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comparing illicit trades in wildlife and drugs: an exploratory study

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This article is an exploratory study into the similarities, differences, and overlaps between the illegal wildlife trade and the illegal drug trade, using original and literature-based research from the Russian Far East and Western Europe, respectively. The purpose of such a comparison is to gain further insight into the illegal wildlife trade through the examination of the more thoroughly studied illegal drug trade. We first examine the global size of these markets and then detail and compare actors and smuggling operations found in each. This leads to a possible typology of features that the trades have in common and to discussion of the direct linkages between these two illicit markets.

INTRODUCTION

This article was conceived as a comparative piece concerning similarities and differences between two highly profitable but distinctive illicit markets—the illegal wildlife trade in Russia

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and the illegal drug trade in Western Europe. The intent behind this exploration was to further the understanding of the illegal wildlife trade through comparison to the much more in-depth research that has been conducted on the illegal drug trade. The study can thereby make a dual contribution to the literature, adding to growing work on green criminology (Beirne and South 2007) by situating wildlife trafficking within the wider spectrum of illicit cross-border trading, as well as to studies of drug trafficking and its relationship with other forms of organized criminal enterprise. Such contributions are important in order to aid development of appropriate prevention tactics that can be targeted at the destructive green crimes of wildlife poaching and trafficking. While these illicit markets are each extensive in their own ways, with multiple participants, methods, and routes, there are generalizations that can be made to demonstrate that these trades share a variety of characteristics. In addition, we also recognized that these trades are, of course, elements of the wider global criminal economy that crosses borders, comprises multiple commodities, and is sustained via numerous modus operandi. Hence we aim to compare the case study trades but with an eye to the wider context.

Globalization and Criminal Trades

Since the 1960s and accelerating since the 1980s, criminal networks and associations have been identified as operating from home territory and in various ways globally (Castells 2000:169–211; Nordstrom 2007). Increasingly even the most localized crime group can connect to the global stage (whether dealing in commodities from elsewhere or seeking to move profits out of the country) while at the same time, ''classic 'international' criminal organizations'' are found to function ''as interdependent local units'' (Hobbs 1998: 419). Hence today, some (although not all) forms of organized crime would seem to have both local dimensions (e.g., where crime is committed, distribution of goods) as well as international connections and resources, for example supply to meet overseas demand for stolen commodities (works of art, drugs or wildlife items such as rare animals, birds, eggs), facilitated by bankers, lawyers, accountants, and others working outside the local jurisdiction who help

to launder profits or disguise the provenance of stolen goods. Markets have opened, currencies merged, borders been dismantled and trade associations expanded.

The Size of the Markets

The illegal wildlife trade is estimated to be valued somewhere between $10 and $20 billion (Galster 2008). As is often quoted, this figure places wildlife trafficking second to the drug trade in profitability (Humane Society International (HSI) Australia N.D.). This large variation stems from the unknown shadow figure of this black market and the different values that are used to estimate the worth of wildlife and wildlife products (Cook et al. 2002). Estimates are generated from declared values at customs, not by market value or the Convention on the International Trade in Endangered Species of Wild Fauna and Flora, commonly known and referred to henceforth as CITES (Fernandez and Luxmoore 1997:1). The shadow figure of the illegal wildlife trade ''is compounded by the hidden nature of the victims or objects involved—endangered flora and fauna and the often remote habitats which sustain them'' (Cook et al. 2002: 7). Furthermore, as there is no set standard to judge the value of wildlife, estimates vary incredibly across the globe (Cook et al. 2002). As this value is exclusively monetary, generated ''by existing data and other sources, (which) provide only one dimension of the value of wildlife for human well-being'' it ''should be taken only as an indication of the minimum value of wildlife for consumptive purposes'' (Fernandez and Luxmoore 1997:1–2). In other words, the financial capital assigned to the wildlife trade does not reflect the external costs of damage to the environment nor consider other value beyond or besides the instrumental worth to humans.

