medium	WCS conducting ranger training; media programs; producing identification guide for law enforcement, and training manual including enforcement module; working with national NGOs to raise awareness for govt and the public.	WWF: media and PR campaigns, and education in schools. WildAid: advertising, PR. National NGOs alliance; advocacy in media.	WCS to: (i) work more closely with govt staff, and promote interagency collaboration to maximize the impact; (ii) seek ways to maintain momentum after CITES CoP13; (iii) review how to raise awareness amongst tourists and others of zoo issues.
MYANMAR	Hunting: Low Trade: Medium	Hunting: Medium Trade: Medium	Hunting: Low Trade: Low	Hunting: Low Trade: Low	Trade: Low Hunting: Low	WCS has published posters. All projects try to have education/outreach components.	FREDA/NWCD: published posters.	WCS to: (i) do more targeted awareness raising on specific hunting issues, especially species; (ii) continue to publish materials; (iii) conduct site-based outreach. TRAFFIC/WCS to galvanize awareness raising in govt on CITES implementation.

COUNTRY	Is awareness of the issue among senior Govt. officials (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among Govt. ground staff (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among rural communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among urban communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among International/in-country donors (a) High (b) Medium (c) Low (d) Variable	What is WCS doing to increase awareness on this issue?	What are others doing to increase awareness on this issue?	WHAT SHOULD WE DO?
CAMBODIA	Hunting: Medium Trade: Medium+	Hunting: Low Trade: Medium	Hunting: Low Trade: Low	Hunting: Low Trade: Low	Medium.	WCS publishing field guides, enforcement guides, posters; conducting village-level education program; lobbying senior govt. officials and donors.	WildAid: conducting national awareness campaigns. Increased number of local NGOs: conducting site-based education work and producing school-based education materials. TRAFFIC advising on local language field guides. language field guides.	WCS to continue to publish materials. Increase site-based campaigns (priority). Support TV programs on Cambodians wildlife. Potential RARE campaign for one site. TRAFFIC to revise wildlife and trade guide. Disseminating info compiled from trade study. Create awareness of CITES, and need to address CITES issues. Potential awareness campaign at airport?
LAO PDR	Hunting: Medium Trade: Medium	Hunting: Medium Trade: Medium	Hunting: Medium Trade: Low	Hunting: Low Trade: Medium	Hunting: Low Trade: Low	GoL workshops for officials and market managers. Education & outreach programs. Media campaigns (newspaper, radio, TV), popular music (concerts, VCD), MCU, university curriculum development. Ranger training.	TRAFFIC and IFAW: CITES training for Govt.	WCS/TRAFFIC: 1. International donors and NGO community - increase awareness of linkages between hunting, trade & poverty 2. Continue trade outreach & awareness in country - RARE. TRAFFIC - translation of CITES materials. Local language field guide of wildlife species in trade.

COUNTRY	Is awareness of the issue among senior Govt. officials (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among Govt. ground staff (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among rural communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among urban communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among International/country donors (a) High (b) Medium (c) Low (d) Variable	What is WCS doing to increase awareness on this issue?	What are others doing to increase awareness on this issue?	WHAT SHOULD WE DO?
VIETNAM	Hunting: Med/variable Trade: Med/variable	Hunting: Low/variable Trade: Low/variable	Hunting: Low/variable Trade: Low/variable	Hunting: Low Trade: Low	Hunting: NGOs - Medium; Donors - Low/variable Trade: NGOs - Medium; Donors - Low/variable	Running a website on turtle trade issues.	TRAFFIC: awareness programs for government and tourists. Range of BINGO field project carrying out EE programs with WT/H component. ENV carrying out PSA's attitude surveys, community based EE programs, national media campaigns, journalist training and liaison, component of schools, EE program on wildlife trade. TRAFFIC publication of marine turtle trade in Vietnam, also presented at IOSEA MoU on Marine Turtles (under CMS). TRAFFIC produced bilingual brochure on threats to marine turtles including fines and penalties for trade in marine turtles and their products.. To be used by Ministry of Fisheries to traders.	Detailed consumer attitude and behavior research that links to targeted awareness/media campaigns. More widespread EE programs, support to ENV. Look into if other WCS materials from other countries could usefully be translated into Vietnamese. Put PDFs of local language turtle guides onto turtle website. TRAFFIC revising wildlife and trade guide. Other TRAFFIC awareness activities to follow national action plan (whole theme on awareness and education).
INDIA	Hunting: Low Trade: Medium	Hunting: High Trade: Low	Hunting: High Trade: Low	Hunting: Medium Trade: Medium	Hunting: Low Trade: High	Nothing on trade. Hunting: Media campaigns, public awareness, and direct community outreach with hunting tribes in north-east India.	Many local and national NGOs working to raise awareness on trade issues. TRAFFIC - recent regional awareness workshop in Katmandu - engaged cross-border countries.	More media campaigns. Work More on local-level outreach, particularly among illiterate audiences. Workshop on hunting and trade in NE India, with other organizations.

