VOL. 23 NO. 2

2 TRAFFIC

BULLETIN

DEVELOPMENTS IN EEL CONSERVATION

SUSTAINABLE USE OF MEDICINAL AND AROMATIC PLANTS

INTERNATIONAL YEAR OF FORESTS

APRIL 2011

The journal of the TRAFFIC network disseminates information on the trade in wild animal and plant resources

TRAFFIC

the wildlife trade monitoring network

TRAFFIC was established in 1976 to perform what remains a unique role as a global specialist leading and supporting efforts to identify and address conservation challenges and solutions linked to trade in wild animals and plants.

TRAFFIC's Vision is of a world in which trade in wild plants and animals is managed at sustainable levels without damaging the integrity of ecological systems and in such a manner that it makes a significant contribution to human needs, supports local and national economies and helps to motivate commitments to the conservation of wild species and their habitats.

TRAFFIC TRAFFIC

Trade in wildlife is vital to meeting the needs of a significant proportion of the world's population. Products derived from tens of thousands of species of plants and animals are traded and used for the purposes of, among other things, medicine, food, fuel, building materials, clothing and ornamentation.

Most of the trade is legal and much of it sustainable, but a significant proportion is not. As well as threatening these resources, unsustainable trade can also lead to species declining in the wild to the point that they are threatened with extinction. Illegal trade undermines local, national and international efforts to manage wild natural resources sustainably and causes massive economic losses.

TRAFFIC is a joint programme of WWF and IUCN, the International Union for Conservation of Nature. The role of TRAFFIC is to seek and activate solutions to the problems created by illegal and/or unsustainable wildlife trade. TRAFFIC's aim is to encourage sustainability by providing government, decision-makers, traders, businesses, consumers and others with an interest in wildlife trade with reliable information about trade volumes, trends, pathways and impacts, along with guidance on how to respond where trade is illegal or unsustainable. Eight regional TRAFFIC programmes are co-ordinated by the TRAFFIC International headquarters in Cambridge, UK.

TRAFFIC's reports and advice provide a technical basis for the establishment of effective conservation policies and programmes to ensure that wildlife is maintained within sustainable levels and conducted according to national and international laws and agreements. The journal of the TRAFFIC network, *TRAFFIC Bulletin*, is the only journal devoted exclusively to issues relating to international trade in wild plants and animals. Provided free of charge to over 4000 subscribers and freely available from the TRAFFIC website (www.traffic.org), it is a key tool for disseminating knowledge of wildlife trade and an important source of information for those in a position to affect change and improve awareness.

JEFF FOOTT / WWF-CANON

Much of the content published in the *TRAFFIC Bulletin* arises from investigations carried out by TRAFFIC staff, whose wide-ranging expertise allows for a broad coverage of issues. TRAFFIC has also built up a global network of contacts with, for example, law enforcement agents, scientists, and wildlife experts, some of whom are regular contributors to the *TRAFFIC Bulletin*.

TRAFFIC welcomes articles on the subject of wildlife trade that will bring new information to the attention of the wider public, and guidelines are provided in this issue and online to assist in this process. For more information, please contact the editor: Kim Lochen (kim.lochen@ traffic.org).

JÜRGEN FREUND / WWF-CANON

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The *TRAFFIC Bulletin* is a publication of TRAFFIC, the wildlife trade monitoring network, which works to ensure that trade in wild plants and animals is not a threat to the conservation of nature. TRAFFIC is a joint programme of WWF and IUCN.

The *TRAFFIC Bulletin* publishes information and original papers on the subject of trade in wild animals and plants, and strives to be a source of accurate and objective information.

The *TRAFFIC Bulletin* is available free of charge.

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Cover illustration: A logger cutting *Cylicodiscus gabunensis* in the Samatex concession area, Western Ghana. Samatex is a company that participates in WWF's Global Forest Trade Network (GFTN) programme which promotes credible certification of commercial forestry in natural forests.
(© Harmut Jungius / WWF-Canon)

This page, from top: *Asparagus subscandens* (© A. Ghorbani); Mexican Redknee Tarantula *Brachypelma smithi* (© Tarantuland); European Eels (© R. Thomas / TRAFFIC); Indian Coleus *Coleus (Plectranthus) barbatus* (© A. Kotia)

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EDITORIAL

The conversion of forests to other land uses and the illegal trade in timber have played an important part in the decrease of forest cover and loss of biodiversity in most countries of the world, with only a very few developing nations embarking on extensive replanting and forest rehabilitation.

In 2011—declared by the UN General Assembly as the International Year of Forests to raise awareness on sustainable management, conservation and sustainable development of forests—the loss of forests and the biodiversity they harbour to illegal harvest and trade continues. This is despite longstanding national conservation efforts and action under international agreements such as the International Tropical Timber Organization (ITTO), the Forest Law Enforcement and Governance (FLEG), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on Biological Diversity (CBD) to stem this decline.

One of the factors driving the demand in wildlife consumption is the increase in disposable income of the affluent and middle classes. The contribution of the timber industry to employment and revenue generation means that greater attention must be paid to the sustainable use of forest resources; moreover the curtailment of illegal trade needs to focus on control and enforcement and a greater emphasis placed on licensing, verification and transparency in order to reduce the risk for buyers and to show conformity with regulations.

A simple comparison of Customs data is enough to demonstrate major unauthorized flows of timber. For example, TRAFFIC's studies of timber trade flows from Indonesia to Japan and other major markets, show major discrepancies, such as large imports of Indonesian logs into Japan despite a ban on the export of logs and rough sawn timber from Indonesia. TRAFFIC has brought the importance of changing Customs trade controls for timber to the attention of key consumer markets and governments and prompted discussions on this subject at international fora. TRAFFIC's study of the flow of timber from Tanzania to international markets, including China, found serious problems of illegality which has prompted numerous actions in Tanzania on both the policies and regulation reforms, which has received attention at the highest political levels in Tanzania, as well as bilateral dialogue with the Government of China.

Governments in key markets have increasingly recognized the need to address illegal logging and trade as shown by a number of initiatives around the world, for example: amendments to the US *Lacey Act* to include plants, the EU Voluntary Partnership Agreement to license legal timber from partner countries to the EU, the recently adopted EU Illegal Timber Regulations that cover all timber imports to the EU, illegal logging policy initiatives in Australia, and various efforts to enhance co-operation bilaterally such as between the EU and the USA with China, Japan and other tropical timber-producing countries, among others. Governments in many producing countries are taking strong action including policy and regulation reforms in an attempt to address illegal logging in their own countries.

These same governments are also investing in helping exporters and industry to comply with new regulations and the changing market for legal verification: training, conducted by WWF and TRAFFIC, has taken place in China, Viet Nam, Malaysia, Indonesia, Thailand and Lao PDR to show companies how they can meet legal requirements of the US *Lacey Act* as well as raising awareness on the EU's Forest Law Enforcement, Governance and Trade (EU-FLEGT) programme, including establishment of voluntary partnership agreements for timber work in Malaysia, Viet Nam, countries of the Congo basin such as Democratic Republic of Congo, Republic of Congo, and South America. Nevertheless, much more can be done by these countries to ensure the legality and sustainability of the timber trade.

The economic development of some countries has helped to fuel their demand for timber products and the business networks that are being developed are likely to continue to drive trade to those countries. Some emerging markets—India and the Middle East, for example—must act to ensure that economic development in these countries is sustainable. India's strong and stringent controls on the use of its own forest resources drives imports to feed the demand for timber products.

How much more time has to pass before forest loss can be halted and use be managed sustainably for current and future generations? Urgency is growing, not only because of the role of forests as centres of biodiversity, but also for their function in providing a variety of critical ecosystem services such as in capturing carbon, protecting watersheds, and supporting the livelihoods of people living within and adjacent to forest areas.

Investment in forest conservation is increasing as the role of forests in climate change mitigation is increasingly understood. This is illustrated by mechanisms such as REDD (Reduce Emissions from Deforestation and Forest Degradation) and the large sums of money committed by Norway to Indonesia and Guyana to reduce deforestation. However, there is a need to make sure that some of these investments go towards addressing illegal timber flows, and key markets that have not yet committed to combating illegal imports should use all avenues—including policy and regulatory changes—to work with countries that are facing illegal logging problems. It is of paramount importance that funding support to traditional conservation efforts continues.

Illegal logging and the corresponding trade in those timber products continues to have an impact on government revenues, institutions, rule of law, lives and livelihoods of marginalized and indigenous peoples, employment, and a whole host of conservation, environmental and social issues, as well as promoting corruption. A balanced approach and funding to address the problem of illegal logging should be continued to complement work dedicated to tackling climate change, but not to the exclusion of those efforts.

Finally, it is important to educate consumers to make sustainable choices such as selecting timber that has come from well-managed forests. This in turn will give producers an economic incentive to invest in forest management, to seek certified timber products and provide careful stewardship of forest resources, or face losing out in the international market place.

Chen Hin Keong, Global Forest Trade Programme Leader, TRAFFIC

TOM MILLIKEN Regional Director of TRAFFIC East/Southern Africa, is to become thematic programme leader for TRAFFIC's global work on elephant and rhinoceros trade, thus formalizing a role he has played for many years. Tom will bring to this position a wealth of knowledge and experience from his longstanding and excellent work for TRAFFIC, particularly in Africa and Asia.

bulletin board

DAVID NEWTON, Programme Director of the South Africa office, has accepted an offer to be Interim Regional Director of TRAFFIC East/Southern Africa for the next six months. The Regional Director position will be advertised in due course.

TOM OSBORNE, has left his position as Co-ordinator of TRAFFIC's Greater Mekong Progamme office in order to take on the role of Timber Trade Programme Officer with TRAFFIC Europe, effective July 2011. Tom will be based in Cambridge, UK. **SULMA WARNE** will assume Tom's role at the GMP office until such time as a new person is recruited.

ROB PARRY-JONES will leave TRAFFIC at the end of June 2011. Rob, who has worked with TRAFFIC since 1994, has held many positions during his long and distinguished tenure with TRAFFIC, based, variously, at offices in East Asia, Oceania and International. Since May 2008 he has served as Director of TRAFFIC Europe.

NOBUYUKI YAMAYOSHI joined TRAFFIC in Japan in April 2011 as Fisheries Officer, succeeding **SOYO TAKAHASHI**.

TRAFFIC BULLETIN E-COPIES

In the interests of reducing paper use as well as production and postage costs, TRAFFIC asks that readers who are willing to switch from hard copies of the TRAFFIC Bulletin *to an electronic version, please complete the form at the back of this issue and return it to TRAFFIC International. Some 1000 bulletin recipients are now receiving their copies online and we hope this figure will continue to rise. Thank you for giving this your consideration.*

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VIDEOS ON THE AMAZON FORESTS OF ECUADOR

A series of lectures about the Amazonian forests of Ecuador have been released on video as part of an educational series 'Voices for Sustainable Forests', produced by TRAFFIC. The Spanish-language broadcasts, by 17 specialists in areas critical to the conservation and sustainable forest management of the Amazonian forests of Ecuador, are aimed at community radio, schools and the media.

According to Ana Puyol, a programme officer at TRAFFIC and member of the IUCN Commission on Education and Communication, the idea for the videos arose when she and colleagues were working with community radio in Ecuador and they realized that technical papers on forest topics did not serve the need for information among the media and educators.

> *"It is wonderful to hear these experts speaking colloquially about the problems and solutions. What dilemmas do people face in their forests? What about indigenous territories, forest governance, and the law? What ecosystem services do the forests provide? The videos cover the key topics, including the best policies and programmes of the Government of Ecuador today,"* says Ana.

Moreover, the information contained in the videos is relevant to countries across the region as many of the challenges experienced in Ecuador are the same in other countries where the Amazonian forest is under threat.

One of the next steps is to produce short online courses for members of the media who may know little about forests. Another was to seek inclusion of the videos in the National Teacher Training Programme: already the Ecuadorian Ministry of Education has purchased 400 copies of the two DVDs to be used in the programme.

WATCH THE VIDEOS:

www.iucn.org/about/union/commissions/cec/?6946/24-Videos-Voices-for-Sustainable-Forests-Voces-para-Bosques-Sustentables

TIGHTENING THE NET ON SHARK ENFORCEMENT

Worldwide, shark populations are in decline due to unregulated fishing, much of it to meet the high demand for shark fins used as an ingredient in shark fin soup, a delicacy in East Asian cuisine. According to the PEW Environment Group's Global Shark Conservation Campaign, up to 73 million sharks are killed every year primarily to support the global shark fin trade.

In recent years, a number of fishing nations have taken action to ban activities relating to this trade: in September 2009, Palau, an island nation in the Pacific Ocean, declared its waters a shark sanctuary and introduced a ban on the possession and trade of shark fins. In 2010, similar legislation was passed in Hawaii and Honduras, and the Maldives imposed a complete ban on shark fisheries in its waters.

In November 2010, the International Convention for the Conservation of Atlantic Tunas (ICCAT) adopted a ban on the retention of any Oceanic Whitetip Sharks *Carcharhinus longimanus*, a ban on the retention of any hammerhead sharks Sphyrnidae caught in ICCAT fisheries, and data collection requirements for Shortfin Mako Sharks *Isurus oxyrinchus*. These measures mark a good step forward for shark conservation in the Atlantic Ocean.

On 4 January 2011, the US *Shark Conservation Act* was signed into law which will crack down on the trade in shark fins and close a number of gaps in the federal law to improve enforcement, such as requiring boats to land sharks with their fins still attached. The new law prohibits all finning with the exception of the dogfish shark fishery which will still be permitted to conduct some finning. This fishery reportedly accounts for one per cent of shark fishing in US waters. The legislation also allows the USA to block seafood imports from nations that allow shark finning. Also in January 2011, the Commonwealth of Northern Mariana Islands banned the possession and sale of shark fins within its jurisdiction and similar legislation was introduced in Guam on 9 March 2011. California—which has one of the largest markets for shark fins outside Asia—has introduced a bill that will see similar restrictions enacted, and corresponding legislation is also pending in the legislatures of Oregon and Washington.

Shark Action Plans Adrift

Despite such measures and a growing awareness by consumers of the problems caused by unregulated fishing of sharks, only 13 of the world's top 20 shark catchers—members of the United Nations Food and Agriculture Organization (UN FAO)—have developed management and conservation measures to conserve sharks, one of the primary recommendations from a 2001 United Nations agreement on sharks. Moreover, it remains unclear how these have been implemented or whether they have been effective. With 30% of all shark species now threatened or near threatened with extinction, there is little evidence that the plans have contributed significantly to improved conservation and management of these animals.

These are the findings of a report *The Future of Sharks: A Review of Action and Inaction* (PDF) based on a review carried out by TRAFFIC and the Pew Environment Group using fisheries information provided to FAO. The study aimed to assess whether management and conservation measures agreed to in 2001 had been met. The top 20 shark catchers account for more than 640 000 tonnes annually—nearly 80% of total shark catch reported globally. The top 10 nations, in order, are: Indonesia, India, Spain, Taiwan, Argentina, Mexico, Pakistan, USA, Japan and Malaysia.

