13 Greater China and transnational environmental crime: understanding criminal networks and enforcement responses
Yunbo Jiao

INTRODUCTION

As one of the emerging forms of cross-border criminality, transnational environmental crime (TEC) has increasingly become a concern that features highly on the policy agenda and discourse of many international conferences and organizations. Thanks to its prominent yet ‘ignoble’ role as the world’s leading supplier or consumer of a variety of illegal environmental goods including wildlife, timber, and ozone-depleting substances (ODS), China has consistently remained at the heart of these concerns.

International perception of China’s expanding demand for, or supply of, illicit environmental goods centres around the adverse impacts on the environmental, economic, and social dimensions in source and consumer countries involved in China’s illegal trade. Such multifaceted negative outcomes mainly include deforestation (EIA 2012), biodiversity loss (UNEP 2013), species endangerment (EIA 2007, 2009), revenue loss (Thornton 2005), damage to local livelihoods (Mackenzie 2006; Mackenzie with Ribeiro 2009), and ozone layer loss (Clark 2005). In reality, not only does China’s illegal trade in environmental goods provide a striking counterpoint to the Chinese government’s political commitments to a ‘harmonious society’ domestically and a responsible global citizen internationally, it also proves to be a thorny policy and enforcement challenge for other ‘victimized’ countries entangled in China’s transnational trade chain.

An in-depth understanding of the nature and dynamics of China’s illegal trade constitutes an important part of the intellectual preparation for the effective control of TEC at regional and international levels. Yet much of the existing literature on TEC as it relates to China is essentially ad hoc in nature. At the same time, a number of factors – including the transnational and large-scale nature of China’s black market, the involvement of a broad range of environmental goods, the engagement of sophisticated networks of diverse perpetrators and the differentiated legislative
and regulatory systems among China and its trading partners – have added layers of complexity and difficulty to the understanding of and fight against TEC.

This chapter is a case study of China-related TEC with a special focus on the illegal trade of three different categories of environmental goods (wildlife, timber and wood products, and ODS) in mainland China and its three adjacent territories (Hong Kong, Macau and Taiwan). Through an examination of empirical data on seizures and bilateral trade from public sources, it seeks to disentangle China’s present role and utility in the global and regional trade of the three selected environmental goods. In particular, analytical effort has been given to a range of key issues including the nature and scale of the black market, the magnitude and diversity of the traded contraband, and the hotspots, routes and methods associated with smuggling activities. This chapter concludes with a brief analysis of major legislative and enforcement challenges facing China in tackling environmental crime.

CHINA’S TRADE IN ILLEGAL WILDLIFE

In comparison with its role as a supplier of wildlife products (Wyler and Sheikh 2008; Nijman 2010), China has created a greater global concern over its shift toward being one of the world’s largest consumers of wildlife illegally sourced around the globe from within China, to its northern and southern neighbours, and to the African continent. Tens of tonnes of a wide spectrum of wild animals and their derivatives are reputed to be shipped into China on a daily basis (UNODC 2010, p. 159). A crude estimate of China’s annual black market value hovers around US$10 billion (McLaughlin 2010). This black market is claimed to have expanded as an outcome of the confluence of the increasing number of wealthy Chinese (Martin and Vigne 2011, p. 4; Vigne and Martin 2014, p. 79) and the ‘enabling’ socio-cultural milieu for wildlife consumption (Wasser and Jiao 2010; UNODC 2010, p. 154). These various wildlife species and the derivatives and products, either valued in the benefits of traditional Chinese medicine, regarded as a status symbol or prized as pet or exotic meat, are being used as the source of a variety of goods that cover foods, medicines, pets, fashion and cultural items, industrial resins and extracts, and household decorations.

Scale of China’s Black Market for Wildlife Products

Analysis of China-related seizure data for the period April 1996 to April 2013 clearly discloses that China’s illegal wildlife trade has been enormous
and its trading partners – have to the understanding of and fight

WILDLIFE

The Wider Global Concern for Wildlife Trade and Conservation

Trends in the International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix I, 46 species in 159 seizures were listed on CITES Appendix II and four species in two seizures were listed on CITES Appendix III. Illicit trade also stretched to a variety of species including, for example, sables, moose, and red squirrels, which have not been designated as endangered or threatened.

In total, 363 seizures contributed to the confiscation of over 108,077 animals both live (75,160) and dead (32,917). Reptiles were the largest taxonomic group in terms of the total numbers of individuals seized (more than 60,045). Although the number of seized mammals (15,395) was far smaller than reptiles, mammals and mammal parts and derivatives dominated the illegal trade as they comprised 76 per cent (276 seizures) of all seizures.

High-profile Species Involved in China’s Illegal Trade

Of the high-profile species and derivatives illicitly traded to China, bears (paws), ivory, leopards (pelts), lizards, pangolins (live, meat, scales), rhino horn, snakes, tigers (pelts, bones), tortoises and turtles are on the list. Moreover, bear paws, ivory, lizards, pangolins, snakes, tortoises and turtles were often traded on a substantially massive scale. For example, a total of more than 12,227 live and dead pangolins plus 96,820 kg of pangolin meat and 12,512 kg of pangolin scales were recovered from 77 seizures over the 17 years studied. Some 100 seizures involved the forfeiture of around 62,723 kg of ivory tusks and products (bangles, beads, bracelets, carvings, chopsticks, sculptures, seals and so on) by enforcement authorities within and outside China. Using the estimate of average tusk weight of 3.95 kg (Rosen and Smith 2010, p. 26), the impounded ivory represents harvesting from more than 79,393 elephants.