If the problem of estimating the size of the wildlife market is one caused by lack of research, data, and intangible factors, then the case of the drug market may suffer the opposite—an enormous volume of research, huge amounts of data, and many but varied documented case studies and meta-analyses. Yet figures on the size of value of the drug market may nonetheless still be as debatable as for the wildlife market. The U.K. independent research charity, Transform, has recently addressed this set of issues in an

even-handed fashion (see: http://www.tdpf.org.uk/Media-News_FactResearchGuide_SizeOfTheDrugMarket.htm):

> Unfortunately, attempts to estimate the value of any illegal market are highly problematic: illegal drug producers and dealers do their best to remain hidden, do not list themselves on stock exchanges, file tax returns or publicly audit their accounts. Much of the data used to estimate the value of the market are themselves estimates based upon assumptions, or incomplete and unreliable data.
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> . . . In its 1997 *World Drugs Report* the UNODC [United Nations Office on Drugs and Crime] estimated the value of the market at US$400bn. This estimate has been widely used by the media and law enforcement agencies but has come under criticism from some experts as being far too high . . . . The more likely trade figure is nearer (and probably under) 100 billion—more comparable with the global trade in textiles. The key here is to be clear what is being talked about: turnover or trade. Profits are a different question again.
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> In the 2005 *World Drugs Report,* the UNODC put the value at ''US$13bn at production level, $94bn at wholesale level and US$332bn based upon retail prices.'' (124)

This comparative exploration will describe how each of these trades are carried out and how they are structured. The data used to establish the structure of the illegal wildlife trade stems from 21 in-person semi-structured interviews conducted with experts from governments, nongovernmental organizations (NGOs), and academics in Russia, the United States, and Europe regarding wildlife trafficking in Russia. The initial purposive sample included staff of NGOs that are dedicated to curbing the illegal wildlife trade, such as the Worldwide Fund for Nature (WWF), staff of CITES, which is the major international convention that governs wildlife trade, and U.S. Consulate and Fish and Wildlife Service staff. These initial seven interviews snowballed into local Russian experts at NGOs, Russian academics, and contacts with Russian Customs officials that were trained specifically in detecting wildlife trafficking.

Discussion of drug trafficking operations draws on fieldwork and literature review from the United Kingdom, Western Europe, and the United States (Dorn et al. 1992;

Ruggiero and South 1995; South 2004; Royal Society of Arts Drugs Commission 2007).

In the next sections we provide an overview of both trades but in order to show what might usefully be learned from existing research in the drugs field and applied to the subject of wildlife trafficking we shall start with the former. The format is that the structure of each of these markets is detailed by progressing from the initial actors involved through the transportation of the smuggled product to the point of final distribution.

THE ILLEGAL DRUG TRADE

Terminology

The term ''drugs'' is widely used and applied in different ways. Here we are talking of drugs with an illegal status in law but even this is not straightforward—some drugs may be legally produced, diverted via theft or sale to an illicit market and sold and used illegally (although in some jurisdictions sale or supply may be illegal but use per se may not); in other cases, the processes of preparation of a plant based drug or manufacture of a synthetic drug may be illegal. The World Health Organisation (WHO) defines drugs in the following way:

> a drug is a substance that is, or could be, listed in a pharmacopoeia. In common usage, the term often refers specifically to psychoactive drugs, and often, even more specifically, to illicit drugs, of which there is non-medical use in addition to any medical use. Professional formulations (e.g., ''alcohol and other drugs'') often seek to make the point that caffeine, tobacco, alcohol, and other substances in common non-medical use are also drugs in the sense of being taken at least in part for their psychoactive effects. (World Health Organization 2007)

Stages and Types of Trade

The first step in the chain is the cultivation or manufacturing and subsequent collection and production of a drug product—we will describe equivalent processes for the wildlife trade

shortly. However, the concern in the case of drugs is what occurs after the transformation process that has taken a product (whether of the wild, cultivation or chemical synthesis) into the marketplace as a commodity. While correlations are found between involvement in drug dealing and deprivation that may suggest survival and basic income drivers are reasons for such activity, involvement in larger scale dealing and trafficking is likely to be driven by profit and lifestyle (Pudney 2002; Roberts 2003; South 2004). This provides us with some key points for comparison with wildlife traders.