COUNTRY	Is awareness of the issue among senior Govt. officials (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among ground staff (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among rural communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among urban communities (a) High (b) Medium (c) Low (d) Variable?	Is awareness of the issue among International/in-country donors (a) High (b) Medium (c) Low (d) Variable	What is WCS doing to increase awareness on this issue?	What are others doing to increase awareness on this issue?	WHAT SHOULD WE DO?
CHINA	Hunting: Medium Trade: Medium	Hunting: High Trade: Medium	Hunting: Medium Trade: Low	Hunting: Medium Trade: Medium	Hunting: High; NGOs - High; Donors - Medium Trade: Medium NGOs - High; Donors - Medium.	Program at many levels, including popular publications, internet, lobbying Govt. officials, workshops, info for educators and practitioners of TCM, chapters in official textbooks, completed 5 yr program on EE for schools in 4 provinces. Teacher training in 50 model schools in Shanghai.	WWF/TRAFFIC has major campaign. Internet website pages, for urban audiences. WildAid has commercials out of Hong Kong to much of southern China. Kadoorie Farm - major campaign on turtles in south China.	TRAFFIC: - consumer attitude & behavior study (with consumer marketing firm) & partnerships for advocacy/public messaging. - Advisory Group on Traditional Medicines for senior govt officials. Training on ETIS and other CITES issues, including translation of modules for customs officials; - development of conservation curriculum for traditional medicine practitioners. WCS: continuation of some aspects of our country work, but major revision pending.

4. NATIONAL GOVERNMENT CAPACITY

Definition of capacity: 2 components:

- (1) Technical (T) - individual staff having the knowledge and skills needed to do the job.
- (2) Physical (P) - staff numbers are sufficient, and they have the necessary equipment, facilities and support to do their job.

COUNTRY	Is capacity within the country to enforce laws and regulations in protected areas	Is capacity within the country to enforce laws and regulations in logging concessions	Is capacity within the country to enforce laws and regulations in markets	Is capacity within the country to educate communities on these issues in rural areas	Is capacity within the country to conduct research and monitoring on these issues in town markets	Is capacity within the country to conduct research and monitoring on these issues in habitat areas	TRAFFIC proposed actions	WCS proposed actions
	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?		
PNG	T: low P: low	T: low P: low	T: low P: low	T: low to variable; some communities/ NGOs have good outreach, most have low. P: low	T: low P: low, but markets are a low priority, not a major issue in PNG	Currently low, but many organizations are becoming interested and programs being planned, WCS well ahead of the trend. Several partners in discussion to build major research efforts.		Widescale studies and synthesis of anthropological data, to devise appropriate management recommendations which subsistence hunters can and will use. Encourage donors to support research and management as a food security issue.
INDONESIA	T: low P: low	T and P: Low	T and P: Medium	T and P: Low	T and P: Low	T and P: Low	CITES implementation training. Enforcement assistance, including at airports, multiple govt depts. Species identification training. Put science into CTES, through determining realistic quotas.	Training of relevant groups, including police, forestry, marine, customs, judiciary, local govt., NGOs, and media. Encourage graduate students and university staff to conduct research on hunting and trade.

COUNTRY	Is capacity within the country to enforce laws and regulations in protected areas	Is capacity within the country to enforce laws and regulations in logging concessions	Is capacity within the country to enforce laws and regulations in markets	Is capacity within the country to educate communities on these issues in rural areas	Is capacity within the country to conduct research and monitoring on these issues in town markets	Is capacity within the country to conduct research and monitoring on these issues in habitat areas	TRAFFIC proposed actions	WCS proposed actions
	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?		
MALAYSIA Peninsula	T: Medium P: Medium	T: Variable P: Variable	T: Medium/Low P: High	T: Low P: Medium/High	T: Low P: High	T: Low P: High	CITES implementation training. Enforcement assistance - incl at airports, multiple govt depts. Species ID training. Put science into CITES, through determining realistic quotas.	Training with universities. 5 sets of workshops with rangers, teacher trainees and communities. Working with TRAFFIC at airports.
Sabah	T: Medium/Low P: Medium/Low	T: Variable P: Medium	T: Low P: Medium	T: Low P: Medium	T: Medium/Low P: High	T: Low/Medium P: Medium	Put science into CITES, through determining realistic quotas.	No action planned, except at Universiti Malaysia Sabah.
Sarawak	T: High P: Medium/Low	T: Medium P: Medium/Low	T: Medium/High P: Medium/High	T: Medium P: Medium/High	Not applicable - no town markets.	T: Medium P: Low	Working with WCS on enforcement training.	Wildlife ID for enforcement staff. Airport enforcement training. Conservation education training, lectures at University (undergrad and postgrad), developing modules for teachers on conservation education.