Pangolins, birds and reptiles were often trafficked alive, with many perishing during transit due to poor conditions. In one case, Malaysian authorities seized 900 crab-eating macaques which were believed to be destined for food in China or for laboratories in the Netherlands. Some were so hungry that they started to eat their newborn offspring and hurt each other in desperation (Reuters 2007). In another case of live pangolin trafficking, smugglers used sedatives to tranquilize pangolins before they walked them through checkpoints at the train station. Morally reprehensible, they used a high-pressure jet to stuff live pangolins with water so that the extra weight would lead to extra profits when sold. Some were so
full of water that they could not survive even when rescued (Xinhua News 2006).

Shipment size varied tremendously, ranging from small numbers or little weight to thousands of individuals or tens of tonnes involved in just a single seizure. In particular, mammals and mammal derivatives (for example, pangolins, ivory) and reptiles were most likely involved in bulk smuggling. On 13 July 2010, Guangdong customs officials foiled an attempt of transnational smuggling into China of over 7.8 tonnes of frozen pangolins (2090 individuals) and 1.8 tonnes of pangolin scales that were seized from a fishing vessel headed to Zhuhai, Guangdong (TRAFFIC 2010). The biggest China-related reptile seizure was made in February 2008 by Shantou customs officials in Guangdong province: some 5776 monitor lizards, 1170 cobras, 260 Malaysian box turtles and 370 giant Asian pond turtles were recovered from a vessel and a pick-up lorry (China’s General Administration of Customs 2008).

In addition, large-scale seizures often have decisive implications for the total haul. In ivory seizures, for example, some 20 large-scale ivory seizures have been recorded, with confiscated ivory involved in each seizure exceeding 500 kg. These 20 seizures, although only accounting for 20 per cent of total ivory seizures, constituted nearly 95 per cent (59416 kg) of the total ivory haul. The sheer size of the illegal wildlife involved in individual shipments also reveals the devastating role played by professional and well-organized criminal networks in China’s wildlife trade.

**Methods for Smuggling and Concealment**

A variety of methods have been employed in smuggling practices to conceal illegal goods and to evade border inspection. In small-scale and tourist trafficking, aeroplanes, ferries, cross-border commuting coaches and trains were often utilized as transport vehicles. CITES-listed specimens were falsely declared as non-CITES-listed specimens and wild-caught specimens were misdeclared as captive-bred specimens. Small wildlife products were wrapped in clothing and packed in carry-on luggage, or bound to the passengers’ bodies with elastic and tape, or hidden in passengers’ custom-designed clothing including vests and underwear with secret pockets. International express services were sporadically used in smuggling in and out of China, with wildlife packed in parcels and mislabelled as gifts, toys or food.

For bulk shipment, trucks were usually seen in land transport, and containerized cargo by air or sea was used in long-distance large-scale smuggling. Wildlife products were packed in crates, cartons, sacks and
were mixed with legal or similar looking commodities, or hidden in secret spaces like lorry tyres or under heavy materials like scrap metals or in secret purpose-built compartments like extra-built containers in oil tanks. In order to decrease the risk of detection, officials working at customs, airports, border checkpoints and post offices were sometimes bribed in exchange for green (nothing to declare) passage. Contraband was deliberately left unattended in public transport until arrival at the final destination. Unwitting drivers were hired to escort the illegal shipment through enforcement checkpoints. In a few cases, trucks with forged military or police registration number plates were used to ease the inspection intensity. Speedboats were used in short-distance delivery to transport illegal wildlife from container transshipment terminals to nearby destinations, for example, from Hong Kong to neighbouring mainland coastal cities such as Guangzhou or Zhuhai.

**Smuggling Routes and Hotspots**

Seizure data offers strong evidence that Indonesia, Malaysia, Myanmar, Thailand and Vietnam in Southeast Asia, Democratic Republic of Congo, Kenya, South Africa and Tanzania in Africa, and India and the Russian Far East are specifically outstanding suppliers for China of a wide diversity of wild animals and products. While ivory tusks and rhino horns dominate the illegal export of wildlife from Africa to China, Southeast Asia and the Russian Far East provide a more diverse spectrum of wildlife involving many mammal and reptile specimens.

A variety of routes are used to channel illegal wildlife into China. Hong Kong continues to be the most important entrance gate for wildlife being smuggled by sea into mainland China. Terrestrial border areas of China are also a point of vulnerability for transnational wildlife trafficking. All of China’s border areas—from the northeast (Heilongjiang, Jilin) and north (Inner Mongolia), to the west (Xinjiang), and to upper southwest (Tibet) and southwest (Yunnan, Guangxi)—have reported seizures involving large volumes of illegal wildlife. In contrast with Hong Kong, Taiwan acts as more of an independent consuming market than as an intermediate point for illegal wildlife transiting mainland China. Most of the Taiwan-related wildlife seizures identified by this study point to illegal imports, with turtles and tortoises and their shells being smuggled from mainland China, Indonesia and Cambodia into Taiwan for the making of traditional Chinese medicine.
CHINA'S TRADE IN ILLEGAL TIMBER AND WOOD PRODUCTS

China's production, consumption and trade of forest products have grown tremendously since the mid-1980s and such growth continued into the 2000s. China continues to play a pivotal role in the global forest products market, featuring as the world's largest importer by value in global forest products trade and ranking among the top five leading importing markets for several major forest product categories including wood chips, logs, sawn wood, veneer sheets and pulp. It has also assumed a role as the world's largest processing hub for wood products, each year importing massive volumes of primary wood materials (logs, lumber, wood chips and so on) and re-exporting finished wood products (plywood, wooden furniture and works, and so on) mainly to the US, Japan, the European Union (EU) and countries in the Middle East.