Of course, what is significant in the drugs business is that the combination of psychoactive qualities (in many cases of an addictive nature) with demand, illegal status, and discretion governing availability, produces opportunities involving complex and global divisions of labor and a range of economic outcomes from subsistence livelihoods to enormous revenues. The report on Illegal Drugs prepared by the Royal Society of Arts Drug Commission (2007:40) identified key stages in the following terms:

> The drugs business, like any other, has different stages which involve millions of people worldwide: cultivation of crops, wholesaling of raw materials, processing and manufacturing, transport and distribution, retailing, money management and investment of proceeds. Besides the farmers, manufacturers, producers, marketers, traffickers and lower-level dealers, there is a large financial infrastructure of accountants, lawyers and bankers operating in a ''grey economy'' between the ''black'' and legitimate economies.

Like other successful markets—including the wildlife trade—the drugs business can be shown to be open to entrepreneurs at different entry levels and bringing different sets of resources (Curtis and Wendel 2000; van Duyne and Levi 2005; Pearson and Hobbs 2001) although as Ruggiero and Khan (2006:476) note: ''The fragmentation of drug markets, the mobility of distributors between levels, and the overlapping 'layers' at which transactions take place may further complicate attempts to precisely classify the different market levels.''

Amateur level user-dealers are frequently reported in studies and we believe these bear comparison with the amateur

levels of the wildlife trade although declared motives may differ and the techniques used for justification of involvement in such trades are worth returning to later. Amateur dealers, like the amateur hunters described below, are generally identifying with a ''community'' of some sort or a social world comprised of familiar networks and congruent values. In the case of the American cocaine users and small-scale sellers described by Murphy et al. (1990:321), ''their use of illicit drugs had gone on for so long [and] was so common in their social worlds, and had not significantly affected their otherwise normal lives, [that] they hardly considered it deviant at all.''

Perhaps a slight step up and further along the road of financial motive, other dealers are described working in the illegal market but making irregular forays back into legal employment with varying degrees of success (South 2004). In the United Kingdom and Western Europe, this phenomenon has been mirrored in varying ways by those in similar situations as the ''laborers'' and entrepreneurs of the irregular economy networks of the late-modern city (Ruggiero and South 1995; 1997). In other circuits of the global market, more organized and powerful groups or cartels will work with highly sophisticated equipment, techniques and the ability to engage in bribery and corruption, intimidation and secrecy, procurement and smuggling, in highly effective ways (Nordstrom 2007). Again, we can identify here potential points of comparison with groups operating in wildlife trafficking.

Smuggling

There are numerous methods of smuggling banned substances that have been devised down the centuries and are in use today. Some will be fairly generic techniques, adaptable for many or all commodities. These may include simple body-package smuggling (on or within the body) or smuggling in luggage or vehicles. A variant of the latter is where a package is covertly placed in someone else's luggage or vehicle and they innocently take or drive it through customs with the smuggler retrieving the item later. Bribery of transportation and border officials is known to take place when trying to smuggle both drugs and wildlife. However, the value of drugs and size of some shipments may mean that

techniques can be used that would not be practical or viable for some other commodities. For example, different kinds of drugs can be compressed into cakes or blocks and then packaged as bales and flown over borders and dropped in unpopulated areas for pick-up or even, when suitably protected from water damage, dropped to the seabed from one boat and picked up by divers and transferred to another boat later.

On the other hand, unlike the wildlife trade where it is possible to forge paperwork to make a shipment appear legal, this is not possible in the case of illegal drugs—at least certainly not in the same way. Paperwork can transform some visible commodities such as wildlife or plant species from illegal to legal status and the item(s) can be physically inspected, whereas illegal drugs cannot be smuggled in any form open to inspection—although they can be disguised and hidden in other containers that may be moved with either legitimate or fraudulent paperwork. As Ruggiero and Khan (2006:480) found in their research into drug trafficking between Pakistan and Afghanistan and western cities such as Rotterdam and London, dealers and law enforcement officials reported that any commodity, so long as sufficiently profitable, can conceivably be inserted into the legal global transportation system: ''In most cases, the drugs were being sent through flights using carriers of different origin, besides using postal courier and cargo services. The groups involved were well organized at both ends, with residents in the UK and Pakistan, and strong links with other European countries.''