"The fate of the world's sharks is in the hands of the top 20 shark catchers, most of which have failed to demonstrate what, if anything, they are doing to save these imperilled species. They need to take action to stop the decline in shark populations and help ensure that the list of species threatened by overfishing does not continue to grow," said Glenn Sant, TRAFFIC's Global Marine Programme Leader.

The Pew Charitable Trusts: www.pewtrusts.org, 2 March 2010; 28 January 2011; 24 February 2011; www.pewenvironment.org/campaigns/global-shark-conservation/id/8589941059/goals/; WildAid, 10 March 2011; http://lakeconews.com/content/view/18301/919/, 15 February 2011; www.fis.com/fis/worldnews/worldnews.asp?l=e&country=0&special=&monthyear=&day=&id=40273&ndb=1&df=0, 31 January 2011; www.wired.com/wiredscience/2011/01/shark-conservation-act/; www.traffic.org/home/2011/1/27/shark-populations-dwindle-as-top-catchers-delay-on-conservat.html; http://info.sen.ca.gov/pub/11-12/bill/asm/ab_0351-0400/ab_376_bill_20110314_amended_asm_v98.pdf, 14 February 2011; www.leg.state.or.us/11reg/measures/hb2800.dir/hb2838.intro.html; http://apps.leg.wa.gov/documents/billdocs/2011-12/Pdf/Bills/Senate%20Bills/5688.pdf

SHARK PROCESSING FACTORY, JAPAN ▶

Of the top 20 shark catchers, Japan is the only one known to have reviewed and revised its national plan of action on shark conservation measures.

SHAWN HEINRICHS

Rhinoceros Horn Trophy Ban in Effect

New legislation in the UK has led to a ban on the sale of mounted, but otherwise unaltered rhinoceros horns in the UK. Until recently, mounted rhinoceros horns in their natural state were considered to be 'worked items', and, as such, were permitted to be legally traded. Now, however, it will be illegal to sell such items unless they qualify under the antiques derogation (i.e., prepared and acquired in such condition prior to June 1947 and unaltered since then). European regulations allow for the sale of rhinoceros horn provided worked items meet this derogation. The ban is in response to European Commission guidance and is implemented by the UK Animal Health's Wildlife Licensing and Registration Service (WLRS).

"The new EC guidance has been put into immediate effect and we will no longer give approval for the sale of mounted, but otherwise unaltered, rhinoceros horn under the antiques derogation," said John Hounslow, the head of the WLRS.

"Neither will we allow sales of rhino horn to take place where the artistic nature of any alteration is not obvious."

In future, mounted rhino horns will be considered to be unworked.

Given that all unworked specimens of rhinoceros horn are already banned from sale in the UK, it will no longer be possible to offer mounted rhinoceros horns for legal sale.

In respect of exporting such items, Animal Health would also be unlikely to grant a CITES re-export certificate under the export restrictions brought into force in the UK in September 2010.

The newly implemented EC guidance states that a rhinoceros horn mounted on a plaque, shield or other type of base has not been sufficiently altered from its natural state to be included in the derogation for worked specimens in Article 2(w) of the EC Regulations (the "antiques derogation"). The EC also advises that the conditions in Article 2(w), which require any alteration to have been carried out for "jewellery, adornment, art, utility, or musical instruments", will not have been met where the artistic nature of any such alteration (such as significant carving, engraving, insertion or attachment of artistic or utility objects, etc.) is not obvious.

All species of rhinoceros (excepting certain populations of Southern White Rhinoceros *Ceratotherium simum simum*) are listed in Appendix I of CITES/Annex A of the EC Regulations implementing CITES in the EU.

UK Department for Environment, Food and Rural Affairs: www.defra.gov.uk/animalhealth/news/180211-new-rules-rhino-horns-in-the-UK.htm, 18 February 2011

Bilateral collaboration between South Africa and Viet Nam to address rhinoceros horn trade

Rhinoceros poaching in South Africa reached an alarming rate in 2010, with a record high of 333 rhinoceroses killed illegally—a significant increase from the 122 killed illegally the previous year. The escalating deaths are due in large part to the growing demand for ground rhinoceros horn in Asia. As traditional medicine, it is believed to cure a range of ailments, with recent, unfounded claims that it can cure cancer.

One country in particular that has emerged as a main driver of the international illegal trade in rhinoceroses is Viet Nam, as increasing wealth has corresponded with an increasing appetite for expensive products like rhinoceros horn.

MARTIN HARVEY / WWF-CANON

In order to address the growing illegal rhinoceros horn trade between Viet Nam and South Africa, TRAFFIC organized and participated in a mission to Viet Nam in October 2010 to facilitate bilateral talks among officials in both countries. Between 18 and 22 October, five delegates from the South Africa National Wildlife Crime Reaction Unit met government officials in Ha Noi and Ho Chi Minh City, including Customs, Environmental Police, INTERPOL, and the Association for Traditional Medicine, among others. Discussions focused on increasing understanding of the trade and strengthening enforcement. Both parties agreed to develop a Memorandum of Understanding which will form the basis for collaborative law enforcement action in the future. It is anticipated that this document will be ready to sign when the Vietnamese delegation visits South Africa later in 2011. This is an important first step and will formalize the relationship for working together to combat the illegal trade in rhino horn.

The South African delegation also promised a donation of equipment to Viet Nam to help track horns in the country that have been legally obtained from trophy hunts. While trophy hunting of White Rhinoceroses *Ceratotherium simum* is permitted in South Africa under strict regulations, the lack of a system to register and track privately-owned horns in Viet Nam is allowing them to enter commercial trade illegally.

The visit was hosted by Viet Nam's CITES Management Authority with support from TRAFFIC, and made possible through the financial assistance of WWF-Germany, WWF African Rhino Programme and the US Government, which pledged to support such an initiative at the 15th meeting of the Conference of the Parties to CITES in March 2010.

***Sarah Morgan**, Communications Officer, TRAFFIC Southeast Asia–Greater Mekong Programme*
***Tom Milliken**, Elephant and Rhinoceros Programme Leader, TRAFFIC*

IMPLICATIONS FOR CITES IF AFRICAN ELEPHANTS SPLIT

MARTIN HARVEY / WWF-CANON

A number of research papers published in recent years suggest the existence of two or even three genetically distinct species of African Elephant: the savanna elephant, the forest elephant (of Central Africa) and, possibly, the West African elephant (see http://biology.ucsd.edu/news/article_091202.html and http://www.plosbiology.org/article/info:doi/10.1371/journal.pbio.1000564). Such findings of genetic differentiation will need to be confirmed before any formal taxonomic revision of the African Elephant *Loxodonta africana* (or its recognized subspecies in forest areas *L.a. cyclotis*) can be proposed. It is, however, worth considering the implications of any change in taxonomy from a CITES perspective. If forest elephants in West and Central Africa and/or populations of West African elephants were ever recognized as separate species, they would remain listed in Appendix I under CITES, just as they are at the present time. Thus, in terms of treatment under the Convention, the effect would be moot, but there could be other follow-on consequences.

First, if the status of the savanna elephant (whose *Loxodonta africana* populations in Botswana, Namibia, South Africa and Zimbabwe are listed in Appendix II) were considered independently of either the poorly known and smaller populations of forest elephants in Central Africa and/or without the small, fragmented and highly endangered populations of West African elephants, a lesser category of threat might actually be applied to the species in the *IUCN Red List of Threatened Species* (where it is currently listed as Vulnerable). Although this may not necessarily result in a change in the CITES listing for *Loxodonta africana*, it might open a door for consideration of the savanna elephant species being listed in CITES Appendix II.

Secondly, distinguishing ivory from these distinct species may have implications for the successful implementation of these CITES listings. Experts can usually differentiate whole tusks of forest elephants from those of savanna elephants as they are generally much straighter, narrower and the material much harder to carve. However, worked ivory products and small ivory items would be almost impossible to distinguish from other elephant ivory types. As a consequence, a period of uncertainty would likely prevail until a method were developed to verify the differences and specific training materials were produced. Such an outcome might finally result in CITES moving more forcefully to close the unregulated domestic ivory markets in Central and West Africa that are so problematic as drivers of illegal ivory trade.

The IUCN/SSC African Elephant Specialist Group (AfESG) has encouraged all research groups to work together to resolve this important genetic issue by pooling their data, obtaining DNA samples from parts of the elephant range that have not been sampled (especially south of the Congo river), and has issued a statement to encourage this process (http://www.african-elephant.org/tools/pdfs/pos_genet_en.pdf).

Tom Milliken *Elephant and Rhinoceros Programme Leader, TRAFFIC*

< Savanna elephants

Ivory Identification Training in Thailand

Thailand's Department of National Parks, Wildlife and Plant Conservation has teamed up with TRAFFIC Southeast Asia and local administrative organizations to carry out a specialized training programme that aims to equip some 100 enforcement officials and ivory traders with the skills to distinguish real from fake ivory.

A key component of the training workshop, held in January 2011 in Surin Province—home to a significant ivory carving industry—involved encouragement of ivory traders to inventory and register their ivory stocks, which is a requirement under Thai law that few traders adhere to.

The trade in ivory and elephant products in Thailand is widespread, with shops openly displaying and selling such products. In the absence of an effective ivory registration system and few measures in place to control the commerce, there is no way of telling if the products on sale have originated from a legal source under current legislation. Coupled with poor measures to control commerce and numerous cases of illegal ivory shipments through or to Thailand, the country was ranked in 2009 among the top three most notorious hubs for the illegal trade in ivory globally.

However in recent times, Thailand has responded with a series of measures to repair its international image including crucial training for enforcement officers.

"It's a problem we view seriously and one that we are acting upon by providing enforcement officers with all the tools they need to enforce the law and urging ivory traders to respect it," said the Director General of Thailand's Department of National Parks, Wildlife and Plant Conservation, Mr Sunun Arunnopparat.

Some of the country's largest seizures have been carried out over the past year (see also page 68), a campaign was launched at Suvarnabhumi International Airport to warn potential consumers not to buy illegal ivory; further, the passage of a new bill that would close existing gaps and improve regulation of Thailand's domestic ivory trade is in the process of being finalized.

The workshop aimed to ensure officers will be able to monitor and enforce this new law. It also targeted a sound understanding and more effective use of the Elephant Trade and Information System (ETIS), the world's largest database on ivory and elephant product seizures that TRAFFIC manages on behalf of CITES Parties.

www.traffic.org/home/2011/1/27/how-to-tell-real-from-fake-ivory.html

NATUREPL.COM / ANDY ROUSE / WWF

< A female Bengal Tiger *Panthera tigris tigris* fighting with an 18 months' old cub, Ranthambore National Park, Rajasthan, India. The cats fight when it is time for the cubs to move on and find their own territory.

DEVELOPMENTS IN THE STRUGGLE AGAINST THE ILLEGAL TIGER TRADE

Introduction

The wild Tiger *Panthera tigris* is on the brink of extinction. Once abundant throughout Asia, wild Tiger populations have dramatically declined during the last century, from around 100 000 individuals to a current estimated population of 3200, distributed in small, fragmented and often isolated habitats in 13 range countries: Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand and Viet Nam. In addition to habitat loss and degradation, human encroachment and excessive poaching of key prey species, the illegal trade in Tiger parts is greatly contributing to the rapid decline of Tigers in the wild.

TRAFFIC study

As with most illicit activities, the international dynamics of the Tiger trade are poorly understood. To aid in addressing this lack of knowledge, TRAFFIC has compiled and analysed available data on Tiger seizures from 11 of the 13 Tiger range countries over the past 10 years (Cambodia and Bhutan were omitted from the analysis owing to lack of data). The report resulting from this research, *Reduced to Skin and Bones: An Analysis of Tiger Seizures from 11 Tiger Range Countries (2000–2010)* (Verheij *et al.,* 2010), was published in November 2010, in the Year of the Tiger, just prior to the International Tiger Conservation Forum in St Petersburg.

A total of 481 seizures were analysed, suggesting a minimum of 1069 Tigers killed for their parts and derivatives in the 10-year period. The vast majority of these seizures took place in India (276 seizures) which is unsurprising given that the largest population of Tigers in the wild occurs in that country; the other principal countries where seizures took place were China (40 seizures), Nepal (39 seizures) and Indonesia (36 seizures). Parts seized in range countries were most commonly in the form of skins (480), bones and skeletons (1253.53 kg), dead individuals (197) and claws (1313). Seizures of skins dominated in India and Nepal; bones and skeletons were most often seen in seizures in China, Nepal and Russia. Owing to the illicit nature of the trade, it must be assumed that the Tigers implicated in the analysis are fewer than the actual number of Tigers and Tiger parts and derivatives being trafficked around these countries.

The study succeeded in compiling an unprecedented range of data on the trade in a single review. Most obviously, the data show that illegal Tiger trade continues unabated despite considerable and repeated efforts to curtail it on the part of Tiger range and consumer countries/territories, inter-governmental organizations and NGOs. The data also point to other findings, namely an apparent increase in seizures in recent years, with a greater part now being played by Indonesia, Nepal, Thailand and Viet Nam, and continuation of India's position as supplier of the largest quantities of Tiger products. The data show that there is a steady demand for a variety of Tiger products, that the wild Tiger population may not be able to satisfy existing demand and that parts and derivatives from captive-bred Tigers entering illegal trade in response may increase significantly. Lastly, TRAFFIC's analysis of available enforcement data indicates that current law enforcement activities are inadequate to prevent the illegal killing of and trade in Tigers, and that penalties alone are insufficient to deter would-be offenders, clearly highlighting the importance of increasing the probability of detection, arrest, prosecution and conviction as a deterrent.

Since the end of data collection for the aforementioned report—between April 2010 and 29 December 2010—30 additional seizures from nine Asian countries, representing a minimum of 50 Tigers, have been recorded in public media alone (Table 1). India, with 12 seizures, clearly maintains its status as the main Tiger source. Parts seized included bones, skins, skeletons, skulls, bone pieces, claws, paws and canine teeth. Four dead Tigers and two live Tigers were also seized. The total minimum number of Tigers seized over the last decade has now increased from 1069 to 1121.

Country/territory	No. of seizures	Minimum no. of Tigers involved
China	2	2
Indonesia	3	8
India	12	25
Malaysia	3	3
Nepal	3	3
Russia	2	3
Singapore	1	1
Thailand	1	1
Taiwan	1	1
Viet Nam	2	3
Total	**30**	**50**

Table 1. Number of seizures per country/territory and minimum number of Tigers involved, April–December 2010.

Turning of the tide?