Driven by a multiplicity of factors including strong economic growth, a large population base, improved living standards, expanded domestic wood-processing capacity and increased demand from both internal and external markets for wood-based products (Sun et al. 2004, p. 3; Canby et al. 2008, p. 1; Potts and Runnalls 2008, p. 5; Global Witness 2009, p. 97), China's consumption of raw wood materials continued apace from the turn of the century. Between 2000 and 2011, China's consumption of industrial logs in roundwood equivalent (RWE) volume soared from 108.2 million to 184.9 million m³ and sawn wood consumption jumped from 14.4 million to 94.6 million RWE m³ (FAOSTAT Database 2000–2011). However, due to the constraints of low per capita forest resources, low quality and productivity of domestic plantations, and stringent domestic forest protection policies (such as the 1998 nationwide logging ban), China's domestic production of forest products was constantly outstripped by its consumption growth during the period. As a result, China relies on wood imports to bridge much of the supply gap.

Between 2000 and 2011, China's imports of forest products increased sharply, growing in RWE volume from 61.2 million to 232.3 million m³ and in value from US$11.8 billion to US$39.9 billion (UN Comtrade Database 2000–11). Many of these imports were sourced from so-called 'high-risk' countries such as Cameroon, Indonesia and Russia, whose exports to China are believed to include a significant proportion of illegally logged timber and whose forest resources have often in the meanwhile undergone rapid depletion. However, with the critical absence of a legislative or regulatory arrangement that specifically prevents and tackles the trade of illegal timber, it is inevitable that China's illegal wood imports
TIMBER AND WOOD

Trade of forest products have 0s and such growth continued as a pivotal role in the global trade, the world's largest importer by ranking among the top five major forest product categories, veneer sheets and pulp. It has a processing hub for wood products of primary wood materials and re-exporting finished wood and works, and so on) mainly to US and countries in the Middle including strong economic growth, g standards, expanded domestic demand from both internal and externals (Sun et al. 2004, p. 3; Canby p. 5; Global Witness 2009, p. 97), trials continued apace from the 2011, China's consumption of RWE volume soared from 108.2 million RWE m³ consumption jumped from AOSTAT Database 2000–2011, 1 per capita forest resources, low plantations, and stringent domestic 1998 nationwide logging ban, products was constantly during the period. As a result, China f the supply gap, imports of forest products increased 61.2 million to 232.3 million m³ US$39.9 billion (UN Comtrade, 2012). Indonesia and Russia, the significant proportion of resources have often in the means, with the critical absence of a it specifically prevents and tackles that China's illegal wood imports from these high-risk countries have grown considerably in parallel with the aggressive expansion of its legal trade. Following the chain, it is also inevitable that the value-added wood products exported by China have been linked with an increasing risk of being manufactured from imported illegal wood.

As such, it is not surprising that China's forest products trade has attracted criticism from international environmental non-governmental organizations (NGOs) who accuse China of 'exporting deforestation to' (EIA 2012, p. 8) or 'importing rainforest destruction from' (Greenpeace 2005, p. 9) countries around the globe so long as they are forest-rich and suffering from illegal-logging problems. To better understand China's illegal wood imports, this section adopts the 'import-source' analysis to present an updated diagnosis of the scale, commodity composition, and high-risk supplying countries associated with China's illegal wood inflows from the world.

According to China's General Administration of Customs (2013), in 2012 China imported from 234 countries a total of 237.2 RWE m³ of forest products valued at US$36.4 billion. Based on realistic estimates of the levels of illegal logging or illegal wood exports in individual countries, 44 countries across four regions (Asia-Pacific, Africa, Europe and Latin America) have been identified by this analysis as high-risk supplying countries. Collectively, wood exports from these high-risk countries to China amounted to 82.7 million RWE m³ or 35 per cent of China's 2012 total imports of forest products.

By using the import-source approach to assess each of the bilateral wood flows from high-risk countries to China, this chapter estimates that in conservative terms in 2012 alone (the latest statistics at the time of writing) China imported 24.2 million RWE m³ of illegally logged timber or illegally traded wood products, with an import value of over US$54.3 billion. Such a magnitude of illegal timber imports represents 10 per cent by RWE volume and 12 per cent by value of China's total forest products imports in that year.

Within the international context, China stands as the world's largest importer of illegal wood, with the second-highest estimated share of illegal wood imports in relation to the country's total imports (10 per cent, less than Japan at 20 per cent). In contrast with other global leading importers, the RWE volume of illegal wood imported into China in 2012 is estimated to be almost double that of Japan, the second-highest importer (13.5 million RWE m³), and more than triple that of the US, the third-largest importer (7.4 million RWE m³).
Asia-Pacific

In 2012, China’s wood imports from the Asia-Pacific totalled 72.6 million RWE m³, with an import value of around US$10.4 billion. It is estimated that 22 per cent of the total wood exports from the region to China might have come from illegal sources. Indonesia, Thailand, Vietnam, Papua New Guinea and Solomon Islands were the five principal suppliers of illegal tropical hardwood in the region. Together, these five countries supplied 84 per cent by RWE volume of China’s illegal wood imports from the region, or 55 per cent if compared to China’s global imports of illegal wood. In line with China’s overall import preference, wood chips, industrial roundwood, sawn wood and chemical pulp were the major staples exported from this region’s high-risk countries to China.