At the European end of the trail, ''large dealers are mixed with all different traders of all sorts of goods'' (Ruggiero and Khan 2006:480) and this late-modern form of the urban bazaar—reproduced in various major cities and ports such as Rotterdam and Amsterdam, London, Hamburg, Marseilles—has now been well documented by various researchers as a location of commercial and legal/illegal ambiguity and transaction of multiple commodities.

Now that the chain of smuggling and actors within the illegal drug trade has been explored, we turn, with the benefit of identified points for comparison, to our examination and discussion of wildlife trafficking.

THE ILLEGAL WILDLIFE TRADE

Terminology

The illegal wildlife trade is new ground for mainstream criminology, which has traditionally not addressed environmentally destructive behavior. But this is changing with the emerging field of green criminology, which recognizes that the environment and non-human species are worthy of criminological inquiry (South 1998; Beirne and South 2007) and that degradation of the environment is ultimately more harmful to humans (and the planet) than street crime, the typical focus of mainstream criminology (Lynch and Stretesky 2007). Because this is new territory the specific terms used to describe wildlife trafficking need to be defined. Wildlife is defined as any wild plant or animal, whether it is indigenous or exotic, and any derivative thereof (Burgener et al. 2001). Trade encompasses the collection, harvesting, possession, processing, acquiring, or transporting of wildlife for the purpose of purchasing, importing, exporting, selling, bartering, or exchanging (Burgener et al. 2001). Wildlife trafficking or the illegal wildlife trade is the specific name of the green crime that involves the illegal trade, smuggling, poaching, capture, or collection of endangered species, protected wildlife (including animals or plants that are subject to harvest quotas and regulated by permits), derivatives, or products thereof.

Stages and Types of Trade

The initial step in the illegal wildlife trade is the collection or harvesting of the animal or plant—be it alive or killed in order to be further processed into a product or derivative of some sort. In interviews, respondents from the Worldwide Fund for Nature (from hereafter WWF) Moscow office thought that poaching, capturing, and/or harvesting of wildlife is done by people who do so in order to survive, and occurs on an individual basis (Senior Program Manager at WWF Moscow, April 2007, personal communication). Respondents from the corresponding office of WWF in Vladivostok attributed such activities to the lack of other sources of income and the large amounts of money that can be made (Program Manager at WWF Far East, April 2007, personal communication). For instance, a tiger skin

can be sold for $5,000 by a poacher. Staff at the U.S. embassy in Moscow and the Vladivostok NGO *Brok*, agreed that illegal collection of wildlife stems from poverty and that the amount of poaching and rule breaking that is occurring is small (Deputy Counselor Officer of Environment, Science and Technology at the U.S. embassy in Moscow, April 2007; personal communication; Coordinator of the Russia Far East Forest Stewardship Council and Director of *Brok*, April 2007, personal communication). Poverty is more prevalent in the villages of Russia and this corresponds to the view of respondents at WWF Vladivostok that the people engaged in the initial stage of the illegal wildife trade are inhabitants of villages, people who live in the taiga or the forest, and also official and amateur hunters (Program Manager at WWF Far East, April 2007, personal communication). However the staff of Phoenix, a Russian conservation NGO, provided four categories of those involved in the illegal fur trade in Russia, challenging the notion that the illegal wildlife trade is simply perpetrated as a result of deprivation.

1. There are people that do not have money. They do not have the possibility to buy a license when they go to the forest.
2. In *Primorye*, there are 40,000 registered hunters, but there are less official licenses than that available. So there are people that can afford to buy a license, but there are not enough available. They are not poor people. They do not have the opportunity to hunt legally.
3. Another category of people is rich people for whom the fine for poaching is not that big. They are too lazy to go to the service center to get a license, and will simply pay the fine if they are caught.
4. And another category of poachers is those people who are not rich but that they have some protected position or know someone. For example, a chief of police or a prosecutor knows that there will not be any sanctions against them because of their position in society. It is written in the Russian constitution that positions like that, the President etc, cannot be interfered with. . . . This is a problem because there are chiefs of police who engage in poaching. (Director of Phoenix, April 2007, personal communication)