The Tiger range countries and interested stakeholders came together in St Petersburg at the International Tiger Conservation Forum (21–24 November 2010), to discuss strategies to save the Tiger from extinction. This meeting was unique. Never before has such a high level meeting been dedicated to the saving of a single species. The meeting was attended by heads of governments and Ministers from the Tiger range countries, including the Prime Minister of Russia, Vladimir Putin, Premier Wen Jiabao of China and the Prime Ministers of Bangladesh, Nepal and Lao PDR. These leaders endorsed the St Petersburg Declaration on Tiger Conservation and the Global Tiger Recovery Programme (GTRP)[1], which committed their governments to doubling the numbers of wild Tigers by 2022. These documents also outlined several planned activities for eradicating poaching and illegal trade in Tigers. These include strengthening national legislations and law enforcement and improving bilateral and multilateral co-operations through bodies such as the ASEAN-Wildlife Enforcement Network (ASEAN-WEN) and SAWEN (South Asia Wildlife Enforcement Network). The GTRP also calls upon the Tiger range countries and their enforcement organizations to seek specialized expertise from international enforcement organizations such as the Secretariat of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), INTERPOL and the World Customs Organization (WCO), and to strengthen international collaboration, co-ordination and communication (GTRP, 2010).

The adoption by Tiger range countries of the St Petersburg Declaration and the GTRP shows that there is increased international commitment at high levels to work together to save the Tiger from extinction and is a hopeful sign that the tide may be turning for the Tiger.

There are other encouraging developments: one is the official launch at the St Petersburg meeting of the International Consortium on Combating Wildlife Crime (ICCWC). ICCWC consists of CITES, INTERPOL, the United Nations Office on Drugs and Crime (UNODC) and WCO, and is supported by the World Bank. ICCWC's goal is to fight wildlife crime effectively and discuss collective actions to stop the key drivers that are bringing the largest of the wild cats to the brink of extinction: poaching, smuggling and illegal trade. In January 2011, SAWEN was launched. SAWEN will boost regional co-operation and co-ordinate efforts to combat poaching and trafficking of threatened species in eight countries of South Asia, including the Tiger range countries Bangladesh, Bhutan, India and Nepal.

Urgent next steps

The intentions laid down in the St Petersburg Declaration and the GTRP are good. And yet there are challenges ahead, the greatest being how to translate the commitments made into real action on the ground. While the government leaders of the Tiger range countries were meeting in St Petersburg, poachers were laying traps for Tigers in the forests of their homelands. For now, these poachers and the criminal networks sustaining them remain unchanged, unaffected by the words of government leaders. Enforcement agencies responsible for combating poaching and smuggling are still badly lacking resources and capacity. Forest rangers, very often underpaid and unarmed, are no match for the poachers who systematically strip landscapes of the Tigers living there. Tigers continue to be killed for their skin and bones, as reports in the media testify. Demand for Tiger parts and derivatives remains unchanged and may even be increasing. Forests continue to be logged to make way for "development", and poaching of Tiger prey species continues at unsustainably high levels throughout the Tiger's range, increasingly bringing Tigers into conflict with humans.

The GTRP calls for incremental financing of about USD350 million over the first five years of the programme, over and above the domestic financing provided by individual Tiger range countries from their own resources. With such high financial needs, the ability to create a sustainable financing mechanism and mobilizing the international donor community to attract the necessary resources will be crucial to the success or failure of the GTRP. ►

[1]*The Global Tiger Recovery Programme, the St Petersburg Declaration on Tiger Conservation and other documents relevant to the International Tiger Conservation Forum are available on: http://www.globaltigerinitiative.org.*

WWF MALAYSIA

BOX 1. TRAFFIC's work on Tigers

Saving Tigers from extinction is the shared responsibility of the entire international community, not just the Tiger range countries. TRAFFIC, working closely with WWF in the Tigers Alive Initiative, is scaling up efforts to eliminate trafficking in Tiger parts and derivatives. The trade must be tackled through a combination of interventions aimed at different target groups and stakeholders. These interventions are focused on:

- **Trade research:** Gathering information on illegal trade that links poaching of Tigers to the trade chain that supplies end-use markets, and using this information to help target interventions by government agencies.
- **Law enforcement support:** Working with enforcement agencies, prosecutors and the judiciary, through staff training, capacity building etc., to ensure effective, intelligence-led law enforcement, prosecution and sentencing.
- **Advocacy:** Influencing policy makers to bring about strong policies and legislation protecting the Tiger, and the allocation of adequate resources to allow for effective implementation.

< *A five-year old male Tiger rescued from a poacher's snare in Belum-Temengor Forest Complex, northern Perak state, Malaysia, in 2009, by WWF Malaysia's Wildlife Protection Unit, assisted by the Wildlife and National Parks Department. The Tiger later died from its injuries.*

► During the St Petersburg meeting, several countries and organizations announced commitments of significant sums towards Tiger conservation, including WWF, which aims to mobilize USD85 million over the next five years, the Wildlife Conservation Society (WCS), which has committed USD50 million over the next decade, while the US Government will allocate an additional USD9.2 million to combat illegal poaching and trafficking of Tigers. In addition, the German Government has pledged USD17.2 million for Tiger landscape conservation in Russia, Thailand, Lao PDR, and Viet Nam, and the World Bank USD100 million in a loan package to three Tiger range countries. The actor Leonardo DiCaprio, who attended the meeting, announced a donation of USD1 million to support WWF's Tiger conservation efforts in Nepal.

An important issue that needs to be resolved as soon as possible is that of governance: the Tiger range countries will have to agree on a mechanism for implementation of the GTRP. In St Petersburg, the Tiger range countries agreed that the World Bank's Global Tiger Initiative will co-ordinate the implementation of the GTRP until agreement is reached on an appropriate governance mechanism. An existing body that is probably best placed to take on this role in the long term is the Global Tiger Forum (GTF) which currently has seven members (India, Nepal, Bangladesh, Bhutan, Myanmar, Cambodia and Viet Nam). At the International Conference on Tiger Conservation organized by the Government of India, in Delhi, in March 2011, the GTF was assigned the role of assisting range countries in monitoring progress on the implementation of the GTRP. It is hoped that, by the end of the year, the GTF can report that the action of range countries has put Tiger populations back on the road to recovery.

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Asparagus spp. in Traditional Chinese Medicine:
Wild Collection and its Sustainability

Introduction

More than 80% of the world's population relies on traditional medicine for their primary healthcare, mostly in the form of medicinal plants (Hamilton *et al.*, 2003; Sun *et al.*, 2007). Traditional and herbal medicines are popular and are increasingly being paid attention to by the scientific world.

The volume of traditional Chinese medicine (TCM) in trade has been growing since 1994 at an annual rate of eight percent and was worth USD23.2 billion in 2002 (Cunningham *et al.*, 2008). Eighty seven percent of the ingredients used in TCM comprise 4941 plant species, 96% of which are still collected from the wild (Cunningham *et al.*, 2008; Hamilton, 2004; Ji *et al.*, 2004; Leaman, 2006). Prevailing practices of plant collection are often not sustainable, which not only threatens plant populations and ecosystem diversity but also endangers the livelihoods of the collectors who depend on the collection as a source of income. Moreover, increasing demand for medicinal plants along with the destruction of natural habitats through deforestation and fragmentation leads to overharvesting and a decline in plant populations (Cunningham *et al.*, 2008; Lee *et al.*, 2008). Assessment of the sustainability of the harvest of medicinal plants and associated methods used is therefore important.

In this study, the wild collection of two *Asparagus* species in Yunnan province, China,—namely *Asparagus filicinus* Buch-Ham. ex D. Don and *Asparagus subscandens* F.T. Wang & S.C. Chen—was examined in order to determine the current status of the harvest and to estimate whether it is sustainable. In TCM, the drug derived from the plants' tuberous roots is "sweet" and "cold" in nature, consumption of which purports to clear the "lung heat", nourish the "Yin"—especially in the lungs and kidneys—and reduce "dryness" (see Wu, 2005; Yang, 2010). In local folk medicine, the roots are used to treat stomach ache, diarrhoea and bone injuries (Ghorbani *et al.,* 2011).

Methods

The study was conducted in five villages in the Naban River Watershed National Nature Reserve in Xishuangbanna, Yunnan, south-west China. The nature reserve comprises approximately 30 villages and a total population of more than 5000 people. Former studies indicate intense collection took place in the selected villages (Ghorbani *et al.,* 2011). In order to assess the current distribution of the two *Asparagus* species, strip transects in fallow land and forest areas where collection was practiced in past years have been conducted representing the natural habitat of the species. The present study used the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP, now part of the FairWild Standard Version 2.0) Resource Assessment guidance to evaluate the status of populations and harvest. Harvest intensity was estimated via interviews with approximately five villagers per village, amounting to a total of 29 interviews. The fieldwork was carried out during a three-month period from March to June 2010 by two researchers and supported by local assistants who also translated the interviews, which were conducted in local Chinese.

Distribution and Status

Both *Asparagus* species are perennial herbs of the Asparagaceae family. They are treated as a single, so-called "ethnospecies"[1] in the area and are known and traded as TianDong (天门冬), or Asparagi radix.

Asparagus subscandens can only be found in the province of Yunnan and is categorized as an endangered ("vulnerable") species (VU A2c) in the Red List of China, whereas *A. filicinus* is widely distributed in South-east Asia and is not listed as being threatened. Neither species has been evaluated using the IUCN Red List categories and criteria.

Studies on the active compounds were mostly performed on *A. filicinus* due to its wider distributional range and its widespread medicinal application in other folk medicines, e.g. that of Nepal and northern India. Little is known about the chemical compounds of *A. subscandens* of which the major proportion of harvest originates in the study area. Hence it is not certain whether it is appropriate to view both species as having identical pharmaceutical properties.

[1]*Ethnospecies are biologically different species which are considered as one species by local people and used for the same purposes.*

In traditional Chinese medicine, the drug purported to derive from the tuberous roots of *Asparagus filicinus* and *Asparagus subscandens* is "sweet" and "cold" in nature, consumption of which is said to clear the "lung heat", nourish the "Yin"—especially in the lungs and the kidneys—and reduce "dryness". In local folk medicine, the roots are used to treat stomach ache, diarrhoea and bone injuries.

Dried, peeled roots of *Asparagus* spp. >

S.F. BUCHER

PHOTOGRAPHS: A. GHORBANI

<< ***Asparagus subscandens* climbing habit;**
< ***Asparagus subscandens*, fruiting**

Legislation

In general, the commercial collection of medicinal plants and other forest products is prohibited in the Naban River Watershed National Nature Reserve. Collection of *Asparagus filicinus* and *A. subscandens* is permitted for personal consumption although the amounts allowed for such purposes has not been determined. For some non-timber forest products (NTFPs) such as bamboo shoots or timber for housing, permission can be granted by the administration office of the nature reserve. However, currently there is no strict control of collection and trade of medicinal plant species. Compliance of villagers to the existing regulations is low. Officially collection is assumed to be non-existent although amounts of up to 70 kg harvested per household per year have been recorded.

Results

The harvest of both *Asparagus* species is destructive as the whole plant is dug out in order to reach and collect the root tubers. Each year, the average amount collected is approximately 3000 plants (equivalent to circa 23 kg of dried plant material) per collector. Villagers report declining harvest amounts due to the scarcity of the *Asparagus* species. These two species should only be harvested after a period of approximately five years in order to allow the plant to become established and grow. In former times, a huge proportion of collected material derived from fallow land areas but this amount is declining in parallel with a decline in the period of time in which land is left to lie fallow. The calculated number of plants per hectare varies from between 1.1 and 174.2 for *Asparagus filicinus* in forest areas, and from 50.6 and 80 plants and 0.8 and 162.5 plants per hectare for *A. subscandens* in forest areas and fallow land, respectively. *Asparagus filicinus* could only be found at elevations above 1700 m a.s.l. and therefore only in one out of five villages, whereas *A. subscandens* occurred in all five. The study revealed that as many plants as possible are harvested, with no attention being paid to the recovery of their stands, and that collection is almost solely driven by commercial interest, and sometimes without knowledge of the plants' medicinal properties. However villagers avoid digging out young plants because they yield fewer tubers. The processing of root tubers—boiling, peeling and drying—is conducted in villages as only processed plant material is bought by middlemen visiting the villages.

Currently, many middlemen are involved in the trade of medicinal plants derived from the nature reserve, which demonstrates the economic profitability and makes the general situation quite unclear. Prices paid for dried *Asparagus* tubers vary markedly depending on the position in the market chain: in the villages, one kilogramme of dried matter is sold for USD3.65 (±0.29), on local markets it fetches USD8.37 (±1.55) and in German pharmacies the same material, without any further processing, is sold for USD155.35 (±1.37). A household is able to generate USD53 per year on average, which accounts for between 1.14% and up to 25.4% of the total annual income of households in different villages. The highest proportion of material is purchased by middlemen.

The estimated number of years for which the current population of plants will last (disregarding any regeneration, for which there are no data), differs between the villages and varies from 0.06 to 38.04 years. Collection is driven by poverty and a lack of other income sources: the number of years is correlated with the average income of the villagers—the higher the average income per household, the less people try to generate money through collection of medicinal plants.

Conclusions and Recommendations

Since there is no effective control of harvesting that takes place in breach of legal regulations, some kind of organization for the sustainable wild collection of medicinal plants needs to be established. Conversely there should be more effort placed on the enforcement of existing regulations which completely prohibit any collection for the purpose of selling. However, as clearly demonstrated by the ample variation in prices between villages, markets and pharmacies, there are potentially huge profits which attract collectors and traders. By establishing trading structures, the

local economy could be effectively supported if a suitable local framework is found, although the existing law needs to be changed potentially to allow sustainable wild harvest of the focus species. It is suggested that resource management authorities review results of this study to evaluate the possibilities either for stricter enforcement measures to be imposed or for a change in legislation to allow sustainable wild harvesting, in consultation with local collectors and conservation experts (e.g. through the use of FairWild Standard guidelines). In either case, a management strategy is essential.

Villagers' awareness about the problems of collecting wild plants in an uncontrolled fashion should be raised. Additionally, collection practices should be modified, for example only digging out the root tubers but leaving the rhizome untouched in the soil in order to allow regeneration. Villagers should be made aware that with the current collection pressure and methods used, no sustainable harvesting is possible. One of the major concerns about the harvest of medicinal species is that little is known about the species' ecologies—for example, in relation to regeneration—so evaluations of collection sustainability are generally hard to make (Cunningham, 2001). This is certainly the case for the selected *Asparagus* species, where no recruitment and mortality rates could be found in the literature. Comparison to areas without harvest impact was not possible. This needs to be undertaken in order to judge the status of the current population. Study of the plants' ecology and further research into the sustainability of harvest methods and harvest levels are clearly needed.

Collecting plants from wild stands often leads to over-exploitation, therefore scientific study into the potential for cultivating these *Asparagus* species in agro-forestry systems is required. In general, further studies and long-term surveillance of plant populations are needed to understand fully the impacts of collection. Since the distribution of *A. subscandens* is limited to Yunnan, this species should be a priority when planning any conservation interventions. It is important that chemical and pharmaceutical studies are undertaken in order to demonstrate the presence of medicinal properties; should such properties be identified, the feasibility of establishing plantations for this species to take pressure off wild populations needs to be explored. It should also be recognized that some of the poorest people are dependent on the harvesting of these species and thus the socio-economic factors relating to such harvesting need to be taken into account.