Africa

Some 4.6 million RWE m³ or US$1.6 billion worth of forest products were shipped from Africa to China during 2012. Illegal wood imports from the continent were estimated at around 1.5 million RWE m³, corresponding to one-third of China’s total wood imports from the continent. Benin, Cameroon, Congo Republic, Equatorial Guinea, Gabon, Liberia and Mozambique were the major illegal wood exporters, together supplying 94 per cent of total illegal wood exported from the region to China. The lion’s share of illegal wood flows was exclusively occupied by industrial roundwood and sawn wood, together comprising 99 per cent of China’s total illegal wood imports from the region.

Europe

European exports of wood-based products to China reached 59.1 million RWE m³ in 2012, valued at US$9.2 billion. Total illegal wood flows from Europe to China were estimated at 6.3 million RWE m³, with a trade value of close to US$948 million. This illegal share accounted for about 11 per cent by RWE volume and 10 per cent by value of China’s total wood imports from the region. The overwhelming majority of illegal wood exported from Europe to China came from the Russian Federation. In 2012, Russia exported 6.3 million RWE m³ of illegal wood to China, mainly in the form of logs, lumber and chemical pulp. This represented a predominant share (99 per cent) of total illegal wood imported into China from the EU. In contrast, illegal wood flows to China from other high-risk European countries were fairly insignificant in quantity due to the limited scale of the overall bilateral trade of forest products.
Latin America

In 2012, Latin America exported a total of 21 million RWE m³, or US$4 billion worth, of forest products to China. The bulk of wood exports were comprised of pulp (in particular chemical pulp), which accounted for 92 per cent of the region’s total wood flows to China. Illegal wood exports from the region’s high-risk suppliers to China were assessed to be around 657,368 RWE m³, valued at US$202 million. Such illegal wood made up 20 per cent by RWE volume of China’s total wood imports from the region. Of the total illegal imports, 64 per cent (419,225 RWE m³) originated from Mexico, 16 per cent (103,703 RWE m³) from Brazil and 8 per cent (55,757 RWE m³) from Peru. Again, consistent with China’s general import preference, pulp was the largest product category, actually comprising 97 per cent of total illegal wood received by China from the region.

CHINA’S TRADE IN ILLEGAL ODS

If it is arguable that the Asia-Pacific has become the new hub for a global black market in ODS (Elliott 2007, p. 505), then China must be at the centre of the hub, given its dominance in the region in terms of its prominent roles as both the largest producer and consumer of legal ODS and the largest source of illegal ODS. Since the first revelation in 1997 (Clark 2005, p. 5) of the involvement of Chinese dealers in the cross-border trade of illegal ODS, the country has had a recorded history of over 17 years of consistently supplying the world with illicit ODS chemicals. A rich body of evidence – including the growing number of China-related ODS seizures, the prevalence of Chinese-produced counterfeit ODS on the global black market, and the considerable discrepancies in China’s ODS exports and its major trading partners’ imports – has pointed to China’s illegal trade in ODS as being a significant magnitude issue. It demonstrates that China is a major source from which large volumes of illegal chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are being smuggled each year to both developed and developing countries around the world.

China’s role in the global trade chain of illegal ODS presents a special challenge to the successful implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer. As Clark (2007) observes, the failure of the Chinese government to curb its substantial outflows of illegal ODS to the international market has placed an extra burden on customs officers across the globe and in turn has increased the risk of the recipient country’s non-compliance with the Montreal Protocol.

In order to unpack China’s profile in global trade of illegal ODS, this
section analyses 85 records of ‘China-related’ ODS seizures which have been made by enforcement agencies within and outside China between January 2000 and April 2014. These records were garnered from a number of reports by government agencies, environmental NGOs and international organizations.\(^7\)

Akin to but slightly different from the definition adopted in China’s illegal wildlife trade discussed in the early part of this chapter, the term ‘China-related’ is here meant to comprise two classes of seizure cases. The first (79 records) includes seizures which occurred within or outside China, with China as the source country for the contraband ODS. The second (only 4 records) includes seizures involving China as the transit country through which illegal ODS were intended to be smuggled from the source to the destination country. There were no cases where China was involved as the destination or consuming country.\(^8\)

**Scale of China’s Black Market for ODS**

Excluding cases where the quantities of the seized ODS were not provided or were recorded in non-standard units, 85 China-related ODS seizures made over the 15-year span resulted in an aggregated confiscation of 1967 metric tonnes of contraband ODS. This represents an annual magnitude of 131 metric tonnes of illicit ODS being manufactured mostly in mainland China and traded to the international black market.

CFCs and HCFCs were the two main groups of ODS found in seizures. Of the total seized, 1033 metric tonnes or 54 per cent were contraband CFCs, recovered from 53 seizures; 853 metric tonnes or 44 per cent were illegal HCFCs, derived from 29 seizures. There were also small amounts of methyl bromide (27 metric tonnes), halon-1211 (0.5 metric tonnes), and some 1.3 metric tonnes of unspecified kinds of ODS.