Additionally, for people who use ''indiscriminate traps,'' the capture of an endangered or prohibited species is not always intentional, since as the name of the trap implies, the device is not species specific. In these instances, the illegal wildlife in the Russian Far East can be taken to the long, unregulated Chinese border and sold there (Director of Phoenix, April 2007, personal communication). In Russia and other countries, hunting and harvesting of species is regulated through a license or permit system. A Russian professional trapper told one source how he uses the same permits multiple times to take more than his licensed amount of furbearers (Far Eastern State University Sociology Professor, April 2007, personal communication). For instance, he will trap 20 squirrels, or whichever amount is shown on his license. If the inspector does not stop to check his documents, then he will go every day to take as many squirrels up to the limit of 20 as he can, until the inspector stops him and stamps the date and fills in the rest of the permit (Far Eastern State University Sociology Professor, April 2007, personal communication). Trapping occurs during the peak of winter when the pelts are at their fullest, so this trapper also hides pelts in the snow, showing the inspector only the number of pelts that corresponds to his permit (Far Eastern State University Sociology Professor, April 2007, personal communication).

Additionally, wildlife can be captured as part of a more organized criminal enterprise. In the case of the illegal falcon trade, falcons in Russia are taken alive to fulfill the demand for the use of the birds of prey in the sport of falconry in the Middle East. This appears to be accomplished by inhabitants of taiga settlements and villages, professional hunters, workers of hunting facilities, and/or amateur hunters (WWF Vladivostok, 2006). Information from respondents at WWF Moscow, WWF Vladivostok, and the International Fund for Animal Welfare (IFAW) indicates that this is carried out on behalf of crime syndicates that are involved in this trade, and this is facilitated through some Syrian and Lebanese students studying at Russian universities (Director of IFAW Moscow, April 2007, personal communication; Senior Program Manager at WWF Moscow, April 2007, personal communication; Program manager at WWF Far East, April 2007, personal communication). Research by

WWF in Vladivostok supports that the capture of birds of prey is an organized operation (WWF Vladivostok 2006).

Smuggling

Following the initial collection, the illegal wildlife then enters along the chain of smuggling to reach the consumer. For some wildlife species, a legal industry exists through which illegally obtained products can be laundered. This is the case for most species of furbearing animals. Middlemen buy illegally obtained pelts and incorporate this illicit product into the legal fur industry. That this occurs is evident from the number of sable pelts sold each year at the Saint Petersburg fur auction, exceeding the allowable number of harvested animals (Dronova and Shestakov 2005). This also seems to be the case for timber in Russia Far East, which after being illegally harvested is processed and bought by construction companies (Coordinator of the Russia Far East Forest Stewardship Council and Director of *Brok*, April 2007, personal communication).

Illicitly obtained or re-located species can be smuggled using forged paperwork, employed to make the species and/or the shipment appear to be legal. One employee of the Far East office for the Ministry of Natural Resources, *Rosprirodnadzor*, described a system that meant that Customs officers could call the Ministry to verify such paperwork but observed that in fact this had only taken place a few times within the last several years (Vladivostok Ministry of Natural Resources employee, April 2007, personal communication). Those interviewed indicated that this is not the most common method for smuggling, rather traffickers resort to hiding their product (Vladivostok Ministry of Natural Resources employee, April 2007, personal communication). A Senior Program Manager respondent from WWF Moscow (April 2007, personal communication) stated that trains often have hidden compartments, or vehicles have special places built into them to hide and smuggle wildlife and/or other contraband—and similarities with drug smuggling are obvious here. This can be compartments in the wheels, or false bottoms (Senior Program Manager at WWF Moscow, April 2007, personal communication). Wildlife is also smuggled on planes and boats. For these and border crossings, smuggling is accomplished by the most

common method of gaining access to transportation—that of the ''paid corridor'' (Senior Program Manager at WWF Moscow, April 2007, personal communication). In other words, guards are bribed in order to ensure uninhibited access to required spaces and uninspected passage across the borders.