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News from the ASEAN Wildlife Forensics Network

In September 2009, TRACE Wildlife Forensics Network, in partnership with TRAFFIC, launched a three-year project to develop wildlife forensics capacity across the ASEAN region. Funded by Defra (UK Department for Environment, Food and Rural Affairs) under the UK Darwin Initiative, the project aims to support the ASEAN Wildlife Enforcement Network (ASEAN-WEN), through the provision of expert training, laboratory development and novel research. The objective is to enable ASEAN scientists to employ forensic analysis in wildlife crime investigations.

The project was initially devised in response to specific calls for forensic support by ASEAN-WEN member States. The start of the project therefore included a regional needs analysis to determine exactly what was already in place, what was needed in terms of techniques and training and how these could best be delivered. Jen Mailley, TRACE project manager, spent six months working out of TRAFFIC's South-east Asia regional office gathering information, establishing multi-agency contacts and pulling together a picture of wildlife forensic needs across the 10 ASEAN range States.

This work led directly to the design and implementation of the ASEAN Wildlife Forensics Network and its first major activity—a training workshop held in August 2010 at the Department of Wildlife and National Parks in Kuala Lumpur, Malaysia. The workshop brought together scientists and enforcement officers from nine of the 10 ASEAN States, fostering the development of inter-agency links within countries, as well as international collaborations. As Dr Rob Ogden, programme director for TRACE explains, "for a wildlife crime investigation to make use of forensic analysis, it is essential that the scientists are linked in to the whole process, from the collection of evidence in the field through to the presentation of evidence in court. Establishing local contacts among organizations is as important as linking scientists with each other across borders." The course included hands-on training for enforcement officers and laboratory scientists, field trips and sessions that aimed to integrate the skills and knowledge of investigators and forensic analysts.

The training workshop marked the first step in developing a regional wildlife forensic network, which is now developing through a common web portal (www.asean-wfn.org) and via the ongoing exchange of information and ideas by course participants. In 2011, scientists from Malaysia and Thailand are invited to the UK for an intensive three week laboratory-based training course run by TRACE and hosted by the new wildlife forensic laboratory at SASA, the Science Advice for Scottish Agriculture unit based outside Edinburgh (see below). Specific research into the individual identification of illegally traded rhinoceroses and Tigers, along with methods for identifying the origin of pangolins, turtles and timber will be examined. The resulting forensic tests will be taken back to South-east Asia and implemented in local wildlife forensic laboratories developed specifically for this purpose.

Looking ahead, there are already plans to organize a regional seminar and further training in 2012, likely to be based in Bangkok. The TRACE team also hopes to visit Indonesia, Viet Nam and the Philippines before the end of the project. According to TRACE technical director Dr Ross McEwing, the challenges of implementing forensic analysis within South-east Asian countries are complex but not dissimilar to their experiences from Europe. "With every country having a unique combination of scientific facilities, government departments, enforcement capacities and legislative frameworks, there is no single solution appropriate for the ASEAN region. That's why we are trying to visit and advise as many countries as possible on an individual basis", he says.

For further information on the project, please contact Rob Ogden: rob.ogden@tracenetwork.org

New Wildlife DNA Forensic Testing Facility

A new Wildlife DNA Forensic Unit has opened, based at the government laboratories of SASA (a Division of the Scottish Government Rural Payments and Inspections Directorate) in Edinburgh, UK. Working in collaboration with the Royal Zoological Society of Scotland (RZSS) and TRACE wildlife forensics network, its main remit is to carry out forensic DNA analysis relating to wildlife crime, both for Scotland and the rest of Europe. Capability includes species identification, animal sexing, and animal DNA profiling where validated forensic marker sets are available.

Work is already under way relating to suspected infringement of CITES regulations in Europe, from the identification of protected sturgeon species from seized caviar to the detection of animal products in traditional Chinese medicines. The unit works to a high quality standard, dedicated to producing results that will stand up in court. If you are working on a wildlife crime investigation and are interested in using the unit, please contact them on wildlifeforensics@sasa.gsi.gov.uk.

TRAFFIC SOUTHEAST ASIA

Participants at the first bilateral dialogue meeting on illegal wildlife trade between Indonesia and Viet Nam, held in Viet Nam, August 2010.

ENFORCEMENT INITIATIVES IN VIET NAM

Sarah Morgan, Communications Officer,
TRAFFIC Southeast Asia–Greater Mekong Programme

Viet Nam and Indonesia collaborate against illegal wildlife trade

The first bilateral dialogue meeting between Indonesia and Viet Nam on illegal wildlife trade was held in early August 2010 in Hai Phong city in northern Viet Nam. The event was aimed at strengthening collaboration between the two countries to combat the burgeoning illegal trade in wildlife and promote avenues for conservation.

Illegal trade in pangolins and timber was specifically highlighted as a problem between the two countries, along with the trade in Tigers and elephant ivory. Indonesian and Vietnamese delegates shared wildlife law enforcement success stories from their respective countries and discussed data sharing to support convictions for wildlife crimes.

Following the dialogue, both sides committed to increased information sharing and co-operation on trans-national wildlife crimes through existing mechanisms such as the ASEAN Wildlife Enforcement Network (ASEAN-WEN).

Government representatives attending the meeting also highlighted the event as an opportunity to strengthen each nation's commitments to international timber trade regulations such as the EU Forest Law Enforcement, Governance and Trade (EU-FLEGT) and US *Lacey Act* requirements.

The location of the event is one of Viet Nam's key control points in international trade and transit of timber and other wildlife. Several large seizures have been made at Hai Phong port in recent times, particularly in 2009 and 2010, including 13.5 t of ivory, 24 t of frozen pangolins and pangolin scales, as well as a large quantity of turtle shells that had originated from Indonesia.

The bilateral dialogue was the first activity under the project "Tiger Futures—Mainstreaming Conservation in Large Landscapes". The event was supported by the World Bank's Global Environment Facility (GEF), Wildlife Conservation Society (WCS) and TRAFFIC, and brought together senior officials from Viet Nam's Forestry Directorate, Customs Anti-smuggling Department and Environmental Police, and Indonesia's Ministry of Forestry, Special Investigations Police and Customs and Excise officers.

A follow-up meeting is anticipated to be hosted by Indonesia in July this year, at which point delegates will have drafted a Memorandum of Understanding on enhanced collaboration to tackle illegal wildlife trade.

International co-operation to strengthen Viet Nam's wildlife trade enforcement

From 2–3 December 2010, representatives of high-level international and Vietnamese enforcement agencies met in Ha Noi for a workshop entitled "Strengthening Trans-National Mechanisms for Controlling Illegal Trade in Tigers and Other Wildlife". Participants shared tools, services and views on the best methods for combating illegal wildlife trade, with the goal of enhancing existing mechanisms in controlling cross-border trade.

Given the increasingly sophisticated nature of the international illegal trade in wildlife and its connection with organized criminal syndicates, the workshop sought to draw from the knowledge of a range of enforcement experts in other fields of illegal trade, such as drugs and human trafficking.

Participants included representatives from the CITES Secretariat, INTERPOL Liaison Office based in Bangkok, UN Office on Drugs and Crime Asia Pacific, World Customs Organization–Regional Intelligence Liaison Office (WCO–RILO) for Asia and the Pacific, ASEAN Wildlife Enforcement Network (ASEAN–WEN) Programme Coordination Unit in Bangkok and South Africa National Parks.

Among the subjects discussed were: how to dispose of confiscated goods; the role of the international agencies in effective communication, collaboration and co-ordination at regional and international levels; funding sources for wildlife enforcement; the gathering, analysis and dissemination of intelligence; wildlife crime prosecution using innovative approaches (e.g. tax laws and transnational co-operation); liaison with prosecutors and the judiciary; identifying the criminals who organize cross-border smuggling; strengthening current legislation; and an overview of recent case studies.

Challenges to effective use of such resources were also identified and solutions proposed. In particular, discussions focused on international trade in Tigers, elephant ivory, rhinoceroses and pangolins.

The workshop was organized by the Viet Nam Directorate of Forestry, with support from TRAFFIC and the Wildlife Conservation Society. It was part of the "Tiger Futures–Mainstreaming Conservation in Large Landscapes" project being funded by the World Bank through the Global Environment Facility (GEF).

Rosy outlook for identifying illegal timber

A team of scientists at Royal Botanic Gardens, Kew, UK, has discovered a way to identify Brazilian Rosewood *Dalbergia nigra*, a Brazilian timber species that has become threatened in the wild due to overexploitation for use in furniture, flooring and musical instruments. The team has found that wood of this species is unique among species having similar wood anatomy in containing one particular phenolic compound. The compound, which has been named *dalnigrin*, has been found to be new to science, albeit a variation of a previously known compound.

Brazilian Rosewood has been listed in CITES Appendix I since 1992. One problem with enforcing the CITES regulations has been distinguishing Brazilian Rosewood from some other similar timbers traded as 'rosewoods' that are not subject to regulation. Now with the combination of microscopic and chemical analysis, scientists at Kew can help UK Border Agency and other enforcement officers to identify illegal imports of this timber.

Kew Scientist, Issue 38, August 2010: www.kew.org/kewscientist/KewScientist_38-screen.pdf

SOUTH AFRICA CYCAD TRADE RESTRICTIONS?

K. LOCHEN / TRAFFIC

Cycad *Encephalartos* sp.

The South African Government is considering action to stop the trade in some eleven native cycad *Encephalartos* species, and restricting trade in others; a proposal to this effect has been published for public comment and a decision is awaited. A number of these species are commonly known as bread palms or bread trees because their stems can be used to prepare a bread-like starchy food.

David Newton of TRAFFIC East/Southern Africa welcomes this news but states that the measures do not go far enough and is calling for a blanket trade ban on all cycads.

"While the South African Government is to be applauded for considering action against the illicit trade in cycads, TRAFFIC is concerned that the measures simply won't stop the wild extinction of yet more cycad species," he said.

IUCN, the International Union for Conservation of Nature, classifies around 70% of *Encephalartos* species in Africa as threatened with extinction—four species no longer exist in the wild.

According to Simon Stuart, Chair of IUCN's Species Survival Commission, "Cycads are among the oldest living seed plants, but are today among the most highly threatened groups of species. South Africa is a global hotspot for cycads, and 31% of the country's species are classified as Critically Endangered, principally because of severe overharvesting to supply private horticultural collections," he said.

All *Encephalartos* species are listed in CITES Appendix I, which precludes their international commercial trade. However, trade in artificially propagated plants from South Africa is still permitted, and despite existing regulations to restrict trade, including new CITES regulations promulgated in 2010, the plunder of wild cycad populations has continued.

According to the CITES trade database, over 5000 cycad *Encephalartos* plants were reported as exports from South Africa in 2009 alone. All were reported to be artificially propagated.

"Even just monitoring that number of exports to ensure they are all cultivated plants and not illegally wild-sourced is a massive challenge," says Newton.

He also points out inconsistencies in the government's proposals, such as no requirement for Critically Endangered cycad species under a certain size to be microchipped, unlike less threatened species. According to Newton, the proposed new rules would do little to improve regulation of the international trade in cycads.

"The South African Government recently delisted abalone *Haliotis midae* [a type of mollusc] from CITES Appendix III because they were unable to meet the CITES export inspection requirements for farmed abalone. So why do they now think they will be able to inspect and monitor size-limited cycad exports, as proposed in the government gazette, given that they have been unable to do so in the past?"

Under CITES rules, the Scientific Authority in South Africa would have to demonstrate what levels of plants could be traded without posing a conservation risk. Such a study—known as a Non-Detriment Finding (NDF)—has not yet been completed for all South Africa's cycads.

"TRAFFIC calls on the South African Government to impose a complete ban on the export of cycads until the completion of non-detriment findings and the establishment of biodiversity management plans that will ensure correct management of cycads by all stakeholders," says Newton. "This drastic measure is now required given the poor management of this trade over the years and the fact that an increasing number of cycad taxa are becoming extinct in the wild."

In December 2010, the European Union (EU) imposed a ban on trade in cycad species from South Africa.

www.traffic.org/home/2011/2/25/south-african-measures-to-restrict-cycad-trade-inadequate.html

THE *TRAFFIC BULLETIN* SEIZURES AND PROSECUTIONS SECTION IS SPONSORED BY THE FORESTRY BUREAU, COUNCIL OF AGRICULTURE, TAIWAN: COMMITTED TO SUPPORTING CITES ENFORCEMENT

The *TRAFFIC Bulletin* will henceforward carry only a selection of seizures and prosecutions that TRAFFIC considers to be particularly significant. Readers are asked to refer to the seizures section of the TRAFFIC website (www.traffic.org) for regular updates on cases reported from around the world.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) establishes international controls over trade in wild plants and animals, or related products, of species that have been, or may be, threatened due to excessive commercial exploitation. Parties have their own legislative vehicle by which to meet their obligations under CITES. The species covered by CITES are listed in three Appendices, according to the degree of protection they need:

APPENDIX I includes species threatened with extinction which are or may be threatened by trade. Trade in specimens of these species is permitted only in exceptional circumstances. An export permit from the country of origin (or a re-export certificate from other exporting countries) and an import permit from the country of importation are required.

APPENDIX II includes species not necessarily yet threatened, but which could become so if trade is not strictly controlled. Species are also included in Appendix II if they are difficult to distinguish from other species in Appendix II, in order to make it more difficult for illegal trade to take place through misidentification or mislabelling. An export permit from the country of origin (or a re-export certificate from other exporting countries) is required, but not an import permit.

APPENDIX III includes species that any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation and as needing the co-operation of other Parties in the control of trade. Imports require a certificate of origin and, if the importation is from the State that has included the species in Appendix III, an export permit is required.

All imports into the European Union of CITES Appendix II-listed species require both an export permit/re-export certificate and an import permit.

ABALONE

AUSTRALIA: In February 2011, at Warrnambool and Hamilton Magistrates' Courts, Hoa Chieu Nguyen and Mot Dang, both of Melbourne, Victoria, were banned from dealing in abalone for up to 10 years after being found guilty of abalone poaching.

On 12 March 2010, fisheries officers questioned the men after they appeared to have been diving in the Crown of Thorns areas near Peterborough. While the pair was found to have the legal allowable catch of five abalones, fisheries officers later uncovered 77 abalones and one undersized rock lobster in scrubland. Warrnambool and Apollo Bay fisheries officers set up a joint surveillance operation and the poachers were arrested when they later returned to the scene.

Charges of using commercial abalone equipment to take more than twice the allowable catch, taking undersize rock lobster, taking and failing to mark rock lobster tails and illegally possessing rock lobster were found proven.

Nguyen was sentenced to 120 days' in gaol, with 14 days to be served immediately and the remainder suspended for two years. He has two prior convictions for similar offences and was banned from having any involvement with abalone for 10 years. He was also ordered to pay costs of AUD4630 (USD4640). Dang was fined AUD2500, ordered to pay costs of AUD4888 and banned from having any dealings in abalone for five years.