COUNTRY	Is capacity within the country to enforce laws and regulations in protected areas	Is capacity within the country to enforce laws and regulations in logging concessions	Is capacity within the country to enforce laws and regulations in markets	Is capacity within the country to educate communities on these issues in rural areas	Is capacity within the country to conduct research and monitoring on these issues in town markets	Is capacity within the country to conduct research and monitoring on these issues in habitat areas	TRAFFIC proposed actions	WCS proposed actions
	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?	(a) High (b) Medium (c) Low (d) Variable?		
THAILAND	T: Variable/Medium P: High	Not applicable - no logging concessions.	T: Low P: Medium	T: Low P: Medium	T: Low P: Medium	T: Medium P: High	ETIS module training with CITES authorities, including translation into Thai. Put science into CITES, through determining realistic quotas.	Work with local staff in key protected area to improve their skills to address hunting and wildlife trade issues, e.g., monitoring local restaurants around PAs; Train and work with BPP to monitor trade at key transborder sites; Coordinate the efforts among enforcement agencies like BPP/Forestry Police/DNP. Developed and will distribute wildlife identification guide to enforcement staff and airports.
MYANMAR	T and P: Low	T and P: Low	T and P: Low	T and P: Low	T and P: Low	T and P: Low	Facilitate bilateral meeting Myanmar-China, which could be medium for various other activities.	Enhance physical infrastructure at key WCS sites. Develop a training program in monitoring hunting, laws, park management for park staff at key WCS sites.

COUNTRY	Is capacity within the country to enforce laws and regulations in protected areas	Is capacity within the country to enforce laws and regulations in logging concessions	Is capacity within the country to enforce laws and regulations in markets	Is capacity within the country to educate communities on these issues in rural areas	Is capacity within the country to conduct research and monitoring on these issues in town markets	Is capacity within the country to conduct research and monitoring on these issues in habitat areas	TRAFFIC proposed actions	WCS proposed actions
CAMBODIA	(a) High (b) Medium (c) Low (d) Variable? T and P: Low	(a) High (b) Medium (c) Low (d) Variable? T: Low P: Low	(a) High (b) Medium (c) Low (d) Variable? T and P: Low	(a) High (b) Medium (c) Low (d) Variable? T and P: Low	(a) High (b) Medium (c) Low (d) Variable? T and P: Medium	(a) High (b) Medium (c) Low (d) Variable? T and P: Medium	Working with WCS in airport training - pilot scheme. Ultimate aim - national training program for customs inspectors. Continue to strengthen CITES office capacity. Put science into CITES, through determining realistic quotas.	Continue to train Gov staff at central and site-based levels, e.g. customs at airport. PA staff, police, mill police, Border military, other NGOs.
LAO PDR	T and P: Largely Low; Medium at 2 sites	T and P: Low	T and P: Medium	T and P: Low; Medium at 2 sites.	T and P: Low; Medium in Vientiane	T and P: Medium at 2 sites.	Possible training on species ID in markets, wildlife trade guide. Strengthen CITES office.	Continue to build capacity at all levels.
VIETNAM	T: Low (some isolated PAs with Medium) P: Med-High	T: Low P: Med-High	P: Med-High T: Med-high (incentive low)	T: Low (some isolated PAs with Medium) P: Med-High	T: Low P: Med-High	T: Low P: Med-High	Implementing recommendations on capacity building from national action plan. Airport training. Work more closely with TRAFFIC East Asia on strengthening border controls with China.	Develop institutional long term training programs using ASEAN standards, starting in priority source and demand areas, for forestry rangers, police, and related enforcement agencies. Assistance to National FPD in development of Wildlife Crimes Units. Develop species and product identification handbooks in Vietnamese.