The transportation itself is not the only means of smuggling. In the case of falcons, sedated live birds wrapped in cloth are placed into tubes, which are then carried in people's luggage or hidden in other products like fruit (Lyapustin 2006). In other parts of the world, wildlife is reportedly smuggled on people themselves—rare bird eggs in pockets and snakes in trousers (United States Department of Justice 1995; Commonwealth Scientific and Industrial Research Organization 1998). In a complex smuggling operation of live animals, such as raptors, transportation is key. This complexity is why the traffickers form criminal networks made up of drivers of cargo transport, personnel of the railways (mechanics, drivers, conductors), airline personnel (crew members, baggage handlers) (Lyapustin 2006; Senior Program Manager at WWF Moscow, April 2007, personal communication), and tour firm employees (WWF Vladivostok 2006). In some cases in Russia, these organized groups are thought to be filling orders that they have received from Moscow (Program Manager at WWF Far East, April 2007, personal communication). Additionally, several experts indicated that it is suspected that the organized groups involved in the illegal falcon trade were funding terrorists in the Middle East where the birds were destined to be transported (Senior Program Manager at WWF Moscow, April 2007, personal communication; Program Manager at WWF Far East, April 2007, personal communication; Director of IFAW, April 2007, personal communication). The smuggling route for this operation is from Russia Far East through central Russia then to either Ukraine or a Central Asian nation, like Kazakhstan, and finally to Saudi Arabia or the United Arab Emirates (WWF Vladivostok 2006). Further research is warranted to verify the claims linking wildlife trafficking to terrorism.

To summarize, there are a variety of perpetrators of the illegal wildlife trade. While some experts maintain that those initiating the trade do so out of poverty, others provide

evidence of middle- and upper-class engagement in the illegal activity as well. Smuggling is accomplished by simply hiding the illegal wildlife or wildlife product, forging permits, misusing real permits, or by bribing customs and border officials. Those involved in this step of the process may be employed in some aspect of the transportation business or actively engaged in trafficking alone.

DISCUSSION

Having provided an overview of each trade we now aim to compare the two and gain further insight into the illegal wildlife trade from previous study of the illegal drug trade. One striking parallel between the markets is that close examination shows neither to be dominated by monopolistic families or power figures directing operations from the apex of a hierarchy or pyramid in the ways once traditionally assumed to be the natural model for criminal markets (Reuter 1985). Rather many layers of operation may be in play, with participants reflecting multiple motives and stories about why they are involved. However what is particularly interesting is that the stories of motive across the markets have common elements despite the differences in commodity and region of operation. It is likely that as typologies of the wildlife trade develop we will be able to discern clearer categories among the kinds of groups and socioeconomic positions engaged but from the work available to date on the wildlife trade it could be suggested that some parallels are already emerging with some of the categories proposed in analysis of the drug business. For Dorn et al. (1992) fieldwork interviews and observation coupled with literature review led to a typology that included the following among the principal categories of drug distribution enterprises or collectives:

1. *Trading charities*—enterprises involved in the drugs business because of quasi-ideological commitments to drugs (e.g., cannabis, ecstasy) with some profit being welcome but generally a secondary motive.
2. *Mutual societies*—friendship networks of user dealers who support each other and sell or exchange drugs among themselves in a reciprocal fashion.

3. *Business sideliners*—legally operating economic units finding their way into drug distribution as a sideline to their main business. Examples might include import-export companies, which provide cover for drugs shipments and those that take advantage of or become channels for connections with areas of illicit drug production. Sideliners can be found at any point in the system so long as conditions support the legal business activity and other conducive factors (e.g., entrepreneurial spirit of the business, capital, flexible cash reporting, outward respectability, and official good standing).
4. *Criminal diversifier*—criminal entrepreneurs engaged in traditional crime identifying profitable opportunities in drug distribution and responding in an economically rational way.
5. *Opportunistic irregulars*—from individuals to groups, large or small, these are street-level and street-wise operators who take advantage of limited-opening market opportunities as they present themselves. These will not be long-term or well resourced, may lack experience of both legitimate and criminal businesses on any scale or with any degree of success and hence may be distrusted yet with speed and flexibility irregulars can prove significant lubricants in what remains an unplanned and irregular market.

Parallels with Wildlife Trade—Toward a Typology?

Using the above framework, it is possible to draw parallels between categories of actor found in the drug trade and in the illegal wildlife trade. This framework is supplemented by findings from the Royal Institute of International Affairs (Hayman and Brack 2002) regarding environmental crimes.