On 22 February 2011, in one of the largest and most significant seizures of illegal abalone in New South Wales, two men were charged with three counts of poaching and trafficking in abalone after some 122 kg of abalones (more than 1300 specimens) were seized during Operation Fusion. The NSW Police Marine Area Command and the Fisheries Statewide Operations and Investigations Group arrested one of the men at Batemans Bay; a second man was later arrested and search warrants conducted at various private residences in Mogo and Moruya.

Operation Fusion had been examining the activities of the syndicate, which is believed to have been trafficking in abalone illegally for well over a decade. Investigations by Fisheries have reportedly uncovered an intricate system of dive locations, abalone theft, surveillance techniques, storage locations, transport operations and illegal trade in Sydney. The latest seizure brings the total of abalone seized during the operation to more than 380 kg.

Marine Area Commander, Superintendent Mark Hutchings, said this was the first joint operation of its kind targeting such a sophisticated and large-scale trafficking ring.

"By taking out significant players of this alleged trafficking ring we are effectively dismantling its operations," Superintendent Hutchings said. "This is going to have a significant impact on the black market for abalone in NSW."

The catch limit under NSW law is two abalones per person in waters open to the taking of abalone.

www.standard.net.au/news/local/news/general/abalone-poachers-convicted/2075617.aspx, 15 February 2011; New South Wales Police Force media release, 23 February 2011: www.police.nsw.gov.au/news/latest_releases?sq_content_src=%2BdXJsPWh0dHBzJTNBJTJGJTJGd3d3LmViaXoucG9saWNlLm5zdy5nb3YuYXUlMkZtZWRpY-SUyRjE1NDUzLmh0bWwmYWxsPTE%3D

SOUTH AFRICA: On 20 January 2011, two men were arrested and 42 bags containing 7235 shucked abalones were seized by authorities following a car chase from Gordon's Bay to Mitchells Plain, Cape Town.

On 25 January 2011, three people were arrested in East London, Eastern Cape, with 30 kg of abalones in their possession during one of a series of recent busts by police and Marine and Coastal Management (MCM) officials. The majority of the specimens were undersized.

On 16 February 2011, at Cape Town Regional Court, Chinese nationals Zhi Wen and Wei Lin were each sentenced to 30 months' imprisonment; a third man, Jason Ho, was gaoled for 36 months.

"It is the first time ever that a sentence of this nature has been imposed on foreign nationals for abalone-related crimes," said Carol Moses, spokesperson for the Department of Agriculture, Forestry and Fisheries (DAFF).

A joint operation involving officials from the Monitoring, Control and Surveillance Unit of the department and members of the SAPS Organised Crime Unit led to the arrest of the three men in Cape Town in July 2010. The operation followed extensive surveillance on two suspected illegal abalone processing establishments in Table View and Parklands where, respectively, 14 140 and 16 976 dried and processed abalone specimens were found. A further 1093 wet abalones were also seized at the Table View premises.

On 23 February 2011, Cape Town police reported that they were investigating whether five foreign nationals—from Burundi, Congo and China—arrested in Table View, are part of the same abalone poaching syndicate.

www.iol.co.za/news/crime-courts/two-in-court-over-abalone-haul-1.1016710, 25 January 2011; www.iol.co.za/news/crime-courts/abalone-confiscated-from-trio-1.1016959, 26 January 2011; www.buanews.gov.za/news/11/11021713151001, 17 February 2011; www.eyewitnessnews.co.za/articleprog. aspx?id=60100, 23 February 2011

USA: On 19 February 2011, two men were arrested for poaching abalone, one of whom was facing his third abalone poaching violation in as many weeks. Suspect A was arrested in Van Damme State Park, Mendocino County, California. US Fish and Game wardens watched the suspect and an accomplice as they kayaked in the ocean and used scuba gear, allegedly to collect abalones. The 55 abalone specimens they collected were left near the beach while they returned their rented kayak to a dive shop. Wardens arrested the men at the shop and recovered the abalone, a vehicle and the pair's dive gear. The suspects were booked into Mendocino County Jail for felony conspiracy, the taking of abalone for commercial purposes, and other charges.

On 12 February 2011, suspect A was stopped for speeding and was found in possession of bags containing 36 fresh Red Abalones *Haliotis rufescens*, five of them undersized, as well as diving equipment. He was booked into Mendocino County Jail for

possession of abalone for commercial sale and his equipment was confiscated; he was released on 14 February.

On 2 February, while investigating another crime, Petaluma police found suspect A and his accomplice in Petaluma, allegedly in possession of five abalones during the closed season, which runs from 1 December until 1 April.

http://sfappeal.com/news/2011/02/sf-man-arrested-for-abalone-poaching-three-times-in-three-weeks.php, 23 February 2011

IVORY

INDIA: On 5 March 2011, at Esplanade Court, Mumbai, Farooq Issa was found guilty of selling ivory items and was sentenced to three years' in gaol and fined Rs10 000 (USD222). This is the first time a person has received such a lengthy gaol term in the State, and follows an investigation by the Forest Department that started in 1998.

Issa, the owner of an antique shop, was first investigated by Colaba police acting on a tip-off, who sent a decoy to his shop to purchase an ivory item. The police raided the outlet and seized 61 ivory items.

www.mid-day.com/news/2011/mar/110311-Wildlife-Act-Forest-Department-legal-battle-reached-Farooq-Issa.htm11 March 2011, 11 March 2011

KENYA: On 25 December 2010, at Jomo Kenyatta International Airport, police arrested a Thai national arriving from Maputo, Mozambique, as she prepared to board a flight to Bangkok. In two suitcases in her possession were 19.5 kg of ivory in the form of bangles, necklaces and two tusks. The items were detected by sniffer dogs.

The arrest comes barely two weeks after a Singaporean travelling from Lilongwe, Malawi, was arrested at the airport with 92 kg of ivory. He too was preparing to board a plane to Thailand.

On 7 January 2011, the Kenya Wildlife Service (KWS) arrested three people and seized 81 elephant tusks and two rhinoceros horns from a car on the Isiolo-Meru highway, as well as firearms, ammunition, night-vision equipment to enable hunting at night, and poisoned arrows. Intelligence officers had been tracking the suspects' movements for two months.

On 18 January 2011, a Chinese citizen pleaded guilty to charges of attempting to smuggle 65 kg of ivory through Jomo Kenyatta International Airport. A court case is pending.

The suspect was arrested the previous day as he caught a connecting flight to Guangzhou following his arrival from Kinshasa, Democratic Republic of Congo. He was allegedly carrying 278 pieces of worked and raw ivory. He may also be charged with attempting to bribe officials.

Daily Nation (Kenya), 11 January 2011; 15 April 2011; www.monstersandcritics.com/news/asiapacific/news/article_1612508.php/Chinese-citizen-to-face-ivory-smuggling-charges-in-Kenya

TANZANIA: On 4 January 2011, a Chinese national was arrested in Dar es Salaam following an investigation co-ordinated by the Lusaka Agreement Task Force into a seizure of 769 pieces of elephant tusks (2005 kg) in Viet Nam, originating from Zanzibar, in August 2009. The suspect is believed to be one of the kingpins in the smuggling ring, which is understood to have been illegally exporting elephant tusks to the Far East from the region. The suspect was charged at Kisutu Residents Magistrates' Court for committing an economic crime.

www.lusakaagreement.org/kingpin.html

THAILAND: On 5 January 2011, Customs officials seized a shipment of 73 pieces of ivory (435 kg) that had been smuggled from Mozambique on pallets labelled as personal property. The items were en route to Lao PDR.

On 25 February 2011, Customs officials at Suvarnabhumi International Airport, Bangkok, seized 118 elephant tusks (over 1000 kg) and three rhinoceros horns (circa three kilogrammes) in a shipment from Nigeria.

The items passed through Doha, Qatar, and Kuala Lumpur, Malaysia, before reaching Bangkok. The shipment, declared as "craft work" in the airway bill, was unclaimed.

The Elephant Trade Information System (ETIS) (the world's largest database of records of seizures of elephant products, compiled by TRAFFIC on behalf of CITES), lists Thailand as one of three countries most heavily implicated in the illegal global ivory trade and Malaysia as a country of concern because of its role as a significant transit point.

In an effort to address the problem, Customs authorities in Thailand teamed up with TRAFFIC Southeast Asia to raise awareness among Customs officers based at airports and other key checkpoints about ways to tackle the illegal ivory trade. The Customs Department has seen a series of successful raids at Suvarnabhumi International Airport since stepping up its efforts (see also page 57).

http://engnews.gazeta.kz/art.asp?aid=330982; www.traffic.org/home/2011/2/25/more-than-1-tonne-of-ivory-and-rhino-horns-seized-in-thailan.html

USA: On 15 December 2010, at the US Courthouse, Brooklyn, New York, Tamba Kaba was sentenced to 33 months' imprisonment and fined USD25 000 for importing 71 elephant ivory carvings into the country via JFK International Airport, from Nigeria and Uganda.

The items had been concealed inside hollow cavities of wooden and metal handicrafts. Kaba was convicted in June 2010 following a probe by the US Fish and Wildlife Service and US Immigration and Customs Enforcement.

On 9 March 2011, at the US Attorney's Office, northern District of Atlanta, Pascal Vieillard, a piano importer of Lilburn, Georgia, was sentenced to three years' probation for illegally importing 855 elephant ivory key tops, totalling 1710 pieces of ivory. He was also fined USD17 500. His company—A-440 Pianos—was also ordered to pay USD17 500 with the condition that all pianos imported by the company are brought through the Port of Atlanta.

US Department of Justice press releases, 15 December 2010: www.fws.gov/home/feature/2010/pdf/pressrelease-Kabasentence.pdf; 9 March 2011: www.justice.gov/usao/gan/press/2011/03-09-11.html

PANGOLIN and BEAR

CHINA: A man convicted after 115 bear paws and 40 pangolins *Manis* (CITES II) were seized from a minibus in November 2009 has been sentenced to 10 years in gaol. Four others are being sought in connection with the case.

In February 2011, at Youjiang District Court, in Baise city, Guangxi province, a person named Zhou was convicted of illegally purchasing and transporting endangered animals and their products. He was sentenced to 11 years' in gaol and fined CNY10 000 (USD1520).

On 18 March 2010, Zhou and another suspect bought eight paws of Asiatic Black Bear *Ursus thibetanus* (CITES I) and 27 pangolins from a woman in Yingjiang county, Yunnan province; they hired two others to transport the items to Guangzhou city. On 20 March, all specimens and the suspects were seized by Baise police.

On the same day, the court sentenced a person named Xiao to 13 years' imprisonment and imposed a fine of CNY20 000 (USD3040) for his involvement in the illegal trade and transport of 10 bear paws and 34 pangolins. The source, trade route and destination of the confiscated specimens, as well as the location of the seizure, were the same as those of the first seizure.

In February 2011, the Meilan District Procuratorate of Haikou city, Hainan province, indicted four suspects for illegally trading and transporting pangolins. Suspect Liang, the principal criminal who was in charge of purchasing and transporting the animals, was sentenced to six years' and six months' imprisonment and fined CNY30 000 (USD4566).

On 27 January 2010, three pangolins and two packets of pangolin scales were seized by Haikou Forest police. Suspect Chen who was involved in trading and transporting pangolins, was sentenced to five years and six months in gaol and fined CNY20 000. The other two people hired by Liang to transport and sell the pangolins, were gaoled for three years and six months, and three years, respectively, and each fined CNY3000.

News/aljx/201101/20110105162925_4603.html (in Chinese); www.cwca.org.cn/Article/ShowArticle.asp?ArticleID=21982; www.cwca.org.cn/Article/ShowArticle.asp?ArticleID=21981; www.cwca.org.cn/Article/ShowArticle.asp?ArticleID=22024

MALAYSIA: On 16 December 2010, the Perak Wildlife and National Parks Department (Perhilitan) seized 153 pangolins and arrested three Indonesians who attempted to smuggle the animals by boat, near Lumut, from Thailand. The arrests were made by the Royal Malaysian Navy (RMN) which detected that the boat had crossed 12 nautical miles from the Malaysia-Thailand maritime border.

Following inspection, the team found that the three men from Belawan, Sumatra, did not have valid travel documents. They were arrested and handed over to Perhilitan's Enforcement Division and remanded in custody for further investigation.

On 24 February 2011, officials of the Department of Wildlife and National Parks (Perhilitan) seized 135 pangolins and arrested two men who were believed to be members of an illegal wildlife trade syndicate bringing pangolins in from other States and smuggling them out to neighbouring countries.

A court order was obtained to release the pangolins into the wild.

www.mysinchew.com/node/49853, 18 December 2010; http://thestar.com.my/news/story.asp?file=/2011/2/26/nation/8146711&sec=nation, 26 February 2011

RED SANDALWOOD

INDIA: At the end of December 2010, Customs authorities seized around 24 000 kg of Red Sandalwood (also known as Red Sanders) *Pterocarpus santalinus* (CITES II and protected from export from India) at Nhava Sheva port as it was about to be loaded on to a vessel bound for Dubai. The container had been cleared for shipment as the documents indicated that it contained synthetic yarn from Surat that had been packed under supervision of the Central Excise officials. However, Customs officers became suspicious and found that fake seals and stamps had been used. The smugglers had also used the import-export code (IEC) of an exporter.

On 5 January 2011, a lorry containing between seven and eight tonnes of Red Sandalwood logs was seized by staff of the Bureau of Investigation of Economic Offences and local police, in Patgaon, Kokrajhar district, Guwahati, Assam. The logs had been concealed under sacks of rice and soya beans. The driver was arrested.

On 7 January 2011, officials of the Directorate of Revenue Intelligence (DRI) seized five tonnes of Red Sandalwood logs at Sikka port, Jamnagar district, Gujarat, from a vessel bound for Dubai.

On 28 January 2011, Special Investigation and Intelligence Branch (SIIB) Customs officials at Nhava Sheva port seized a container carrying 25.3 t of Red Sandalwood that was being smuggled as yarn. The container was destined for Dubai. The name of the fabric company cited on documents was found not to exist.

In January 2011, the Special Investigation and Intelligence Branch (SIIB) and Customs Intelligence Unit (CIU) of Nhava Sheva, Mumbai, seized a container carrying 590 kg of Red Sandalwood, bound for Dubai. The consignment had used the name of a reputable exporter without his knowledge.