COUNTRY	Is capacity within the country to enforce laws and regulations in protected areas	Is capacity within the country to enforce laws and regulations in logging concessions	Is capacity within the country to enforce laws and regulations in markets	Is capacity within the country to educate communities on these issues in rural areas	Is capacity within the country to conduct research and monitoring on these issues in town markets	Is capacity within the country to conduct research and monitoring on these issues in habitat areas	TRAFFIC proposed actions	WCS proposed actions
	(a) High (b) Medium (c) Low (d) Variable? T: High P: Variable	(a) High (b) Medium (c) Low (d) Variable? Not applicable - no logging concessions.	(a) High (b) Medium (c) Low (d) Variable? T: Medium P: Variable	(a) High (b) Medium (c) Low (d) Variable? T: Low P: Variable	(a) High (b) Medium (c) Low (d) Variable? Not applicable - no town markets.	(a) High (b) Medium (c) Low (d) Variable? T: Low P: High		
INDIA							Establishment of regional TRAFFIC office for South Asia likely to happen soon, based in Sri Lanka, for six countries.	Focus on building capacity in NE India, with govt and local NGOs. India can assist others in capacity building, especially management in PAs. WCS Education Dept running environmental education courses. Graduate program in Bangalore now running for Indian students.
CHINA	T: Medium P: Medium	T: Medium P: Medium	T: Low P: Medium	T: Medium P: Medium	T: Low P: Medium	T: Low P: Low	CITES trainings, at national and provincial level. Emphasizing regional issues. Primarily targeted at cross-border collaborations. Put science into CITES, through determining realistic quotas.	

Regional initiatives:

Investigate site visits to India of government staffs from Sarawak, Cambodia, and Myanmar.

NB. Chinese CITES Management Authority to host meeting of China, Russia, Mongolia, India, Nepal, Pakistan, Afghanistan, Kazakhstan, Kyrgyzstan and Tajikistan, August 05.

NB. TRAFFIC activities under Greater Mekong Subregional Agreement on strengthening CITES.

APPENDIX III: The role of in-country commercial captive breeding centers

Captive breeding of wild species is being actively promoted, whether by governments or traders, as a conservation tool in Cambodia, China, Indonesia, Malaysia (Sarawak), Thailand, Lao PDR, and Vietnam. The intention is that such farms would supply the demand for wildlife products while reducing the demand for wild-caught animals. Many farms already exist, and many governments will encourage the development of farms, especially since such initiatives are being encouraged by CITES, and by certain IUCN specialist groups (Sustainable Use, Wildlife Trade, and Conservation Breeding).

Such initiatives are a cause of concern, because:

- Farms can be a mask for laundering illegal trade of wild-caught animals, making enforcement of laws concerning wild-caught animals extremely difficult or impossible;
- For many slow-breeding species, captive breeding to produce the animals is not economically viable. Costs of breeding and raising such animals to slaughter size are well above the amount which could be derived from selling the product;
- The output from farms can be negligible compared to demand, which means that pressure on wild populations is not reduced. E.g., in China, approximately 2000 musk deer in captivity produce 4 kg of musk per year, but demand is up to 1000 kg per annum;
- Obtaining founder stock for farms can be a major drain on wild populations. E.g., demand for Siamese crocodiles for farms has extirpated the species from much of its range; almost all of the more than 2000 bears in farms in Vietnam are wild caught, and attempts to captive breed them are negligible;
- Products from captive-bred animals are often deemed by consumers to be less efficacious than those from wild-hunted animals. This creates a two-tier price structure, and demand for the wild-hunted products is not reduced significantly;
- Farms pose a considerable risk to remaining wild populations, since animals inevitably escape. This poses risks of disease and genetic contamination in wild populations and, if the captive animals are alien exotics, of becoming invasives.

In the light of this, WCS programs throughout Asia are generally discouraging commercial captive breeding facilities. Concrete data are scarce, however, and studies are urgently needed to assess current captive breeding facilities, to evaluate all of the above points, and determine if they are indeed the panacea which is widely promoted, the circumstances under which they might be a good conservation option, and those under which they are detrimental to conservation.

APPENDIX IV: Rationale for Studying Mainland China's Wild Animal Markets

Shelley Clarke
17 August 2004

Issue: Hunting of wild animals in Asia has severely impacted biodiversity in many areas, and as market demand grows in pace with increasing affluence of urban consumers, remaining areas of conservation value are subject to increasing hunting pressuresⁱ. While WCS often responds to these issues through site-based conservation efforts, complementary studies at the market end of the supply chain, particularly in large, centralized trading centers, can provide information sufficiently broad in scope to influence national and international policy as well as evaluate site-based initiatives. The demand for wild animal products as food, medicine and pets in Mainland China is the predominant driver of the Asian trade in these organismsⁱⁱ. Aside from the arguable necessity of some wild animal products as elements of traditional Chinese medicine, the vast majority of this trade consists of luxury items for which demand is potentially substitutable and subject to changes in consumer tastesⁱⁱⁱ. In addition to biodiversity concerns, recent emergence of linkages between China's wild animal trade and infectious diseases such as SARS^{iv} has led to heightened awareness and alarm among both national authorities and the general public in Asia.