1. *Trading charities*—collectors and practitioners of traditional medicines are involved in the illegal wildlife trade because of their ideological commitments to traditional medicines. For instance, in Russia Far East, Asian communities continue to collect endangered ginseng and sea cucumbers for their use in traditional medicines despite these species protected status (Program Manager at WWF Far East, April 2007, personal

communication). As with the drug trade, profit might be welcome for some but a secondary motive.

2. *Mutual societies*—In the realm of the illegal wildlife trade there are traffickers and traders whose lifestyles revolve around their work and there are also wealthy customers who are collectors of exotic species. Bonded by economic and aesthetic (if illegal and immoral) interests, mutuality here takes on a somewhat different structure in that the traders rather than acting reciprocally are ''smuggling to order'' (Hayman and Brack 2002:7). This type of operation targets specific species for particular reasons such as orang-utans for tourist attractions and rhesus monkeys for laboratories (Hayman and Brack 2002:7).
3. *Business sideliners*—As mentioned, some illegal wildlife trade is paralleled by legally operating businesses selling wildlife. In the case of Russia Far East this occurs within the fur industry in two ways. First, amateur or professional trappers, as described before, who are legally engaged in trapping fur, take more than they are allowed in order to supplement their legitimate earnings. This corresponds to a category proposed by Hayman and Brack (2002) of high-volume and low-value activities. In their work this is referred to as ''opportunistic smuggling'' whereby a person's position gives them the opportunity to engage in illegal activity (although we should note this is different to the fifth category below of ''opportunistic irregular''). A second example would be middlemen in the fur industry who buy pelts from trappers and then take them to auctions and become channels for the laundering of illicit fur (Far Eastern State University Sociology Professor, April 2007, personal communication; Dronova and Shestakov 2005).
4. *Criminal diversifier*—While no specific examples exist in the data collected in Russia of the criminal diversifier, other trade in illegal wildlife indicates that this is the case. Ruggiero (1996:79) and Cook et al. (2002) both mention the entrance of organized crime into the black market of wildlife because of the opportunity for large profits and the low risk of detection. In fact, a recent study by TRAFFIC (the NGO that monitors wildlife trade on behalf of the WWF and the International Union for Conservation of Nature) indicated that those trafficking wildlife once

were drug traders, but as penalties and enforcement increased, they sought a safer criminal enterprise (TRAFFIC 2008)—an interesting path given that Dorn et al. (1992) reported on criminals of the 1970s and early 1980s diversifying into the drug trade because of increased police effectiveness against some other forms of organized crime and because penalties for drug dealing were relatively lenient at that time. In the wildlife trade, low-level amateur poachers and dealers may pass on their goods to organized crime contacts who then become involved as experts in moving the illicit product across the border regardless of what that product is. For example, American and Mexican organized crime groups are known to smuggle endangered parrots and narcotics across the Rio Grande in addition to weapons (Hayman and Brack 2002; and see Lemieux and Clarke 2009:464).

5. *Opportunistic irregulars*—these individuals in the illegal wildlife trade are those (as mentioned earlier) who, for example, accidentally acquire an endangered species through use of an indiscriminate trap. They take advantage of this irregular market opportunity by selling the pelt along the Chinese border. A Senior Program Manager respondent from WWF Moscow (April 2007, personal communication) indicated that this also happens in areas outside of the Far East and is not confined to fur trapping. Hunters use indiscriminate snares to capture other mammals besides furbearing ones but also accidentally catch endangered species such as the saiga antelope where the highly valuable horn is then sold to be made into traditional medicines or the musk deer where the musk pods will be sold also for traditional medicines (Senior Program Manager at WWF Moscow, April 2007, personal communication). These cases coincide with what Hayman and Brack (2002) refer to as ''tourist'' cases where the value is low and the quantity taken is also low. In this case, the category of ''opportunistic irregulars'' does not seem as clear or significant as found in the drugs market and it may be more fruitful to simply combine this category with the ''business sideliner.''

In drawing attention to parallels between these trades one obvious question that arises is whether the two trades ever merge or overlap? Although such cross-over is not found in the primary data that we are able to present here, there are reports, as indicated earlier, of such links in both journalistic and academic accounts.