One puzzling aspect associated with China’s illegal ODS trade is the continuing presence of enormous quantities of Chinese-produced CFCs on the international black market even after the Chinese government shut down nearly all CFC manufacturing plants by July 2007. From 2008 to 2010, for instance, Russian authorities intercepted from three separate smuggling attempts a total of 560 metric tonnes of illegal CFCs produced in China (EIA 2011, pp. 26–7; INTERPOL and UNEP 2013, pp. 29–30). In all cases, virgin chemicals were mislabelled and misdeclared as recycled even though the Chinese government itself had admitted that it did not have the capacity to recycle such a large amount of CFCs (UNEP 2012, p. 5).

Substantial amounts of illegal Chinese CFCs also appeared on the black markets in Hong Kong, Taiwan, Kenya and Uzbekistan. Possible
lating ODS seizures which have taken place in and outside China between 1999 and 2003 were garnered from a number of environmental NGOs and international organizations. The definition adopted in China's anti-smuggling laws part of this chapter, the term "two classes of seizure cases. The seizures were either within or outside China, classified as contraband ODS. The second type of seizure case was the transit case where China was involved.

Seized ODS were not provided in these seizures. Of the 45 ODS seizures, the aggregated confiscation of 1967 metric tonnes represents an annual magnitude of ODS manufactured mostly in mainland China. Groups of ODS found in seizures were either contraband ODS or domestic plants. There were also small amounts of CFC-11 (0.5 metric tonnes), HCFC-12, HCFC-112, HCFC-113, and HCFC-22 from China.

China's illegal ODS trade is the result of Chinese-produced CFCs and HCFCs after the Chinese government intercepted shipments from three authorized companies in 1999. CFCs, such as CFC-11, CFC-12, CFC-112, CFC-113, and HCFC-22, were mislabelled and misdeclared. The government itself had admitted that a large amount of CFCs from these companies also appeared on the Kenyan and Uzbekistan markets.

Explanations for the obstinate appearance of illegal Chinese CFCs and HCFCs are also provided. The global black market includes the diversion for illegal use of established stockpiles prior to the 2007 production halt or the continued operation of unregulated production facilities (UNODC 2013, p. 118). Further, for the scenario of possible ongoing illicit production, interviews with Indonesian ODS traders revealed more specific details (Clark 2005, p. 16). Some large Chinese ODS producers, which had previously been paid by the Multilateral Fund for the Implementation of the Montreal Protocol (MIP) to dismantle their CFC production lines, had actually turned themselves into key brokers linking other illicit ODS producers and their overseas customers. That is, they acquired CFCs from smaller, illicit domestic plants and capitalized on their established transnational client network to supply overseas markets with illicit CFCs.

Major Destinations

Analysis of seizure data also provides important information on the major destinations for Chinese-produced illegal CFCs and HCFCs. In total, seizure data recorded 23 countries and territories as recipients of Chinese illegal ODS. Based on the size of the seized chemicals, Russia, the US, India, Japan, and Spain comprised the top five destination markets, although the types of chemicals most favoured varied among localities.

Russia is the largest recipient of Chinese illegal ODS. From 2007 to the first half of 2014, Russian enforcement made nine seizures of illegal CFCs and HCFCs, with a total of 679 metric tonnes. CFC-12, CFC-112, CFC-113, and HCFC-22 were reported to be the most prevalent chemicals traded to Russia, although one seizure consisted of 130 ODS-containing split air-conditioning systems. An intimidating aspect of this line of trafficking was the substantially large-scale nature of individual shipments, implying the engagement of well-financed enterprises in both countries.

Although the US ranked second in terms of the volume of seized ODS, the bulk of the seizures were the result of trafficking by a Florida-based company from March 2007 to April 2009. Within that two-year period, this company managed a succession of 11 shipments of a total of 418 metric tonnes of HCFCs, with a market value estimated at around US$4 million. Instead of a direct course of delivery from China to Florida, the shipments were transshipped via Caribbean islands to evade inspection (EIA 2011, pp. 26–7).

Between 2004 and 2013, Indian authorities made seven seizures of Chinese HCFCs, amounting to 221 metric tonnes. In March 2013, the Indian Directorate of Revenue Intelligence intercepted its largest-ever
recorded smuggling of Chinese HCFCs: 183 metric tonnes of HCFC-22 contained in five bulk isotanks (UNEP 2014, p. 5). Seizures by Japan of illicit Chinese ODS took place mainly in 2001 and 2002 during which time the Japanese authorities made eight seizures of a total of 192 metric tonnes of Chinese-produced CFC-12. The only recorded seizure by Spain, of 150 metric tonnes of Chinese HCFCs, was made in a grand operation coded ‘Refreshco’, initiated by the Spanish Guardia Civil in February 2012 (ARC News 2012).

Methods for Smuggling and Concealment

Analysis of seizure data shows that ‘misdeclaration’ is the most commonly used method. This method often occurs at border checkpoints where illegal ODS are disguised by putting the names of other similar, legal chemicals on the containers or shipping documents. Commonly seen practices include CFC-12 being misdeclared as non-regulated substances such as HFC-134a or HCFC-22 (when HCFC-22 was not subject to control), or misdeclared as legal merchandise such as aluminium, plastic racks, garments, mist lamps and cartons, or bathtubs and handicrafts. HCFC-22 has been misdeclared as HFC-134a or ethylene glycol and methyl bromide has been misdeclared as foaming agents. Incentives for misdeclaration vary by cases. In some instances, licensed traders misrepresent the nature or understated the quantities of the declared goods to avoid the use of export and import quotas. In other instances, traders underestimate the real value of the declared goods to avoid tax payments.