Objectives: For these reasons, directed studies of Mainland China's wild animal markets are an essential component of conservation efforts in Asia. The key objective of such studies should be to quantify the volume of trade in species of conservation importance over time and to link quantities with particular source populations. This information will characterize the scale of the trade as a whole and provide supporting information for policy and education. Simultaneously, the trade surveys will highlight which habitats and trade routes would most benefit from better management or enforcement. Opportunities to incorporate elements of simple disease monitoring into the market surveys, probably involving a Chinese scientific institution as a partner, should be sought for the benefits of multi-objective project packaging as well as the possibility of using biological samples as markers of animal origin^v.

ⁱ Robinson, J.G. and Bennett, E.L. (2000) *Hunting for Sustainability in Tropical Forests*, Columbia University Press, 582 pp.

ⁱⁱ Bell, D., Robertson, S. and Hunter, P.R. (2004) Animal origins of SARS coronavirus: possible links with the international trade in small carnivores. *Phil. Trans. R. Soc. Lond. B* 359: 1107-1114.

ⁱⁱⁱ Lee, S.K.H. (1998) *Attitudes of Hong Kong Chinese towards Wildlife Conservation and the Use of Wildlife as Medicine and Food*. TRAFFIC East Asia, Hong Kong, China, 65 pp.

^{iv} Guan, Y. et al. (2003) Isolation and characterization of viruses related to the SARS Coronavirus from animals in southern China. *Science* 302: 276-278.

^v First, the high level of interest in examining China's wildlife trade given the putative connection with SARS and H5N1 (bird flu) can be leveraged for funding. Second, as disease issues are presumably a top priority for Mainland officials, this provides an opportunity to garner support for a study which also has conservation objectives. Third, traders may be more amenable to information gathering which is focused on animal and human health, than on conservation. Fourth, biological samples such as swabs and blood collected in similar markets by Guan *et al.* (2003), may provide clues to the origin of the animal (wild or captive-bred; if wild, which population (technical details will require further investigation) or at a minimum provide time and cover for more in-depth interviewing of traders.

Components of a Detailed Methodology (*inter alia*):

- *Choice of study organisms* including the extent to which surveys are focused on a limited number of species; species selection factors may include conservation concern, ease of identification under market conditions, trader sensitivity (e.g. palm civet), expected market volume, ability to link to source populations, etc.
- *Choice of study sites* including allocation of sparse effort over a wider area versus concentrating on a handful of major centers; the potential to focus on obtaining data from a smaller number of cooperative traders; and coverage of surveys over food, medicine and pet markets.
- *Quantification methods* including estimation of stock on hand if not fully visible; estimation of wild versus captive bred individuals; elimination of double-counted individuals from one visit to the next; estimation of percentage of market observed (with reference to other non-centralized trading and 'underground' trade); estimation of unobserved mortality (i.e. total 'off take' represented by each live animal in the market); development of analytical methods which account for sources of uncertainty.
- *Researcher issues* including maintaining consistent survey protocols over time and space; experiential and demographic composition of the survey team; and researcher health and safety.

WCS Role: WCS possesses a unique combination of expertise in trade community outreach in China, monitoring and statistical analysis of Chinese luxury food markets, and veterinary medicine which is ideally suited to the project outlined above. Collaborative relationships should be formed with:

- Kadoorie Farm and Botanic Garden's China Program which has conducted systematic surveys of South China's wild animal markets for several years and may wish to participate or otherwise contribute; and
- Organizations focusing on transport monitoring and regulation including TRAFFIC, Conservation International, and national CITES authorities and customs bodies, particularly as this information may prove vital in mapping trade flows.
- In addition, groups conducting consumer outreach efforts (IFAW, FFI, WildAid/ACAP, WWF?) should be kept informed and asked to contribute trend information (if available).

Each organization will have their own individual basis for interest in the issue (e.g. national or international obligations, disease issues, biodiversity issues, animal cruelty issues, etc.) WCS should seek to promote synergies between these organizations while remaining focused on obtaining the scientific information necessary for effective conservation policy and management.

Reference

Bennett, E.L. and Rao, M. (2002). *Hunting and Wildlife Trade in Tropical and Subtropical Asia: Identifying Gaps and Developing Strategies*. Wildlife Conservation Society, Bangkok.