For example in 2003, the U.K. *Observer* newspaper reported on wildlife trafficking originating in Thailand, a location also associated with drug trafficking:

> Thailand has for years served as a major conduit for a trade conservationists estimate is worth billions of dollars a year—surpassed in value only by the trade in drugs and arms. Sometimes these trades overlap. Officials have found drugs stored in the stomachs of animals and they suspect that the vehicles which carry smuggled animals in one direction sometimes carry narcotics on the return journey. (Cumming-Bruce 2003)

Elliott (2009:66) notes several examples of ''parallel trafficking,'' moving ''environmental contraband along the same smuggling routes used for other illegal commodities'' and wildlife and drugs are frequently (and often literally) entwined in this process:

> Protected turtles, for example, have been found in the same shipments as marijuana. Live snakes—sometimes legally exported—have been found stuffed with condoms full of cocaine. Parrots and drugs have been smuggled together from Cote d'Ivoire to Israel. . . . Illegal environmental goods are also sometimes used in barter trade. Protected birds have been smuggled from Australia and exchanged for heroin in Thailand.

Hayman and Brack (2002) state that in Central America, law enforcement agencies that are tasked with combating organized crime suspect that drug trafficking profits are used to fund illegal logging operations (a further case of ''criminal diversifiers'') and in a recent study of ''Crime in the Australian fishing industry,'' Putt and Nelson (2008:3) make remarks that would equally apply to the small-scale

entrepreneurs characterized as ''business sideliners'' or ''opportunistic irregulars'' described earlier:

> Structurally the sector comprises many small business ventures . . . [and] is also characterized by seasonal work, which can attract individuals with involvement in criminal activity such as poaching and drug distribution. These structural factors can reduce the resistance of the sector to organized criminal activity.
>
> As resources become scarcer and more valuable, it is to be expected that there will be commensurate growth in poaching and in illicit markets. . . . Systematic criminal involvement in the international traffic in illegally obtained fish products is facilitated by networking between crime groups, as and when the need arises. A wide range of criminal activities may be associated with the illegal trade, including the concealment of financial transactions and profits.

CONCLUDING REMARKS

In this article we have sought to detect and compare emerging connections between two distinct illegal trades by using research on drug markets and trafficking as a means of illuminating features and trends that have been or may yet be found within the illegal wildlife trade. Both will have histories dating as far back as the origins of commerce but legal controls on aspects of both, dating from the early twenty-first century into the future, will continue to change and shape the relevant relationships between producers and consumers, with a significant role played here by those who profit by illicit means from conditions of naturally occurring and legally induced scarcity. Drugs and wildlife commodities are part of a global criminal economy and the similarities and complementarities that we have identified may mean that it is increasingly likely that the parallel trades will interact with each other. As the U.K. Serious Organised Crime Agency (SOCA) notes of those operating in this world, ''While some organised criminals may specialise in a particular criminal trade, many are entrepreneurial and opportunistic by nature. Significant numbers of crime groups, especially the larger, more established ones, are

involved in two or more profit-making criminal activities'' (SOCA, 2009: http://www.soca.gov.uk/threats).

Undoubtedly this evolving relationship between the two trades has an effect on law enforcement. However, whereas the 'war on drugs' has prompted commitment of extensive law enforcement resources, the illegal wildlife trade has not yet experienced similar attention. In Russia Far East, a vast region with little transportation infrastructure, there are two wildlife inspectors devoted to wildlife trafficking (Program Manager at WWF Far East, April 2007, personal communication). The United States might appear to be doing better with nearly 200 Fish and Wildlife Service special agents, but when compared to the number of federal agents tasked with stopping the drug trade, almost 5,000 (Neme 2009), it is clear that wildlife trafficking is not a priority. This may change as the connections between the markets grow and become clearer. What is certain is that law enforcement in both of these arenas needs to cooperate and share intelligence in order to combat both of these smuggling operations.

> As wildlife is traded in concert with other contraband by existing organized crime, combating the growing trade in illegal wildlife requires efforts to improve governance more broadly by working with the security and police forces, customs, and border police to integrate attempts to curb the trade in illegal wildlife with the trade in other contraband. (International Bank for Reconstruction and Development/ The World Bank 2005:15)

The criminological community can aid law enforcement by continuing to research the typologies and connections between the illegal wildlife and drug trades and, indeed, other organized criminal markets (Lemieux and Clarke 2009: 452; Elliott 2009).

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