Concerned at the huge quantity of Red Sandalwood being smuggled from Nhava Sheva port, the Customs department at the port is to obtain two advanced scanners to restrict attempts to smuggle consignments out of the country.

www.hindustantimes.com/Red-sanders-worth-2-cr-seized/Article1-646146.aspx, 4 January 2011; www.telegraphindia.com/1110107/jsp/northeast/story_13402333.jsp; http://news.in.msn.com/national/article.aspx?cp-documentid=4777770; www.dnaindia.com/mumbai/report_customs-seizes-rare-timber-worth-rs3-crore-in-mumbai_1502032, 2 February 2011; www.dnaindia.com/mumbai/report_red-sanders-worth-rs1-crore-seized-by-customs_1512797, 10 January 2011; www.hindustantimes.com/Nhava-Sheva-port-to-get-hi-tech-scanners/Article1-648418.aspx, 26 February 2011

RHINOCEROS

NEPAL: On 26 February 2011, five people from one family were arrested in connection with the poaching of seven Great Indian Rhinoceroses *Rhinoceros unicornis* (CITES I) in Chitwan National Park over the course of one year. This was reported to be the largest group of rhinoceros poachers ever apprehended by police in the country.

Operation Hunt of Central Investigation Bureau at Nepal Police Headquarters, backed by WWF, resulted in the arrests of the poachers, one of whom was on the park's most-wanted list. The suspects have been handed over to Chitwan National Park and await prosecution.

www.thehimalayantimes.com/fullNews.php?headline=Five+poachers+of+a+family+in+police+net&NewsID=278057

SOUTH AFRICA: A veterinarian was granted bail at Musina Magistrates' Court following his arrest on 21 January 2011 for illegally removing the horns of 15 rhinoceroses.

The man was charged with violating the *Biodiversity Act,* which prohibits a person from carrying out a restricted activity involving a specimen of a listed, threatened or protected species without a permit. He was released on R10 000 (USD1400) bail and the case was postponed for further investigation.

The suspect is accused of dehorning more than a dozen rhinoceroses in the Maremani Game Reserve in Limpopo. His arrest was made by the national wildlife crime reaction unit, led by the Hawks.

A further two veterinarians and others are due to stand trial in April 2011 following their arrests in September 2010 in connection with their alleged involvement with a syndicate dealing in rhinoceros horn.

www.thenewage.co.za/8583-1013-53-Vet_in_court_for_removing_rhino_horns, 24 January 2011

UK: On 21 February 2011, police officers in Stansted, responding to an alarm at Sworders auction house, found that the head of a Black Rhinoceros *Diceros bicornis* (CITES I) had been stolen from the salesroom. They believe the item was the subject of a targeted burglary. Details of the forthcoming auction and a photograph of the trophy had been posted on the Internet.

www.hertsandessexobserver.co.uk/Dunmow-Stansted/Raiders-snatch-50000-rhino-head-from-Stansted-sales room.htm

TIGER

CHINA: A court in Panzhihua City, Sichuan province, sentenced a man to 14 years in gaol and fined him CNY50 000 (USD7600) after he was found guilty of illegally selling the skins of two Tigers *Panthera tigris* (CITES I) in 2009.

INDIA: On 6 April 2011, at Lakhimpur Kheri Court, Uttar Pradesh, a female Tiger poacher was sentenced to five years and three months' imprisonment and fined Rs50 000 (USD1105) for poaching a Tiger in Dudhwa Tiger Reserve in 2007. The Bawariya tribal woman had been involved in activities relating to other wildlife violations in various parts of the State since 1992. This is reportedly the maximum sentence ever imposed in the country for Tiger poaching.

RUSSIA: On 24 January 2011, at the border crossing point Pokrovka of Bikinskiy Customs checkpoint in the Far East, Customs officers, in co-operation with other law enforcement bodies, seized some 21.5 kg of bones and cartilage of Siberian Tiger *Panthera tigris altaica* (CITES I) being transported on a passenger coach bound for China. The items had been concealed inside the driver's door and under the dashboard. The driver was arrested.

www.cwca.org.cn/Article/ShowArticle.asp?ArticleID=21695, 17 January 2011; http: timesofindia.indiatimes.com/city/lucknow/Woman-poacher-sentenced-for-5-yrs-3-months/articleshow/7908125.cms; World Customs Organization, Central Enforcement Network Alert, 2011

TURTLE

MALAYSIA: On 20 December 2010, Malaysian Customs officials reported their largest contraband seizure of the year following the confiscation of 4.3 t of reptiles. The animals were seized from a lorry parked near the border with Thailand. Among the haul of 1800 CITES-II listed specimens were 10 Yellow-headed Temple Turtles *Heosemys annandalii* and 18 Brown Tortoises *Manouria emys*, both of which are classified as Endangered on the *IUCN Red List of Threatened Species*, as well as over 400 Giant Asian Pond Turtles *Heosemys grandis*, which are listed as Vulnerable. These three species, as well as Bengal Monitors *Varanus (nebulosa) bengalensis*, which were also seized, are protected in Malaysia according to the *Wildlife Protection Act (1972)*. Monitor lizards, snakes and freshwater turtles were among the haul.

"TRAFFIC highly commends the Customs officers responsible for this seizure. However, the scale of this haul underlines the fact that the illegal trade of protected wildlife in Malaysia remains a serious problem", said Chris R. Shepherd, Deputy Director of TRAFFIC Southeast Asia.

"Without the commitment of Customs and enforcement bodies alike across the network of ASEAN countries, the illegal trade in endangered species will continue threatening the future survival of wild animals and plants."

Following this seizure, the majority of animals were auctioned off to wildlife dealers while the remainder that are protected in Malaysia, were handed over to the Wildlife and National Parks Department.

www.traffic.org, 24 December 2010; Asian Turtle Trade Working Group 2000. Heosemys annandalii. *In: IUCN 2010. IUCN Red List of Threatened Species. Version 2010.4. www.iucnredlist.org. Viewed on 26 January 2011*

SOUTH AFRICA: In March 2011, at Ingwavuma regional court, KwaZulu-Natal province, Makotikoti Zikhali was sentenced to five years' imprisonment for the killing of a mature female Loggerhead Turtle *Caretta caretta* (CITES I) in 2009.

The case against Zikhali was brought by iSimangaliso Wetland Park Authority and Ezemvelo KZN Wildlife, who said the ruling was an "important conservation and development victory in a case involving the poaching of an endangered Loggerhead turtle in one of the last remaining breeding sites in the world."

Zikhali was caught chopping up the carcass of the turtle, which had come on to the beach in the iSimangaliso Wetland Park to lay eggs. She had been tagged just three days earlier for monitoring and research purposes.

In handing down his sentence, the Magistrate said that the offence was so serious that it outweighed the personal circumstances of Zikhali, who was a first offender.

www.sowetanlive.co.za/news/2011/03/11/5-years-jailtime-for-killing-of-turtle, 11 March 2011

OTHER SEIZURES

AFRICA: During January and February 2011, more than 22 t and 13 000 items derived from some 31 species were seized in a number of African countries by enforcement officials conducting operations to combat trans-border wildlife trade. Items included more than 57 kg of raw ivory and 295 ivory statues, jewellery and chopsticks; four rhino horns, 4726 kg of pangolin meat and 323 seahorses.

The main objective of the operation was to raise awareness, encourage effective enforcement and co-operation among identified international agencies and CITES implementation. The operation was conducted within the framework of Project Great Apes and Integrity (Gapin), a Swedish government-financed project designed to stem illegal trade while cracking down on corrupt practices that helped to fuel illicit trafficking.

Fourteen African countries participated in the operation, supported by 25 countries in Asia and Europe, WCO Regional Intelligence Liaison Offices, Asian Wildlife Enforcement Network, Lusaka Agreement Task Force, Pan African Sanctuary Alliance, and national CITES Management Authorities, wildlife enforcement agencies and in some countries, the police.

The balance of arrests were made in countries/regions outside Africa, such as Belgium, China, Czech Republic, France, Hong Kong Special Administrative Region, Israel, Japan, the Netherlands, Romania, Spain, the UK and Viet Nam. Customs officials in Viet Nam seized 1.2 t of ivory shipped from Tanzania via Singapore just prior to the start of the operation.

www.traffic.org/home/2011/3/2/wcos-operation-gapin-yields-spectacular-results.html

WILD WONDERS OF EUROPE / ZANKL / WWF

SEAHORSES *HIPPOCAMPUS* SPP. HAVE BEEN SEIZED FROM SHIPMENTS IN AFRICA AND PANAMA IN RECENT MONTHS.

GABON: Raids conducted by the country's Water and Forest and Defense Ministries, with the assistance of WWF partner AALF (a joint programme of Gabon's Water and Forest Ministry with the organizations Conservation Justice and Brainforest), yielded an alarming number of wild animal parts. Among the CITES-listed specimens confiscated were the head and hands of a Gorilla *Gorilla gorilla* (CITES I), 12 Chimpanzee *Pan paniscus* (I) heads and 30 Chimpanzee hands. The skins of 12 Leopards *Panthera pardus* (I), a portion of Lion *P. leo* (CITES II) skin, snakeskins and five elephant tails were also discovered.

"WWF commends the Water and Forest Ministry and AALF for this important arrest," said David Greer, WWF African Great Ape Manager. "However, the massive collection of protected species confiscated in this operation is highly disturbing. To my knowledge, there has not been a seizure of great ape body parts of this magnitude in Central Africa over the last ten years."

The suspects are being held in custody while an investigation is conducted.

wwf.panda.org/?uNewsID=199074&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+wwf%2Fnews+%28WWF+-+News%29, 19 January 2011

INDONESIA: On 31 January 2011, at Jakarta Airport, Quarantine and Airport Security officers found a pair of Bali Mynas *Leucopsar rothschildi*—one of the world's rarest birds (CITES I; IUCN Critically Endangered)—in the luggage of a Singaporean man. With fewer than 50 mature individuals estimated to survive in the wild, the seizure is a significant find. Endemic to the island of Bali and once common across the north-west of the island, the wild population of this species has plummeted due to illegal poaching for the cage bird trade.

The suspect was also carrying four slow lorises *Nycticebus* spp. (CITES I) and eight Pig-nosed Turtles *Carettochelys insculpta* (II). The suspect was released on bail and the animals were taken into quarantine.

On 17 February 2011, an Indonesian national was arrested for allegedly using the Internet to sell hundreds of wildlife parts illegally, including CITES I-listed ivory, skins of Tiger *Panthera tigris*, and teeth of Malayan Sun Bear *Helarctos malayanus*. The parts were allegedly destined for domestic and international markets and other suspects were being pursued. The Indonesian was arrested in his art shop on 9 February during a raid carried out by police and forestry officials in Jakarta. Twenty-six items were found at the scene and hundreds more were waiting to be shipped by courier service.

www.traffic.org/home/2011/2/19/rare-birds-and-other-wildlife-seized-at-jakarta-airport-duri.html, 19 February 2011; www.insidebayarea.com/news/ci_17410656, 17 February 2011

PANAMA: On 14 February 2010, Customs officials seized 20 000 seahorses *Hippocampus* (CITES II) from underneath a cargo of fish stomachs arriving at Tocumen International Airport from Peru.

www.informador.com.mx/tecnologia/2011/271760/6/decomisan-en-panama-20-mil-caballitos-de-mar-disecados.htm, 17 February 2011

USA: In January 2011, a German national agreed to plead guilty to smuggling tarantulas from Germany to the USA following an investigation into his activities by agents of the US Fish and Wildlife Service (USFWS). The suspect had allegedly been smuggling tarantulas through the post for a number of years and selling them to customers in dozens of countries, including nine buyers in the USA.

In 2010, an investigation codenamed "Operation Spiderman" was set up to detain the suspect. When FWS agents discovered a package containing nearly 250 live tarantulas being posted to Los Angeles through the US Postal Service, agents posed as customers and placed orders for tarantulas with the suspect; they subsequently received dozens of specimens from him, including 22 Mexican Redknee Tarantulas *Brachypelma smithi* (CITES II). The suspect was arrested by FWS agents upon his arrival in the USA in December 2010.

Almost 625 tarantulas were seized and were to be sent to local zoos. The suspect was to face trial in April 2011.

Environmental Crime Media Update 31 January 2011; www.moveoneinc.com/blog/expat-life/entarantula-smuggler-faces-20-years-prisonsentence

Trade in European Eels:

Recent Developments under CITES and the EU Wildlife Trade Regulations

Vicki Crook

Anguilla species such as the European Eel *Anguilla anguilla*, the Japanese Eel *Anguilla japonica*, the American Eel *Anguilla rostrata* and the Short-finned Eel *Anguilla australis* are harvested and traded internationally for consumption and are of significant commercial importance. Global exports of all *Anguilla* species reached over one million tonnes and were worth over EUR10 000 million between 1997 and 2007, according to a recent TRAFFIC report (Crook, 2010). An overview of the scale of international and European Union (EU) trade in all *Anguilla* species over the last decade is provided in Box 1.

Farming of wild eels

Populations of *Anguilla* species have declined considerably over the last 30 years (Dekker *et al.,* 2009). This loss has been attributed to a number of factors, including changes in ocean currents, pollution, disease, loss of river habitat, introduction of invasive species, local fishing and, more recently, catches for international trade.

In addition to being fished and used directly for consumption, wild-caught juvenile eels, or "glass eels" (defined in the EU as eels less than 12 cm in length), are used as "seed" in farming operations. Eel farming, which is responsible for over 90% of all *Anguilla* production worldwide (FAO, 2009), is reliant on juvenile eels taken from the wild owing to the limited success as yet in reproducing these species in captivity (PRO-EEL, 2011).

Prior to 1990, the farming of eel species was almost exclusively carried out using species of local provenance. The European Eel was fished and cultured in Europe and North Africa and the Japanese Eel in Asia. France, Spain, Portugal and the UK were the principal fishing nations for European Eel glass eels, and Italy, Denmark and the Netherlands the main producers of farmed European Eel (ICES, 2005). However, at the end of the 1990s, a decline in stocks of Japanese Eels, combined with the apparently abundant supplies of European Eel glass eels and their cheap price compared to Japanese Eels, led to many Asian eel farms switching to the European Eel for their culture material (Ringuet *et al.,* 2002). What was once a European fishery feeding European farms and consumption therefore became an industry of global significance.

Eel management and trade regulation

In 2007, with the European Eel stock at an historical low and continuing to decline (ICES, 2007), the EU adopted *Council Regulation (EC) No. 1100/2007* of 18 September 2007 establishing measures for the recovery of the stock of the European Eel. This regulation includes the requirement for EU Member States to establish national Eel Management Plans, the objective of which is to reduce anthropogenic mortalities using a number of measures, including reducing fishing effort, restocking, and promoting the passage of eels through dams and other obstructions.

In addition, with international trade known to be the driver for approximately 50% of the harvesting of European glass eels, that same year the European Eel was proposed and accepted for listing in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) at the 14th meeting of the Conference of the Parties.