‘Concealment’ is the second most common method and it varies in sophistication. Some may be simple, involving hiding CFC-12 with legal merchandise such as furniture, plywood and glass products or in personal luggage or car boots as in cases of passenger trafficking of small amounts. Others are complex and sophisticated, involving ‘double layering’ where CFC-12 is hidden behind a layer of non-regulated substances such as HFC-134a or HCFC-22, or concealed in larger custom-designed containers like metal oil drums, or secret spaces like coach luggage compartments or secluded cabins in fishing boats.

In addition, the methods of ‘false labelling’ and ‘fake recycled or reclaimed’ are also used by illegal traders. In false labelling, logos of branded products such as ‘Honeywell’ were appropriated to disguise counterfeit CFCs; canisters containing CFC-12 and HCFC-22 were mislabelled as containing non-regulated substances; and equipment containing HCFC-22 was falsely labelled as HFC-410a units. Fake recycled or reclaimed ODS mainly involved virgin CFCs being mislabelled as recycled substances.
National-level control of environmental crime relies largely on states' individual efforts to transfer ratified multilateral environmental agreements into national legislation, to impose regulations on domestic trade, to criminalize serious environmental offences, to set administrative or criminal penalties to deter illegal trade, and to allocate sufficient resources to investigate, prosecute and adjudicate such offences. The Chinese government has invested great effort in the past years in tackling illegal trade and combating environmental offences. Noticeable progress has therefore been made in improving China's legislative framework and in strengthening law enforcement. However, in each of the three sectors, there have been crucial limitations that stymie effective containment of China's illegal trade in environmental goods.

In the wildlife sector, China established a relatively sound legislative and regulatory mix for the protection of wildlife resources and the prevention and detection of wildlife offences. In November 1988, seven years after acceding to CITES, China promulgated its first national legislation on wildlife protection, the 'Law of the People's Republic of China on Protection of Wildlife' (the Wildlife Protection Law). Since then, wild terrestrial and aquatic animals designated as rare or in danger of extinction have been placed under state special protection as Class-I and Class-II protected. In January 1989, China's Ministers of Agriculture and State Forestry Administration jointly released the 'List of Endangered and Protected Species of China' as an interpretation document relating to the Wildlife Protection Law to further specify the range of wildlife species under state special protection. In April 1993, the List was expanded to include species listed in CITES Appendix I and II, but for which China is not the source state (for example, rhino, crab-eating macaque, African elephant and so on). The protection status allocated for CITES-listed species largely follows CITES's classification, with species in CITES Appendix I being put under State Class-I protection and species in CITES Appendix II under State Class-II protection.

Under China's Wildlife Protection Law, hunting, fishing and sale and purchase of state-protected wildlife and their derivatives and products are normally prohibited. The import and export of state-protected wildlife requires licences from the China CITES Authority. Enforcement agencies such as Customs determine the legality of wildlife covered by licences before trade is allowed. Violations of the Wildlife Protection Law face administrative penalties, including confiscation of wildlife products and illegal proceeds, licence revocation or monetary fines. Acts causing serious harm are considered criminal offences under Provisions 151, 340 and 341.
of the Criminal Law of China, incurring criminal penalties ranging from fines, to fixed-term imprisonment or even life sentences.

In the enforcement arena, China has also taken several important steps toward enhancing the coordination of domestic and international wildlife enforcement. Between 2004 and 2013, Chinese customs officials dealt with a total of 930 wildlife-related criminal cases, leading to the apprehension and prosecution of some 1395 criminal suspects (Xinhua News 2014). In December 2011, China established the National Inter-agencies CITES Enforcement Coordination Groups as a liaison office to integrate and orchestrate efforts from multiple wildlife enforcement agencies to better implement CITES and combat smuggling and the illegal trade of wildlife (TRAFFIC 2011). Since 2010, Chinese wildlife enforcement units including customs and forest police have actively engaged in a series of regional and international wildlife enforcement operations and have made significant seizures of illicit wildlife products and detained wildlife criminals. These included the INTERPOL-led ‘Operation RAMP’, which targeted illegal trade in reptiles and amphibians (Green Times News 2012), the World Customs Organization-coordinated ‘Operation GAPIN’, designed to combat illegal cross-border trade in great apes (Green Times News 2011), and the Chinese-organized ‘Operation Cobra I’ and ‘Operation Cobra II’, aimed at dismantling transnational wildlife crime syndicates (Forestry Gov. News 2014).

These operations are encouraging progress. However, the control of the illegal wildlife trade in China still faces significant challenges. In many cases, the most prominent challenge tends to be the absence of consistent enforcement by local wildlife enforcement agencies. As revealed in several field investigations conducted by researchers and environmental NGOs in many parts of China, widespread non-compliance still exists in local niche marketplaces that openly sell protected wildlife and in local restaurants that secretly or semi-openly serve wildlife as exotic meals (Meng et al. 2009; EIA 2009). It exists in government-credited ivory factories and retail outlets that manufacture smuggled ivory tusks and that sell illicit ivory products (Martin and Vigne 2011; Gabriel et al. 2012; Vigne and Martin 2014), and in officially licensed pharmacies that sell traditional medicines that contain illegal wildlife parts (Li et al. 2007). Clearly, in the context whereby China has imposed prohibitive regulations on the commercial trade of protected wildlife and has set up severe administrative and criminal penalties for violations, the continued existence of large-scale or even industry-wide defiance of wildlife laws can be attributed to poor enforcement. If control of illegal wildlife trade in China is to be effective, local wildlife enforcement agencies – including forest police and industrial and commercial bureaus – need to
incorporate regular inspection and surveillance of local trading sites into their daily work.

Similar dilemmas can also be seen in the ODS sector where China has implemented a series of national phase-out projects and instituted a relatively robust regulatory mix for the production, use and trade of controlled ODS. Yet the issue of illegal production and export of controlled ODS continues, again as a result of ineffective enforcement by local authorities.

China acceded to the Montreal Protocol in 1991 and was classified as a Party operating under paragraph 1 of Article 5 of the Protocol. In 1993, China formulated its national plan 'Country Programme for the Phase-out of Ozone Depleting Substances', in which control targets were set to completely phase out the production and consumption of CFCs, halons and carbon tetrachlorides (CTCs) by 1 January 2010 and 1,1,1-trichloroethane by 1 January 2015. In early 2004, China signed an agreement with the MLF Executive Committee for the CFCs/CTCs/halon accelerated phase-out plan under which it committed to bring forward the end date for its CFCs production from 1 January 2010 to 1 July 2007 (Multilateral Fund Secretariat 2010, p. 185). In 2007 at the 19th Meeting of the Parties to the Montreal Protocol, China adopted another accelerated HCFCs phase-out process agreed to by the Parties with the proximate goal setting for Article 5 Parties as a freeze on production and use of HCFCs at the average 2009–10 baseline level by 1 January 2013, with a further 10 per cent reduction by 1 January 2015.

Since 1993, with financial support from MLF and technical support from the World Bank and the United Nations Environment Programme as the implementing agency, China has put in place five ODS phase-out projects to reduce its domestic production and use of controlled ODS in different industrial sectors. On 21 June 2007, the China State Environmental Protection Administration (SEPA) released the 'Announcement of the Nation-wide Ban on CFCs Production', stipulating that, except for essential uses exempted by the Montreal Protocol, CFC production would be completely banned from 1 July 2007. Ten days later, SEPA signed a contract with the last six remaining CFC and halon-producing firms for the final closure of their production lines, marking the successful conclusion of its CFCs/CTCs/halon accelerated phase-out plan (SEPA 2007).

Since early 1995, through a number of administrative edicts, SEPA and other ministerial departments have imposed stringent controls on the establishment of new ODS production facilities. They have introduced quotas and a licensing scheme for the production, consumption, import and export of controlled ODS. Enterprises wishing to produce, consume or trade CFCs, halons and other controlled ODS must apply to SEPA in advance for corresponding quotas and permits and conform
to relevant quota limits and data reporting requirements. Local environmental protection and commercial authorities and customs officials are in charge of the daily enforcement of ODS regulations in their respective remit areas via site supervision, annual audits or customs inspections. In 2010 and 2014 respectively, China updated its national ODS legislation through the enacting of two new regulations – the '2010 Regulation on the Administration of Ozone Depleting Substances' and the '2014 Management Measures on the Import and Export of Controlled Ozone Depleting Substances'. According to the two regulations, production, consumption, import and export without a permit, or with a permit but in violation of relevant requirements on quota limits or the use of permits, are considered illegal and can attract administrative penalties ranging from maximum fines of ¥1 million, confiscation of illegal proceeds, dismantlement of production facilities, to licence revocation and future application disqualification.

If China's relevant ODS laws and regulations were enforced adequately and effectively at each enforcement point from licence distribution and production surveillance to export control, there would not have been a coterie of ODS dealers based in Zhejiang engaging in annual illegal shipping of more than 8000 ozone depletion potential tonnes of CFCs out of China (Clark 2005, p. 3). Adequate and effective enforcement of the 2007 CFC production ban would also have helped to contain not only the kinds of ODS seizures that have been described in this chapter but also, given that the quantity of contraband often accounts for a fraction of the entire illegal business, the production of chemicals that have almost certainly been successfully smuggled.

In the timber sector, it appears to be a different story. The key challenge facing China is the lack of national legislation that explicitly demarcates timber legality and thus provides a practical legislative instrument for enforcement authorities to determine illegal timber and prevent illegal import and export. However, this weakness has been partly overcome by China's recent efforts in developing its own timber legality verification schemes (TLVSs). From October 2009, the Research Institute of Forestry Policy and Information of the Chinese Academy of Forestry worked in collaboration with the non-profit group ProForest on developing China national TLVSs. The first two reports produced under this collaboration reviewed changes in market requirements for legal and sustainable timber in China's major export markets and existing TLVSs in selected consumer countries (Proforest 2010a, 2010b). A third report proposed a draft China national TLVS which suggested two mechanisms to verify the legality of imported timber. One is the Chinese Government-guided Timber Verification Scheme (CGTVS) under which bilateral agreements between
China and timber-producing countries would be established to define timber legality, management processes and valid legality documentation. The other is the Chinese Association-guided Timber Verification Scheme (CATVS), a voluntary mechanism designed to be used when trading with countries with which China has not yet established a CGTVS agreement. Under CATVS, mutual recognition of a particular timber legality verification system is expected to be achieved between industrial associations in China and their counterparts in timber-producing countries (Oberndorf 2013, pp. 14–15; Wellesley 2014, p. 11; Chen 2014).

At the time of writing, little progress has been made in promoting CGTVS, although the China National Forest Products Industry Association (CNFPIA) has taken several steps towards developing standards, procedures and management processes for CATVS. Under the ‘China Timber Legality Verification Standard 2012 (Trial Implementation)’, the term ‘timber legality’ was clarified as ‘harvesting, transport, processing and sale of timber in compliance with relevant national laws and regulations and relevant international agreements that China has signed’ (CNFPIA 2012, pp. 6, 9). In practice, for imported wood products to be deemed as legal, the importing enterprises need to present the certificate of origin and customs documentation by both exporting and importing countries. A legality verification management office and an online timber-tracking system have been established under the auspices of CNFPIA to facilitate the programme’s implementation (Zhang 2014).