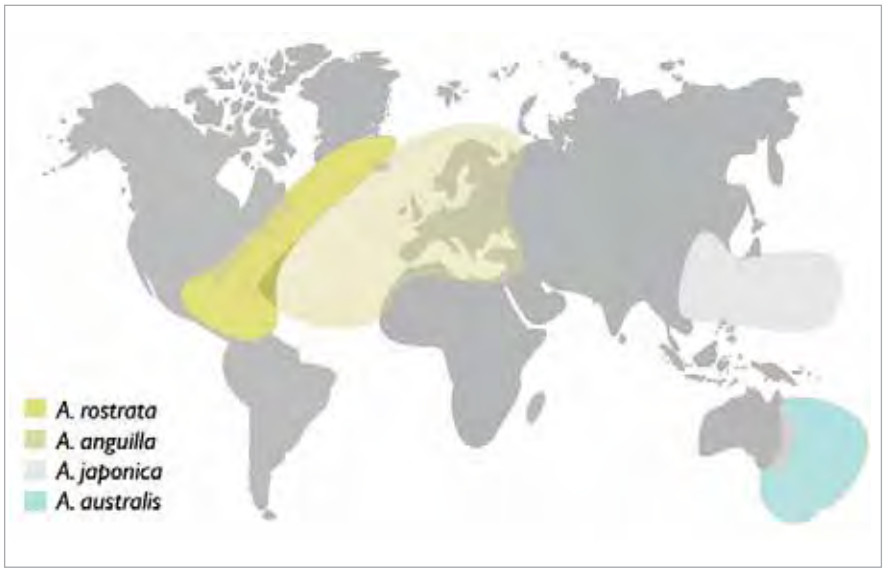

Fig. 1. Broad distributional ranges of American Eel *Anguilla rostrata*, European Eel *Anguilla anguilla*, Japanese Eel *Anguilla japonica* and Short-finned Eel *Anguilla australis*.

Source: Adapted from Silfvergrip (2009)

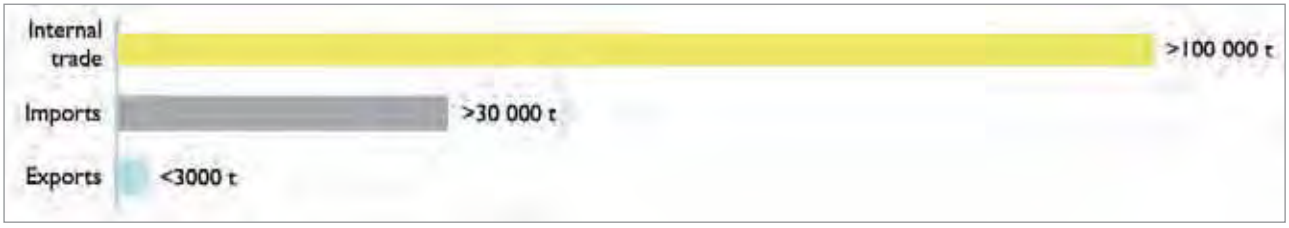

Fig. 2. EU trade in *Anguilla* species, 1998–2008. *Source: Crook, 2010*

The listing came into force on 13 March 2009, as did the listing of the European Eel in Annex B of *Council Regulation (EC) No. 338/97*, which implements CITES within the EU (see Box 2). As a consequence of this listing, the EU's Scientific Review Group (SRG)—which is responsible for examining any scientific question relating to the application of the EU Wildlife Trade Regulations—set up a working group on eels to consider aspects related to the making of "non-detriment findings" (assuring that the import or export of specimens will not adversely affect wild populations; see Box 2 for more information on NDFs) and to advise on the setting of export quotas for European Eels.

As an estimated half of all European Eel glass eels caught in EU waters were being exported to Asia for farming purposes, the SRG decided that export quotas were initially to be set for glass eels only. Furthermore, the SRG decided that 1) export quotas for glass eels would only be permitted from EU Member States with Eel Management Plans approved by the EC, 2) quotas are to be set as a percentage of the 2007/2008 catch baseline, and 3) exports and imports of other live eels and eel products need to be considered on a case-by-case basis by national CITES authorities (providing that countries of origin have approved management plans supported by suitable scientific advice).

France's national Eel Management Plan, including measures to reduce fishing effort progressively over the coming years, was approved by the EC in February 2010 and consequently France became the only EU Member State to be allocated an export quota for glass eels (14 230 kg) for the 2009–2010 glass eel fishing season (1 November to 31 October). Of the other principal glass eel trading nations, Spain and Portugal did not have their national management plans approved in time and although the UK did have an approved plan in place, it decided temporarily to ban all exports of UK-caught glass eels. However, all EU Member States were permitted both to export and (re-) import[1] other European Eel commodities (live, fresh, frozen or smoked specimens greater than 12 cm in length) as long as the national CITES authorities were able to issue a NDF for these transactions.

The situation was reviewed by the SRG in February 2010, when the group formed negative opinions (see Box 2) for imports of European Eel from Algeria and Morocco (which meant that import permits for specimens coming from these countries could temporarily not be issued), owing to concerns about the status and management of populations in these range States. They also formed a positive opinion for imports from Tunisia of eels ≥ 30 cm for 2010 only, subject to publication of the quota of 135 t on the CITES website.

[1]*Exports and imports refer to trade to and from the EU, and do not include internal EU trade.*

Box 1. Eel trade figures for the years 1997 to 2008.

GLOBAL TRADE IN *ANGUILLA* COMMODITIES* 1997–2007
Global exports: >1 million tonnes, worth >EUR10 000 million — Top exporters: China, Taiwan
Peaks in 2001 and 2004: 130 000 t/yr — Top importer: Japan
Top commodities in trade: Smoked and live eels

EU EXPORTS OF *ANGUILLA* COMMODITIES* 1998–2008
EU exports: <3000 t, worth >EUR300 million — Top exporters: France, Denmark, Germany, Netherlands, Spain
Peak in 2005: >700 t/yr — Top importers: Hong Kong, China, Switzerland, Russia
Top commodity: Live eels (37% of weight, 90% of value)

EU IMPORTS OF *ANGUILLA* COMMODITIES* 1998–2008
EU imports: >33 000 t, worth EUR200 million — Top exporters: China, New Zealand, Canada, USA, Norway
Peak in 2007: >4500 t/yr — Top importers: Belgium, Denmark, Italy, Netherlands, Sweden
Top commodities: Frozen and live eels

EU INTERNAL TRADE IN *ANGUILLA* COMMODITIES* 1998–2008
EU dispatches**: >100 000 t, worth >EUR1000 million
Top commodity: Live eels

EU EXPORTS AND INTERNAL TRADE OF LIVE *A. ANGUILLA* GLASS EELS 1998–2008
EU exports to Asia: ~750 t or ~2000 million individuals (3000/kg) — Top exporters: France, Spain, UK
EU dispatches**: ~750 t, or ~2000 million individuals — Top importers: China, Hong Kong
Total number of glass eels traded: ~4000 million individuals

***Anguilla* commodities—live (various life stages), fresh, frozen and smoked/prepared specimens of all *Anguilla* species.**
****Dispatches are equivalent to exports, but for trade within the EU. *Source: Crook (2010)***

Box 2. CITES and the European Union.

The implementation of CITES within the EU is governed by the "EU Wildlife Trade Regulations", which are directly applicable in the 27 EU Member States. Current regulations in force in the EU to implement CITES are:

1. The framework regulation: *Council Regulation (EC) No. 338/97* of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein including the Annexes containing a list of species regulated in trade.

2. The implementing regulation: *Commission Regulation (EC) No. 865/2006* of 4 May 2006 laying down detailed rules concerning the implementation of *Council Regulation (EC) No 338/97* on the protection of species of wild fauna and flora by regulating trade therein.

These two regulations constitute the legal framework for all EU governments to regulate international as well as internal trade in wild animals and plants in the EU, and are updated (in the form of new Commission Regulations) when legislative changes need to be made. *Council Regulation (EC) No. 338/97* also establishes different bodies at the EU level, i.e. the Committee on Trade in Wild Fauna and Flora, the Scientific Review Group (SRG) and the Enforcement Group, all of which consist of representatives of the Member States and are convened and chaired by the European Commission.

Within the EU, Member States are required to restrict commercial trade in specimens of Annex B species to levels that are not detrimental either to the species' survival, or to their role within the ecosystems in which they occur (known as the "non-detriment finding" (NDF)). Trade in these species must therefore be based on sustainable harvest, taking into account other factors and threats, such as illegal off-take. Non-detriment findings therefore form the backbone of CITES and, consequently, of the EU Wildlife Trade Regulations.

What are the main differences between CITES and the EU Wildlife Trade Regulations?
The EU Wildlife Trade Regulations not only implement the provisions of CITES fully but go beyond the Convention in some respects, for example:

1. The EU Wildlife Trade Regulations have four Annexes of which A, B and C largely correspond to the three CITES Appendices but also contain some non-CITES listed species protected under EU internal legislation; Annex D has no equivalent in CITES and contains species for which import levels are monitored; furthermore some species that are listed in Appendix II of CITES are listed in Annex A of the EU Wildlife Trade Regulations and consequently cannot be traded or used for commercial purposes.

2. The EU Wildlife Trade Regulations establish stricter import conditions than those imposed by CITES. Under CITES there is no requirement for import permits for Appendix II or III species, however under the EU Wildlife Trade Regulations import permits are required for species listed in Annex B, and import notifications for those listed in Annex C and D.

3. *Council Regulation (EC) No. 338/97* authorizes EU Member States to suspend imports with regard to certain species/country combinations (negative opinions of the SRG and EU import suspensions, see below), even if trade is allowed under CITES.

EU Negative Opinions and Import Suspensions
A negative opinion can be formed by the SRG if the import of specimens of a specific species and from specific countries is deemed to have a harmful effect on the conservation status of the species, i.e. if Article 4 of *Council Regulation (EC) No. 338/97* is not met. Once a negative opinion is issued, import permits cannot be granted for the species from the particular range State.

Negative opinions are of a temporary nature and may be lifted immediately when new information on the trade or conservation status of the species in the country of concern is provided and addresses concerns raised. In this case, a negative opinion would normally be replaced by a positive opinion, indicating that authorities are now able to consider issuing import applications as normal. However, the European Commission can also suspend imports on a long-term basis by adopting the so-called "Suspensions Regulation" which is published in the *Official Journal of the European Union*.

European Eel *Anguilla anguilla*, Hardanger, Norway.

ERLING SVENSEN / WWF-CANON

For more information, please see http://ec.europa.eu/environment/cites/legis_refguide_en.htm

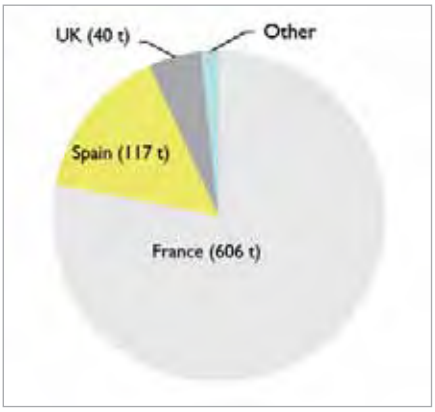

Fig. 3. EU exports of *A. anguilla* glass eels to Asia, 1998–2008. *Source: Crook, 2010*

Suspension of external EU trade

In September 2010, the SRG expressed its deep concern for the status of the European Eel and the current levels of fishing, and recommended that a regime should be adopted whereby exports and imports of all European Eel specimens and commodities would not be allowed. In December 2010, the SRG concluded that given currently available information on the conservation status of the European Eel it would not be possible for scientific authorities in the EU to deliver a NDF for any export from or import into the EU of this species until the end of 2011. This resulted in the forming of a negative opinion for the import of European Eels from all range States and publication of a zero export quota for European Eels and derived products until the end of 2011 for all EU Member States.

Consequently, since 3 December 2010 all exports and imports of European Eel commodities from and to the EU have been suspended, with the exception of imports from Tunisia which were permitted until 31 December 2010, in keeping with the stipulation set out in the positive opinion formed in February 2010.

The situation, however, will need to be reassessed during the course of this year, as will the role that internal EU trade for restocking, farming and consumption plays on the status of its populations, and those of other *Anguilla* species. Although the quantity of eels being imported and exported is naturally of valid concern for the conservation of this species, the large quantities of eels fished and traded internally within the EU, in addition to the significant numbers of other *Anguilla* species imported into the EU (in particular the American Eel, the Short-finned Eel and more recently African *Anguilla* species (Silfvergrip, 2009)), are also of considerable concern.

In December 2010 the European Commission (EC) said it would endeavour to organize a joint meeting with EU fisheries and CITES authorities in the course of 2011 to explore common solutions to the question of eel management and conservation in the long term. This is a vital step in the right direction, as the need to address the effects of international trade on *Anguilla* species in combination with those caused by other threats, including fishing for farming and direct consumption at the EU level, habitat loss and obstructions such as dams, is of paramount importance for protecting these species from extinction.

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TRAFFIC's report, *Trade in* Anguilla *species, with a focus on recent trade in European Eel* A. anguilla, prepared in 2010 under contract to the EC, is available from: http://www.traffic.org/species-reports/traffic_species_fish38.pdf.

Beyond trials: *an update on TRAFFIC projects implementing FairWild*

Introduction

Uncontrolled exploitation of wild-harvested medicinal and aromatic plants (MAP), along with other environmental degradation factors such as habitat loss, have become a threat to to the sustainability of some species and for long-term business development in the MAP sector. Concerns over lack of comprehensive requirements to wild MAPs collection, use and trade have led to the development of the FairWild Standard, a framework of principles and criteria covering best practice in ecological, social and fair trade aspects of sustainable use and trade in wild-harvested plant (and similar) resources. The FairWild Standard was developed through a multi-stakeholder consultation process, supported by TRAFFIC and numerous other organizations. The FairWild Standard and associated performance indicators are designed to be used at field level in different ways, including through community-based resource management schemes, and through a third-party audited certification system. Version 2.0 of the FairWild Standard was launched by the FairWild Foundation in September 2010.

A precursor to the FairWild Standard, the International Standard for Sustainable Collection of Medicinal and Aromatic Plants (ISSC-MAP)—now incorporated within Version 2.0—was field tested in 2007–2010 in six locations worldwide through the BMZ-funded project "Saving Plants that Save Lives and Livelihoods", implemented by TRAFFIC, WWF, IUCN, and partners. These locations included Bosnia and Herzegovina, Brazil, Cambodia, India, Nepal, and South Africa/Lesotho. Sites were chosen in order to test the sustainability standard in different conditions, and hence covered a wide geographical range and a variety of implementation scenarios. Selection criteria also specified that each site should have existing partnerships and networks to facilitate project implementation; the likelihood of a comprehensive stakeholder approach; and the availability of structures to promote, scale up and fundraise for continued implementation of the FairWild Standard beyond the project itself.

Stakeholder feedback and lessons learned from the project were documented in the TRAFFIC publication *Wild for a Cure* (Kathe *et al.*, 2010). The participatory approach of the project achieved a high level of local uptake of the Standard, and facilitated the further development of national, regional and international stakeholder networks—crucial for the continuous implementation of activities. The project also raised awareness among governments of the need to incorporate sustainable management and trade models into the development of regulatory frameworks relevant to medicinal and aromatic plants. The Standard was established to be a useful instrument to improve understanding of natural plant resources and integration of local communities into the economy, while simultaneously working for the maintenance of wild plant populations.