The draft China national TLVS represents a prospective policy framework which, if fully and adequately implemented, promises to play a big role in combating illegal logging and associated trade, promoting the sustainable development of China’s international wood trade and improving China’s international image. However, at the time of writing, plenty of work is needed before the framework can operate as expected. Under the CGTVS, progress towards developing bilateral agreements with timber-exporting countries needs to be accelerated, in particular with high-risk supplier countries in the Asia-Pacific and Africa, as identified in this chapter. As definitions of timber legality are largely contingent on individual countries’ own legislation and regulations, China’s definition lacks feasibility in enforcement terms in international forest products trade. Hence, closer coordination and deeper communication between Chinese associations and their foreign counterparts in timber-exporting countries are essential in order to arrive at a shared understanding of timber legality and concomitant sets of procedures, standards and certificates necessary for the correct implementation of timber legality.
NOTES

1. This study was based on an analysis of 363 wildlife seizures, reports of which were extracted from TRAFFIC (1997–2014). ‘China-related’ was defined to include seizure cases involving China as the consumer or supplier of the seized wildlife, irrespective of the seizure occurring within or outside China.
2. Based on seizure data, Macau’s role as the consuming market or transiting point is not empirically evident.
3. The term ‘forest products’ refers to goods derived from wood through processing of mechanical or chemical decomposition. These mainly include timber products (for example, industrial roundwood, sawn wood and wood-based panels), pulp, paper and paperboard, but exclude non-wood forest products such as non-wood plant and animal products. ‘Forest products’, ‘wood products’ and ‘wood-based products’ are used interchangeably in this chapter.
4. RWE is a standard measure of the volume of roundwood required for the manufacture of a unit of specific wood-based products.
5. In the case of China as the subject of investigation, import-source analysis calibrates the illegal content in wood flows from a particular high-risk supplying country to China by multiplying the total RWE volume of the forest products imported by China from that country with the estimated level of illegal logging or trade in that country.
6. China’s wood imports from North America mainly came from the United States and Canada where illegal logging is not thought to be a serious problem. Hence, for analytical purposes, wood flows from North America were not considered in the calculation of China’s illegal timber imports.
7. One important source for ODS seizure data is the ‘Information reported by the Parties to the Montreal Protocol on illegal trade in ozone-depleting substances’, released annually by the Ozone Secretariat. Parties are invited to report verified cases of illegal trade in ODS to the Secretariat in order to facilitate the exchange of information. To encourage them to report, ‘Decision XIV/7’ approved at the 14th Meeting of the Parties to the Montreal Protocol decided to exclude illegally traded quantities from counting in a Party’s consumption quotas provided the Party does not place the said amount on its own market. However, many Parties are still unwilling to report. For example, in the case of China-related seizures, this chapter identifies 23 countries around the world that have intercepted illegal exports from China of controlled ODS in the past years, while only six countries – Argentina, Japan, the Philippines, Seychelles, Sri Lanka and Uzbekistan – made their reports to the Secretariat.
8. Two seizures were not considered for this comparison due to the lack of information on implied sources, although seizures did take place within China.
9. Based on the seizure data, the role of Taiwan and Hong Kong as either consuming markets or transiting points in the China-related trade of illegal ODS is not empirically conspicuous.

REFERENCES

Chen, Shaozhi (2014), ‘China’s effort to combat illegal logging and associated trade’
Wildlife seizures, reports of which were related, was defined to include seizures of the seized wildlife, irrespective of the nature market or transiting point. It was not found that wood through processing of mainly include timber products (for 3 wood-based panels), pulp, paper and other such as non-wood plant and animal 'wood-based products' are used inter-wooded required for the manufacture of the forest products imported by EU from illegal logging or trade that primarily came from the United States and is a serious problem. Hence, for analysis were not considered in the calculation of the 'Information reported by the Parties on depleting substances', released annual to report verified cases of illegal trade and exchange of information. To encourage the positive action of the Parties to ally traded quantities from counting in reality does not place the said amount on ill unwilling to report. For example, in identifies 23 countries around the world in controlled ODS past years, e. Philippines, Seychelles, Sri Lanka and others, arising due to the lack of information on it within China. and Hong Kong as either consuming or trade of illegal ODS is not empirically for R22 offences, 17 December, available-in-sprint-for-r22-offences (accessed by Katsikis and Xiefang Sun (2008): An analysis of imports and exporters of illegal logging and associated trade (in Chinese), China Academy of Forestry, available at http://www.forestry-trends.org/documents/file/doc_4273.pdf (accessed 1 July 2015).


EIA (Environmental Investigation Agency) (2008), 'A deadly game of cat and mouse: How tiger criminals give China the run-around', London: EIA.


EIA (Environmental Investigation Agency) (2012), 'Appetite for destruction: China’s trade in illegal timber', London: EIA.


INTERFOL and UNEP (United Nations Environment Programme) (2013), 'Ozone depleting substances smuggling and concealment: Case study handbook', Lyon and Bangkok: INTERFOL and UNEP.


SEPA (State Environmental Protection Administration) (2007), Ozone Action in China, 68 (September), 1–6.


Greater China and transnational environmental crime