Following the completion of the pilots, TRAFFIC has remained in communication with project partners and continues to provide support to implementation of the FairWild Standard at local and national level where possible. TRAFFIC is also engaged in supporting the further development and implementation of the FairWild Standard through a partnership agreement with the FairWild Foundation. Recent developments in TRAFFIC projects implementing the FairWild Standard in Bosnia and Herzegovina, India and Nepal are outlined below.

BOSNIA and HERZEGOVINA

Background: Bosnia and Herzegovina has a centuries-old tradition in the collection of wild MAPs. Today, these plants are important for local consumption and for export. However, of the circa 273 MAP species of the country in trade, seven are endangered, 49 are estimated to be vulnerable and eight are rare, amounting to a total of 64 species at risk from unsustainable harvesting (Donnelly and Helberg, 2003).

Vlasenica, an area in eastern Bosnia and Herzegovina (Republic of Srpska), was selected as a suitable area for application of the new Standard which, if successful, could be easily replicated in other parts of the country. The ecological requirements of the FairWild Standard were tested here in co-operation with Elmar d.o.o., a company already active in the MAP sector and which had prior experience in implementing environmental and sustainability measures, gaining organic and FairWild certification[1] for its wild plant collection operations. Unlike the other TRAFFIC MAP projects which have focused on species of conservation concern, Ramson or wild garlic *Allium ursinum*—in the main a very common species in eastern Bosnia and Herzegovina—was selected to show the applicability of the Standard as a model for the region, which could then be used for its wider promotion. Moreover, collection of wild garlic has increased dramatically in recent years in response to high demand and is of great economic importance to stakeholders in the project region.

Following an assessment of the MAP collection practices in the project region, a number of training sessions were conducted at local and State level to introduce core stakeholders from the Bosnia and Herzegovina MAP sector to the Standard, methodology of resource assessment, monitoring and sustainable collection methods, and management planning.

Update: The project in Bosnia and Herzegovina was characterized by good co-operation with the forestry authorities and a high level of involvement of other MAP stakeholders. At the final project workshop, stakeholders discussed the potential for continued efforts towards sustainable MAP collection in Bosnia and Herzegovina. Participants were presented with the results of the implementation of the Standard for wild garlic and an

[1]*Certification was according to FairWild Standard version 1.0, covering social and fair trade aspects only.*

analysis of current legislation relating to the use of non-timber forest products (NTFPs), with suggestions made for its improvement. Participants commended the work on implementation of the FairWild Standard in the Vlasenica region, and recommended using it in other regions and for other species of conservation concern, for example Immortelle *Helichrysum italicum,* Yellow Gentian *Gentiana lutea,* and Sage *Salvia officinalis.*

During the project duration and after its completion, project staff were invited to contribute to the development of a new edition of the *Rulebook of Conditions for Utilization and the Methods of Collection of Non-Wood Forest Products* drafted by the Ministry of Agriculture, Forestry and Water Management of Republic of Srpska (MoA). The Rulebook was adopted (with significantly stronger sustainability criteria than originally proposed) in December 2009 and came into force in 2010, forming part of the Republic of Srpska's forest law. In 2010 the MoA issued collection licences for the first time, based on the new Rulebook. Nine MAP companies applied for the permit, which requires information to be given on MAP species, their quantities, and collection regions. Under this system, companies must report their annual collection quantities and any changes in MAP populations to the Ministry.

The project involved a participatory management planning process for wild garlic in the Vlasenica region, culminating in the completion of the Management Plan in draft in late 2009. A year later, it has not yet been formally adopted by the stakeholders, although elements of the Management Plan are being implemented through the new regulatory requirements. At project closure, it was envisaged that the local forest authority would be in charge of implementation, with Elmar d.o.o. involved as a partner. The challenge proved to be in establishing the formal responsibility for implementation of the Management Plan. The management of forest areas and non-timber forest products (NTFPs) is entrusted to the MoA and Public Forest Company who would clearly be best equipped to implement the Management Plan. The whole issue needs to be resolved through legislation, although the process of incorporating a FairWild Management Plan, and sustainable MAP management rules into a legislative framework would take some considerable time. An increase in human resources dealing specifically with the management of MAPs would advance this process.

Implementation of the FairWild Standard in the Republic of Srpska of Bosnia and Herzegovina is possible only through strong co-operation of all relevant stakeholders—especially the MoA that ensures a legal basis for implementation of sustainable wild collection criteria, MAP companies and the local forest authorities who will need to ensure field implementation of the FairWild Standard. TRAFFIC Europe remains engaged in the region, and co-operates with local partners to continue work on sustainable use of wild MAPs. A workshop on sustainable use of NTFPs in south-east Europe is planned in 2011.

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INDIA

Background: India is a key exporter and importer in the international market of medicinal plants. According to Kala *et al.,* 2006, an estimated 4000 to 10 000 medicinal plant species are facing local, national or global extinction. Of the 71 rare medicinal plants, 92% are in active trade, 74% are traded nationally and 35% are traded internationally (Kala *et al.,* 2006).

There is presently no standard system of verification and quality control in use by the MAP sector in the country, and hence the development of the FairWild Standard provided a timely opportunity to pilot sustainability initiatives. Implementation of the Standard was carried out by TRAFFIC India and partners between December 2007 and March 2010. In Karnataka, the Institute of Ayurveda and Integrative Medicine: I-AIM (formerly Foundation for Revitalization of Local Health Traditions–FRLHT) has been a project implementing partner.

Project implementation in India involved work at three levels: in the field with collectors and traders, engagement at the *mandis* (storage and auction facilities established to facilitate the trade for MAPs for all stakeholders), and at policy level both regionally and internationally. The project began with a feasibility analysis and, following consultation with various bodies in selected sites in the States of Uttarakhand and Karnataka, including the Forest Department, Wildlife Institute of India, experts from I-AIM, and other interested parties, the following taxa were selected for the field-level pilots: Jhula *Parmelia* spp., a group of 30 species of lichen around Ghat in Chamoli and Badrinath district, and Indian Coleus *Coleus barbatus* in the Chamba area of Tehri forest, in the State of Uttarakhand. A further four species were selected for work through Village Forest Committees in the State of Karnataka: White Palle *Ailanthus triphysa*, Rampatri *Myristica dactyloides,* Babrang *Embelia tsjeriam-cottam* and Shiragunji *Salacia chinensis*. These species were chosen based on the dependency of the community on the species, the trade levels, the harvest seasons and its uses. Under the project, data were gathered from collection sites, harvests, and *mandis* through scientific and sociological surveys, and a market study conducted. Resource assessments were carried out to provide an informed basis for further management of the resource.

At project closure, the models in Uttarakhand and Karnataka were both considered a success by the stakeholders involved. Notable outcomes of the project included the introduction of sustainable collection methods in Karnataka (e.g. for White Palle), in combination with the establishment of community-based resource management. The Karnataka Medicinal Plants Board and Karnataka government showed keen interest for future expansion of the model. In Uttarakhand, a long-term commitment to FairWild principles was secured from the head of the Forest Department at provincial level, the Principal Chief Conservator of Forests of Uttarakhand. The contents of the FairWild Standard also influenced the preparation of the National

Medicinal Plants Board (NMPB)'s Guidelines for Good Field Collection Practices of Medicinal Plants, with a commitment for further use of the Standard made by the CEO.

Update: The final project workshop conducted towards the end of the project saw participation from policy- and decision-makers of the Government of Karnataka, which also included participants from the local communities who implemented the project. The policy-makers were apprised of participants' experience of implementing the guidelines of the Standard, their success stories and difficulties. As a result, many projects and proposals of the forest department of Karnataka now include a component relating to sustainable harvesting, an example being a project—Samruddha Hasiru Grama Yojane (Green Village Programme)—which is being implemented in one village in each of the 36 forest divisions of Karnataka.

A ten-minute documentary by I-AIM showcasing highlights of the project also serves as a blueprint for similar projects adopted by other communities. It has been exhibited in various fora, for example relevant conferences and workshops and institutions such as the National Afforestation and Eco Development Board. Various NGOs working on sustainability issues have already benefited from training arising from guidelines provided by this documentary. The video clip is available online at YouTube and the websites of IUCN, TRAFFIC, the FairWild Foundation and I-AIM. The L'Oreal Group—the international cosmetics company—with whom FRLHT has collaborated, has also shown keen interest in the documentary, with a view to disseminating the message in their conservation outreach programmes.

A programme of United Nations Development Programme (UNDP) under the Global Environment Facility (GEF) project titled "Mainstreaming Conservation and Sustainable Use of Medicinal Plants Diversity in Three Indian States" is being implemented by I-AIM in Arunachal Pradesh, Chattishgarh and Uttarakhand. A component on sustainable harvesting includes exposure to the FairWild Standard.

Since project closure, the Ministry of Environment and Forests (MoEF) has been in the process of developing a national-level code for the incorporation of NTFPs /MADPs (Medicinal Aromatic Dye Plants) into a National Working Plan Code. This code will cover guidelines for harvesting, sustainable practices protocol, a policy on the multiple use of a species, registration of primary stakeholders, collectors, and the issuance of transit passes and a chain of custody and certification process. FairWild principles and criteria are being used as a model. The Guidelines for Good Field Collection Practices of Medicinal Plants of the National Medicinal Plants Board have now been introduced, and incorporate the FairWild principles of sustainable harvesting and trade in MAPs. Implementation of the Fair Wild Standard in India, aligned with the MADP national code, will help balance the needs of people whose traditions and livelihoods depend on MAP species with the plants' long-term survival in their natural habitats.

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MAP SPECIES AND THEIR USES

Ramson, or wild garlic *Allium ursinum*: used to aid digestion, for circulatory disorders, and as an ingredient in culinary dishes.

Chiraito *Swertia chirayita*: the seeds are used by local people in treating coughs and colds; juice of leaves and stem used in some parts of Nepal to treat malarial fever. The plant grows at altitudes of between 1000 m and 3000 m and bears greenish-yellow flowers.

Jhula *Parmelia* spp.: a group comprising over 30 species of lichens used to treat cardiac and bronchial complaints; incense material for *poojas* (religious ceremonies and worship). *Parmelia* is often collected by cutting the branches of pine or oak trees on which it grows and transporting the wood to collectors' homes where the branches are stripped of the lichen-bearing bark.

Indian Coleus *Coleus (Plectranthus) barbatus*: a perennial aromatic herb used to expel worms and to treat cuts. The roots are harvested in the autumn when the active ingredient forskolin is at its most concentrated. Fresh root yield ranges from one gramme to 500 g per plant.

White Palle *Ailanthus triphysa*: harvested for resin. A new method for harvesting resin has resulted in higher quality resin and less damage to the tree.

Rampatri *Myristica dactyloides*: used to treat sores, fever, and sprains. The orange fruit, or aril, is used as a spice and for other medicinal preparations.

Shiragunji *Salacia chinensis*: the root is taken to invigorate blood circulation.

Babrang *Embelia tsjeriam-cottam*: harvested for its fruit.

1. Ramson, or wild garlic *Allium ursinum* (Saxifraga–Willem van Kruijsbergen); 2. Indian Coleus *Coleus barbatus* (A. Kotia); 3. Jhula *Parmelia* sp. (M.K.S. Pasha); 4. Fruit of Rampatri *Myristica dactyloides* (A. Basappa)

NEPAL

Background: Nepal is one of the countries with the highest biodiversity in the world, the diversity of its flora and habitats being almost unrivalled. However, many regions in Nepal suffer from severe threats to their biodiversity as a result of human pressure. Populations of many medicinal plant species have been heavily depleted over recent decades to accommodate both the high level of traditional medicinal plant use in the country, and the increasing demand from international trade. Economically, medicinal plants are among Nepal's most important commodities in trade.

The project in Nepal focused in and around protected areas. Following review of past studies, community consultations and a stakeholder workshop, Chiraito *Swertia chirayita* was selected as an appropriate species for implementation of the FairWild Standard in Langtang National Park Buffer Zone, and Kutki *Neopicrorhiza scrophulariiflora* in Kangchenjunga Conservation Area. Implementation was facilitated by WWF Nepal.

Over-harvesting of Chiraito in Nepal for international trade has contributed to the rapid depletion of the species from its natural habitat and the species is classified nationally as vulnerable. The plant's low germination percentage and viability of its seeds, as well as its slow growth and need for delicate field handling are some of the factors that have discouraged commercial cultivation of the plant (Joshi and Dhawan, 2005).

The conventional approach to collecting Chiraito is by uprooting the whole plant, which clearly prevents regeneration. As a result, the resource base of Chiraito in the wild is decreasing each year. Similarly, there is no appropriate technology for drying the plant, the usual form in which the plant is traded, so the communities are compelled to sell it in its raw form.

Some 2.3 t of dried Chiraito were harvested from Langtang National Park Buffer Zone during 2008 and traded to nearby Trisuli Bazar. Regular monitoring and record-keeping were largely absent.

Under the project, a resource assessment was carried out for the species. Based on the results of this assessment, and building on existing community-based management structures, a management plan was developed in co-operation with local stakeholders. The plan was harmonized with existing guidelines and the FairWild indicators adapted to local conditions. National Park authorities are involved in approving the NTFP management plan as well as implementing the monitoring plan.

Update: The sustainable harvest measures proposed under the project continue to be implemented. When the TRAFFIC and WWF Nepal project for this species commenced in 2008, the density of mature plants was just 2167 per hectare, while the figure for rosettes (the temporary form at the early stage of the plants' growth) and young plants was 18 000 and 370 000 per hectare, respectively. A resource inventory conducted revealed that 716 kg (dry weight) could be sustainably harvested in 2009 as per the management plan.

In November 2010, a user group of Saubari Buffer Zone Community Forest harvested around 300 kg of dry Chiraito, which was sold to a local trader for Rs350 (USD8.00). Seeing the potential of this medicinal plant, local users seem enthusiastic about harvesting more in the coming years, within the sustainable harvesting limits as defined in the resource inventory. Users are adopting the guidelines set out in the FairWild Standard to protect, manage and sustainably use Chiraito for the betterment of the local Tamang community.

***Ashok Baniya**, WWF Nepal*

Summary:

- One year on from the end of the project, the impact of the pilot projects is still apparent;
- The FairWild Standard continues to be implemented at the local level, with varying levels of success;
- Implementation of the FairWild Standard through ensuring broad and committed engagement of communities to the goal and principles of sustainability by people directly dependent on wild MAPs harvesting and trade, remains one of the major pathways to sustainability of project implementation globally;
- Development of legislative frameworks required to support use of the FairWild Standard as a tool is an ongoing process. Successes have been noted from India and Bosnia and Herzegovina at the national and regional level. Legislation and regulations developed are beginning to be implemented in practice;
- Opportunities have arisen to scale up projects through a partnership of stakeholders in the regions, who have expressed commitment for joint fundraising and implementation. New projects are already under way in India.

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